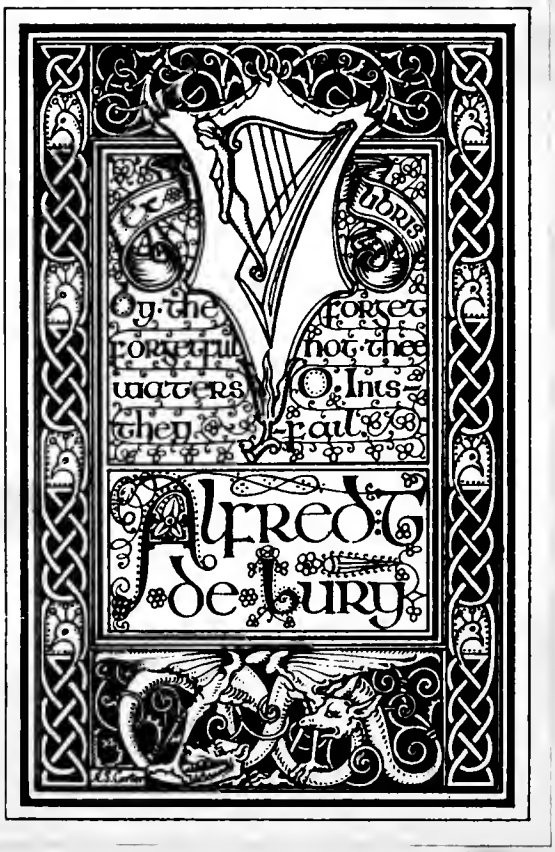
IRISH GLASS

AN ACCOUNT OF GLASS MAKING IN IRELAND FROM THE XVII CENTURY TO THE PRESENT DAY

By

M. S. DUDLEY WESTROPP, M.R.I.A.


By the forgetful waters they
forget not thee O Jerusalem
ALFRED G DE BURY

120° N T.

IRISH GLASS

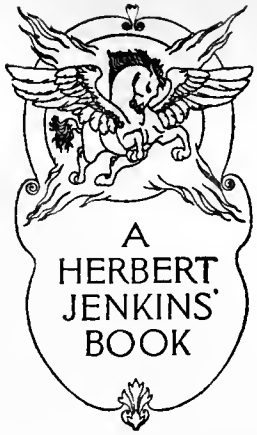
AN ACCOUNT OF GLASS-MAKING
IN IRELAND FROM THE XVIth
CENTURY TO THE PRESENT DAY

Large bowl on separate stand, cut in large shallow diamonds and hollow flutes. Probably Dublin or Cork. Late 18th century. 19 inches high.

IRISH GLASS

AN ACCOUNT OF GLASS-MAKING IN IRELAND FROM THE XVIth CENTURY TO THE PRESENT DAY By M. S. DUDLEY WESTROPP, M.R.I.A., OF THE NATIONAL MUSEUM OF IRELAND. ILLUSTRATED WITH REPRODUCTIONS OF 188 TYPICAL PIECES OF IRISH GLASS AND 220 PATTERNS AND DESIGNS

HERBERT JENKINS LIMITED
3 YORK STREET SAINT JAMES'S LONDON S.W. 1



The Mayflower Press, Plymouth, England. William Brendon & Son, Ltd.

PREFACE

WHEN some twenty years ago I first took up the study of Irish glass I found that I could obtain little or no reliable information, not even the dates of the Waterford or Cork factories. Accordingly I set to work to look up the matter for myself, spending a great deal of time in research, which involved the examination of many documents, old newspapers, etc.

Comparatively little is now to be found out about the products of the different Irish glass manufactories. The history of the glass-houses themselves, their period, proprietors, etc., is fairly well known, but when we come to the actual glass itself we find nothing but a few lists, with no details as to form, cutting, or colour.

With the exception of a few drawings of some of the patterns used in the Waterford glass-house, no others belonging to Irish glass works are, as far as I am aware, known to exist. As a result of my studies I was, some time back, able to point out that Waterford glass has not the blue tint that has hitherto been ascribed to it. This in itself stamped as spurious hundreds of pieces that had been accepted as genuine Waterford.

If all the alleged Waterford glass in existence to-day were genuine, despite the output of the factory and the vast amount that has been broken, it would have taken probably two or three glass-houses to produce it.

In selecting the illustrations I have included only those pieces in my own small collection, or elsewhere, that bear the marks of Irish glass works, or pieces which from cutting, colour, etc., I consider indubitably Irish.

I have been fortunate in having exceptional opportunities of examining very many pieces of Irish glass, and making comparisons with those that have an authenticated history.

The study of Irish glass is like that of any other manufacture that has long ceased to exist. The more that is learned about it the more there is still to learn. Some theory may be evolved which it is fondly hoped is

correct, then the next day something turns up that knocks the whole fabric to pieces.

Let us hope that some definite information will be found which will enable us to detect Irish glass from among its closely connected contemporaries.

So little evidence is now forthcoming with regard to Irish glass that it is very difficult to separate the products of the different glass works—one from the other—and in consequence it is impossible to be dogmatic. The saying, I believe of Huxley, that an assertion which outstrips the evidence is not only a blunder but a crime, should be taken to heart by those who are so sure of their own opinions, particularly when they have no evidence to support them.

Some may cavil at the number of advertisements that I have given in the following pages. The fact, however, must not be lost sight of that, but for these advertisements we should know very little at all about old Irish glass. I have thought it best, in most instances, to give the advertisements just as they appear in the original, as I have found from experience that an abstract generally omits points of importance.

Another criticism that may be levelled at me is that there is little information telling how to identify or differentiate between the products of the various Irish factories. I consider it as well, however, to make public the little that can now be gathered concerning the different Irish glass-houses, and to endeavour to claim for other Irish glass works, and even for some of English origin, the honours nowadays almost always accorded to Waterford.

The facts here set out are put in rather a concise way, but in a book of this kind I, personally, do not see the advantage of reading through a page of flowery language, and being no wiser at the end of it than at the beginning.

The information here given has been gleaned from contemporary records, old newspapers, the Journals of the Irish House of Commons, Proceedings of the Dublin Society, old account books and letters of the Waterford glass-house, etc. I am indebted to the late Mr. William Miller, son of Samuel Miller, foreman cutter at the Waterford glass works, for the loan of the drawings of the patterns used in the glass-house, and from which the illustrations are taken.

I have also to express my best thanks to my colleagues in the National

Museum, Dublin, to Mr. J. J. Buckley, the Keeper of the Art and Industrial Division, for the use of photographs of pieces in the National Collection, and to Mr. A. McGoogan for his invaluable assistance in producing with such artistic skill the drawings of the various patterns of cutting. Without his cordial help I am afraid these necessary illustrations would not have been included.

I would express the hope that this small work may be of some use to those who are interested in old Irish glass, and induce others, abler and more learned on the subject, to make good the deficiencies which are here apparent.

M. S. DUDLEY WESTROPP.

CONTENTS

ILLUSTRATIONS

IRISH GLASS

CHAPTER I

GLASS-MAKING IN IRELAND PRIOR TO THE END OF THE SEVENTEENTH CENTURY

IF any glass were made in Ireland in early times, the history of it appears to have been lost. Even in England it has not been ascertained definitely if glass were made there during the Middle Ages, though it is thought that possibly coarse window glass may have been manufactured.

It is not, however, until about the middle of the fifteenth century that any positive evidence of glass-making in England occurs. In 1447 John Prudde, on undertaking to execute the windows of the Beauchamp chapel at Warwick, engages to use no glass of England, which proves that, although glass was made in England at that period, it was of an inferior quality. The first definite evidence of an attempt to manufacture glass of a superior quality in England is probably the petition in 1550 of eight Murano glass makers, who had come to England a short time previously, to carry on their art.

The art of making a vitreous enamel and applying it to metal work appears to have been practised in Ireland as early as the La Tène period (about 400 B.C. to about the commencement of the Christian period in Ireland), and from about that time down to about the twelfth century it seems to have flourished. Coloured enamels are to be found on the Tara brooch and the Ardagh chalice, of about the ninth century A.D., and on other objects of Irish art of later periods. During the thirteenth, fourteenth and fifteenth centuries several references to glass makers, glass workers, glazewrights and glaziers occur, but as to what particular objects they produced no mention is made.

In the year 1258 the name of William the glass worker appears as a

witness to a grant of land in the parish of St. Brigid, Dublin, and among others, the following names also occur—William de Kemesye, glass worker (vitrarius) in 1309; Richard the glazewright in 1409 and 1434; William Cranch and Simon Hobelthorne, glaziers, in 1576; and Richard Daioben, glazier, in 1579.

In the Pipe Rolls of 6 Edward III, 1332–3, amongst the accounts for works at Dublin Castle it is mentioned that the sum of £5 13s. 6d. be paid for "Wages for a glazier working on divers occasions, and for divers colours bought for making the glass windows in said Castle."

Probably these glass workers, glazewrights, etc., were simply what we would call glaziers, and never actually made any glass. Indeed it is very probable that no glass was made in Ireland at this period, and it is not until towards the end of the sixteenth century that any definite records are to be found of glass works having been erected in the country, and even in these the information is very scanty.

The earliest record I have found of any idea of setting up glass works in Ireland occurs in the English State Papers Domestic under the year 1567, where the following petition is recorded: August 9th, 1567, Pierre Briet and Jean Carré from the Low Countries wrote to Cecil from Windsor asking for a licence to set up a glass-house in London, and also asking for a privilege for thirty years, in order that furnaces might be erected at their discretion in convenient places, namely, twelve in England and six in Ireland, near the woods for fuel, the sea for sand or seaweed, or the rivers for pebbles.

Nothing more appears to be known concerning this project, and probably neither Briet nor Carré set up any glass-houses in Ireland.

In the year 1575, Giacomo Verzelini, a Venetian, obtained a licence for twenty-one years to make glass like that of Murano in England and Ireland, but, so far as is at present known, none appears to have been made by him in Ireland.

Probably about the year 1585 the manufacture of glass in Ireland may be said to begin.

In the State Papers, Ireland, 1586–8, mention is made of Captain Woodhouse's suit for the privilege of making glass in Ireland, and also his assistance to George Longe and Ralph Pillyng in erecting and maintaining two houses for making glass. Also in the Patent and Close Rolls, Ireland, the following is to be found:

" Elizabeth R. The Queen to the Lord Deputy and the Lord Chancellor informing them that Captain Thomas Woodhouse has lately erected certain glass-houses for making glass for glazing and drinking, likely to prove beneficial to him, and therefore he has made humble suit for the especial privilege in that behalf. Her Majesty, considering that the making of glass might prove commodius to both realms, and that Woodhouse was the first that with any success had begun the art in Ireland, is pleased to condescend to his petition, and therefore orders that a grant should be made to him, his exors, and assigns of the privilege of making glass for glazing and drinking or otherwise ; and to build convenient houses, for the term of eight years, the glass to be sold as cheep or better cheepe than similar glass in foreign parts ; prohibiting all other persons from the manufacture during the period marked in the patent. Richmond, January 11th, 1588."

In the State Papers, Ireland, under the date November 6th, 1589, it is recorded that a patent was granted to Captain Thomas Woodhouse for the sole making of glass in Ireland for eight years.

Woodhouse does not appear to have made much use of his patent, for in the following petition it is stated that he sold it to George Longe.

Petition of George Longe to Lord Burghley (Lansdowne Manuscripts), October 3rd, 1589 :

" In the ninth year of Elizabeth the first privilege of making glass in England was granted to Anthonye Beckue, alias Dollyne, and John Carye, strangers born in the Low Countries, but Dollyne and Carye being merchants and having no skill in the mystery had to lease out their patent : asks to have a patent granted to him and agrees to pay an annual rent for every glass-house continued in England, but at no time to continue above four glass-houses in England, where there are now fourteen or fifteen, but to set up the rest in Ireland, and to find twelve men at every glass-house sufficiently furnished to serve Her Majesty within twenty miles of their abode. States that he has spent his time wholly in the trade and has found stuffe meet and brought to perfection the making of glass in Ireland, keeping at least twenty-four persons for the space of two years to his charges in the trial above £500. Also states that he had spent at least £300 in procuring the patent for England and buying the patent in Ireland from Captain Woodhouse."

In another letter in the Lansdowne Manuscripts, from George Longe to

Plate II

Two examples of Dublin engraved glass made by Pugh, about 1870. The tumbler engraved by Franz Tieze. National Museum, Dublin.

Jug made by Pugh, Dublin, about 1870. Engraved glass. Engraved below, "Manufactured by T & R Pugh, Potter's Alley, Dublin."

Hyacinth glass or "Flower Root Glass." Cut glass. Probably Dublin. Early 19th century. Both in the Collection of Lady Moore, Dublin.

Burghley under the date 1589, he again mentions the patent to Dollyne and Carye and asks for a patent for himself, as he does not intend to continue the making of glass in England, but if requested he would not keep more than two glass-houses in England, but set up the remainder in Ireland, whereby the woods in England would be preserved and the superfluous woods in Ireland wasted, which in time of rebellion Her Majesty has no greater enemy there. The country, he says, will be much strengthened as every glass-house will be as good as twenty men in garrison. He also says that if he gets the patent he will repair Burghley's buildings with the best glass.

Longe appears to have carried on the manufacture of glass in Ireland, for in the Manuscripts of the Marquis of Salisbury the following petition of about the year 1597 is to be found :

" Petition of George Longe who first brought to pass making of glass in Ireland. In the ninth year of the reign of Elizabeth certain strangers came to England, and obtained a privilege for making Normandy glass, Burgundy glass, and coarse drinking glass, on condition that they should pay custom as if it were transported, and teach Englishmen the mystery. These conditions were in no part performed, and besides, the privilege being for twenty-one years only, is expired. Ever since, certain strangers no subjects and not denizened, neither licensed nor forbidden, have and do (as it were by intrusion) continue the trade to the great prejudice of the realm, wasting timber for want of underwood in divers parts of the realm, Her Majesty nor any subject reaping commodity. His suit is that it may please Her Majesty to perform the humble suit of George Stone her footman concerning a privilege for Ireland, as also to suppress such strangers in England as are not licensed. This will be beneficial : To Her Majesty, who for thirty years has had no custom for an infinite number of glass made and used here, whereas being made in Ireland and transported hither it will yield custom. To the Commonwealth : in this that the timber and woods in England shall be preserved and the superfluous woods in Ireland to better use employed, being now a continual harbour for rebels. Many idle people will be set to work to cut wood, burn ashes, dig and carry sand, clay, etc., and much trade and civility will increase in that rude country by inhabiting those great woods, and the passage to and fro of ships for transportation of the glass. It shall not be prejudicial, for England may be served of better glass than

can be made here at so low a price, or rather cheaper ; neither in Ireland shall any timber be wasted, there being such mighty places and underwoods that impossible it is to spoil them, continually growing again.

" For example I have kept ten years in the end of Drumfenning woods a glass house. There is no sign of waste, only the ways more passable. In the end of the Desmond's woods the Seneschal lay in it when five hundred men durst not attempt to pass that way. Patrick Condy can witness it. By difference of the price of wood, farm victuals, etc., honest gains may be had to perform this without preying upon the commonwealth."

Drumfenning Woods, mentioned in the above petition, extended from Dungarvan to beyond Tallow, and the glass-house is said to have been situated in the neighbourhood of Curryglass, Co. Cork, at the western end of the woods.

There is a townland still called Glasshouse about a mile to the south of Curryglass, and as it bears the name, it seems to indicate that a glass works existed on the townland at some former period. The exact site of the glass-house has not as yet been ascertained. Large quantities of a bluish slag have, however, been found on the townland, but this slag is more probably the refuse from one of the many iron works set up in that part of the country by the great Earl of Cork in the early part of the seventeenth century.

With the exception of the mention of this one glass-house nothing more appears to be known about any glass manufactured in Ireland by George Longe (or Stone).

Licences were granted to Sir Jerome Bowes in 1592, to Sir Percival Hart and Edward Forcett in 1607, and to Sir Robert Mansell in 1636 and 1638 for making glass in England and Ireland, while in 1634 Sir Percival Hart obtained a new licence for the sole making of black glass drinking vessels and pots in Ireland, similar to those made in Murano in Italy, and commonly called Venice drinking glasses, he to have the monopoly for twenty-one years at the annual rent of fifty marks.

So far as is at present known, none of them appears to have manufactured any glass in Ireland, although in Boate's *Ireland's Natural History* it is stated that early in the seventeenth century several glass-houses were set up in Ireland by the English.

In the Patent Rolls, Ireland, 5 James I, Part I, it is recorded that " a

license be granted to Adam Whitty of Arklow in Wicklow to manufacture glass within Leinster Province for ten years on paying the yearly rent of one pound Irish. 23d February, $160\frac{7}{8}$."

No other reference to this licence appears to be forthcoming, so it is uncertain if any glass-house was erected.

In the Lismore Papers there is an entry that in the year 1618 Dr. John Boyle wrote to his brother Richard Boyle, first Earl of Cork, mentioning a Venetian who wished to set up glass works in the south of Ireland. Whether or no this Venetian came over to Ireland and erected a glass-house is uncertain, but we know that a glass-house for window glass was set up shortly after this, probably in County Waterford. The original manuscript account of this glass works is preserved in Marsh's Library, Dublin. The name of the founder is not given, but from internal evidence it is not at all improbable that the glass works was one of the many industrial projects of the great Earl of Cork. In the manuscript it is stated that the glass-house was at Ballynegery, which is most probably Ballynagerah in the south of Co. Waterford. The manuscript consists of about twelve pages and contains items relative to the cost of setting up the glass-house and of the materials, and also accounts of some of the glass sold. The following transcript is set out in the same order as in the manuscript :

" Glasswork

The projects of the weekly charge as also the receipts and profits per week of the glass-house to make 18 case.

Per Davy the glassmaker (1st)

Per Mr Sayer (afterward) but with much addition of charge and less making of glass, and yet by his letter (Jan. 12th 1621) assuring that as beneficial (besides the furtherance of my plantations) as my ironworks. If I may have rent for it.

25 corde of small cleft wood at 12d the corde		25s.
20 Bushels of ashes at 3d.		5s.
5 Bushels of sand		
The consore or founder his wages per week	7s agreed but 1s more projected by them	
1 Tezers or men to tend the fire		18s.
3 other man		6s

Davy the glassmaker his wages
for making 18 case of glass per
week at 3s per case 54s.

E. Contra
Received by me (if God bless it) for the said 18 case of glass per week at
20s per case £18

A summary note of the whole charge (according my agreements) of the glasshouse with the appurtenances before it blow and make glass.
To Tipton in gross for the glasshouse itself viz :—all the timber frame, boarding, doors, ladders, stairs and shindling and other workings £8
To Rd. Jorden for the nine ovens
and main furnace—making, and carriage
of the materials in gross £4
Item, to Mr Pitts for 600 weight of
fine white clay to make the pots for
the glass metal. Item more for 500
of the same clay 10s.
Item, necessary implements bought beforehand for the
glasshouse viz :—
For canvas (March . . 1621) to make . . . .
sacks and bags to carry ashes, viz.—yards
and half 6s
To Ashworth the baker for 8 sacks 14s.
For . . Bushel measure to measure ashes by.
For carriage of all the timber to the
glasshouse per estimate, if it had
not been by own wains.
Given in kindness to the rearers of
the house frame 3s 4d
Item, To Mr Hacket for a ton of
fine white or sky colour clay from
Fethard to make the pots for the
glass metal, March 27th 1621.
thereof already sent me 200 weight and 200 weight.
Item. To Everett for a barrel of ferne
ashes March ult. 1622.
Item. To . . . . for a hewn square stone 3s.
Item, For 2 sieves of hair, one fine
for sand, the other somewhat coarser

for ashes 20d
Item. For one fine hair sieve more 10d
Item. for two Losstels iron 2s 6d
Item. To . . . . for pound weight of
Saphyr at 3d per lb.
Item. For 6 pipe handles 2s

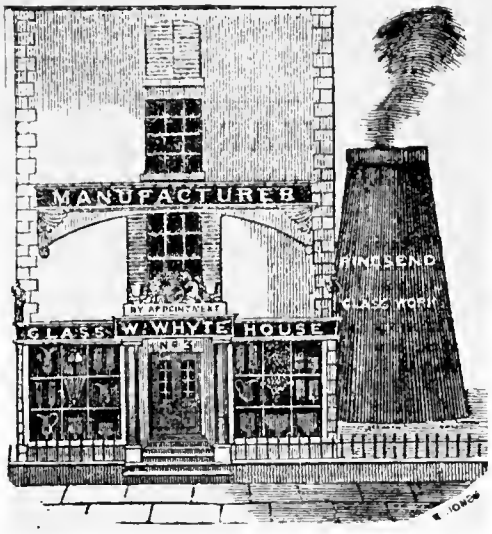
Brief notes of all the stock or materials bought and brought into the glass-house beforehand and in store, afore and on the . . . . of April 1622, on which day the furnace began to blow.
Bushels of ashes
besides those from the Castle and Tanyard.
Bushels of sand
Bushels of Kelp
Bushels of little marble stones
Bushels of fern ashes
Cordes or wayn loads of small cleft wood
Lendings to the workmen before the aforesaid
. . . of April, to be defalked by me out of their first weekly wages after the blowing begins, viz :—
To Davy the glassman at several times by myself 16s. 6d, 7d and 12d.
I am to charge him 15s towards the ton of kelp.
To the said Davy by Th. Coney
viz. per Coney 12d, and 12d per Stafford.
To H. Osborne (consore) by myself at several times, and 18d and 11s for shirt, and 8d and 2s for breeches.
9d, 12d, 6d, 6d, and for hat 3s.
To the said Osborne per Coney 2s 6d, 12d, and 12d.
To Davy per imprest for cutting
and cleaving wood 3s, 12d, 18d, 2s 6d,
and 4s 6d, and 2s and shoes.
April . . . 1622. A note of the first week's charge in making of . . . . case of Broad window glass viz :—
To Darby the glassman
To Osborne the founder
To . . . . for tending the fire
For . . . bushels of ashes at 12d per bushel
. . . . Bushels of ashes which came from the Castle gratis.
. . . . Bushels of ashes from the tanhouse gratis
. . . . Bushels of ashes from . . . .

Plate III

1. View of Irwin's Glass-House, Potter's Alley, Dublin. From an advertisement, 1845. This Glass-House formerly belonged to Charles Mulvany and Co. and afterwards to the Pughs.
2. View of Whyte's Glass Shop, Marlborough Street, Dublin, and Glass-House at Ringsend, which he probably took over. From an advertisement, 1845.

Trade circular of Jonathan Gatchell, dated, Waterford, 1811.

1



2

Waterford, 5th Month (May) 20th, **1811.**

Permit me to take the Liberty of informing that the Partnership lately subsisting under the Firm of Ramsey, Gatchell and Barcroft, in the established Flint-Glass Manufactory, in this City, has been dissolved on the 19th Inst. the Term having expired: In Consequence, I have purchased the Stock of my late Partners, engaged the whole of the Concerns, and am now carrying on the Business, in the same extensive Manner as heretofore, intending to use my best Endeavours to give full Satisfaction.

The Favour of Commands will much oblige,

Jon.n Gatchell

A note of the Broad glass or window glass sold since my first setting up of my Glass house at Ballynegery, 1622.

Sold to . . . . Stephens the glazier of Limerick ten case and half a case of glass at 30s per case delivered at Limerick, except one case and a half cut in quarrells at 3s per case, the cutting over and above the said 30s. £15. 19. 6

Sold to . . . Parker the merchant or glassman who carried it to Cork at his own charge, viz. at 25s per case at the Glass house itself five case £6. 5. 0

Sold to John Bickford the glazier of Ballynekill one case of glass at 25s at the Glass house £1. 5. 0

Sold to him at the Glass house another case of glass at 25s £1. 5. 0

Sold to him also per James the glassman one case more of glass at 25s £1. 5. 0

Sold to Mr Durant the merchant and glazier of Youghal at the Glass house seven case at 25s per case £8. 15. 0

Sent to Dublin (Oct. 1622) sixteen case of glass £21. 6. 8

Given to Sir H. Perse Baronet one case of glass Sept . . . . 1622.

Given to my Lady Vicountess Mountgaret two half cases of glass, Oct. 24h 1622.

Sold by Hector the glassman Oct. 19th 1622 . . . . bunches of glass at 25s.

Sold Oct. . . . 1622 at the Glass house to the glazier of Connaught . . . . case of glass at 25s per case.

Sold to Mr Stanes Oct. . . . 1622, at the Glass house three case of glass at 25s per case

Sold to Mr Byrd the merchant of Philyptown . . . . case of glass at the Glass house at 25s. Oct . . . . 1622.

Sold to Mr Byrd of Ballynekyll, lawyer, for the Lord Esmond Sept . . . 1622 two case of glass at the Glass house at 25s. £2. 10. 0

Agreed the . . . of February 1621 with Davy Francois for making of good clear broad window glass at the rate of 3s per case, either in money or the same glass itself in the value of . . . the case, at my choice from time to time. He undertaking to put me to no dead charge at all, either in the time of my erecting the work or after, and covenanting to make (by himself only and . . . .) the quantity of 18 case every week (which after the price of 20s the case will amount in my receipts to £18 per week, and in his own and the above named other helpers pay to . . . . . wages weekly. Besides ten or eleven cases more to be made weekly (with the same wood and in the same house and furnace and ovens) with the help of one glassmaker more.

Agreed the . . . . February 1621 with William Tipton for erecting, framing and finishing of the whole Glass house as also shindling it. The said

house to be forty or forty-two feet square every way and thirty-six feet high, at the price of £8.
Agreed with Richard Jourden the 12th February 1621 for making and finishing of the nine ovens and the main furnace, and he to carry up and bring in place all the stones, clay or mortar and other materials himself or at his charge except my cart carriage of about four, five or six load of free-stone. I say agreed for all as aforesaid for the sum of £4 and 12d.
Agreed with the aforesaid Davy for his payment to me in money or abatement of wages towards my buying of a ton of kelp at 15s February 12th 1621.
Agreed likewise with Mr Bevice Prideaux for his bestowing on me the carriage of the said ton of kelp from Cork or Kinsale to Waterford or By (?Ballynegery) which he says will cost him 15s, February 9th 1621, and the ton of kelp itself will cost 40s.
Agreed with Hugh Osborne (founder, consore or maker of the matter and metal of the glass) at 7s wages per week during twenty-four or . . . weeks if the furnace fire or work keep in so long, and afterwards at 8s per week if I like well of him and his work, and he to have no dead wages before or without working or after. I say agreed as aforesaid the present 15th of March 1621 and given a 9d piece in earnest in the presence of Davy the glassmaker.
Agreed with the burners or gatherers and bringing in of ashes at 12d the barrel February . . . . 1621. I say 12d the barrel.
Agreed for a little house for the ashes or for Davy for the sum of 15s.
Agreed March . . . . 1621 with Bond, Darby etc, for cutting, cropping and cleaving small of sufficient cordes of wood to serve my glass furnace and ovens there at 12d the cord.
Agreed April 13th 1622 with Copland . . . for cleaving small for the Glass house the . . . cord of long wood formerly cut close above the Glass house, at four pence the corde the cleaving small."

As far as we know no other reference to this glass-house has been found, consequently it is not known how long the manufacture lasted.

The next record we have of glass-making in Ireland relates to a glass-house erected near Birr in the King's County about the year 1623. In *Ireland's Natural History*, by Gerard Boate, published in 1652, it is stated that early in the seventeenth century several glass-houses were set up in Ireland by the English, and among the more important was that near Birr, which was said to have supplied Dublin with drinking glasses and window glass.

Boate also states that at this period no glass-houses were erected in Dublin or other towns, but all in the country ; (on account of the wood for fuel in the latter) and that the sand for glass-making came from England, the alkali was obtained locally from the ash tree, and that the clay for the glass-house pots came from the north.

About the year 1620 Sir Lawrence Parsons obtained a grant of land at Birr, and shortly afterwards granted leases to several persons.

Among the leases of Sir Lawrence Parsons preserved at Birr Castle the following is to be found :

Lease No. 22. " A lease dated 9th October, 1623, made by me unto Abraham Bigo of the Castle town and part of the plowland of Clonoghill with all the woods there, to be spent and employed on the premises (all royalties excepted) for the term of ninety-nine years from our Lady Day next, (if Hester Bigo his wife and Abraham and John Bigo his sons or any of them live so long) at the yearly rent of 24li sterling at Michaelmas and our Lady Day equally, with a fat hog at all Saints, two capons at Christmas and two hens at Shrovetide, his best beast for a herriat, and 12li sterling for a fine of alienation, all payable at the Castle of Birr, and also to do suit of court and suit of mill to my court and mills at Parsonstown, and to provide two English or French footmen with muskets or callivers, sufficiently appointed to attend me and my heirs in His Majesty's service at all times upon two days' warning, with a clause of distress for non-payment of the rent within twenty days after the gales, and if unpaid forty days the lease to be void. Wherein is inserted a proviso to reside by himself or his sufficient tenants upon the premises and within one year to build a stone or brick chimney in the castle of Clonoghill, and not to alyen his whole estate in the premises or any part thereof without my license ; and not to set up any glass house or glasswork on any other land, or buy wood of any other for his glasswork but only of me, And a covenant to keep all the houses built or to be built on the premises in good repair, and so to yield up the same at the end of his terme." In the margin of the lease is written, " Surrendered to me at Easter 1627."

It is not known if the glass-house was carried on by anyone else after Abraham Bigo surrendered the lease.

Remains of an old glass-house, which may have been that erected by Abraham Bigo, were discovered about forty or fifty years ago at Clonbrone

near Clonoghill, outside Birr, and there is a place still called Glasshouse in the vicinity.

An Abraham Bigo is said to have carried on the manufacture of glass at the Isle of Purbeck about 1623, and Sir Robert Mansell is also stated to have had, at the same period, a glass-house there, besides others at London, Milford Haven, and Newcastle-upon-Tyne. All these appear to have failed except the last named.

Perhaps the failure of these glass-houses may have been owing to the introduction of the use of lead in the manufacture, and to the want of knowledge in the mixing of the ingredients in their proper proportions.

Possibly Abraham Bigo, on the failure of the work at the Isle of Purbeck, came over to Ireland to try his fortune.

Besides the glass-house near Birr carried on by Abraham Bigo, Philip Bigo, in the reign of Charles II, obtained grants of land at several places, including Ballyneshragh, Carrowmore, and Newtown in Lusmagh, and is said to have established glass works in some of them. No traces, however, of them have been found.

A Proclamation, dated February 12th, $163\frac{8}{9}$, prohibited the export of glass from, and the manufacture of glass in, Ireland, after August, 1639, but it seems that not much attention was paid to it, as in the next year, in the Egmont Manuscripts, we find the following reference to a licence for making glass in County Cork :

" Thomas Bettesworth to Sir Philip Percival, July 21st 1640, Moallo. I wrote to you, about ten days since, of an expedient which did relate to the good Lord President about procuring a license for making glass from the patentee. I beseech you, Sir, be studious about the glass license, or else there falls to the ground a strong and sublime project unto which nothing probably can give impediment but the want of a moderate compensation, and, if such an one may not be had, the Lady of Doneraile will be prohibited of a spacious expectation and I myself also blurrefied (sic), who dare presume to call myself the projector."

About the year 1665 it was proposed to set up a glass-house somewhere in the vicinity of Lisburn, Co. Antrim, but whether or not the project ever materialised does not appear to be known.

The following references to be found in the Calendar of State Papers, Ireland, seem to be the only ones touching on the subject.

Sir George Rawdon to Viscount Conway and Killulta. Lisburn, July 4th, 1665. "The proposition I received by yesterday's post concerning glass making occasions this sudden answer to your Lordship's of the 27th of June, that if you be of my opinion and your other servants here, there be no further treaty of this kind tending to so great and certain an expense upon such uncertain hopes of getting it in again; . . . . . and as your Lordship observes other charges, besides the computation of £15 a week (which itself is high), may be as much more, and where is the rent or how long ere any return be made of the commodity transported; and we are not sure of the goodness of the sand here and other materials. But if any will upon their own account come over and make their own work, from Stourbridge or any other place where ordinary glass for bottles, window glass etc. is made, and give some small rent for woodleave etc I think that may be far more advisable than to run the adventure of a quarter of that charge Sennior Mallyo expects."

Sir George Rawdon to Viscount Conway and Killulta. Lisburn, September 2nd, 1665. " . . . . . It seems your Lordship is resolved and concluded for setting up a glasswork, which I heartily wish may prove according to your expectation; but much I doubt it, having been so burnt in the hand with projecting the setting up of manufactures here and particularly the stocking trade of late."

Sir George Rawdon to Viscount Conway and Killulta. Lisburn, September 3rd, 1665. " . . . . . you mention Glenavy for the glasswork, but we cannot have it there as there is no wood near, and the carriage of it is very costly."

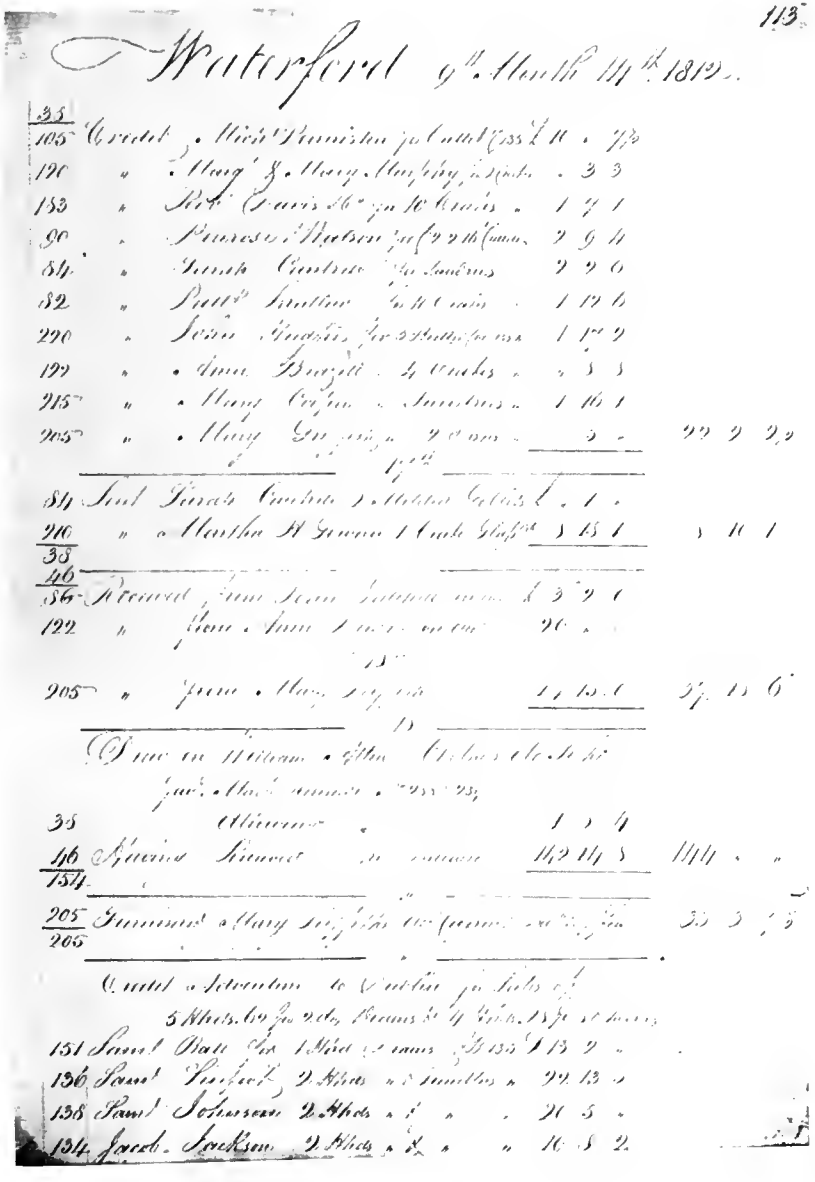
About the year 1670, a glass-house was set up near Portarlington in the Queen's County by one Ananias Henzy. The following reference to this glass-house is found in the State Papers, Ireland:

"Letter from Robert Leigh enclosing one from Mr. A. Henzy to Secretary Arlington, November 14th, 1670. I write according to my duty though I have nothing to do but to send the enclosed from a glassworker at Portarlington. After some small progress in his undertaking, he is it seems at present at a stop by occasion of some disappointment in the melting of his metal. He therefore makes his application to your Lordship for your favour, which I suppose he means by forbearing to call for the rent due from him. Your Lordship may grant this without prejudice for half a year

PLATE IV

Trade circular of Gatchell, Walpole and Co., Waterford, 1830.

Page from one of the Account Books of the Waterford Glass-House, 1812.



Waterford 9th Month 11th 1812.

113

38					
185	Credit	Nich[s] Hamilton for Cattle	£ 11 . 7½		
190	"	Hannah & Mary Mayhey for Do	. 3 3		
183	"	Rob[t] Carr's Ac[t] for 10 Cows	. 1 7 1		
90	"	Princess Watson for 2 Milch Cows	2 9 11		
84	"	Sarah Cantrell for Sundries	2 2 6		
82	"	Patt[k] Sullivan for 1 Cow	1 17 6		
290	"	Seven Quakers for 2 Hats pd	1 1[s] 9		
197	"	Ann Bingle for 4 Cows	" 5 5		
215	"	Mary Coffin for Sundries	1 16 1		
205	"	Mary Gatchell for 7 Cows	5 -	22 2 2½	
84	Sund[y]	Sarah Cantrell for Milch Cattle	£ 1 -		
210	"	Martha H Gatchell for Cattle Glass[s]	5 15 1	5 16 1	
38					
46					
86	Received	from Sam[l] Lapham on Acc[t]	£ 3 2 1		
122	"	Sam[l] Lapham on Acc[t]	20 - -		
205	"	Mary Gatchell	11 15 1	34 17 6	
		Cr			
	Cash on William Allen Cattle & Sundries				
38		Minors	1 1 4		
46	Receive	Shares	112 14 8	114 - -	
154					
205	Summed	Mary Gatchell for Sundries		22 5 5	
205					
	Cattle Seventeen to Cattle for Sales of				
	5 Milch Cows 2 Do Heifers 4 Calves 1 Do Steer				
151	Sam[l] Bate	for 1 Milch Cow	£ 1 13 2		
136	Sam[l] Sinnock	2 Milch Cows & Sundries	22 13 -		
138	Sam[l] Johnson	2 Milch Cows & Do	20 5 -		
134	Jacob Jackson	2 Milch Cows & Do	10 8 2		

Waterford, 1st *of* 11th *month (Nov.)*, 1830.

WE, the Undersigned, Trustee and Executors of the late partners in the Firm of Gatchells and Walpole, respectfully inform, that the Flint Glass Manufacture will in future be conducted under the Firm of Gatchells, Walpole, and Gatchell.

WE avail ourselves of this opportunity to return our thanks to those who have favoured us with their confidence, and request a continuance of the same to the new Firm, which shall meet due attention.

We are respectfully, &c. &c.

Nehemiah Walpole — Trustee for the Minors of the late Jonathan Gatchell.

Nathaniel Gatchell — Executor and non-resident Partner in the aforesaid new Firm.

Executor

Signature of Elizabeth Walpole, Resident Partner. Elizabeth Walpole

Signature of our Corresponding Clerk.

PLATE IV

longer in hopes that his work may yet thrive. He has laid out much money upon your land and occasioned the coming of several families to dwell there, and if he prove not very unlucky or failing in his art of making glass (which he has practised in another place these twenty years past) I do not doubt but he will be a great means to plant that part of your Lordship's estate, especially in the new town, in a short time.

Enclosure. A Henzey to Robert Leigh. I have used all the best ways and means I could hitherto to make glass but cannot as yet do it. This is a great damage to me and disheartens the new inhabitants of the corporation. I am disabled by it, and unless my Lord Arlington will encourage me I shall impovrish myself and do no good. I have sent to Dublin for things to make a further trial which I hope will do some good, and shall not leave off until every expedient has been tried. I shall devote all my efforts and those of my people to it and all the money I can procure. If the next trial do not succeed, I shall have to put out the fire till next summer to get some things that cannot be had at this time of the year. A great rent is now due to my Lord and will increase and I do not know how I shall discharge it without making of glass, which is the only way I hope to do so. I must bow to his Lordship's pleasure but hope he will give me encouragement to go on, for which I shall ever be thankful. Pray acquaint his Lordship with my losses.

Dated at Gragneefine 10th November 1670. To my esteemed friend Robert Leigh at Mr Hackett's living on the Merchant's Quay Dublin."

This is the only reference to this glass-house which I have been able to find, consequently it is impossible to say if the venture succeeded.

The name Glasshouse still pertains to a place a short distance to the west of Portarlington, and probably this was the site of Henzy's glass-work. Ananias Henzy is said to have come from Stourbridge, a great glass-making centre, and an Ananias Henzy, probably the same, obtained a grant of lands in the King's County, but no mention was made of the land he rented at Portarlington. The Henzys (de Hennezel) were, like the Bigos (de Bigault), the Tyzacks (du Thisac), and the Tytterys (du Thietry), originally Lorraine glass makers who came over to England about the middle of the sixteenth century. The de Hennezel family are first mentioned in connection with England about the year 1568, when Thomas and Balthazar de Hennezel, of the glass-houses of Vosges in Lorraine, were brought over by John Carye.

The family seems to have settled at first in Sussex, and afterwards to have wandered to Buckholt Wood near Salisbury, and later on to the neighbourhood of Stourbridge ; while in 1695 Peregrine Henzell, John Henzell, Jacob Henzell, and Peregrine Tizack petitioned the English House of Commons for aid to carry on the manufacture of glass near Newcastle-upon-Tyne.

The Henzy and Bigo families appear to have intermarried both in England and Ireland. In the will of Philip Bigo, who is stated to have had a glass-house in the King's County, and who died in 1668, the sum of three hundred pounds is left to the children of his eldest daughter Catherine Henzie, deceased, formerly wife of Ananias Henzie.

All the early glass works in Ireland appear to have been in the country, on account of the facility of obtaining wood for fuel. In the year 1641, however, a Bill was introduced to stop the felling of trees for fuel for burning glass, iron, lime, etc., and after about the last quarter of the seventeenth century almost all the glass-houses were erected in, or near, towns.

CHAPTER II

DUBLIN GLASS-HOUSES

THE earliest record, we know of at present, of a glass-house in Dublin refers to one in St. Michan's parish in the latter part of the seventeenth century, though exactly when the manufacture commenced is not known, but probably about the year 1675.

In the *Dublin Chronicle* for September 11th to 13th, 1788, the following short account of glass-making in Dublin is given :

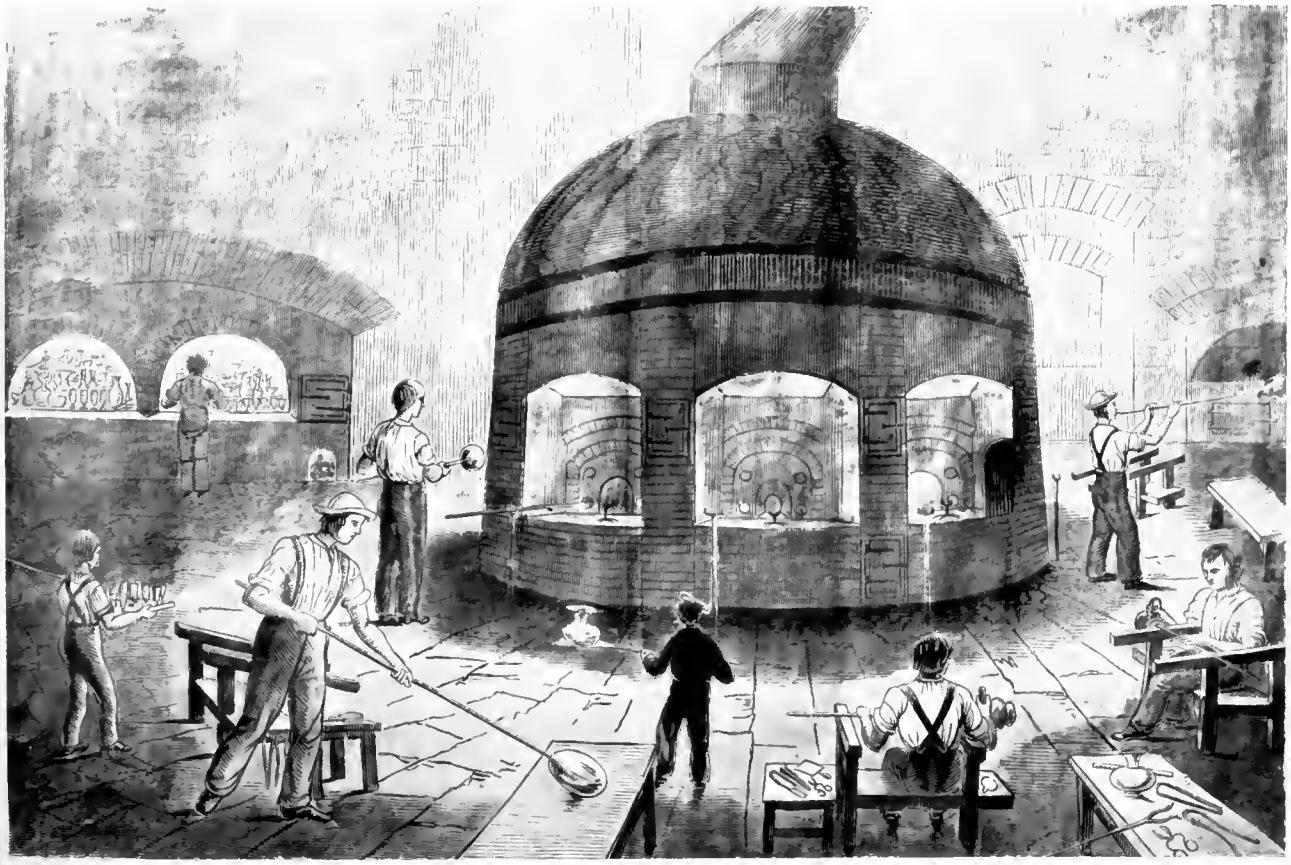
" Captain Philip Roche, a gentleman of good family, accepted a commission from James II, and, by being included in the Articles of Limerick, preserved his estate. He followed, however, the fortunes of James, but taking some disgust he quitted France, and visited a great part of the Continent. After some years he returned to Ireland, and being incapacitated as a Roman Catholic from seeking a military or civil appointment, he turned his attention to trade, at the instance of his brother-in-law Thomas Woulfe, who soon after figured as the most eminent merchant in this city."

" Captain Roche had, by some means, acquired on the Continent a considerable insight into the mystery of making flint glass, and conceived it might be advantageously pursued here. He made the attempt, and succeeded to his wish ; his first essay was on a small scale, but he projected extensive and convenient works at Mary's Lane. In erecting them he met with much disappointment, they twice fell to the ground when nearly completed, and in the latter accident he was buried in the ruin as he was pointing to a defect in the upper work ; the circumstance luckily saved his life, for the tip of his cane appearing through the rubbish, he was speedily freed. His persevering spirit was not to be subdued, he set forward his works for the third time in the form of a cone, which remained unimpaired until very lately pulled down. The warehouses and offices which still remain prove the capaciousness of his ideas."

Plate V

Illustrations of the glass exhibited by George Gatchell at the London Exhibition of 1851. Made at the Waterford Glass-House.

Interior of a glass-house, showing the furnace with openings to the pots, workmen at the chairs making glass objects, blowing glass, mavering glass on the maver in the foreground, the various tools used, and, to the left, the annealing oven.



" Captain Roche lived to enjoy the fruits of his spirited exertions ; he died rich, and still more beloved and regretted ; he bequeathed legacies to every one of his customers, who, indeed, were mostly hawkers, for the poverty of the country threw this branch into the hands of itinerant traders. A considerable share of his fortune devolved to his brother-in-law, who, endeavouring to fulfil the trust imposed upon him by securing a perpetuity of relief for poor widows, imprudently purchased long and valuable leases in trust, but being a Papist, the severity of the Penal laws transferred to a Protestant discoverer what was intended for the relief of indigent and helpless old age. Mr Fitzsimons succeeded to the business which he carried on with reputation ; to his son it devolved, but proving injurious to his health, it declined in his hands, and at length he discontinued to work and became simply an importer of English glass."

From this account it would appear that Roche did not set up his glass works until some time after 1690. He presumably left Ireland with James II, and, it is stated, spent some years on the Continent. In the Parish Registers of St. Michan's Church, Dublin, however, there are several entries from the year 1677 relating to glass makers. It is evident, therefore, that there must have been a glass-house in the vicinity before Roche established the manufacture.

The statement, in the *Dublin Chronicle*, that the glass-house fell down is corroborated by an entry in the St. Michan's registers, for in March, $169\frac{6}{7}$, there is a record of the burial of the following seven persons who were either burnt to death or killed by the fall of the glass-house : William Loecraft, Daniel Smith, Charles Wheaton, Bartholomew Rivers, John Robinson, William Leasy, and Lawrence Hughes.

The names of several other glass makers also occur in the church registers down to about the year 1735.

Captain Philip Roche appears to have had as partners the brothers Richard and Christopher Fitzsimons.

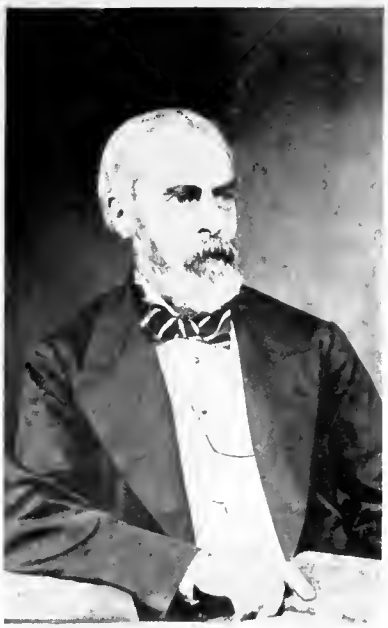
In his will Richard Fitzsimons, who died in 1711, bequeaths to the children of his late brother Christopher his one-third part in the glass-house and stock which he bought from said Christopher. Captain Philip Roche, who lived at Finglas, near Dublin, died in December, 1713, and by his will left £5 to those who cry about glasses, and travel into the country to sell glass ; £20 to the widow Fitzsimons' son who lives at the glass-house ;

Plate VI

1. Portrait of George Gatchell, proprietor of the Waterford Glass Works 1835 to 1851.

2. *Belfast Glass-House.*—View of Edwards' Glass-House, Ballymacarrett, Belfast. From a newspaper advertisement.

Waterford Billhead.—Billhead used in the Waterford Glass Works 1830 to 1835.



1

2

Waterford Glass Works

18

Boy of GATCHELL, WALPOLE & Co.

Glass Manufacturers.

Walker & Sons Sc. pt

£5 to Philip Hudson at the glass-house, and to Mrs. Fitzsimons for the use of her children the first hundred pounds coming to him out of the glass-house.

The Fitzsimons family seem to have carried on the glass works after Roche's death, and in the year 1755 a Christopher Fitzsimons petitioned Parliament for aid to carry on the manufacture of flint glass in Dublin. Christopher Fitzsimons' name appears in Dublin directories from about 1760 to 1779 as that of a glass merchant at No. 1 George's Hill.

The manufacture of glass was carried on in Mary's Lane until probably about 1760, but, after this, Fitzsimons appears to have sold only imported glass.

It is said that the proprietor became bankrupt in 1785, and that in 1787 the site was sold and the glass-house pulled down.

By an Act of Parliament of 1783–4 (23 and 24 George III, c. 31) it was made lawful for the wide street Commissioners to pay as a compensation to the proprietors of the glass-house in Mary's Lane any sum not exceeding four hundred pounds, in case said glass-house shall be pulled down by their orders.

Roche's glass-house appears to have been situated on the piece of ground bordering on Mary's Lane, between George's Hill and Bradogue Lane (now Halston Street). It is marked on maps of Dublin of 1756, 1773, and 1787, but no mention of it occurs in Dublin directories of these dates.

There are numerous advertisements of this glass-house in old Dublin newspapers from about 1713 to 1759, and as several of them give lists of the various articles made, they are worth recording.

Lloyd's News Letter, October and November, 1713 :

" At the Round Glass House in St Mary's Lane, Dublin, (the fire being now in) is made and sold the newest fashion drinking glasses and all other sorts of flint glasses as good as any made in England at very reasonable rates."

Faulkner's Dublin Journal, November, 1729 :

" At the Round Glass House in St Mary's Lane, Dublin, the fire being in, are made and sold all sorts of fine flint drinking glasses, salvers, baskets with handles and feet for desserts, fine salts ground and polished, all sorts of decanters, lamps etc. and for encouragement to dealers 'tis proposed to sell

them much cheaper than they can import them from England or elsewhere. N.B. The warehouse is now kept on George's Hill."

Faulkner's Dublin Journal, December, 1743 :

" All sorts of fine double flint drinking glasses are made and making at the Round Glasshouse in Mary's Lane, and sold at nine pence per lb. that exceed eight ounces."

Faulkner's Dublin Journal, January, 1746 :

" This is to give notice, at the Round Glass house in St Mary's Lane, Dublin, the fire being now out, after working a considerable time, and the warehouse being full of all sorts of the newest patterns of drinking glasses, decanters etc., fine large globe lamps for halls for one to four candles, bells and shades, mounted of the newest fashion with brass, all kinds of specia glasses for apothecaries, several sizes of jars for confections, with salvers, baskets, sweetmeat and jelly glasses etc., As it is the only art or work of its kind in this Kingdom carried on, great encouragement is given to all city and country shopkeepers, dealers in glass etc., N.B. All the double flint wine glasses, decanters, water glasses and saucers at seven pence per lb. weight, the single flint at two shillings and four pence, fourteen to the dozen, dram and whiskey glasses at one shilling and six pence, fourteen glasses to the dozen. In exchange will be allowed for double flint broken glass two pence halfpenny per lb., and for single one penny halfpenny per lb., At the same place is a great quantity of saltpetre to be sold by the bag or ton."

Faulkner's Dublin Journal, December, 1746 :

" At the Round Glass House in St Mary's Lane are making all sorts of the newest fashion drinking glasses, water bottles, decanters, jugs, water glasses with saucers plain and moulded, all sorts of jelly glasses, sillybub glasses, sweetmeat glasses for desserts, salvers, orange glasses, covers for torts, bells and shades, hall lanthorns for one to four candles, barrel lanthorns, globe lamps, etc., all mounted with brass after the newest fashions from London. All sorts of apothecaries' bottles, specia glasses of all sizes, rounds, urinals, breast and sucking bottles, cupping glasses, funnels etc. All sorts of tubes, globes etc. for electrical experiments, weather glasses, receivers for air pumps, and all sorts of philosophical instruments. As it is the only art and work of its kind carried on in this kingdom the proprietor hopes to meet with the encouragement such an undertaking deserves. N.B. The undertakers of the said work are making the necessary dispositions for carrying

on likewise the making of black bottles, melon glasses, gardevines etc., for the use of chemists etc."

Faulkner's Dublin Journal, January, 1752 :

" At the Round Glass House on George's Hill, near Mary's Lane, Dublin, are made and making all sorts of the newest fashioned drinking glasses, water bottles, claret and Burgundy ditto, decanters, jugs, water glasses with and without feet and saucers, plain, ribbed, and diamond moulded jelly glasses of all sorts and sizes, sillybub glasses, comfit and sweetmeat glasses for desserts, salvers, glass plates for china dishes, toort covers, pine and orange glasses, bells and shades, hall lanthorns for one to four candles, glass branches, cut and plain barrel lanthorns, globe lamps, etc. all in the most elegant and newest fashioned mounting now used in London, chamber ditto ; all sorts of apothecaries' bottles, spaecia glasses of all sizes, rounds, urinals, breast and sucking bottles, cupping glasses, funnels etc. All sorts of tubes, globes etc. for electrical experiments, weather glasses, receivers for air pumps, and all sorts of philosophical experiments. All sorts of cut and flowered glasses may be had of any kind to any pattern, viz :—wine glasses with a vine border toasts or any flourish whatsoever ; beer ditto with the same, salts with and without feet, sweetmeat glasses and stands, cruits for silver and other frames all in squares and diamond cut, gardevins, tea cannisters, jars and bakers for mock china, mustard pots, crests and coats of arms, sweetmeat bowls and covers etc. N.B. As no pains or expense have been spared by the proprietor to procure the best workmen and newest patterns from London, he hereby hopes (that as his is the only manufacture of glass in the Kingdom, and that he is determined by his own personal inspection and application to support it in the highest perfection) to deserve the encouragement and approbation of all who shall honour him with their commands, and further promises them the greatest satisfaction in regard to colour and workmanship, beside the advantage of purchasing the above goods at much cheaper rates from him than those imported from England or elsewhere can be sold. Constant attendance will be given from eight o'clock in the morning until 9 o'clock at night at the glass warehouse on George's Hill."

About the year 1725 John Pratt, deputy Vice-Treasurer of Ireland, is said to have set up a bottle glass works, probably in Dublin. Practically nothing is known of the glass-house, and from a notice in *The Toast*, pub-

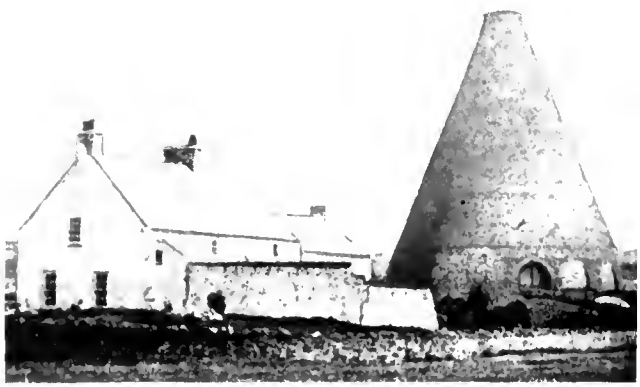
Plate VII

Three objects of bubbly green glass, made by glass blowers after the factories ceased work. About 1850–60. The two decanters Belfast, and the tumbler Waterford. Author's Collection.

1. *Cork Glass-House.*—Chimney of Hanover Street Glass-House, Cork. Erected 1782. Pulled down 1915.

2. *Ballycastle Glass-House.*—Chimney of Ballycastle Glass-House. Erected 1755. Pulled down 1877 or 1878.

1



2

lished in 1747, it seems evident that very little was done in the way of glass-making. The notice in *The Toast* states that " all the instruments used by his workmen, such as bars, paddles, rakes, procars, ladles, strocals, forks, sleepers, fenets, faucets, pipes, pontee stakes, shears, scissors, crannies, towers etc. were excellently made, having been forged by himself, or made under his inspection, but that his pots or pans in which the manufacture was contained were wrought with such bad clay that they would not resist the fire, and cracked after the first or second trial."

About the year 1730 a glass-house for making bottles and window glass was erected on the Bachelor's Quay, and the manufacture appears to have been carried on by some of the original partners until about 1741. In March, 1741, the following advertisement appeared in *Faulkner's Dublin Journal :*

" This is to give notice that the surviving partners and the representatives of the partners deceased of the Glass house on the Bachelor's Quay Dublin, will sell the said Glass house, which was built, and is very convenient for, either bottle or window glass work, and is thoroughly vaulted, together with all the materials and utensils thereunto belonging. Applications may be made to William Maple Esqre, at Parliament House, Dublin, to the Revd. Mr Richard Stewart at Belfast, or to Mr Edward Shanley at his house in Chancery Lane, Dublin. N.B. There are one hundred pots well made and fit for immediate use."

It is uncertain if the manufacture ceased at this period, but in the year 1747 the interest in the ground on Bachelor's Quay, and also the glass-house erected on portion of the ground was advertised for sale. The glass-house was stated to be then untenanted. Perhaps this glass-house was taken by John Bradshaw, Edward Ford, and Edward Shanley, for in November, 1747, they petitioned Parliament for aid to carry on the glass manufacture, and stated that they had lately set up a bottle glass-house in Dublin.

In August, 1752, the following advertisement appeared in the *Dublin Journal :*

" To be let for a long term of years a large lot of ground at the lower end of Abbey Street, with two fronts, one on the Bachelor's Walk and the other on Abbey Street, together with a bottle glass house, warehouse, vaults etc. Said glass house is allowed by the most experienced persons in the profession to be at least as large and commodious, and as well situated for

the business of bottle making as any in England. Apply to Alderman Hans Bailie, or to Mr Hugh Darley, in Abbey Street."

Early in 1754 William Deane and Co. purchased the glass-house from Alderman Bailie for £1200, and carried on the bottle-making industry, the concern being known as the Square Glass House. William Deane was a solicitor and officer in the Court of Chancery, and, consequently, like most of the other Irishmen who established glass works in Ireland, probably knew nothing about the actual manufacture of glass.

About the year 1753, a company, consisting of Hugh White, Annesley Stewart, Thomas Hawkshaw, and George Boyd, was formed for the purpose of carrying on the manufacture of glass bottles. A glass-house, known as the Round Glass House, was erected in Abbey Street, near the Ship Buildings, and bottle-making was started in August, 1754. In July, 1754, it is stated in the *Dublin Journal* that Mr. William Gordon had just brought over from England a complete set of as good workmen as any in the country, for the new glass-house at the Ship Buildings.

The firms of Deane and Co. and Hawkshaw and Co. were amalgamated in August, 1757, and the combined glass-houses carried on the manufacture of bottles. In 1755 both Deane and Hawkshaw petitioned Parliament for aid to carry on the glass manufacture, and in 1756 the former received £2000 and the latter £1500. In 1767 the combined firms obtained from Parliament, through the Dublin Society, £150 for window glass valued at £2000, and in 1769 £200 for window glass and bottles valued at nearly £10,000.

When Deane started the bottle-making industry in 1754 some of his initial expenses were stated, including £800 for Stourbridge clay, £30 for Irish clay, £15 for colouring, £10 for sand and £410 to fifty-four persons from abroad to settle and carry on the manufacture.

In 1758 Deane and Hawkshaw, besides the ordinary bottles, advertise that gentlemen and gardeners may now be supplied with large glass bells for gardens, as now used in London, also glass vessels for all kinds of picklings and sweetmeats, and also particular kinds of bottles for preserving orange and lemon juice ; gardevins, rounds for apothecaries, and any green or bottle glass ware desired, cheaper than imported. In 1761 it is stated in *The Dublin Journal* that "the manufacture of glass bottles at the Round Glass house at the lower end of Abbey Street opposite the Ship Buildings is arrived to such a degree of perfection that not a single bottle has been

imported by any merchant in this kingdom for several months past, either from Bristol, Liverpool, or any other part of England. The proprietors have now brought it to such great perfection that they can afford to and do sell their bottles for eighteen shillings per gross, being six shillings cheaper than formerly imported from England."

In May, 1767, it is stated in the *Dublin Journal* that at the round bottle houses at the lower end of Abbey Street there is now ready a large quantity of very good crown window glass, melon and cucumber glass bells, chemical glasses and pickle jars ; also bended window glass at reasonable rates.

Deane's name appears as that of a glass manufacturer in Lower Abbey Street in Dublin directories until his death in 1793. In 1785 William Mossop, the well-known Dublin medallist, struck a fine portrait medal of William Deane, the original steel die for which is in the author's possession.

In 1784 Deane's name appears in the *Irish House of Commons Journal* among those protesting against the pulling down of the glass-houses in the city of Dublin. By an Act of Parliament of 1783–4, entitled " An act to prevent the pernicious practise of erecting glass houses within the city of Dublin, or a certain distance thereof," it was provided that no glass-house be erected contiguous to the North Wall nearer than eight hundred yards from the off side of the circular road, nor nearer than Ringsend on the south side of the Liffey, nor nearer to the circular road than three-quarters of a mile in any other part round said city. No chimney of a glass-house to be under fifty feet, and any glass-house erected within these limits can be pulled down and no compensation given.

Probably in the year 1734 a glass-house was established in Fleet Street, Dublin, nearly opposite Price's Lane. In an advertisement in the *Dublin Journal* of October, 1734, it is stated that—" At the new Glass house in Fleet Street, Dublin, the fire being now lighted, there is made all sorts of fine drinking glasses, salvers, decanters, branches of several sorts, etc., where gentlemen and ladies may be furnished with all sorts, likewise city and country merchants. N.B. Any persons that have broken glass may have money or glasses in exchange according to value."

Another advertisement of December, 1737, states that, " At the Glass house in Fleet Street are made glasses of all sorts for beauty of metal and workmanship equal to those made in London, also globes for lamps, phials,

PLATE VIII

Front and back view of Waterford glass scent bottle, made for Susannah Gatchell about 1790. Of good white glass. The property of Mr. Samuel H. Wright, grandson of Susannah Gatchell.

Three scent bottles. Waterford. The one to the right late 18th century, and the other two probably about 1820 or 1830. National Museum, Dublin.


L'AMITIE
VOUS LOFFRE
WATERFORD
FEB.RY 15
1794

glasses for confectioners, green glass phials for apothecaries, green glasses for chemists, gardeners, etc. and pint bottles or any other sizes as bespoke."

In the *Dublin Evening Post* of February, 1735, the following advertisement relative to the engraving of glass is to be found :

" Whereas several gentlemen and ladies whose curiosity led them to have their arms, crests, words, letters or figures carved on their glass ware, and as several have had cause to complain of the extravagant prices, these are therefore to advertise the public that Joseph Martin living in Fleet Street, Dublin, opposite the Golden Ball, is the only person that was employed by the managers of the glass house in Fleet Street in carving said wares, and that there is no other person in the kingdom that does profess to do the like work. He therefore having broken off with the said gentlemen does propose to deal more candidly with those as are pleased to employ him by working at such moderate rates as none hereafter may have reason to complain."

In 1741 the proprietors appear to have had some trouble with the glass-house fire, as in an advertisement they state that at the glass-house in Fleet Street they have now imported the greatest quantity of glass of all sorts from London, and will sell at the old prices to accommodate their customers until they can light the fire. They also say they sell green vials, bells for gardeners, and superfine crown glass for glaziers. Again in 1751 and 1752 the proprietors advertise that they are still importing English glass, including all sorts of wine glasses, champagne and beer glasses cut with any pattern or foliage, green bells for gardens, vials, and funnels for apothecaries. There is no mention in these notices of the years 1741, 1751, and 1752 of any glass having been made at this glass-house, and in an advertisement of the year 1756 headed " Glass Ware house, Fleet Street " a Hugh Henry states that he has purchased all the stock-in-trade at the said house and has laid in a large quantity of the best glasses of all kinds. The highest price would be given for broken glass, and all who are indebted to said glass-house are requested to pay their debts to Ephraim Thwaits, attorney, Big Ship Street.

As no mention is made of glass-making after the year 1741, it seems probable that no glass was made in the Fleet Street house after that date. No glass-house is marked in Fleet Street on Rocque's map of Dublin dated 1756.

In January, 1746, in the advertisement of the Mary's Lane glass-house, it was stated that this glass works was the only one of its kind in the kingdom, consequently the Fleet Street one must have ceased work before that date.

The next glass-house in Dublin was one erected in 1747 on the North Wall, for making bottles. It was situated a little below the present Custom House, the site being known as the Foot Lots Nos. 1, 2, and 3. According to *Exshaw's Magazine* for 1748 bottles were first blown at this glass works on April 7th, 1748. From the first this glass-house appears to have been attended by ill-luck, for on September 8th, 1747, the wall was thrown down by floods, and on July 17th, 1748, the glass-house was burnt down. By September, however, it was repaired and the fire again lighted.

The following notice referring to the fire is to be found in the *Dublin Courant* for July 16th to 19th, 1748 :

" Sunday, about 10 o'clock at night, a fire broke out in one of the funnels at the glass house lately erected on the North Strand, which consumed the roof and all the materials ; and as the undertaking of making glass bottles in this kingdom must tend greatly to the advantage of it, so does the unhappy accident add more to the loss of the Public, as it does in a particular manner to the proprietors, whose spirit in carrying on so useful a trade makes their misfortune the more to be regretted."

The manufacture was carried on probably until about 1754, but in that year the following notice appears in the *Dublin Journal :*

" To be sold the three Lots, part of the Lots called Foot Lots, Nos. 1, 2, and 3, bounded on the south by the North Wall, on the East by Foot Lot No. 4, on the North by Mayor Street and on the West by the city ground, on which are built a glass house with dwelling house and offices, let on a term of ninety nine years from March 25th, 1747."

The Lots do not seem to have been sold, as again in 1760 they were advertised for sale, but whether or not the glass-house was working at this period is uncertain. Probably some years before 1768 the manufacture definitely ceased, as in that year it is stated that Henry Roche, stone cutter, took the large and commodious premises where the glass bottle manufactory formerly was, at the first house on the North Wall. A glass-house is marked on this site in maps of Dublin dated 1773 and 1787, but no other mention of it occurs.

There are two notices in the year 1748 of a glass-house on the North Strand ; one in September states that the roof of the new glass-house on the North Strand was torn off by a hurricane, and the other in November that a gentleman left some clay with Mr. Minty at the glass-house on the North Strand to make trial of. No other record of a glass-house on the North Strand appears to be known. The notices refer probably to the bottle glass-house on the North Wall.

About the year 1749 another glass-house was established by Rupert Barber at the lower end of Lazar's Hill. Rupert Barber was a Dublin artist who flourished from about 1736 to about 1772. He practised as a miniature painter and also worked in oils.

The following notice appears in the *Dublin Journal* for June 9th, 1750 :

" The Public are requested to take notice that the fire being now in at the new glass house at the lower end of Lazar's Hill, where they may be supplied with the following goods : wide-mouthed quart or pint Gooseberry bottles suitable for pickles etc., gardevins of any size ; pint, quart, pottle or gallon rounds for druggists, distillers etc., round and square cannister bottles for snuff or flower of mustard, small garden bell glasses ; taverns and public houses supplied with quart, pint and half pint decanters for wine, cider or ale. All the above goods of bright green glass, better of their kind cannot be."

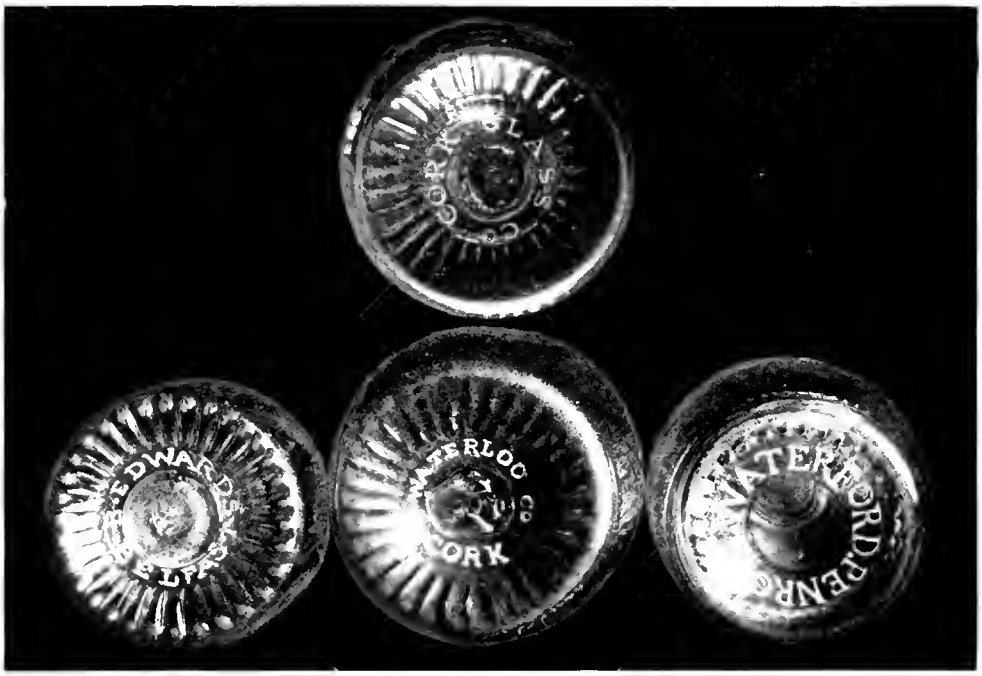
In the *Proceedings of the Dublin Society* for June 14th, 1750, we find this minute : " Mr Rupert Barber having of late erected a small glass house for making vials and other green glass ware at the end of Lazar's Hill, and has had before the Society specimens of decanters, bottles, vials and many other sorts of green glass ware ; he being the first that has made that manufacture in the kingdom which before was imported from abroad, ordered that twenty pounds be given to Rupert Barber." This factory appears to have been only a small one and did not last very long. It is not marked on Rocque's map of Dublin of 1756.

In February, 1759, three Englishmen, Thomas Smith Jeudwin, John Landon, and Henry Lunn, appear to have taken over Deane's square glass-house in Abbey Street. Presumably Deane continued the bottle and window glass manufacture at the round glass-house previously mentioned. Jeudwin, Landon, and Lunn took this glass-house for the purpose of carrying on the manufacture of window glass, and in the year 1760 we find these notices

Plate IX

Four decanters showing the bases with names in cameo letters. The letters have been slightly heightened with white for photographic purposes, but they are quite distinct on the pieces. Author's Collection.

Examples of glass made at the Cork Exhibition of 1902 from Muckish Mountain sand. All of a good white metal.


EDWARD
ATERLOO
ORK
ATERFORD

concerning this factory, in the *Dublin Journal:* "Irish crown window glass. Whereas the proprietors of the Square Glass House in Abbey Street have at much expense and trouble established and brought the art and manufacture of window glass (which was before unknown in this kingdom) to great perfection, and have now a large quantity of all kinds of window glass made by them (as good as any imported) to dispose of." They also stated that persons from England were trying to spoil the Irish manufacture, and that they had obtained the premium of £50 from the Dublin Society.

"At the crown glass manufactory in Abbey Street the proprietors have now a sufficient stock of crown glass by them to supply their customers, and as good as any imported, at the following prices—best £3. 12. 0 per case, seconds £3 per case. The said company have erected a house for all kinds of flint glass phials and green glass, adjoining their other house. Henry Lunn for self and company." Jeudwin, Lunn and Co. petitioned the Irish Parliament in 1761 and 1765 for aid to carry on the glass manufacture, and stated that they were all Englishmen, natives of London, and undertook to carry on the manufacture of window glass in Ireland which they understood was not known there. In February, 1759, they came over to Ireland, and took concerns in Abbey Street, and on bringing artists from abroad and on materials had expended the sum of £12,000, and carried on the manufacture for three years; they were obliged to drop it from that time owing to the employees doing damage to the glass-house pots. They also stated that they had set up a flint glass-house near their other one.

In the evidence given before the Dublin Society in 1762 relative to the petition of 1761, Jeudwin stated that great loss was occasioned by the villainy of the workmen brought over from England, and that men were sent over from Newcastle-upon-Tyne to destroy the work, and that the glass-house pots were broken. That Irish clay was used for some purposes but not for the glass-house pots, these being all of Stourbridge clay. That they imported no kelp, but obtained it all from Galway, which was next best to that of the Orkneys, the best in the world. That they employed about sixty workmen, of whom about fifty were English; and that they could manufacture about £5000 worth of glass in the year.

In March, 1768, Jeudwin and Lunn again petitioned the Irish Parliament for aid, and stated that they were natives of London and commenced making glass in Dublin in August, 1759, and had built a house for making

flint glass phials, retorts and chemical glass and also glass bottles; that they had brought skilled artists from abroad and had spent money in searching for and providing necessaries of the produce of Ireland for the manufacture; that they had instructed Irish hands and trained Irish apprentices, but that the foreign artists refused to work with the Irish, which stopped the manufacture of window glass, and that some evil-minded persons had destroyed the pots and metal. That in the year 1764 Hugh Boyd of Ballycastle applied to them to take a lease of the Ballycastle glass-house at the rent of £1000 per annum. This they did, but on Boyd's death in June, 1765, his acting executor, Jackson Wray, behaved very badly and threatened to imprison them for an alleged debt of over £1700. Owing to Wray's persecution, Lunn said he would have to give up the manufacture of flint glass.

Lunn probably returned to Dublin some time after Boyd's death, as he obtained a premium from the Dublin Society for glass made between November 1st, 1786, and May 1st, 1787, valued at £969, and his name appears in Dublin directories as that of a glass manufacturer, 113 Abbey Street, until 1793.

Jeudwin seems to have continued the connection with Ballycastle, for in 1766–7, together with John Macauly, he obtained a premium for bottles made at Ballycastle and valued at £1930. No other mention is made of Jeudwin's lease of the Ballycastle bottle works, but in 1771 these works were advertised to be let, applications to be sent to Jackson Wray at Ballycastle or to John McAllister, Abbey Street, Dublin.

About the year 1785 another glass-house was erected by Charles Mulvany and Co., probably near the North Strand. Mulvany's name appears as that of a glass merchant in Capel Street in Dublin directories from the year 1784, and in the *Dublin Courant* for March 22nd, 1788, he advertises that, " Glass lustres, girandoles, globe lanterns, hall and staircase bells, and patent lamps for passages, glasses, decanters, goblets, etc. for the sideboard, epergnes, bowls, fruit dishes, butter coolers, etc. for dinner and supper tables are to be had at Mulvany's wholesale and retail warehouse, 56 Capel Street. He manufactures all the above goods from first process to finishing."

Probably Mulvany had some connection with Lunn's glass-house in Abbey Street. Lunn's name appears in Dublin directories until 1793 as that

of a glass manufacturer at 113 Abbey Street, and in 1794 Mulvany's name replaces Lunn's at the same address.

In 1798 Mulvany states in the *Dublin Journal* that the warehouse in Capel Street is to be given up and removed to his glass-house in Abbey Street, where the wholesale and export business will be carried on, as it has been for the last five years.

In 1801 Mulvany and Co. advertise that they had adapted one of their furnaces for making window glass, and it is now at full work. They hope to establish this useful branch of business completely, as they have already the manufacture of white flint glass, which is confessedly the most extensive in Ireland.

Mulvany at this period had a partner Charles Fisher, but the partnership was dissolved in 1810, and Charles Mulvany carried on the business alone. Fisher's name appears in Dublin directories from 1813 to 1829 in partnership with a man named Hornidge, as Hornidge and Fisher, glass manufacturers, 4 Lower Abbey Street.

Mulvany is stated to have become bankrupt in 1818, but appears to have still carried on the manufacture. In the notice of his bankruptcy in April, 1818, it was stated that there was to be sold his interest in several lots of ground situate on the North Strand ; the lots being known as the Acre Lots Nos. 85, 86, 87, 88, and 103, containing over thirteen acres, held for a term of 999 years from September, 1815. Upon these premises Mulvany had lately expended several thousands of pounds in erecting a most extensive glass-house and other buildings. About the year 1820 Mulvany appears to have built another glass-house at Ringsend, further down the river. In 1828 this concern, stated to have been built but a few years since by Mulvany, was advertised to be let, and was said to have an eighty foot frontage to the street, and the same at the rear, bounded by the River Dodder, and a depth of two hundred feet, the ground being almost entirely covered with buildings.

About 1831 Mulvany took as a partner Edward Simmons Irwin, and in a notice in the *Dublin Evening Post* of May 7th, 1833, Mulvany and Irwin state that they have removed their warehouse and counting house business from Lower Abbey Street to the manufactory, Potter's Alley, off Marlborough Street, and that the premises in Lower Abbey Street were to be sold. It appears that at this period Mulvany transferred his glass-making

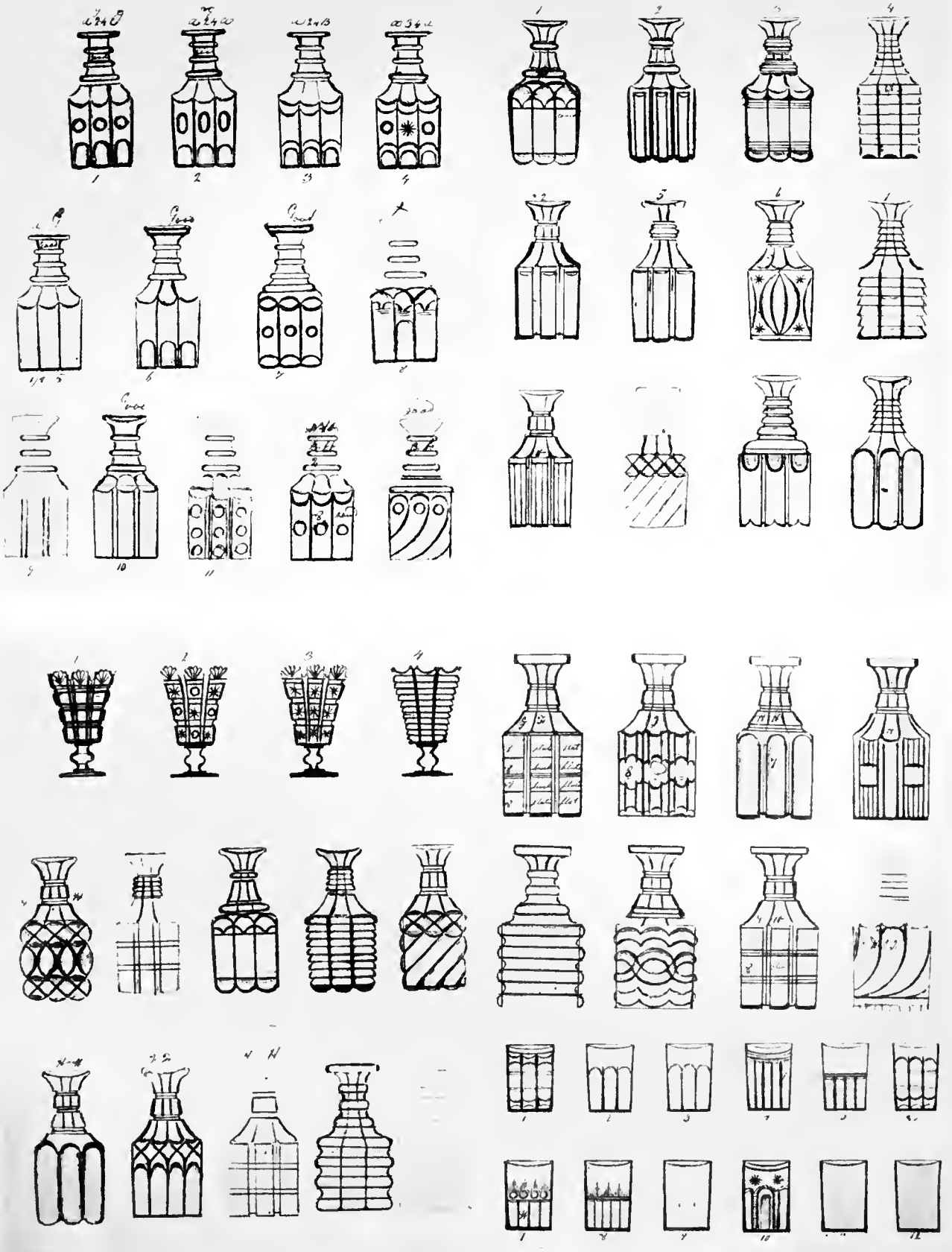
Plate X

Drawings of decanter patterns used in the Waterford glass works about 1830. All the drawings formerly belonged to Samuel Miller, foreman cutter in the Waterford glass works. Note that almost all the decanters have perpendicular sides, this pattern being in use from about 1830 to 1845.

Drawings of decanter, tumbler, and celery glass patterns used in the Waterford glass works about 1830.

The following explanation of the cutting of the tumblers to the right is given on the page of patterns :

1. Large ½-pint tumbler—9 splits, round flutes between, turned out at top and bottom, 2 hollows over and under, 1 flat ring at top turned up, 2 bands of fine splits across the flutes, and new star at bottom. 1s. 6d. each.
2. Large ½-pint do., 8 strong splits to centre of bottom, and with small points so as to form the new star—shell flutes between ¾ the way up.
3. 10 strong hollow flutes round, and the new star at the bottom, the flutes to be ¾ the way up.
4. Large ½-pint. 1 flat ring turned up at top and 2 rings under, stuck flutes, 14 from that to bottom, and star 32 points.
5. Do. Pillars half-way up and 2 rings over and star at bottom.
6. 10 splits and flutes between, turned out at top and bottom, hollows under, and the new ½ star, cut to an inch of the top.
7. 14 flutes, not starred.



business from Abbey Street to No. 3 Potter's Alley, where the Williams' had carried on the same kind of manufacture until 1829.

The partnership of Mulvany and Irwin was dissolved July 2nd, 1835, and Edward S. Irwin took over the factory. Mulvany appears to have kept a glass warehouse in Marlborough Street for a short time, and then to have gone to a glass-house at St. Helens, Lancashire, owned by Mr. Bishop.

E. S. Irwin and Charles Irwin continued the glass manufacture at Potter's Alley. E. S. Irwin died in January, 1846, and from then until about 1855 Charles Irwin carried it on alone. Charles Irwin seems to have had another glass-house at Fitzwilliam Street, Ringsend, known as the Tobacco Box Glass House, from about 1847.

The Irwins' glass-house in Potter's Alley was afterwards taken over by the Pughs, who will be referred to later on.

In 1755 a new glass-house was erected near Marlborough Green. A notice in *Pue's Occurrences* of October 28th, 1755, states that "the new bottle glass house which was building in Marlborough Street fell down."

In 1764 a notice in the *Dublin Journal* states that "the glass house at Marlborough Green is now enlarged and the furnaces rebuilt in the completest manner, where any quantity or kind of flint or green glass, cut, flowered or plain is now made, as bespoke, by James Donelly and Co., workmen from London."

The Williams family (Richard, William, Thomas, and Isaac), who came from England, were connected with this glass-house and afterwards appear to have been the proprietors, as in June, 1764, Williams and Co., Marlborough Green, obtained a premium from the Dublin Society for flint glass valued at £1600.

The name of Richard Williams and Co. appears in Dublin directories from about 1772 until 1829 as that of glass makers in Marlborough Street and Potter's Alley.

In September and October, 1770, the following advertisement appears in the *Belfast News Letter* and in the *Limerick Chronicle :*

"At the glass house on Marlborough Bank opposite the South Wall of Marlborough Bowling Green, Dublin, are now making and made by Richard Williams and Co. all the newest fashioned enamelled, flowered, cut and plain wine, beer and cyder glasses, common wines and drams, rummers, decanters, water glasses and plates, epergnes and epergne saucers, cruets, casters, cans,

jugs, salvers, jellies, sweetmeat glasses, salts, salt linings, hall bells, globes, shades, white and green phials, mustard and perfume bottles, glasses for chemists, druggists and confectioners, or to fit any line or goldsmith's work etc., and all kinds of glass goods for any purpose, or of any shape or fashion equal to any imported in quality of metal and workmanship. Also window glass in cribs, or cut in squares, for windows, hot houses, frames or pictures. This glass house has no connection with the glass warehouse of Mr Lunn at the corner of Marlborough Street and Abbey Street."

In the *Dublin Journal* of May 9th, 1771, Richard Williams and Co. advertise drinking glasses of the newest fashion and equal to any imported, and all other glass goods, common, plain, enamelled, flowered or cut, also green glass goods for any use and crown or window glass equal to London or Bristol.

About 1773 Richard Williams and Co. opened what they termed the Irish Flint Glass and Paris or Queen's Ware Warehouse at 15 Lower Ormond Quay, and in October, 1774, advertised the following goods for sale which they stated were equal to any imported : glass lustres, girandoles, chandeliers, candlesticks and candlemolds, pyramids, salvers, bowls, decanters, water glasses, drinking glasses and smelling bottles, and every other article that can be made of flint glass, cut, engraved, and plain ; also dishes, plates, tureens, flower pots, etc., of Queen's Ware. He also says that this undertaking will be a great saving to the nation, as much money is spent on imported goods, and that he has been at great expense in bringing the manufacture of glass to as great perfection as carried on abroad.

In 1777 and 1781 they advertise lustres, chandeliers, epergnes, hall and staircase bells, and an elegant assortment of cut, engraved, and plain glass, ornamental and useful of every denomination ; also plate glass for looking glasses, coaches, and windows, all of their own manufacture.

Richard Williams appears to have built a new glass-house in Marlborough Street in 1777. Two slightly different notices of this glass-house appear in Dublin newspapers of December, 1777. In the *Dublin Journal* it is stated that, " when taking down the scaffolding of a new glass house in Martin's Lane a great part fell in and killed eight men and buried several others." In the *Hibernian Journal* we find, " The new glass house built by Mr Williams in Marlborough Street, lower end of Abbey Street, near the

Dry Dock, fell to the ground when the scaffolding was taken away and eight men were buried and four killed."

These two notices refer probably to the same glass-house.

In February, 1785, William and Richard Williams petitioned Parliament against the proposal to pull down the glass-houses in Dublin and to erect them outside the city, and stated that they had carried on the glass manufacture in the one place for nearly thirty years and employed about seventy persons.

In the year 1768 Isaac Williams appears as a petitioner before the Dublin Society for aid to carry on the flint glass manufacture. This Isaac Williams was one of the partners with Richard Williams, and in 1773 William Williams, also another partner, advertised that garden glasses of all sizes, window glass in cribs or cut in squares, pickling jars of all sizes, gardevins and any article and of any colour that is made of glass were made at the manufactory at the lower end of Abbey Street.

Richard Williams and Co. are stated to have made bottle, flint, plate, and window glass, and they obtained several premiums from the Dublin Society for flint and plate glass.

In 1784 Messrs. Williams received a premium for glass valued at £9000 ; in 1786–7 William Williams received one for glass valued at £2897 ; in 1787–8 Richard Williams one for flint glass valued at £5426 and plate glass valued at £446 ; in 1788–9 Richard Williams one for plate glass valued at £1000 ; and in 1793 and 1794 for flint glass valued at £7251 and £3571 respectively.

William Williams died in 1788, and in the announcement of his death it was stated that he was the first person who brought to perfection in Dublin the manufacture of white flint and plate glass.

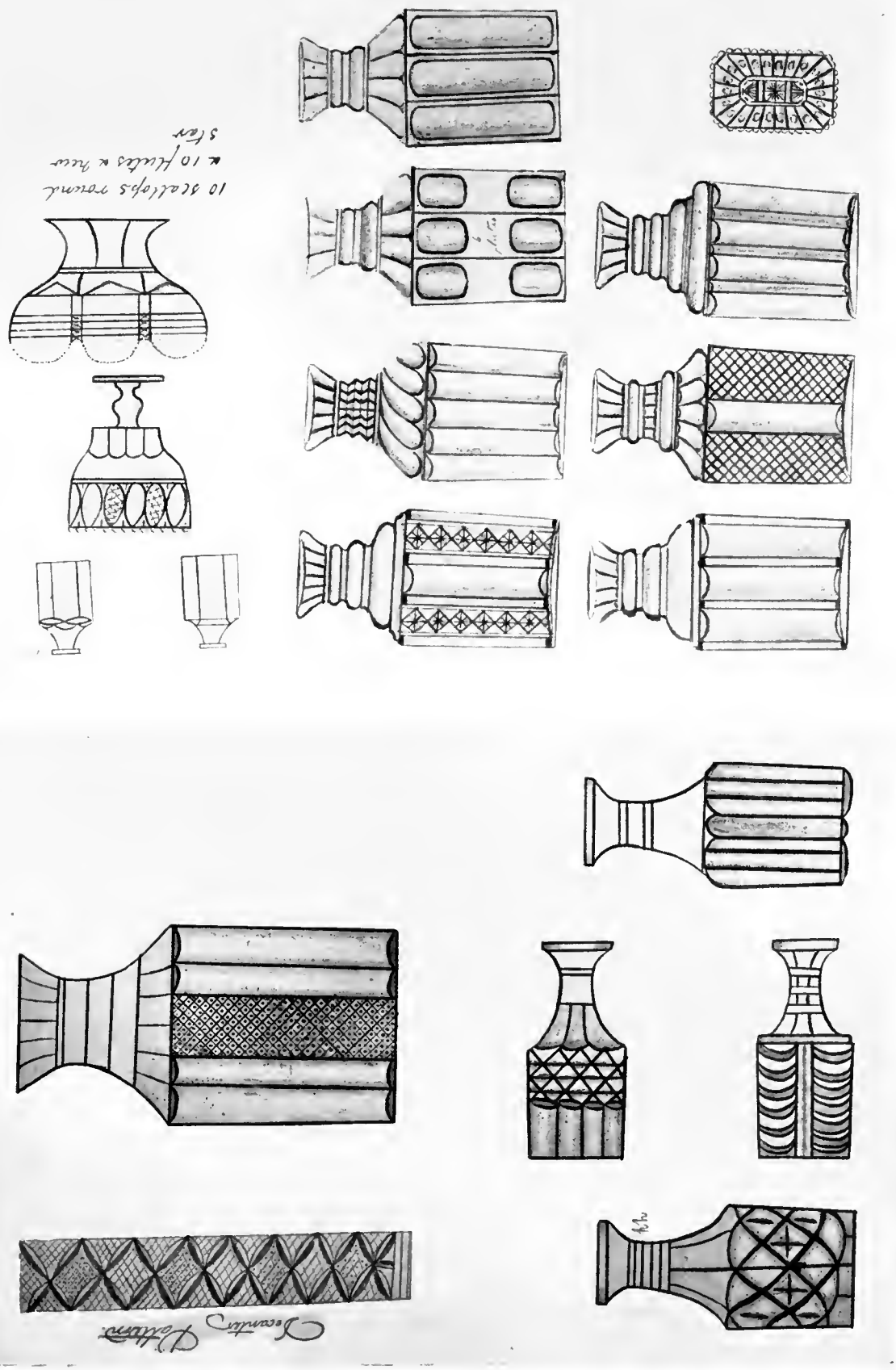
The Williams family appear to have carried on the glass manufacture until about the first quarter of the nineteenth century. In June, 1827, the death is recorded of Thomas Williams, " proprietor of the glass manufactory Marlborough Street," and in the same month also that of Richard Williams.

It is somewhat difficult to locate exactly the sites of the various glass-houses mentioned as being in the lower end of Abbey Street, Marlborough Street, the Strand, and Potter's Alley. All these streets are quite close to one another, but the only glass-houses in this vicinity marked on the maps

Plate XI

Decanter, sugar bowl, and dish patterns used in the Waterford glass works about 1830.

Decanter patterns used in the Waterford glass works about 1830.



of Dublin are placed to the south side of Marlborough Green and between it and the Strand.

A notice in the *Dublin Journal* for September 23rd, 1783, mentioning the looking-glass manufacture, states that " an artist from England intends settling in Dublin for making plate looking-glass after the French method, (that is, by rolling the metal while hot with a brass cylinder, by which sheets of any size can be made), as all the materials are on the spot, and it will effect a great national saving."

Some little time before 1785 an iron foundry was established by Messrs. Carrothers and Wilson at Ballybough Bridge, but in the year 1786 it was advertised for sale, and it was stated that the foundry was removed to Thomas Street. In the *Dublin Journal* for September 28th we find this advertisement: " The concerns at Ballybough Bridge lately in the possession of Mr Carrothers are taken by a company for the purpose of carrying on the flint glass manufacture. From the ability and patriotic spirit of a gentleman and the industry and talent of another there is every reason to expect success."

The proprietors of this glass-house were Thomas Chebsey and John Chebsey and other partners.

In the *Dublin Chronicle* of October 4th, 1787, an advertisement states that—" at the white flint glass house near Ballybough Bridge that manufacture is successfully carried on by an opulent company. Plate glass for coaches etc. is also made and polished near the North Strand. Another glass house is erecting on a very extensive scale near the North Wall."

In the *Dublin Journal* for September 13th, 1788, we find this notice: " Last week the Custom House announced a record considerable exportation of flint glass to Cadiz by Chebsey and Co., proprietors of the new works on the North Wall near Ballybough Bridge."

In 1787 Chebsey and Co. opened a warehouse at 62½ Jervis Street, near Strand Street, " where they kept an extensive assortment of flint glass made at the new works ' Venice ' on the North Wall near Ballybough Bridge, which for excellence of workmanship and elegance of metal is at least equal to any imported. They confine themselves to the wholesale trade."

In 1788 Chebsey's glass-houses were visited by the Lord Lieutenant and the Marchioness of Rockingham, accompanied by a number of the nobility, for the purpose of ordering a set of magnificent lustres for St.

Patrick's Hall and the new rooms at the Castle. In 1790 a large quantity of plain and cut flint glass from Chebsey's glass works was advertised for sale in Kilkenny.

Chebsey and Co. obtained premiums from the Dublin Society from 1787. The value of the glass made in 1787 was £1996; in 1788, £4000; in 1789, £6000; in 1790, £6680; in 1791, £7000; in 1792, £6400; and in 1793, £5773.

Thomas Chebsey died in 1798, and in the *Hibernian Journal* for October the 24th, 1798, it is stated that "the partnership of the late firm of Thomas Chebsey and Co. being dissolved by the death of Mr Chebsey, the surviving partners and Mr John Chebsey will dispose of the stock-in-trade, the warehouse at 62½ Jervis Street, and the concerns at Ballybough Bridge. A large amount of every article in the flint glass trade, and a great quantity of green and flint phials, round and tincture bottles for apothecaries, etc. The concerns at Ballybough Bridge, on which are erected two glass houses with the necessary appendages and a convenient dwelling house, contain about two acres, having two fronts of considerable length, one to Annesley Bridge and the other to the North Strand."

This glass-house does not appear to have continued working after 1798, but the warehouse in Jervis Street was kept on for a couple of years.

John Chebsey apparently was connected, about the year 1800, with the glass-house in Newry, formerly belonging to Samuel Hanna. The name of Peter Chebsey appears in a Dublin Directory for 1822 as proprietor of the Cork Glass Warehouse, 25 and 28 Lower Sackville Street.

Early in the nineteenth century vitriol works were erected on the site of Chebsey's glass works.

In August, 1787, a notice appears in the *Dublin Journal* stating that "the demand for crown glass for the French market has encouraged a wealthy company from England to erect a glass house at the foot of Ringsend Bridge."

No other mention of this glass-house appears to be forthcoming until in the *Dublin Evening Post* for March 1st, 1798, we find the following advertisement: "The public are informed that window glass of a large size and good colour is now ready for sale at the Ringsend crown glass factory. It is hoped that an impartial trial will be given to this infant manufactory, and it is presumed that it will be found, if not superior, at least equal, to the

majority of the glass imported into this city. Any commands for the glass-house received at John Raper's window glass warehouse, 21 Lower Exchange Street."

This John Raper is mentioned in 1789 as selling London and Bristol crown glass, and also Dumbarton and Belfast glass.

No other reference to this glass-house at Ringsend has been found, but it may have been taken over by some of those who had glass works there during the first half of the nineteenth century.

According to the *Dublin Journal* the glass manufacture in Ireland was not in a very flourishing condition in the year 1788, for in April of that year this reference is found :

" We lament the slow progress of the glass manufacture in Ireland, especially when every material of that great art is to be found in abundance in every part of the kingdom bordering on the sea. There is some increase especially in bottle and window glass, 12,000 feet of window glass having been exported from Dublin this month."

The name of J. D. Ayckboum appears in Dublin directories from about 1783 to 1820 as proprietor of a glass warehouse in Grafton Street, Dublin. He was originally a London cut-glass manufacturer who came over to Ireland, and seems to have sold cut glass in different towns in the country, being mentioned as selling it in Limerick in 1774.

About 1799 he apparently established a glass works in Dublin, for in the *Dublin Evening Post* of January 4th we find this advertisement : " New Venice glass and chrystal manufacture. J. D. Ayckboum and Co. are now ready to take orders for town, country and export in the different branches of that extensive business. Their warehouse 15 Grafton Street will be constantly supplied with the greatest variety of lustres and table and drinking glasses. Blackrock Road near the canal." Ayckboum did not continue the manufacture very long, for in the *Dublin Gazette* for March 4th to 6th, 1802, it is stated that " The partnership under the firm of John D. Ayckboum and Co. is by mutual consent dissolved from this date, and the business will in future be conducted by the firm of John Lynn Rogers and Co., New Venice Glass House, Canal Bridge, Baggot Street, Dublin. March 5th, 1802."

The firm of John Lynn Rogers and Co., Glass Manufacturers, Lower Baggot Street, appears in Dublin directories until 1808.

Ayckboum and Co. appear to have kept on the warehouse in Grafton

Plate XII

Decanter, wine glass, and sugar bowl or butter cooler patterns used in the Waterford glass works about 1830.

Referring to the wine glasses the following notes are given on the back of the page :

1. 5 arches round, new star between, 24 points. 13s. Starred bottoms only.
2. Sloping splits, 1 ring, diamond border, 3 rings, stuck flutes. 2s. 11d.
3. 3 rings, stuck flutes.
4. Broad and narrow shell flutes, 4 of each, cut shanks and stands. 5s. 6 unequal flutes, do. 5s. 5 large and 5 small do. only, 2s. 2d.
7. Stuck in flutes. 1s.
8. Feather flutes. 1s.
26. Hollow flutes, 3 rings and split border. 2s. 1d.
27. Hollow flutes, 3 rings and 5 rows of diamonds. 3s. 2d.
28. Hollow flutes, 1 ring, 5 rows × diamonds and 1 pillar ring, cut bottom and star. 6s.
29. 2 rings and split border. 1s. 2d.
30. 2 rings and blazes. 1s. 4d.
31. Hollow flutes, 2 rings and blazes.

Decanter and dessert plate patterns used in the Waterford glass works about 1830. To the right of the jar at the top is written " 16 flutes at bottom, band of check[d] diamonds round boddy, 2 stars, 2 rows of strawberry diamonds & 3 rings."

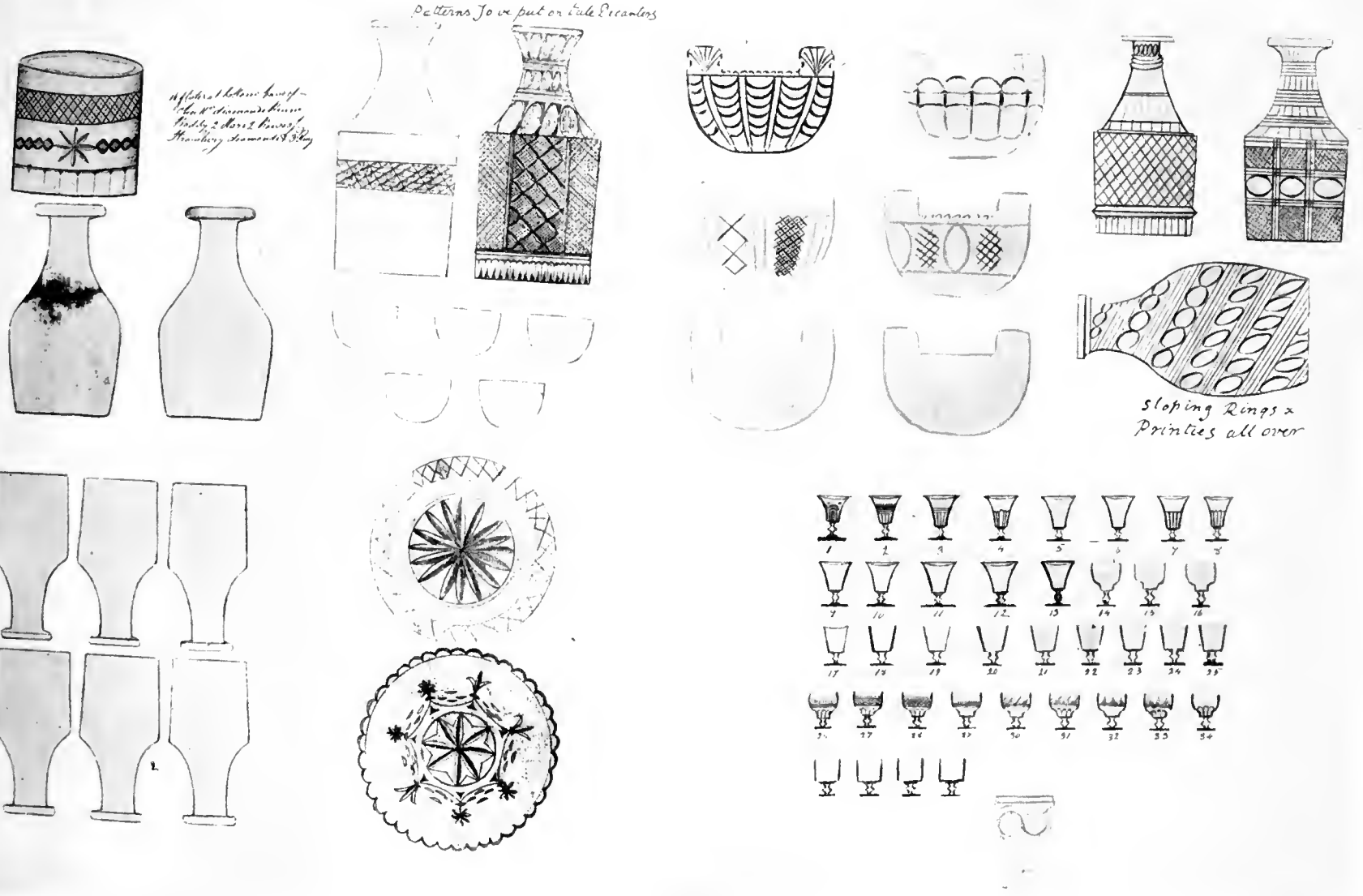

Patterns To be put on Table Decanters
Sloping Rings x
Printies all over

PLATE XI

Street, and to have had a partner named Murphy. This partnership was dissolved in 1817, and M. Ayckboum and Co. carried on the business until about 1820.

The name of James Donovan is to be found in Dublin directories from about 1770 as a glass and china merchant on George's Quay and in Poolbeg Street, and from 1818 to 1829 James Donovan, junior, had a glass-house in Richard Street, Ringsend. The name Donovan, impressed and painted, is often found on pieces of various kinds of pottery. This pottery he had made in Staffordshire, but some of the decorations may have been fired in the glass-house at Ringsend. I possess a plate, on the back of which is painted "Donovan, Irish manufacture," but this probably refers to the decoration only, which consists of a wreath of green leaves rather poorly fired. In the *Proceedings of the Dublin Society* for June 2nd, 1814, it is recorded that a letter was received from Mr. Donovan accompanying three specimens, to show the progress made by him in enamelling on china, and expressing thanks for the attention shown to some of his apprentices.

About the year 1852 or 1853 the brothers Thomas and John Pugh established a glass works at 13 Lower Liffey Street, Dublin. The father of these Pughs originally came over from Stourbridge and worked in Foley's Waterloo Glassworks in Cork.

Thomas and John Pugh had as partners in Liffey Street George Collins from Cork, and Joseph Marsh from Bristol, all of them having been formerly employees of the Irwins of Potter's Alley, previously mentioned. Marsh died about 1860, and John Pugh shortly afterwards, and in 1863 Thomas Pugh and his son Richard, who was first employed by the Irwins in 1849, left Liffey Street, and with a Mr. Leech, who had a glass shop in Dame Street, took over the concerns in Potter's Alley. These concerns had been closed since the Irwins retired from business about 1855. George Collins carried on the glass-house in Liffey Street until about 1865, when the factory was closed.

Thomas and Richard Pugh continued the manufacture of glass at Potter's Alley, and after Thomas Pugh's death it was carried on by Richard Pugh until about 1895, when the manufacture of flint glass in Ireland ceased.

The Pughs, both in Liffey Street and in Potter's Alley, manufactured large quantities of fine flint glass, both plain, cut, and engraved, and for the latter work they employed four German glass engravers.

Besides the white flint glass they made large quantities of coloured glass—amber, purple, blue, and green, and also white opal glass, made by the addition of arsenic and burnt bones. Large numbers of the glass lamps for the Great Southern and Western Railway and the Midland Railway of Ireland were made by the Pughs.

Examples of some of Pugh's glass are illustrated on Plates II and XXXII.

In maps of Dublin made in 1819 and 1823 a glass-house is marked on the East Wall not far from Annesley Bridge. In the map of 1819 it is marked " Fort Crystal," but no other notice of it appears to be forthcoming. There were two other glass works in the vicinity called the Glass Bottle Company and the Dublin Glass Bottle Company, both in Upper Sherriff Street, the latter of which in 1832 advertised quart and pint wine bottles, porter bottles and every description of green glass bottles, and in the Royal Dublin Society's Exhibition of 1850 exhibited half-gallon, quart, pint and oval pint bottles and egg-shaped and flat-bottomed bottles in black, green, and amber glass. The names of several glass manufacturers, mostly in Ringsend, appear in Dublin directories of the first half of the nineteenth century. Crean and Kelly are entered as flint glass manufacturers at 6 Lower Abbey Street, with their factory at Ringsend from about 1821 to 1824. In the latter year the partnership was dissolved. Martin Crean and Co. seem to have carried on the business until about 1834. Thomas Kelly also appears as a glass manufacturer at 3 Lower Abbey Street from 1824 to 1838, and in the former year advertises that the new glass-house, 3 Lower Abbey Street, is established for the sale of superb cut glass of every description ; goblets, glasses, and tumblers warranted to stand hot water. The Revd. Dr. John Prior is mentioned as proprietor of a glass works at Fitzwilliam Quay, Ringsend, in 1838 ; Elijah Pring at 3 Marlborough Street from about 1838 to 1842, and also at Fitzwilliam Quay, Ringsend, in 1843 ; Samuel Davis, window glass maker, had Pring's glass-house for a short time about 1848. From 1844 the name of William Whyte, who is said to have been Pring's clerk, appears in directories as a glass manufacturer, but according to Richard Pugh he never made any glass, being simply a seller. Richard Pugh had at one time a partner named Munkettrick, a son-in-law of Whyte, and through him Whyte had a small interest in the Potter's Alley glass works. In the directories of 1845 and 1846, however, advertisements of Whyte's are to be found with a picture of his shop in Marlborough Street and a glass-house at Ringsend.

Perhaps he took over one of the factories in Ringsend, as in his advertisement he thanks the public for support since he purchased this old establishment.

Pring's glass-house was afterwards known as the Ringsend Bottle Company, and in the Cork Exhibition of 1883 exhibited black and white bottles. Three other glass bottle factories also had exhibits, viz.: The Irish Glass Bottle Company, Charlotte Quay, Ringsend; The Dublin Glass Bottle Company, North Lotts, and Alexander Brown and Son, 175 Church Street.

At the present day there are four glass bottle works in Dublin, viz.: The Hibernian Glass Bottle Works, The Irish Glass Bottle Works, and the Ringsend Bottle Company, all at Ringsend, and Alexander Brown's Bottle Works, Church Street.

CHAPTER III

THE GURTEENS AND WATERFORD GLASS-HOUSES

THE earliest record of a glass-house connected with the city of Waterford belongs to the year 1729. Probably a year or so before this one was erected within two or three miles of the town on the banks of the River Suir, at a place called Gurteens. Although practically belonging to Waterford, the glass-house was actually in County Kilkenny. The first notice of the glass-house is to be found in the *Dublin Journal* for May 24th, 1729, and is as follows: "These are to give notice that The Glass-house near Waterford is now at work, where all persons may be supplied with all sorts of flint glass, double and single, also garden glasses, vials and other green glass ware. Sold at reasonable rates by Joseph Harris at Waterford, Merchant." In the same newspaper for November 2nd, 1731, we find this advertisement: "The Glass-house near Waterford belonging to John Head Esqre. has been at work for some time, where all gentlemen and others may be supplied with bottles, with or without marks, or at the warehouse in Waterford. There will also soon be made there best London crown and other glass for windows, and sold at reasonable rates."

John Head died on October 31st, 1739, and in the *Dublin Journal* for February 5th, 1740, the following advertisement appears: "To be let for a term of years the glass-house at Gurteens and twenty-one acres of land, with a good quay and slips, warehouse, sheds and a malt house, situated close to the river Suir, within two miles of Waterford. Apply to Michael Head at Mr George Backas's in Waterford. N.B. There are several materials belonging to the glass works to be disposed of with the said premises, as pots, iron tools, a large parcel of ingredients for crown glass, kelp, etc." No other reference to this glass-house has been found, but as the pots, tools, and ingredients were to be disposed of, most probably it ceased to work about this period. In November, 1762, "the glass-house

lands" at Gurteens were advertised to be let, but no mention was made of the glass-house. The lands are still marked "Glass house" on the Ordnance map.

In a *History of Waterford*, by the Rev. R. H. Ryland, published in 1824, it is mentioned that a glass-house for bottles, now in ruins, existed opposite Ballycarvet. This was probably the glass-house established about 1728.

The Gurteens glass works possibly made a certain amount of flint glass, but, towards the end, bottles seem to have been the chief item of manufacture. No cut glass would probably have been made at this glass-house, as it is not until some years after 1740 that we first hear of what would now be called cut glass being made in Ireland. No glass appears to have been made in or near Waterford between 1740 and 1783. In the latter year the now celebrated Waterford factory was established, which, as is usually said at the present day, produced almost all the old glass now found in England and Ireland!

The first notice of it to be found in the newspapers is the following which appeared in the *Dublin Evening Post* of October 4th, 1783:

"Waterford Glass House. George and William Penrose having established an extensive glass manufacture in this city, their friends and the public may be supplied with all kinds of plain and cut flint glass, useful and ornamental. They hope that when the public know the low terms they will be supplied at, and consider the vast expense attending this weighty undertaking they will not take offence at their selling for ready money only. They are now ready to receive orders, and intend opening their warehouse the first of next month. September 22nd, 1783."

On November 5th, 1783, George and William Penrose, merchants, petitioned Parliament for aid to establish a manufacture of flint glass at Waterford, and it was resolved that they deserve the aid of Parliament. Under the date January 24th, 1786, the following petition is also to be found in the *Irish House of Commons Journal*:

"Petition of George and William Penrose of Waterford stating that they had with great difficulty, and at the expense of nearly £10,000 established a complete flint glass manufactory. The works employ from fifty to seventy manufacturers, who have mostly been brought from England at heavy expense. Since the factory was erected, the imports of flint glass

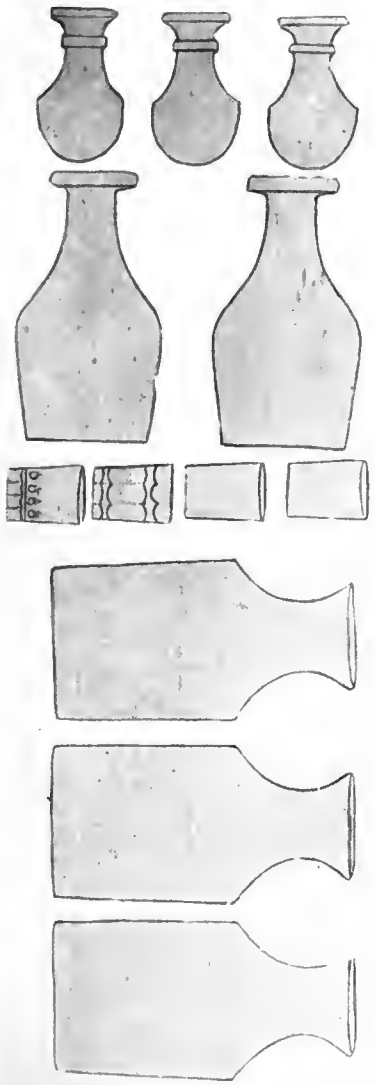
Plate XIII

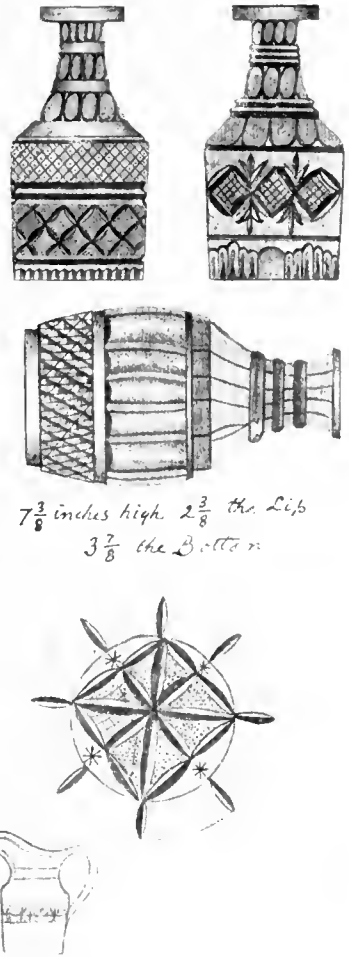
Bowl, decanter, sugar bowl, and custard cup patterns used in the Waterford glass works about 1830. Below the two decanters to the left is written the following :

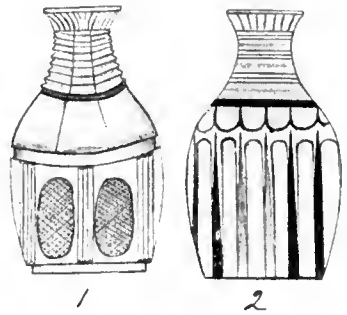
1. 7 panels of diamonds round, 6 prismatic rings deep under neck, 2 round do. sunk under, 12 strong neck flutes round, 1 deep sunk barrel ring at bottom, 1 do. dividing neck from body, lip round, pounted out neck polished out for stopper.
2. Upright hollows and broad slips between, coming into a point at the top, hollow round the neck and split rings between, half-round flutes under the lip.

Below No. 3 of the " sugars " to right is written: 3 pillars and + diamonds, 6 panels of each, small arch scallops, and 1 ring under.

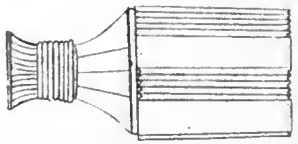
Decanter, tumbler, dessert plate, and jug patterns used in the Waterford glass works about 1830.

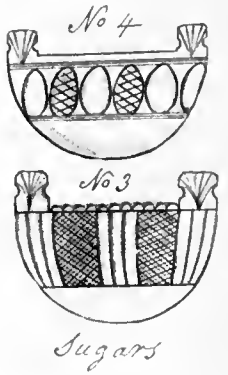






This Bowl to fit a molded Stand





Sugars

PLATE XIII

into that part of the kingdom had entirely ceased, and therefore ask for aid to carry on the manufacture."

In the evidence given before the Committee appointed in 1785 to inquire into the commercial relations between Great Britain and Ireland, Mr. John Blades, cut glass manufacturer, Ludgate Hill, London, stated that a Mr. Hill, a great manufacturer at Stourbridge, had lately gone to Waterford, and had taken the best set of workmen he could get in the county of Worcester, and that English glass workers were constantly going backwards and forwards to Ireland, six a short time ago, and four or five quite recently. This Committee was one of the whole House of Commons appointed to consider of so much of His Majesty's speech to both Houses of Parliament on January 25th, 1785, as relates to the adjustment of the commercial intercourse between Great Britain and Ireland. The Committee began to sit in London on March 15th, 1785, and the minutes of the proceedings are to be found in the appendix of the Journals of the Irish House of Commons for 1785.

In the *Leinster Journal* of October 27th, 1784, the Penroses again advertised that they had established a complete flint glass manufactory, and were enabled to make all kinds of useful and ornamental flint glass of as fine a quality as any in Europe, having a large number of the best manufacturers, cutters, and engravers.

In the *Dublin Chronicle* of August 21st, 1788, it is mentioned that " a very curious service of glass has been sent over from Waterford to Milford for their Majesty's use, and by their orders forwarded to Cheltenham, where it has been much admired and does great credit to the manufacturers of this country."

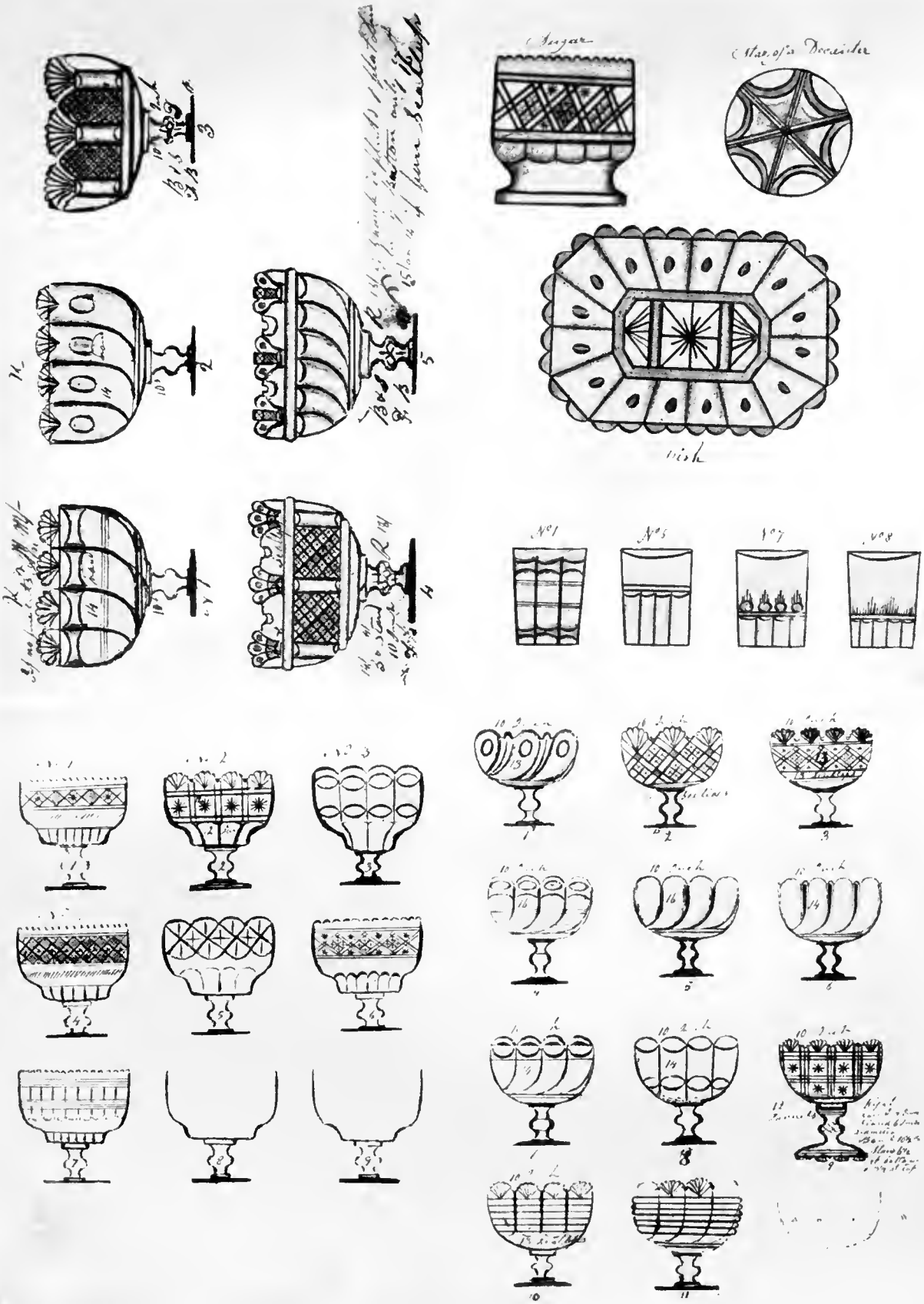
In the *Hibernian Magazine* for November, 1790, it is stated that on October 16th, the Countess of Westmoreland, the Marquis and Marchioness of Waterford, the Bishop of Ossory, etc. arrived in the city (Waterford) from Curraghmore, and went to see the beautiful manufactory belonging to Messrs. George and William Penrose. Her Excellency took great pleasure in looking at all the various branches of this curious business, and was highly delighted with the elegance of the various articles in the warehouse, and complimented the proprietors on bringing the manufacture to such perfection.

William Penrose appears to have died in 1796, but the manufacture

Plate XIV

Salad bowl, tumbler, dish, and sugar bowl patterns used in the Waterford glass works about 1830. To the right of No. 5 of the salad bowls is written : " 18s. if shank is fluted and flat diamonds, but if bottom only cut 15s. or 14s. if fan scallops."

Salad bowl or " kettledrum " patterns used in the Waterford glass works about 1830. On back of the sheet is written : " 10 inch kettledrum, pillars and panels of × diamonds, 2 pillar rings and 3 mitred rings and fan escallop, cut bottom and stand. 12/6 each." This appears to apply to No. 4 on the upper sheet. To the right of No. 9 is written : " Height, Bowl 4 inches, stand 6 inches. Diameter, Bowl 10½ inches, stand 6½ at bottom & 3½ at top."



was carried on by the family until 1799. In the *New Cork Evening Post* of March 11th, 1797, an advertisement announces that " the interest in the Waterford glass manufactory as now carried on under the firm of George and William Penrose, is to be disposed of, application to be made to George or Francis Penrose."

In 1799 the glass works were purchased by a company, the partners being James Ramsey, Jonathan Gatchell, and Ambrose Barcroft, and the following notice appears in the *Waterford Chronicle* for December 12th, 1799 :

" Ramsey, Gatchell and Barcroft respectfully inform their friends and the public that they have purchased the establishment of the Waterford Flint Glass Manufactory from George and William Penrose, and have opened a shop on the Quay in said concern where they intend to be supplied with an extensive assortment of plain and ornamental glass ware, and hope, by their attention, moderate prices and the quality of their glass, to merit the approbation of their customers. At the same time they hope that no offence will be taken by their refusing to send goods out until paid for. This mode they are obliged to adopt from a knowledge of the many losses sustained by the late proprietors by retailing on credit. Every encouragement will be given to wholesale dealers and exporters as usual. Waterford, December 5th, 1799."

Ramsey, Gatchell and Barcroft carried on the manufacture on the Quay until about 1802, when they erected a new glass-house, and in the *Waterford Mirror* of March 5th, 1803, advertised that " the concerns on the Quay are to be let for seventy years or upwards, Messrs Ramsey, Gatchell and Barcroft having lately erected a new house and offices on the ground called the Old Tan Yard, in order to carry on the Flint Glass manufactory more extensively, and will let from the 1st of June the entire concerns on the Quay at present occupied by their glass works."

Although the entire concerns were advertised to be let, a warehouse on the Quay for retail business appears to have been retained.

The glass-house is later put down in directories as at No. 7 Ann Street, and the retail warehouse at No. 14 Merchant's Quay.

A notice in the *Dublin Gazette* of November 20th to 22nd, 1810, announced that " The partnership lately subsisting between James Ramsey, Jonathan Gatchell and Ambrose Barcroft of the city of Waterford, glass

makers will be dissolved on the 19th day of May next, and the business will be in future carried on by the said Jonathan Gatchell, of which all persons concerned are to take notice." James Ramsey died either late in 1810 or early in 1811, and in the *Dublin Gazette* for July 13th to 16th, 1811, the dissolution of the partnership was announced as follows :

" The partnership lately subsisting between James Ramsey jun. deceased, Jonathan Gatchell and Ambrose Barcroft of the city of Waterford is this day dissolved, the term having expired. All persons to whom the said firm stand indebted are desired to furnish their accounts that they may be speedily discharged, and all those that are indebted to them are requested to discharge their accounts to the said Jonathan Gatchell, who is legally authorised to receive the same.
Waterford (5th month) May 19th, 1811.
Witness, William Allen. (Signed) Jonathan Gatchell."

In 1811 Jonathan Gatchell issued a trade circular which is reproduced on Plate III from one in my possession.

Through the kindness of Mr. Samuel Hudson Wright, the grandnephew of Jonathan Gatchell, I was enabled to acquire several of the old account books, ranging from 1812 to 1841, belonging to the Waterford glass works ; many letters, dating from 1783, of Jonathan Gatchell and other members of the family ; notes made by Mr. Wright's uncle, Jonathan Wright, who in reality carried on the glass works for some time ; and also the original recipes for making the glass.

Here and there, through the account books and letters, are many items referring to sales of glass, purchase of materials, payments to workmen, etc., but unfortunately none of the books gives any details of the glass such as patterns, shapes, etc.

Jonathan Gatchell, who in 1811 became sole proprietor of the glass works, was a descendant of John Gatchell who came over from Somersetshire in the latter half of the seventeenth century and settled in the Queen's County. He was born in 1752, and when old enough was apprenticed to a Joshua Beales, and later on opened a shop in Mountrath. This he soon gave up, and went to Waterford about 1781, and in 1783 he obtained a clerkship in the Penroses' glass works. The Penroses themselves had no knowledge of glass-making, so engaged a set of workmen from England, under John Hill, a Stourbridge glass maker. One of the Penroses married a Miss

Nevins from near Edenderry in the King's County, and she accused John Hill of some misdemeanour, which, being innocent, so affected him, that he determined to leave Waterford, and it is said went to France. In a letter of John Hill's which I have, written in 1786, he says that his mind is so hurt that he scarcely knows what he is writing.

Jonathan Gatchell was a clerk in the glass works with John Hill, and a great friendship seems to have subsisted between them. Before John Hill left in 1786, being grateful for Jonathan Gatchell's kindness and pity, he gave him his recipes for compounding the glass.

Jonathan Gatchell, now being the sole possessor of the secret of mixing the glass materials, was at once snatched up by the Penroses in their dilemma, as their compounder. In a letter of Joshua Gatchell to his brother Jonathan, dated June 10th, 1786, he says he is very much pleased to hear of his agreement with William Penrose. Jonathan Gatchell worked as compounder with the Penroses until 1799, when they sold the business to Ramsey, Gatchell, and Barcroft. James Ramsey and Ambrose Barcroft had capital, and Jonathan Gatchell the knowledge of glass-making. According to Jonathan Wright's account, Barcroft spent more than his profits, and got into pecuniary difficulties, and, as stated, Ramsey died in 1810 or 1811, so the partnership was dissolved in the latter year.

Jonathan Gatchell, to keep on the business, had to mortgage the glass works and also a plot of ground in Waterford known as the Willow Gardens, to the Newport family, at an annual rent of £300. Jonathan Gatchell remained as sole proprietor of the Waterford glass works until 1823, when he formed a partnership for seven years with his brothers James Gatchell and Samuel Gatchell and his son-in-law Joseph Walpole, son of William Walpole, who had married Jonathan's sister Sarah. The firm was now styled Gatchells and Walpole, and the original deed, which I possess, is dated January 23rd, 1823.

According to the agreement Jonathan Gatchell's share of the capital was fifteen hundred pounds, and James and Samuel Gatchell's and Joseph Walpole's five hundred pounds each.

In the *Waterford Mirror* of April 5th, 1820, Jonathan Gatchell advertised that he was selling by auction at the house of the late John Dart on the Quay, a collection of cut and engraved glass. He also stated that the glass works had for thirty-six years given daily employment to nearly two hundred persons, and in 1822 he announced that orders for cut and en-

Plate XV

1. Cut glass decanter, engraved Success to the Cork Yeomanry. Cork, about 1796.
2. Decanter, lower part exhibiting mould marks. Marked underneath Waterloo Co Cork. About 1820.
3. Flask, probably Waterford, early 19th century. National Museum, Dublin.

1. Water-bottle, Cork, about 1830.
2. Octagonal decanter. Very blue metal. Cork, about 1830.
3. Decanter with band of plain diamonds. Cut rings. Cork, about 1830.
4. Decanter cut in "hollow prisms." Good white glass. Probably Waterford, about 1850. Author's Collection.

Nos. 1 and 3 and also Nos. 2 and 3 upper illustration Plate XXIV, and No. 1 lower illustration Plate XXV, were purchased in the King's County about 1830 by the author's grandmother from itinerant glass vendors who visited the various Irish country towns annually selling glass made in the Cork glass-houses. In this way a good deal of glass was distributed through the country.

1 2

1 2 3 4

graved glass from the Waterford Flint Glass Manufactory would be received at the old warerooms on the Quay. Jonathan Gatchell died in 1823 shortly after the partnership was formed, but the firm of Gatchells and Walpole was continued.

In Jonathan Gatchell's will, dated March 30th, 1823, he leaves the house on the Quay where the retail glass business was carried on, to his wife, Sarah Lynan Gatchell, and after her death to his three children, George, Frances, and Isabella. He authorises the continuance of the term of the partnership between himself, Samuel and James Gatchell, and Joseph Walpole from and after the original term of seven years until his son George shall attain the age of twenty-one years, and he appoints his brother-in-law, Nehemiah Wright, as trustee in charge of all the remainder of his property. Joseph Walpole died in 1824, Samuel Gatchell in 1825, and James Gatchell in 1830.

On Joseph Walpole's death his widow Elizabeth became one of the partners, and on Samuel Gatchell's death, his brother Nathan appears to have become a partner, having put about three or four hundred pounds into the concern.

When James Gatchell died in 1830, Nehemiah Wright, who had married Jonathan Gatchell's sister Susannah, entered the firm, which was thenceforward known under the title of Gatchell, Walpole and Co., the Co. being Nehemiah Wright, who had a good deal of the clerical work to do, but received no remuneration. It appears that at first it was decided to style the firm Gatchells, Walpole, and Gatchell, for in a printed circular dated November 1st, 1830, which I possess, signed by Nehemiah Wright and Nathan Gatchell, it is stated that "the Flint Glass Manufacture in Waterford will in future be conducted under the firm of Gatchells, Walpole and Gatchell." (See Plate IV.)

On November 1st, 1830, a deed, which I possess, was drawn up by Nehemiah Wright of Skinner Row, Dublin, Elizabeth Walpole of Waterford, and Nathan Gatchell of Mountmellick, appointing Jonathan Wright, son of Nehemiah, joint agent and manager of the glass works at Waterford. Nehemiah Wright and Nathan Gatchell not residing in Waterford, and Elizabeth Walpole taking no active part in the business, Jonathan Wright in reality became sole proprietor, the whole working of the glass-house falling on his shoulders.

Jonathan Wright's brother John went to Waterford in 1817, and superintended the retail glass warehouse on the Quay, which, when the partnership was formed in 1823, was retained by Jonathan Gatchell, and became a distinct business apart from the glass-house. John Wright remained at the warehouse until 1835.

On Plate VI is illustrated a billhead of Gatchell, Walpole and Co. used from 1830 to 1835.

On the 1st of September, 1835, an indenture, in my possession, was made between Nehemiah Wright, George Gatchell, Sarah L. Gatchell, and George Saunders, granting to the last named a lease of the land on which the glass-house was built, for the term of one year four months and eighteen days, at the yearly rent of £200. In this indenture the boundaries of the glass-house ground are given, viz.: on the North side, Anne Street, on the South side, the Glynn of Ballybricken, on the East side, James Street, and on the West side, Clinker or Cinder Lane. What the object of this curious lease was is uncertain, as George Gatchell came of age on the 21st of April, 1835, and under his father's will he was to take over the glass-house in that event.

The firm of Gatchell, Walpole and Co. was dissolved on October 14th, 1835, and the following notice, of which I have the original, appeared in the *Dublin Gazette* of October 15th, 1835: "Dissolution of Partnership. Notice is hereby given that the Partnership heretofore subsisting between Nehemiah Wright of Dublin, Elizabeth Knott, late Walpole, of Exeter, and Nathan Gatchell of Acragar, Queen's County, Glass manufacturers, trading under the firm of Gatchell, Walpole and Co. in Waterford, is this day dissolved by mutual consent, and all debts owing to and due by the late firm will be received and paid by Jonathan Wright of Number seven Christchurch Place, Dublin, our agent whom we have appointed to receive and pay same. Given under our hands this fourteenth day of the 10th month (Oct') 1835. (Signed) Nehemiah Wright, Elizabeth Knott late Walpole, Nathan Gatchell." A facsimile of this deed is given on page 79. George Gatchell appears to have taken over charge of the glass works in 1835, and in 1836 George Saunders, who had been an employee of the firm for a number of years, became partner with him. This partnership was dissolved in 1848, the following announcement appearing in the *Waterford Evening News* of December 22nd, 1848: "The Partnership of George Gatchell and Co. (George

Dissolution of Partnership

Notice is hereby given that the Partnership heretofore subsisting between, Nehemiah Wright of Dublin, Elizabeth Knott late Walpole of Exeter, and Nathan Gatchell of Scragar Queens County Glass Manufacturers, trading under the Firm of Gatchell, Walpole & Co. in Waterford, is this day dissolved by mutual consent, and all Debts owing to, and due by the late Firm, will be received and paid by Jonathan Wright of Number Seven Christchurch Place, Dublin, our Agent, whom we have appointed to receive and pay same

Given under our hands
This fourteenth day of Seventh month (Sept.) 1835

Nehemiah Wright

Elizabeth Knott late Walpole.

Nathan Gatchell

Notice of dissolution of the partnership of Gatchell, Walpole and Co., Waterford, 1835.

Gatchell and George Saunders) is this day dissolved. George Gatchell will carry on the flint glass business, which has been going on for over half a century and carried on by his late father Jonathan Gatchell."

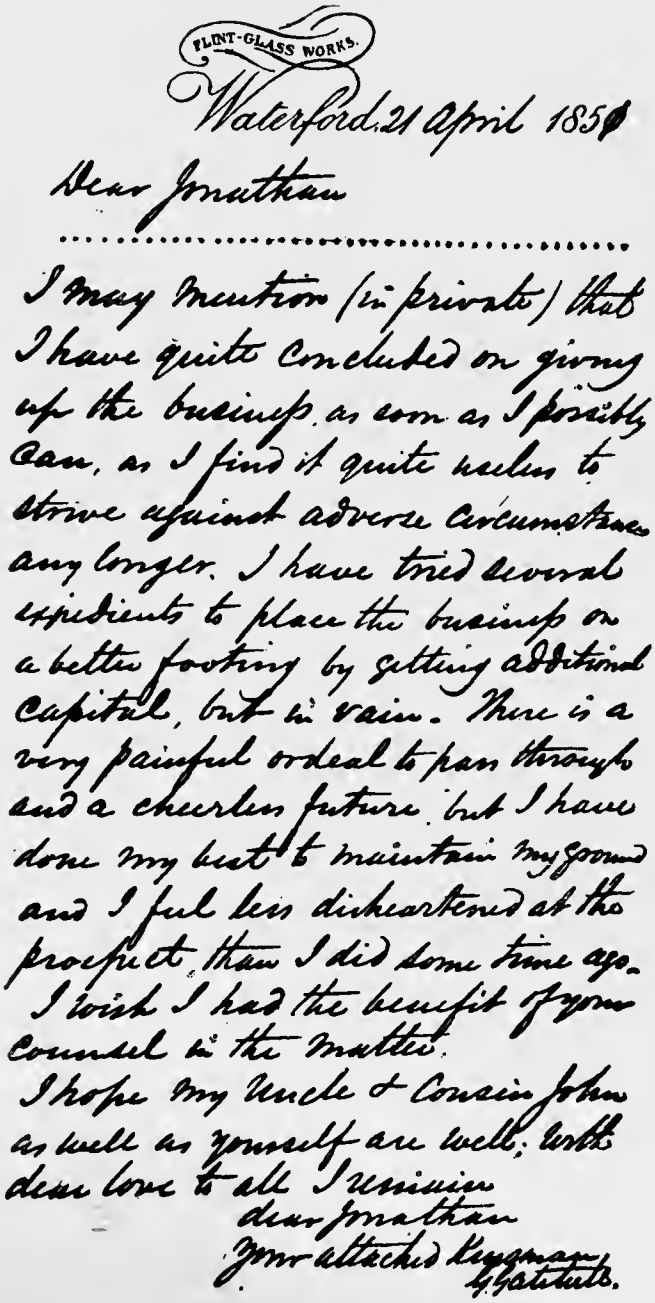
In 1842 George Gatchell and Co. opened a warehouse in Limerick as a branch establishment for the sale of their glass, and in the *Limerick Chronicle* for July 23rd, 1842, the following notice is to be found :

" George Gatchell and Co. beg to state that they have taken 103 George Street, Limerick, as a branch establishment for the sale of their glass, including cut and plain glass of every description, and every article made of glass for use, luxury and ornament ; also chandeliers, lustres, lamps, hall bells and candelabra in bronze, ormolu and glass. Medical establishments supplied."

On May 21st, 1849, it was announced in the *Waterford Evening News* that owing to alterations to be made in the Waterford Flint Glass Works, Samuel Fitzhenry was ordered to sell by auction a quantity of cut glass, including decanters, claret jugs, water jugs, liqueur bottles, caraffes, pickle urns, salad, celery and sugar bowls, butter coolers, cream ewers, custard and jelly glasses, together with three hundred dozen tumblers, goblets, and wine glasses.

After the dissolution of the partnership with George Saunders in 1848, George Gatchell carried on the business for about three years, but at the end of the year 1851 the factory was closed, thus terminating the manufacture of flint glass in Waterford.

In a letter I have of George Gatchell's, dated Waterford, August 6th, 1850, he says that " if he is to carry on the works he must look for further capital as he has not enough to work the concerns efficiently ; that he does not like to abandon the old concern, which, (although suffering as regards remunerative power from the general depression and from want of capital,) is still in full vigour and activity ; that he must now either get a partner with adequate capital, sell, or stop work finally, and that really he is now compelled to contemplate the abandonment of the business as a probable and almost immediately impending event, as it has been a losing concern for the last year ending September last." In another letter, dated April 21st, 1851, he says, " I have quite concluded on giving up the business as soon as I possibly can, as I find it quite useless to strive against adverse circumstances any longer. I have tried several expedients to place the


FLINT-GLASS WORKS.

Waterford 21 April 1851

Dear Jonathan

.....

I may mention (in private) that I have quite concluded on giving up the business as soon as I possibly can, as I find it quite useless to strive against adverse circumstances any longer. I have tried several expedients to place the business on a better footing by getting additional capital, but in vain. There is a very painful ordeal to pass through and a cheerless future, but I have done my best to maintain my ground and I feel less disheartened at the prospect than I did some time ago.

I wish I had the benefit of your counsel in the matter.

I hope my Uncle & Cousin John as well as yourself are well. With dear love to all I remain

dear Jonathan

Your attached Nephew

G. Gatchell.

Letter of George Gatchell, dated 1851.

business on a better footing, by getting additional capital, but in vain." In the *Waterford Evening News* of October 10th, 1851, we find this announcement: "Waterford Glass Works. The above well known manufactory being about to close, the proprietor, George Gatchell, orders to be sold on Wednesday, October 20th, 1851, by Samuel Fitzhenry, the entire stock of glass including dinner and table lamps, gas chandeliers, one crystal chandelier for six lights, and also beautiful specimens of Bohemian and Venetian glass."

On February 13th, 1852, it was announced that a seven horse-power steam engine, a variety of glass materials, tools, fixtures, office furniture, etc., were to be sold on Monday, February 23rd.

The steam engine here mentioned was used for the glass-cutting business, and was set up in the glass works in 1826.

George Gatchell left Waterford in December, 1851, as in a letter dated Waterford, December 22nd, 1851, thanking John and Jonathan Wright for their kindness to him, he says, "we leave this at 7 o'clock to-morrow morning for Bristol and Exeter." He resided in several places in England, finally settling in Torquay, where, probably, he died in the early eighties. The latest letter I have of his is dated Torquay, September 11th, 1878, in which he encloses his photograph to Jonathan Wright.

George Gatchell and Co. exhibited specimens of their glass at several of the Royal Dublin Society Exhibitions from 1834 to 1850. In a letter of Jonathan Wright's, dated April 27th, 1834, he mentions that he expects to have a vase ready for the Exhibition of Manufactures in Kildare Street, Dublin.

In the Exhibitions of 1835 and 1836 the Waterford glass works obtained silver medals for cut flint glass, including a richly cut-glass flower vase and dish. In the Society's Exhibition of 1850 George Gatchell exhibited a massive crystal centre bowl with tripod stand; a centre bowl and stand, two liqueur bottles and six caraffes and tumblers all opaque blue and white on crystal; two sugar bowls richly cut and twelve caraffes and tumblers richly cut.

Probably this blue, white, and crystal glass was the kind referred to as Bohemian glass in the advertisement of 1851.

In the London Exhibition of 1851, George Gatchell exhibited an ornamental centre stand for a banqueting table, consisting of forty pieces of cut glass, so fitted to each other as to require no connecting sockets of any other

material ; quart and pint decanters cut in hollow prisms ; a centre bowl on detached tripod stand ; and vases and covers, all designed and made at the Waterford Glass Works. An illustration of these pieces, shown on Plate V, is taken from the *Illustrated Exhibitor* of the Exhibition of 1851, where they are described as " a candelabrum of pure white glass about three feet high consisting of forty pieces, put together without any metal joint, for eight lights ; one decanter of a set of four and two vases in the German style."

The Waterford glass works had a warehouse in Dublin, and the name of John Kennedy appears in Dublin directories from about 1789 to 1811, as proprietor of the Waterford glass warehouse, and in 1804 he advertises in the *Belfast News Letter* that he has for sale at the Bank House, Castle Street, Belfast, Waterford glass hanging lustres of eight lights, shop lustres of four lights, rich cut lustres and reflectors, a variety of standing chandeliers, candlesticks, and every article in cut glass.

In the old Waterford letters and account books which I possess, there are scattered items of interest, and the following rather mixed collection of pieces of information relative to the glass factory is taken from them.

The number of workmen in the glass-house appears to have averaged between sixty and seventy ; a letter of 1832 mentions sixty-two at that period.

The wages varied in different years, but seem to have been higher in the earlier period. In 1815 the workmen's wages averaged £240 a month, while in 1835 they had fallen to £120 a month.

In a notebook of Jonathan Wright's he has made out an account showing the leading weekly expenses of the glass-house in 1834, which came to a little over £114. This included duty, workmen's wages, and salaries, coal at two shillings and four pence per barrel and proportion of rent. In 1825 the weekly wages to the workmen averaged about £50, and in 1829 about £40.

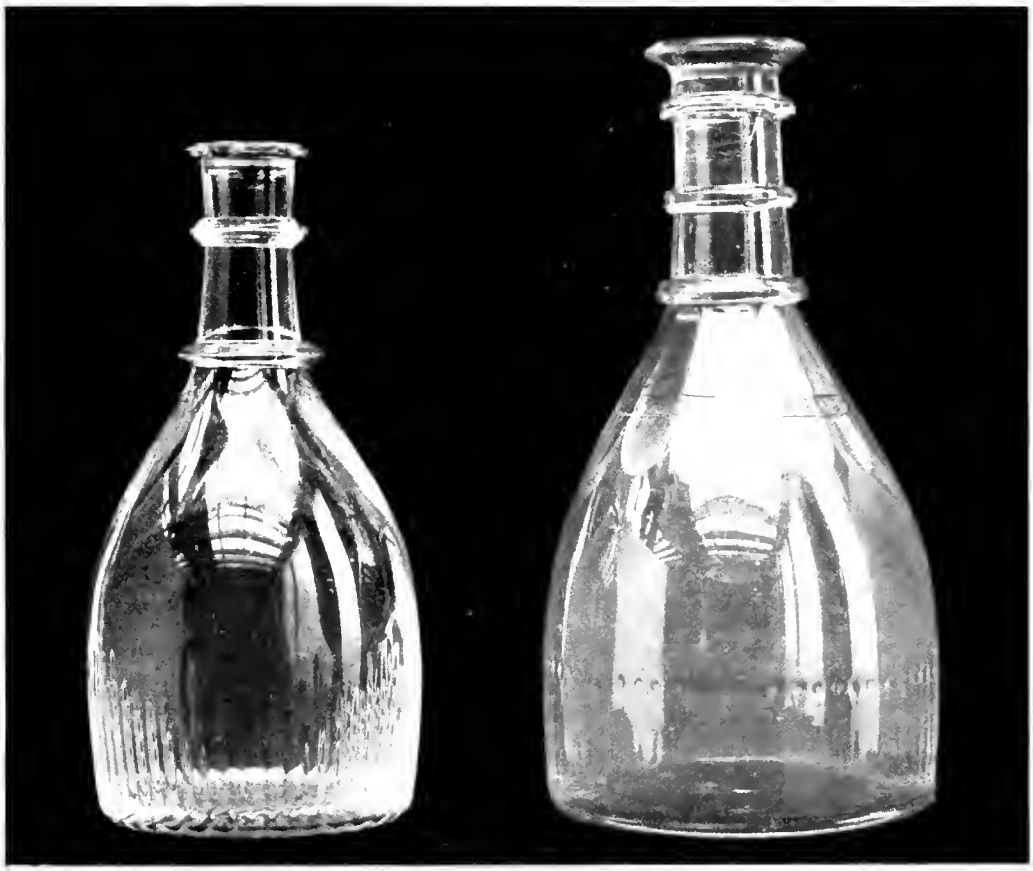
The excise duty, which was first imposed on Irish glass in 1825, varied at Waterford between that year and 1830 from about £300 to £600 every six weeks ; this six weeks' duty being called a round. From January, 1831, to January, 1835, the total duty amounted to £11,936 18s. 5d. During the first complete year (1826) that the excise regulations were in force the Waterford glass house paid £3910 7s. 5d. in duty.

The gross profits of the glass-house varied a good deal in different

Plate XVI

1. Plain decanter, showing mould marks at base. Two triangular rings. Marked underneath B. Edwards Belfast. Early 19th century.
2. Decanter partly cut, mould marks at base. Marked Francis Collins Dublin. Early 19th century. Author's Collection.

Three cut glass decanters, No. 1 with plain diamonds, No. 3 with strawberry diamonds, and No. 2 with large diamonds, and splits. Probably Cork. About 1820–30. National Museum, Dublin.



1 2

1 2 3

years. In 1823 and 1824 they were somewhat over £2000, while in 1825 they dropped to a little over £900, and between 1826 and 1834 they varied between £550 and £1000. In 1836 the dividends obtained from Jonathan Gatchell's share in the concern amounted to over 60 per cent on his capital.

The stock of glass and materials on the premises between 1823 and 1834 were valued at between £1440 and £4736 annually.

The amount of manufactured goods made annually must have varied at different periods, but the only years I have any information about are those between 1830 and 1840. At that time the yearly output was about fifty tons, an average of over two thousand pounds a week.

The prices of some of the Waterford glass, taken from the old account books, are interesting in comparison with those prevailing at the present day. The following items have been picked out here and there in the account books of the years stated :

1812

	£ s. d.
3 gross green vials	1 : 17 : 1
76 gross and 6 dozen Tumblers and 41 gross and 8 dozen drams	142 : 8 : 8
12 best Tumblers	5 : 3
42 dozen tale half pint Tumblers	4 : 16 : 3½
3 Butter Coolers	1 : 17 : 2
2 Moulded Goblets	1 : 0
6 Patent lamp tubes	2 : 3
2 3-pint squares	5 : 5
2 dozen drams	4 : 1

1815

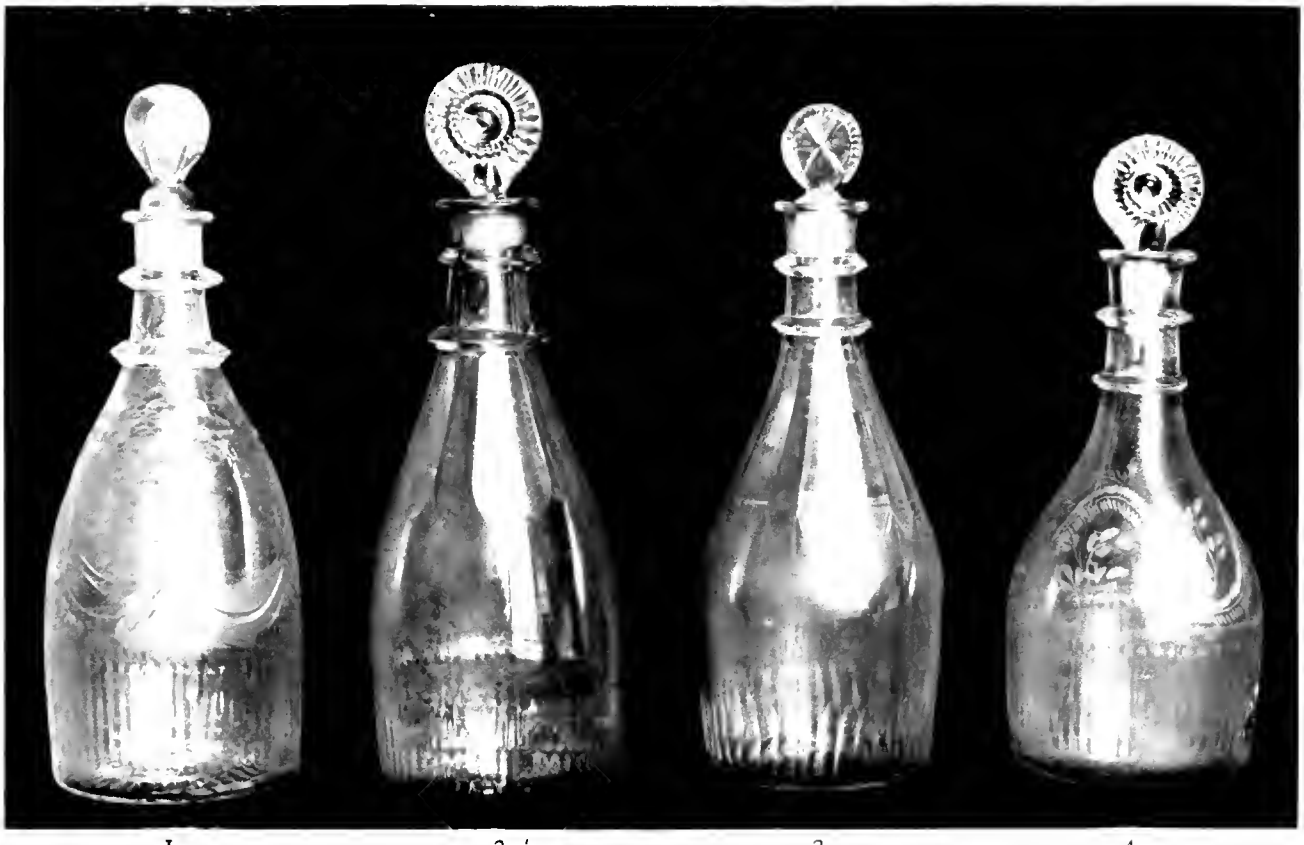
6 dozen tale Tumblers	13 : 8
1 Pair of Candlesticks	15 : 2
1 round Pickle Jar	8 : 11
1 dozen light quart Decanters	9 : 1
1 Hall Lamp	5 : 0
6 dozen cayenne bottles	15 : 0
38 Street Lamps	5 : 7 : 1½
1 Paget Lamp	4 : 10
Cutting 13½ dozen Rodney goblets	3 : 12 : 0

Plate XVII

Goblet, two decanters and small water jug of moulded and engraved glass. Cork, early 19th century. No. 3 marked WATERLOO Co CORK. Author's Collection. Note the conventional flower with criss-cross centre, and leaves issuing from it. A favourite Cork design.

Four cut, engraved, and moulded decanters. Nos. 1, 2, and 3 cut, No. 4 engraved. Probably all Belfast. Early 19th century. Note the small lips and the two triangular rings. No. 2 marked B. EDWARDS BELFAST. Author's Collection.

1 2 3 4



1 2 3 4

1816

	£	s.	d.
6 fingered rummers		10	0
4 Mustard cruets		6	2
12 doz. 1 oz. green vials		10	0
4 quart squares		10	0
1 doz. 2 oz. white vials		1	2
1 doz. best mason Tumblers		5	5
7 goblets, leaf borders		7	0
1 graduated measure		2	8½
2 gross of Thumbs	1	4	9
2 flint squares		4	4
2 ladles		1	8
4 doz. Tale half pint Tumblers		9	1
6 dozen ditto		13	7
6 Flower root glasses		3	4
12 Street Lamps	1	16	0
21 ditto	3	6	3
4 3-pint jugs	1	14	3
1 gross of Tumblers	1	16	5
42 doz. Tale half pint Tumblers	4	12	5
3 Salad Bowls and 2 Jugs	1	15	5
2 decanters		5	8
Mess of 16th Regiment supplied with glass	44	0	10

1817

2 gross of green vials	1	1	3
2 Deck Lights		18	0
6 dozen Egg cups	1	1	7
1 pint croft and tumbler		1	4
6 doz. half pint printie jugs		13	6

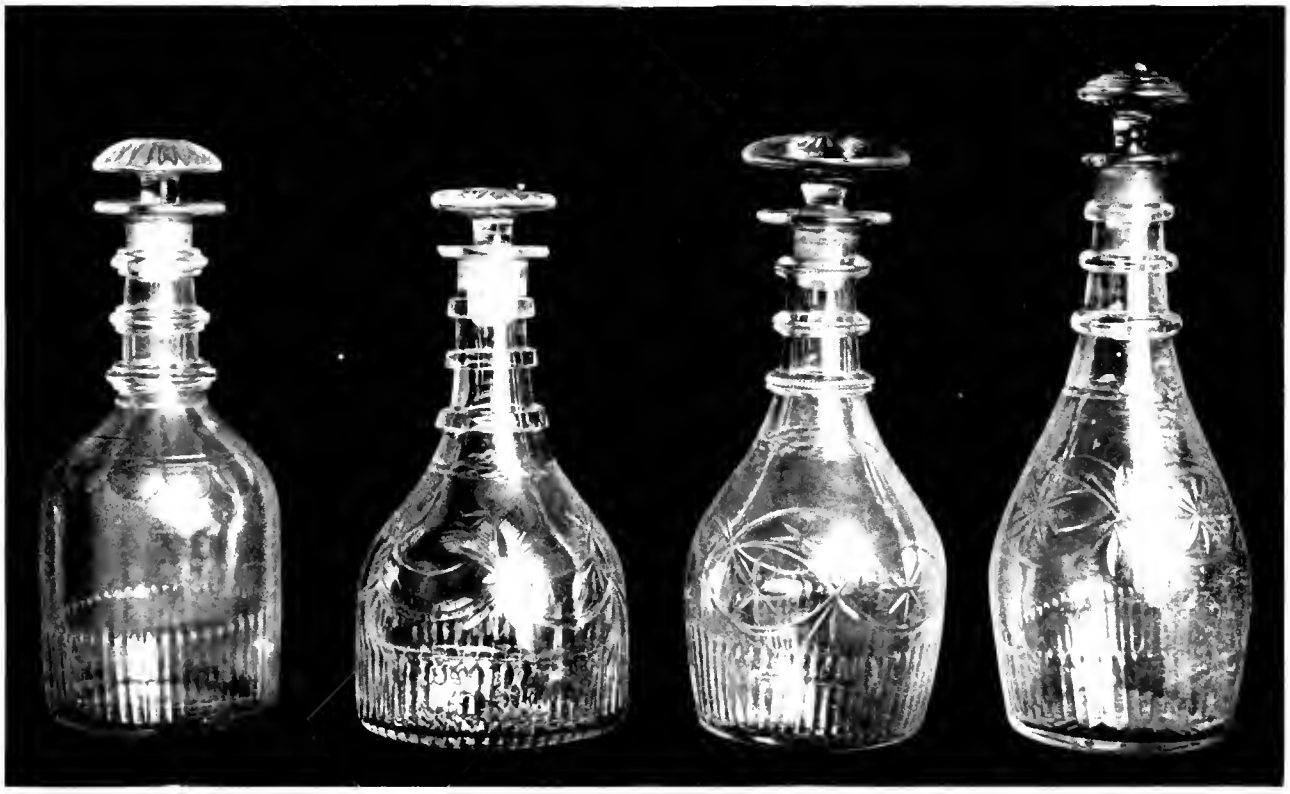
1818

1 salad bowl		16	3
7 Jugs	1	14	4
12 oblong square salts	1	5	11
1 6-light lustre	16	14	9
18 Finger basins		15	3
4 quart decanters		10	10
3 doz. soap linings		11	11

Plate XVIII

Four cut and moulded decanters. Note the various rings, and the vesica cutting on Nos. 3 and 4. Each marked Cork Glass Co. Early 19th century. Author's Collection.

Four cut and moulded decanters. Waterford, early 19th century. Triple rings on each. Nos. 2 and 4 have the arched cutting, and No. 1 the pendent semicircles of fine diamonds. Nos. 1, 2, and 3 marked Penrose Waterford. No. 4 with cut splits below, the other three with moulded flutes. Author's Collection.



1 2 3 4

1 2 3 4

1823

	£ s. d.
60 Street lamps	10 : 2 : 9
16 gross of Thumbs	7 : 4 : 0
4 goblets and 4 wines	3 : 8
5 lamp tubes	5 : 5
2 Ringed decanters	10 : 3
1 cut jug	11 : 6
1 mustard and 1 liqueur	2 : 2
3 gross of Thumbs	1 : 10 : 0
5 green squares	4 : 5
4 Tumblers	2 : 3
36 Footed Salts	1 : 10 : 10
1 cut goblet	1 : 1
14 lamp tubes	14 : 0
2 Ringed decanters	5 : 2
2 3rd size dishes	18 : 11

1827

1 doz. Lamp Tubes	7 : 6
1 gross of tumblers	1 : 9 : 3
1 Fountain	11
6 doz. Tale Tumblers	1 : 4 : 9
Icicles and spangles	1 : 10 : 0
1 gross of drams	1 : 7 : 0
1 gross of Thumbs	16 : 0
3 pair of salts	15 : 0

1829

2 8-light lustres	45 : 9 : 0
1 doz. cut tumblers	7 : 1
1 best goblet, bordered	1 : 1
2 doz. lamp tubes	9 : 0

1830

2 lustres	£60

1835

Tale wine glasses	2/9 per doz.
Best wine glasses	3/3 per doz.
Best Tumblers	9d per lb.
Best Rummers	6/– per doz.
Tale Rummers	4/4 per doz.
Drams	23/– per gross
Deck lights	2d per lb.

Dandy Tumblers		2/9 per doz.
Tale half pint tumblers		3/3 and 3/6 per doz.
Finger cups		1/5½ per lb.
Tale wine glasses fluted		4/8 per doz.
Tale Rummers fluted		8/6 per doz.
2 Services of glass		£30 : 0 : 0
3 dozen tumblers		1 : 4 : 0
1 Plate		7 : 6
6 Rummers		12 : 0
6-light lustres, each,		10 : 10 : 0
	and	14 : 10 : 0
Cruet bottles		5½ per lb.
Peppers and Mustards		6½ and 7½ per lb.

The following are miscellaneous notes taken from the old letters, mostly written by members of the Gatchell family.

In a letter of Joshua Gatchell's dated 1784, he asks for a small smelling bottle with the stopper ground well in to hold aqua fortis.

In 1799 Jonathan Gatchell's niece, Martha Barnes, writes to him from Edenderry saying that several of her customers wish to get some Waterford glass, and asking him to send her six dozen best flint tumblers, six dozen egg cups, six dozen best and most fashionable wine glasses, two dozen vinegar cruets, two dozen mustard pots, two dozen salt cellars, one dozen decanters not too high priced, six dozen middling wine glasses, four dozen beer glasses, one dozen small pickle glasses, and two dozen smelling bottles.

On the outside of the letter Jonathan Gatchell has made notes of glass for customers—80 three-ring decanters, 28 two-ring ditto, 128 stoppers, 20 Rodney decanters and stoppers, and 12 blue oval fluted sugars.

In 1800 Ambrose Barcroft, one of the partners in the firm, writes from London that he was advertising there for a fitter up of lustres, but that none of the applicants could turn or lacquer brass. He also says he has ordered about a ton of saltpetre at 73s. per cwt., and that he saw some one at Bristol about lead.

In another of Barcroft's letters dated Cork, 1805, where he was evidently selling glass, he said he offered lustres at 40 guineas and candlesticks at 2s. 3d., but could not get a buyer, but sold about thirty-five double dishes

at 25 per cent discount, which made a firm named Savage " so savage that they, then and there, bought £100 worth."

In 1819 Jonathan Gatchell, referring to the export trade, says that he has received no payment for thirteen hogsheads of glass sold in Charlestown, and that he is still owed £1100 from Philadelphia, £760 from New York, £300 from Halifax, £600 from Newfoundland, and £150 from Quebec. Also that he is sending twenty-one hogsheads of glass to Philadelphia. This debt, amounting to over £3000, would have represented a large quantity of glass, considering the prices obtained at this period.

In a letter of John Wright's, dated 1823, he mentions the formation of the new company of Gatchells and Walpole, and says that the retail wareroom on the Quay, which was his department, now becomes a separate establishment quite distinct from the glass-house, and is to be supplied with glass ware by the company like any other customer. Jonathan Wright, writing to his brother Nathan in 1824, asks him to find out how they prepare the sulphate of copper which is used in making the green glass.

George Saunders writes from Quebec in 1826, saying he is disappointed at not receiving a consignment of glass, that he is completely out of fluted tumblers and pint decanters, and that he disposed of a service of glass for the use of the Governor's yacht.

In a letter, dated 1829, from Thomas Cooke, a customer in America, he asks for £150 worth of cut glass the same as before, but adding more pints to the decanters, more wine glasses, about ten dozen more water crofts, six dozen finger cups, ten dozen claret glasses, and a greater proportion of small tumblers to match the water crofts ; twenty pounds' worth of assorted glass, but more tumblers and less wines than before, three dozen toilet bottles of different shapes, two dozen glasses with teats for nurses to feed infants from, four dozen quart and pint squares, one dozen two-gallon large-mouthed bottles with tin covers, one dozen of gallon bottles with glass covers and wide mouth for powders, three dozen quart bottles for liquids, with stoppers, one dozen quart bottles with large mouths for powders, six large globes, shape for windows, or for a lamp in the centre of a shop, with spangles ; one large oil lamp, two small ones for counter, one dozen cruet stands with six bottles complete, and one dozen with eight bottles, but the stands to be plated.

John Wright, writing from Waterford in 1829, complains of the de-

Plate XIX

Four cut, engraved, and moulded decanters. Nos. 1, 3, and 4 cut, No. 2 engraved. Nos. 1, 2, and 3 marked Waterloo Co Cork, about 1820, and No. 4 Cork Glass Co, about 1810. Author's Collection.

Two claret jugs. No. 1 with " printies " cut on the body, and prismatic cutting on neck. No. 2 cut in large pillar flutes. Probably Waterford, about 1820. National Museum, Dublin.

1 2 3 4

1 2

plorable state of the glass business, and says that the glass-houses in the north and in Dublin are selling at prices so ruinously low as never could be afforded were they paying the Excise duty fairly, and that the fair manufacturer cannot expect to compete with those who have no scruples to restrain them from smuggling; this, in addition to the general depression of the times, makes business at the glass-house extremely bad, and presents a dull prospect to look forward to.

The quality of the glass metal evidently varied from time to time, for Jonathan Wright states in a letter of 1830 that "the metal this week has been full as good as for many weeks past."

In August, 1830, the fire was put out, as a new furnace was to be built, the furnace builder coming from Birmingham, and it was expected that the works would be idle for about six weeks. According to a letter of Jonathan Wright the furnace builder said the furnace was of quite an ancient style and proposed many improvements, which would effect a great saving in coal. In the same letter he mentions the arrival in Waterford of a large quantity of silver and plated goods with cut glass, which were to be auctioned.

In a letter of October 15th, 1830, he says the furnace and cone are now complete, the latter sixty-five feet high from the ground, and that "last night I lit the first fire that went up through it, which cost my pocket five shillings to the men for drink; in two weeks' time we shall be making glass, I expect, and not sooner, as the fire must be increased gradually."

On October 20th, 1830, he says that the furnace has been heating for the last few days, and that the entire expense of putting it up will not exceed £250, and that the saving in coal will amount to £150 or £200 a year. In the same letter he complains of the expense of the steam engine, and says that the cut glass is accumulating so that it is evident a sale for it must be forced.

From a letter of Jonathan Wright's of December 23rd, 1830, it is evident that all the glass sold in the wareroom was not made in the factory, for he says, "the alterations are now nearly complete on the Quay, and they have the finest shop in Waterford, a door in the centre, and the two windows ten feet in length; they are also getting in some coloured glass and other Birmingham goods." Jonathan Wright, in a letter of 1831, to his brother Nathan, mentions a prism which he hopes will answer, but if too small he

will get one made, and says Samuel Miller, the foreman cutter, told him that he had two very large ones made for the Cork Institution.

In 1832 he mentions Follett Osler of Birmingham " a nice kind of man in the drop business, he makes those glass seals, and is to send the shop some when I will forward two, they are forty-eight shillings per gross." In another letter he again mentions Follett Osler as the person from whom John Wright gets lamp drops and glass seals for the wareroom, and states that Osler's father was the eminent manufacturer of babies' eyes.

In the summer of 1832 there was an outbreak of cholera in Waterford, and Jonathan Wright remarks that out of the sixty-two employed daily in the glass-house, he is afraid some one will fall a victim.

In August, 1832, Jonathan Wright and George Saunders went to Southampton with what was called a venture of glass, that is, they brought over a consignment of glass to sell by auction. A letter of Jonathan Wright's of October, 1832, gives the following details of the auction : On the third day after arrival at Southampton, they got possession of the rooms where they were to hold the auction, and began to open the cases, and had everything ready by the next morning which came with a deluge of rain. The next day being finer, they attempted an auction, but without effect. Numbers called and admired the goods, but would not buy, and some hearing they were Irish said they could not be good. The local dealers appear to have opposed the auction, and it was only by private sales they were able to dispose of any of the goods. The remainder of the glass they decided to send to Chichester.

There are several references in letters to these ventures, some members of the glass-house staff taking goods for sale in different towns in England and Ireland.

Elizabeth Walpole, one of the partners in the glass works, writing from Exeter in 1832, says that " there are but two persons of any consequence in the china and glass business here—Eardley and Osborne. I have been to Eardley and so far as I am able to judge of the glass it is not what I would call superior to ours. There are some patterns rather different such as cut dishes and richly cut butter coolers, but in the general I think we could supply as good an assortment as he appears to have got. For a pair of heavy claret jugs such as our new ones, Eardley asks five guineas, cut

decanters in proportion. Indeed all the glass is in my view very dear. I find they have most of their glass from Birmingham and Stourbridge. I think you might send two or three pair of richly cut decanters, two or three pair of knife resters, a dozen of reflecting tumblers, a few sugars all richly cut in different style and of different patterns, with other fancy articles, which your own knowledge of the business will point out to you as necessary to show the colour and other perfections of our manufacture. There are glass articles here for placing on silver and plated candlesticks, they are round, moulded diamond pattern. In our country (Ireland) they would not be so much used as our candlesticks are entirely glass. They are sold at Eardley's for three shillings a pair."

In a letter also from Elizabeth Walpole dated Exeter, December 7th, 1832, talking of the cut glass, she says, " if the steam engine pour out such a flood of goods so that there is no room, and that sales cannot be effected in self-defence, it would seem desirable that the engine should be stopped entirely ; but why, with this in view, incur the expense of a new boiler costing £32, if the cutting is to be done by hand in future, at least while the partnership lasts ? Considering the circumstances under which two of the partners are placed would it not be better to get rid of the engine altogether ? I am quite satisfied as to the employing of turners in the old way."

A letter of 1834 refers to a visit to the neighbourhood of Stourbridge, " where our clay merchants reside, one of them being James Holland."

Jonathan Wright writing to his brother in Dublin in 1834, says that, " I was thinking of sending you a venture (to sell for us) of a cask of cruet frames, being an article which sells well at Waterford and at a good profit, those which cost four shillings and sixpence sell for seven shillings and are thought cheap. If you consent to try them, we will order a cask from Birmingham to be sent you, which we will pay for, and send you the invoices and moulded bottles for you to fill them." In 1835 R. Walpole orders " an octagon black 3-hole liqueur frame and five bottles to match." Referring to an order, J. Wright says to tell the customer that " our caster place hand having taken ill, we were not able to get the ringed carafts made to pattern, but have sent those we have in stock, we shall have the custards and pickles made and sent in a few days."

Plate XX

Two " salad " bowls. Dark coloured glass. Probably Dublin or Cork, early 19th century. National Museum, Dublin.

Two " salad " bowls and decanter. No. 1 with the diamond cut lozenge, a variant of the vesica. No. 2 and the decanter with the sunburst cutting. Probably Cork. No. 1 perhaps late 18th century, and Nos. 2 and 3 early 19th. The two bowls in the collection of Mr. H. Grandy.

1 2 3

The term " caster place hand " here mentioned refers to the method of working the metal of the several pots of the furnace. Each glass blower had a chair with long arms on which he rotated the blowing iron with the gathering of glass. The four or five chair system was the one usually adopted. For a ten-pot furnace four or five sets of workmen would be engaged in making the glass objects while the other four or five rested.

The first chair was termed the caster hole chair, consisting of a blower and three assistants, known as servitor, footmaker, and taker-in, or boy, and was used for large pieces, jugs, decanters, etc. This chair had an empty pot heated with dried beechwood, for reheating the glass.

The second chair, consisting of four workmen, made fancy articles, goods required for cutting, chemical apparatus, etc. This chair reheated the glass at the mouth of one of the pots containing fluid metal. The third chair, also consisting of four workmen, made almost exclusively wine glasses, goblets, tumblers, lamp chimneys, etc.

The fourth chair, consisting of four or five workmen, did not require such skilled operators as the other three, and made chiefly phials and small articles. See Plate V.

In 1835 J. Wright orders a 9-inch bronze lamp-mount with oblong links from Mooney of Dublin, and says his prices are considerably higher than in Birmingham, and that if he does not come down he will not continue with him. This lamp-mount refers probably to the hanging glass dishes for lamps. A letter of the same year speaks of the fear of George Gatchell that the Wrights might carry on the glass business elsewhere, " for he must know that we have the receipts." These " receipts " are those previously mentioned, which I now possess.

J. Wright asks his brother, in a letter of 1835, if he requires a few wine glasses, rummers, good plain tumblers, crofts, etc., and asks if the gardevin case is not supplied with squares, to send the height, etc. (here follows a small drawing of a square decanter). He also states " we have got three very nice half pint flasks made of beautiful blue glass."

Isaac Warren, one of the firm's best customers in Dublin, when ordering glass in 1835 mentions plain decanters, plain butter coolers, plain glass stands, green pickle pots, glass salad bowls, and blue butter coolers. Ship lights or deck lights at two pence per lb., and hollow-head and mushroom stoppers are mentioned in a letter of 1835.

The last letter I have, referring to the glass works, is one from George Saunders dated Waterford, April 18th, 1857, in which he says, " the old glass works are yet standing and have never been taken since George Gatchell forsook his old establishment where thousands were made in times gone by."

CHAPTER IV

DRUMREA AND BELFAST GLASS-HOUSES

ABOUT the year 1771 a glass-house was set up at Drumrea, a few miles north of Dungannon, in County Tyrone. This factory was superintended by Benjamin Edwards, a Bristol glass maker, probably brought over by the proprietors of the Tyrone Collieries, who perhaps thought that pecuniary advantage might be gained from the glass manufacture, as coal and, apparently, also sand and fire clay were to be found on the spot.

In 1772 the glass-house was evidently at full work, or in the *Dublin Journal* of July 25th, 1772, and subsequent dates, this advertisement is to be found :

" At the new glass house lately erected at the Tyrone Collieries all sorts of the newest fashioned wine, beer and cyder glasses ; enamelled, cut, flowered and plain decanters ; water glasses and plates ; epergnes and epergne saucers ; candlesticks ; cans ; jugs ; cut, flowered and plain salvers ; jelly and sweetmeat glasses ; hall bells, globes and shades ; confectioners' jars ; with all kinds of glass fit for chemists and mathematicians ; salts and salt-linings ; mustard casters ; white phials ; and all kinds of bottles for perfumes ; retorts and receivers ; green phials ; green and white mustard bottles, and every other article in the glass way are made. The glass house is very convenient to all the Province of Ulster and parts of Connaught. Letters, etc., to be addressed to the Clerk of the Glass House, Drumrea, near Dungannon."

The manufacture does not appear to have been continued for very long, as in the *Dublin Journal* for June 19th, 1773, we find the following notice :

" The Tyrone glass house from the first of July to be set. Fire clay fit for pot making, sand and coals are to be had on the spot, which for a year past have been found to answer as well as any in England, and there is no doubt but that as good flint glass can be made as that imported. No person

Plate XXI

Two stands for bowls. No. 1 cut in diamonds and prismatic rings, to fit a circular bowl. Probably Waterford, about 1830. No. 2 to fit an oval bowl. Probably Dublin or Cork, early 19th century. Similar objects are often erroneously called " Potato Rings."

Three celery glasses. No. 1 with strawberry diamond cutting divided by split bands. Waterford, about 1820–30. Nos. 3 and 4 with shallow diamonds and facet cutting respectively. Probably Dublin or Cork, early 19th century. National Museum, Dublin.

1 2

1 2 3

need apply unless one who is determined to carry it on in the best manner. For further particulars apply to Mr Benjamin Edwards, glass manufacturer, or to Davis Dukat, at the Tyrone Collieries, near Dungannon."

No other reference to this glass-house appears to be forthcoming. The manufacture may have been carried on for two or three years, but even if it were, it must have ceased about 1775, for in 1776 Benjamin Edwards had removed to Belfast and established a glass-house there at the end of the Long Bridge.

As Benjamin Edwards was a Bristol glass manufacturer, it is very probable that the Drumrea glass and also the early Belfast glass, if any is now to be found, would be very similar in form and decoration to that made in Bristol.

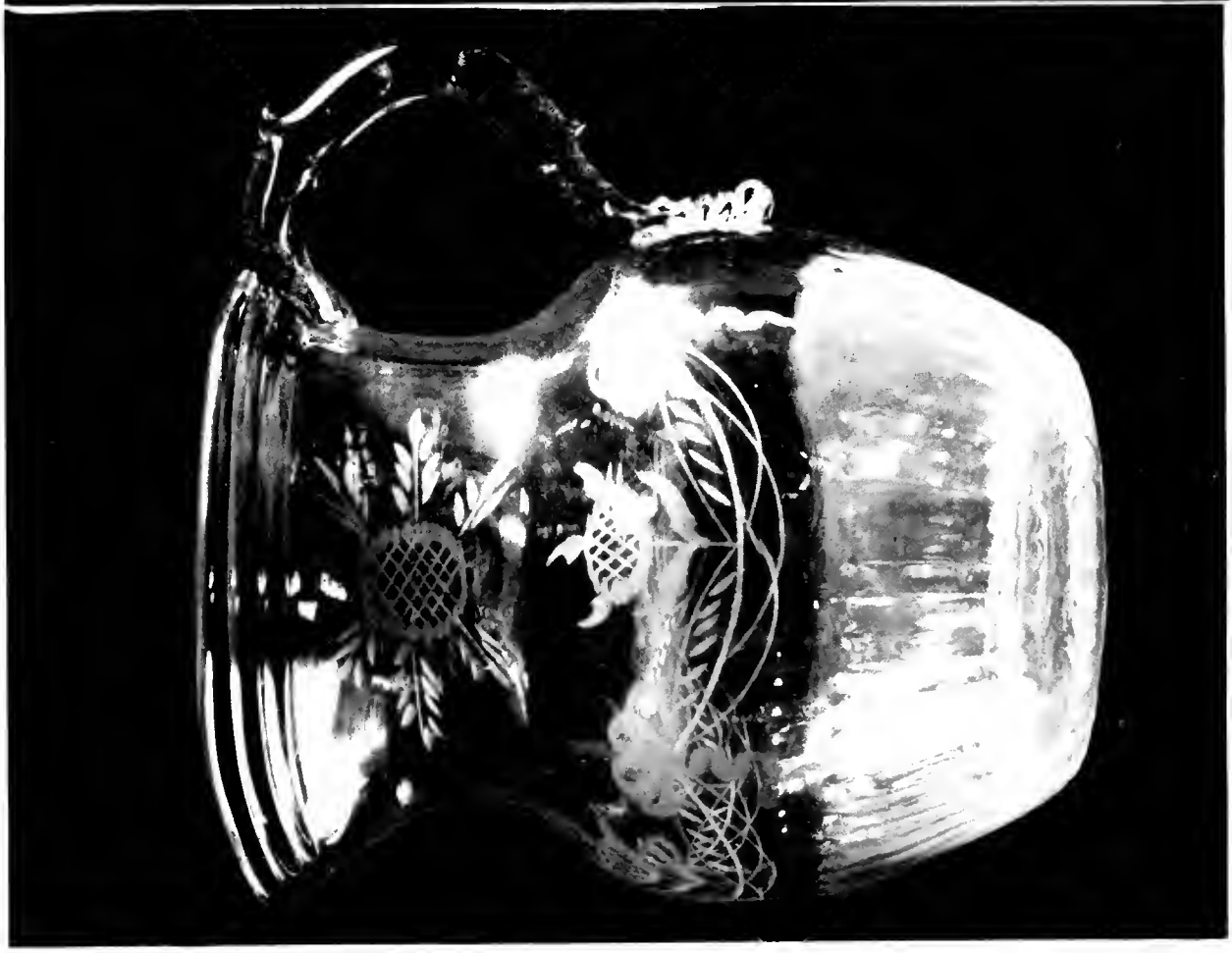
The earliest advertisement I have found of Edwards' Belfast glass works occurs in the *Belfast News Letter* of January 9th, 1781, and is as follows: "Belfast glass Manufactory. Benjamin Edwards at his Flint Glass Works in Belfast has now made, and is constantly making, all kinds of enamelled, cut and plain wine glasses; cut and plain decanters with flint stoppers; crofts; common, dram and punch glasses; flint and green phials; flint and green gardevins; retorts; receivers and all kinds of chemical wares; cruets; salts; goblets; etc. The above Manufactory has been completed at a very considerable expense, and is equal to any in England, and there are vast quantities of goods of all sorts now on hands. The proprietor has brought a glass cutter from England, who is constantly employed, and hopes to merit the continuance of the favour of all the friends of Ireland, which he has already received." In 1783 Benjamin Edwards erected an iron foundry adjacent to his glass works; and had as a partner a man named Shaw, who, however, retired in 1789.

In 1784 Edwards and Shaw advertised that they were making all kinds of machinery, also engines for grinding glass materials, and bottle moulds, round, square, or fluted. In 1811 Edwards retired from the foundry, which was then carried on by John Chaine and John Young until 1818, when the partnership was dissolved. By 1787 the glass business had evidently increased, as an advertisement appeared for two or three apprentices to the glass-cutting and engraving, and in December of the same year, Edwards returns his most grateful thanks to his friends and customers for their favours since his commencement in establishing the Flint Glass

Plate XXII

Celery glass with cross-cut diamond cutting, panels divided by split bands, and fan escallop edge. Waterford, about 1830. Author's Collection. See patterns of celery glasses on Plate X.

Water jug. Engraved and moulded glass. Marked Waterloo Co Cork, about 1820. Author's Collection. Note the conventional flower so often found on Cork glass.



Manufactory at the end of the Long Bridge. He also says that as he is now so established, he is enabled and determined to lower the price of all cut, flowered, and plain glass ; no bit of his manufacture being sold at either of the glass and china shops.

In 1788 he opened a warehouse on Hanover Quay, Belfast, for the sale of his glass and foundry goods, and stated that he had a complete assortment of cut, plain, and figured glass, and also pots, pans, griddles, saucepans, etc., all made at his new foundry, Bridge End.

In 1800 Benjamin Edwards took his sons John, Hugh, and Benjamin, and his son-in-law, William Ankatell, into partnership, and stated that in future the firm would be known as Benjamin Edwards and Sons, and that they had opened a warehouse on the Canal Quay, opposite the Sugar House, Newry, for the sale of cast metal and glass.

In the following year an advertisement appears in the *Belfast News Letter* of November 17th, announcing that they have erected an iron foundry on the Merchant's Quay, Newry, and that they have for sale at their flint glass-house in Belfast and at their warehouse in Newry all descriptions of flint glass, cut, flowered, enamelled, and plain, all of their own manufacture, also first, second, and third window glass. This reference to enamelled glass is the latest one I have found connected with Irish glass works. Probably the window glass advertised was not of their own manufacture, as only flint glass seems to have been referred to in any of their advertisements.

The dissolution of the partnership is announced in the *Belfast News Letter* of November 17th, 1803, as follows :

" The partnership hitherto carried on by John Edwards, Hugh Edwards, Benjamin Edwards jun., and William Ankatell, under the firm of Benjamin Edwards and Sons, is now dissolved. The business will in future be carried on by Benjamin Edwards sen., Hugh Edwards, Benjamin Edwards jun., and William Ankatell, under the firm of Benjamin Edwards. Foundries at Belfast and Newry. Flint glass as usual."

John Edwards, who retired from the partnership, established a new flint glass-house at 79 Peter's Hill, Belfast. This will be described later.

In the *Belfast News Letter* of June 18th, 1804, and November 8th, 1805, Benjamin Edwards and Sons advertise that they still continue to manufacture all descriptions of decanters, wine glasses, goblets, tumblers, salad

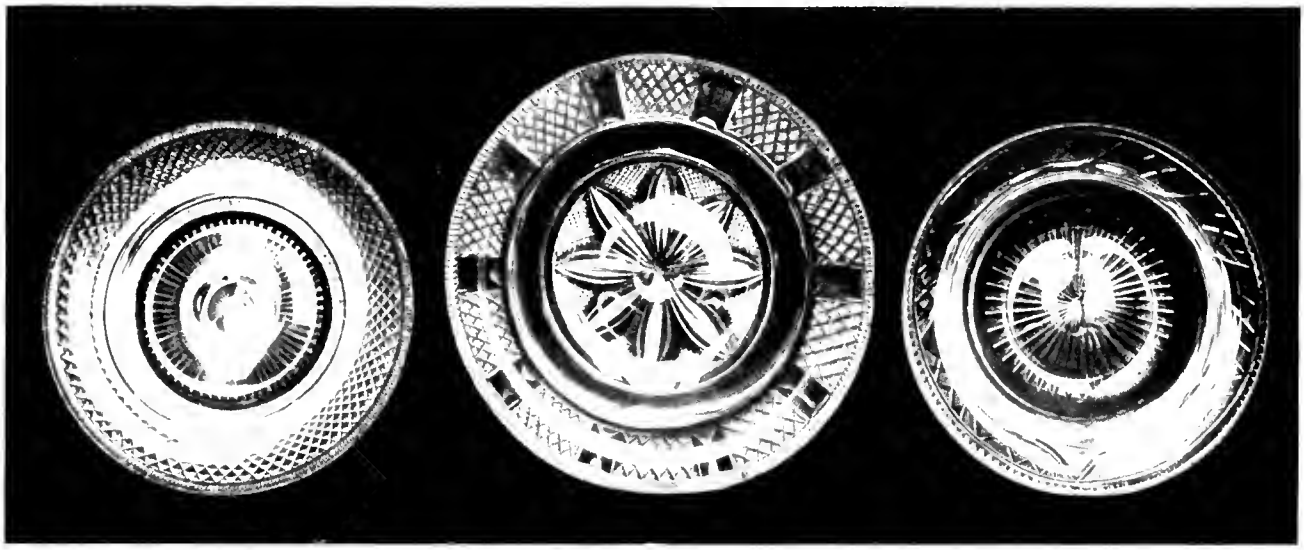
Plate XXIII

Four finger bowls, moulded and engraved glass. No. 1 marked B. Edwards Belfast ; No. 2 Mary Carter & Son 80 Grafton St Dublin ; No. 3 Francis Collins Dublin ; No. 4 Cork glass. Cut and engraved. Early 19th century. Author's Collection.

Three dessert plates. No. 1 with plain diamond cutting. No. 2 with alternate panels of cross-cut diamonds and flutes. No. 3 with strawberry diamonds. Probably Cork, early 19th century. Author's Collection.

Four pickle jars. Cut and engraved, showing various types. Nos. 1 and 2 probably Dublin or Cork. Nos. 3 and 4 probably Waterford. National Museum, Dublin.

1 2 3 4



1 2 3

1 2 3 4

bowls, etc., cut and engraved to the newest patterns, and equal to any in the kingdom, and also that they have at the glass works an elegant assortment of fine flint glass, cut, flowered, and plain, manufactured and finished in the first style ; also a variety of liqueur, cruet, and other stands in silver and plated ware, Grecian and other lamps, lustres and girandoles.

Probably the silver and plated stands were imported, and, as at Waterford, were fitted with bottles at the glass works.

Early in 1807 Benjamin Edwards, sen., retired from the firm, and in the *Belfast News Letter* of February 13th, 1807, it was announced that in future the business would be carried on by Hugh and Benjamin Edwards, jun., and that at the glass works were to be had cut and plain glass ; cruet, liqueur and other stands ; lustres ; girandoles ; staircase, Grecian, and other lamps of the purest flint glass.

In 1811 the partnership was again dissolved and Benjamin Edwards, sen., resumed the business of founder and glass maker at Belfast and Newry. In July of the same year he advertised that he would take into partnership one, two, or more partners of property, or he would dispose of his entire interest in the business.

Benjamin Edwards, sen., died at his residence, Bridge End, Belfast, on September 29th, 1812, aged 72, and in December the lease of the glass-house with buildings and offices was offered for sale by auction.

Apparently Benjamin Edwards, jun., purchased the lease, as in the *Belfast News Letter* of September 14th, 1813, he advertises that he intends carrying on the old-established glass works, Bridge End, Belfast, in all its numerous branches, in the same extensive manner as heretofore.

In 1815 he appears to have got into financial difficulties, as it is stated that in December of that year there was to be a meeting of the creditors of Benjamin Edwards, deceased, Hugh and Benjamin Edwards, jun. ; and in 1816 the foundries at Ballymacarrett (Bridge End), Belfast, and at Newry were advertised for sale.

Benjamin Edwards appears to have got over his difficulties, as in September, 1824, he advertises that in order to supply his customers, he has taken that large concern (Smylie's Glass House) adjoining his present establishment, and will be supplied with every article in the glass line, manufactured by himself and under his own inspection.

In this venture he does not seem to have been very successful, as in

November, 1826, the glass-house premises of Benjamin Edwards and Co. were advertised to be sold, and it was stated that at the concerns the late Mr. Edwards carried on the glass manufacture on an extensive scale, and the same have been carried on ever since his decease, and that upwards of five thousand pounds had been spent in improvements to the property. In August of the following year the concerns were purchased by Thomas J. Wright and Co. (Thomas Joseph Wright, Robert M'Crory, and A. J. M'Crory) who announced the reopening of the Ballymacarrett glass works, late Benjamin Edwards and Sons, and state that the proprietors will be constantly supplied with an assortment of flint glass.

On January 12th, 1829, the partnership of T. J. Wright and Co. was dissolved by mutual consent, and on January 19th, and following days, the entire stock of the Ballymacarrett glass works, comprising every article of cut and plain flint glass; glass-house pots; sand and a variety of utensils, was to be sold by auction at the warehouse in front of the concern.

Probably the manufacture ceased about this period, but in 1836 A. J. M'Crory advertised to be let the old-established flint glass manufactory in Ballymacarrett with the warehouses, offices, houses, and other buildings, and stated that the cone is forty feet in diameter and capable of being enlarged, and that the wareroom is extensive and fronts the street.

No further notice of this glass-house appears, as far as I have been able to ascertain.

In 1784 another glass-house was erected in Belfast, also at the end of the Long Bridge.

In Benn's *History of Belfast* it is stated that thirteen persons subscribed £100 each for starting the glass bottle manufacture in the town, and among these were Cunningham Greg, James T. Kennedy, Charles Brett, Robert Hyndman, Hugh Hyndman, John Cunningham, and John Smylie, the firm being known under the name of John Smylie and Co.

In the *Belfast News Letter* of August 19th, 1785, we find this notice:

"On Saturday last (13th) the new glass-house at the end of the Long Bridge was finished. It is erected for the purpose of making window glass and glass bottles. Its diameter in the clear is sixty feet, and in the height about one hundred and twenty feet, being the largest of any in Great Britain or Ireland."

On April 17th, 1786, it was advertised that "this day the new glass

house began to work. The House opened with making black bottles, and will be ready to make window glass in about three months" ; also on April 21st, John Smylie and Co. stated, that " Glass bottles equal to any imported here are now ready for sale at the new glass-house Belfast, at twenty-two shillings per gross for twelves, thirteens and fourteens, and twenty shillings for pints. Vitriol bottles, bell glasses of all sizes ; gooseberry bottles ; bottles for Gardevins, and every other article in the black glass way to be had. Gentlemen may have their initials stamped on their bottles for an additional four shillings and four pence per gross, besides paying for the stamp, or their name in full at a reasonable rate in proportion to its length. The proprietors beg to inform the public that in a short time they will make window glass." In accordance with this promise, though not in a " short time," they stated that the Glass-House Company began to make window glass on January 14th, 1788, and in March the price was forty-two shillings per side for good quality and forty shillings for second quality. In March, 1789, Smylie and Co. advertised that they have ready crown glass at much lower rates than imported, and that it is now (though not at first) superior to any Bristol glass and 14 per cent cheaper.

In 1792 Smylie and Co. erected a second glass-house near their other one, and in June of that year, it is said the foundation-stone was laid.

In January, 1794, they advertised that, having erected a new glass-house for the purpose of making glass bottles, they have now ready for sale an extensive assortment of superior quality to any formerly made in this kingdom. Window glass supplied as usual. Bottle blowers, soaper's waste, and broken bottles wanted.

This new glass-house was used only for making bottles, and the first one retained for window glass.

From 1787 to 1794 the value of the window glass made annually by Smylie and Co. varied between £1377 and £9512.

The manufacture of bottles and window glass appears to have been carried on by Smylie for some years, but shortly after 1800 it ceased, though for what reason is not at present known.

In June, 1809, the joint proprietors of the old glass-house concern at the end of the Long Bridge informed the public " that they are ready to receive proposals, and to treat with any persons who may wish to be accommodated with either the entire of the concern, on which two glass-houses

Plate XXIV

Three pickle jars. Cork, about 1820–30. Author's Collection.

Three water jugs. Cut in large, shallow diamonds and hollow flutes. Nos. 1 and 3 of uncommon shape. Probably Dublin or Cork, early 19th century. No. 2 probably Cork, about 1820–30. In the possession of Mr. F. C. Cowper.

1 2 3

1 2 3

are erected with all suitable offices, or they will let it in divisions to suit purchasers." It does not appear that anyone purchased the concern in order to carry on the glass business, for in September, 1823, the whole of the ground with extensive buildings erected thereon, adjoining the east end of the Long Bridge, formerly occupied as a manufactory of glass, was advertised to be let. It was also stated that the buildings consisted of a conical chimney one hundred and eighty feet in circumference and one hundred and fifty feet high, being the largest in Ireland, and storehouses, vaults, offices, etc.

The chimney here referred to must be that of the first glass works erected by Smylie and Co., the second chimney having evidently been pulled down before this date.

There were originally three chimneys, two belonging to Smylie's glass works and one to Edwards'. One, as we see, was pulled down before 1823, a second probably about the middle of the nineteenth century, and the third still remains standing. It is uncertain, however, whether this one belonged to Smylie's glass works or to Edwards'.

As previously mentioned Smylie's glass-house was taken over by Benjamin Edwards, jun., in 1824. Smylie and Co. appear to have had a warehouse in Dublin after the closing of the glass-house, for in Dublin directories from 1800 to 1820 the name of " John Smylie and Co., Belfast glass merchants," is to be found.

As stated on page 103 John Edwards, when he retired from the firm of Benjamin Edwards and Sons in 1803, established a new flint glass-house at 79 Peter's Hill, Belfast. Previous to this, in 1789, he had set up a tobacco pipe manufactory, adjoining the glass-house at the end of the Long Bridge.

He did not retain the glass works long, as in 1804 he became bankrupt, and the concern was purchased by Joseph Wright, who stated that he handed it over to a company without " a farthing profit." No profiteering in those days ! John Edwards ceased to have any connection with this glass-house, but his name appears in a Belfast directory of 1820, as proprietor of a glass works at Ballymacarrett, probably with his brother Benjamin. The glass-house on Peter's Hill was known as the Belfast Glass Works, and was carried on under the firm of Geddes, McDowell and Co. In an advertisement, dated December 20th, 1806, in the *Belfast News Letter*, they return thanks to the public for encouragement since their commencement, and inform

them that they have now enlarged their works so as to execute any order they may be favoured with. They have now for sale an extensive assortment of flint glass, plain, cut, and engraved ; cruet and liqueur stands ; lustres ; candlesticks, etc. ; Grecian, hall and staircase lamps fully mounted on the shortest notice.

On August 15th, 1807, the partnership of Geddes, McDowell and Co. was dissolved, James Geddes retiring, and in future the business was to be carried on by Robert McDowell, Henry McDowell, John McConnell, Joseph Wright, and John Martin.

On July 10th, 1809, they advertised that they were well supplied with plain, cut, and engraved glass ; lustres ; girandoles ; chandeliers, etc., and also stated that from recent discoveries and improvements they could supply goods equal, if not superior, to any hitherto manufactured in any part of Ireland.

This advertisement appears to have greatly annoyed the Edwards' who had the glass works at the end of the Long Bridge, consequently on July 28th they also inserted a notice in the newspaper as follows :

" Old Established Flint Glass Works, Long Bridge, Belfast. Hugh and Benjamin Edwards, jun., continue to manufacture at the above works, flint glass of every denomination of a most superior quality. Their thorough knowledge of the business, acquired during a practice of upwards of twenty years, and under the guidance of their father, a professional Glass maker, enables them to assure their friends and the public that they have a great variety of cut, plain and engraved glass that cannot be surpassed by the recent discoveries of persons totally unacquainted with the nature of any kind of glass."

Notwithstanding this want of knowledge the Belfast Glass Works continued the manufacture. In 1813 it ceased work for a time owing to repairs being necessary, but in May, 1814, the proprietors stated that they had recommenced work, and had now ready flint glass of every description equal to any made in Great Britain or Ireland ; also that glass was cut and engraved to any pattern.

In 1823 they again ceased working for a short time on account of having to build a new furnace, but by December it was finished and they were at full work. The numbers of the street appear to have been changed about this period, for in 1828 the number is given as 14 Peter's Hill, and

the proprietors advertised that they would reduce the price of all plain glass 30 per cent for ready money. In October, 1829, they said that on account of the large quantity of glass on hands they would reduce it 40 per cent.

In March, 1833, the partners stated that, as they were intending to relinquish the business on May 1st, they would let or sell the interest in the concern, which was in complete repair and at full work.

It is uncertain if the glass-house changed hands at this period or not, but in February, 1836, " The Belfast Glasswork Company " state that they have now commenced manufacturing, and offer for sale on the most moderate terms every article of flint glass at their works, Peter's Hill. They also state that they want good glass blowers, and that the highest price will be given for broken glass.

In October, 1838, in consequence of the death of one of the partners, the Belfast Glass Works was offered for sale. In the advertisement it is stated that " the concern consists of a six-pot furnace put up within the last six months, and capable of manufacturing four thousand pounds of goods weekly ; with all other requirements, and is at full work. That there are extensive warehouses and show rooms. The entire premises are held on lease for thirty-three years at a rent of £69. 18. 6, and have been established for about thirty years. Any person treating for the concern can have the entire stock-in-trade consisting of cut and plain glass, utensils, coals, sand, pots, moulds, etc." It is not certain if the Belfast Glass Works ceased at this time, but about 1840 it appears to have been purchased by John Kane, who will be mentioned later.

About 1822 John Wheeler, who had been in the employment of Benjamin Edwards and Sons, erected a new glass-house for making flint glass at the end of the Long Bridge, Belfast. In the *Belfast News Letter* of June 24th, 1823, he states that his new established glass works, Bridge End, are now completed, and in full operation. From his long experience in the manufacture of glass, he says he is enabled to supply glass of a superior quality.

In the next year Wheeler appears in partnership with J. Stanfield, jun., and John Kane, a brewer and wine merchant. In December, 1825, it was stated that the warehouse of the *late* Ballymacarrett glass-house was burnt on October 27th, and that Kane, Stanfield, and Wheeler, proprietors of the

Plate XXV

1. Water jug with strawberry and cross-cut diamonds. Probably Waterford, early 19th century. No. 2. Claret jug with strawberry diamonds and splits. Probably Dublin or Cork. Late 18th century. No. 3. Water jug on hollow base. Probably Dublin or Cork. Late 18th century. National Museum, Dublin.

Five wine glasses with engraved patterns. Cork glass. Nos. 1 to 4 early 19th century. No. 5 late 18th. Note the vesica cutting on Nos. 3 and 4, and the conventional flower on No. 5. Author's Collection.

Three water jugs. Cork. No. 1 with diamond cutting and flanged base, about 1830. Nos. 2 and 3 with variants of the vesica cutting so often found on Cork glass. No. 3 with mould marks at the base. Early 19th century. Author's Collection.

1 2 3

1 2 3 4 5

1 2 3

late glass-house company, offered a reward of two hundred pounds for the capture of whoever set it on fire.

It seems from the use of the word "late" here, that the partnership was dissolved, and evidently Wheeler and Stanfield retired, for in October, 1827, Kane alone advertises that he has enlarged his glass-house at Ballymacarrett, which enables him to be constantly supplied with an extensive assortment of plain and cut glass.

In 1829 the concern was known as the Shamrock Glass Works, and in September Kane advertises for an experienced workman at the caster, cutting, and bye-places. In 1833 he opened a warehouse at 40 North Street, Belfast, for the sale of his glass, and stated that he was making rich cut glass; patent deck lights; heavy, light, and lunette watch glasses; figure shades, oval and round, etc.

In 1840 Kane, as mentioned on page 111, purchased the Belfast Glass Works on Peter's Hill, as in a Belfast directory of 1840 his name appears as that of a glass manufacturer, "Works, Peter's Hill and Ballymacarrett."

He carried on both concerns until about 1850, when the Peter's Hill glass-house seems to have ceased work. The Ballymacarrett glass-house appears to have been purchased by Anthony O'Connor and William Ross, who are entered in a directory of 1852 as glass manufacturers and watch glass makers, Short Strand, Ballymacarrett.

In 1854 the name of Christopher O'Connor appears as a glass manufacturer, Ballymacarrett, and from 1858 to 1868 that of William Ross.

Between 1865 and 1878 the names of William McCormick, Robert Boyce, and John Edwards appear in Belfast directories as those of glass manufacturers, but probably only bottles were made.

The manufacture of flint glass ceased probably about 1868, having lasted for nearly one hundred years.

In the Dublin Exhibition of 1853 W. A. Ross and Co., glass manufacturers, Belfast, exhibited epergnes made from Irish sand, also a pillar showing eight different descriptions of watch glasses. The Irish sand here mentioned came most probably from Muckish Mountain, Co. Donegal.

In the *Belfast News Letter* for December 28th, 1813, this advertisement is to be found: "Glass Manufacture, Queen Street, Belfast. Wallace Tennant intimates that his works being now completed, he will about January 1st, 1814, begin to manufacture every description of flint glass.

He has general and particular knowledge of the business." In a Belfast directory of 1819 his name occurs as that of a glass cutter; probably the works did not pay and he became simply a cutter of glass manufactured elsewhere.

In the *Cork Mercantile Chronicle* of April 17th, 1805, Wallace Tennant advertises that he will open his fancy and useful glass warehouse on the Grand Parade, Cork, and solicits patronage for Cork manufacture, as he has no doubt of producing articles of equal merit to those imported. In this case, as later on in Belfast, he probably was simply a glass cutter.

Although glass was made in large quantities in Belfast, it was also imported from Dublin, Cork, and Waterford. A notice on page 83 refers to Waterford glass being sold in Belfast, and in 1821 a supply of richly cut glass from Cork was imported into Belfast and sold by auction.

Between 1870 and the present day the names of proprietors of glass bottle works in Belfast are to be found in directories. These include John Edwards and W. J. Edwards; Dixon and Sons, Belfast bottle works; and D. Wright, Queen's Bridge glass bottle works.

I was informed by Mr. Richard Pugh, the last of the flint glass makers in Ireland, that on the closing of the Waterford factory in 1851, some of the workmen went to the Belfast glass works, and it is said that some also went to the United States.

CHAPTER V

CORK GLASS-HOUSES

PREMIUMS were offered by the Dublin Society as early as 1753, to anyone erecting a glass-house in Cork. It is not, however, until the year 1782 that we find any information regarding the establishment of glass works in Cork.

On November 6th, 1783, Atwell Hayes, Thomas Burnett, and Francis Richard Rowe presented a petition to Parliament for aid to establish the manufacture of glass in Cork, and stated that, in the month of May, 1782, they had, at great expense and under a variety of difficulties, embarked on the undertaking by sending a proper person to England to take plans of all the most complete and extensive works of that kind carried on there, and also to employ experienced hands, and procure the best materials; the accomplishment of which had been attended with heavy expense and great inconvenience. Also that they had surmounted all difficulties, and procured the most ample set of materials and implements, and a set of the most able artificers England could afford; which they had in their employ for several months past at a great expense; and that they had erected two glass-houses, one for bottle and window glass, and the other for plate and flint glass of all denominations, which were allowed to be as good as any in Europe. The establishment had already been attended, they said, with an expense of upwards of six thousand pounds. From this petition we see that all the workmen and materials were brought over from England, just as they were for the Waterford glass works.

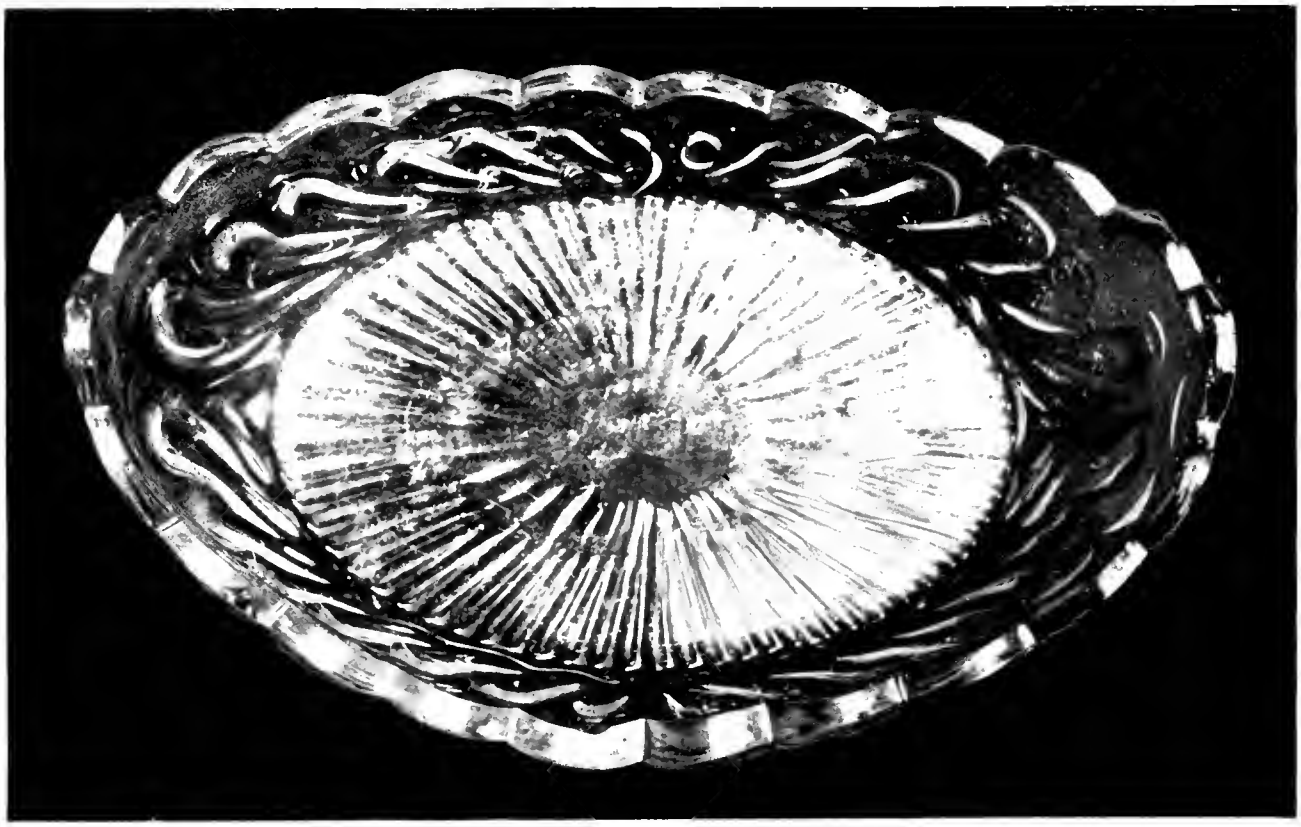
In the *Hibernian Chronicle* for May 6th, 1784, we find this notice referring to the factory: "Thomas Burnett and Glass House Company take this opportunity of informing the public that they have now ready for sale at their Glass manufactory in Hanover Street, Cork, a great variety of plain and cut flint glass, with black bottles of every denomination, which for excellence of quality is equal to any made in England. They now flatter

Plate XXVI

Three dishes. Nos. 1 and 3 with plain diamonds and strawberry diamonds respectively. Probably Waterford, early 19th century. No. 2 with large shallow diamonds. Note the varying thickness of the glass at the edge. Probably Cork. Author's Collection.

Moulded glass dish, edges cut. Marked underneath in centre " C M & Co.," Charles Mulvany and Co., Dublin. About 1820. Author's Collection.

1 2 3



themselves that after upwards of two years' perseverance through a variety of difficulties they have established this useful branch of business on such a footing as must render the greatest satisfaction to those who favour them with their commands, not doubting the support of their fellow citizens and countrymen. N.B. John Bellesaigne next door to said glass-house retails the glass of said manufactory only." This John Bellesaigne had a glass shop on the Long Quay in 1773, and afterwards must have moved to Hanover Street. In 1787 he again moved, this time to Patrick Street, where, he stated, he had a great variety of cut and engraved flint glass, which he himself saw made in Waterford.

In February, 1785, another notice appears in the *Hibernian Chronicle* stating that " the Proprietors of the Cork Glass-house have now ready for sale every kind of bottles and squares, and will engage the quality to be as good as any ever imported or made in this kingdom." In 1785 Francis Richard Rowe became bankrupt, and in August of that year an advertisement appeared in the *Dublin Evening Post* stating that there was to be sold by auction at the Exchange of Cork, on Thursday, September 28th, the bankrupt F. R. Rowe's interest in the one-third share of the two new capital glass-houses, one for making white and the other for making black glass, in the city of Cork, both in complete order and in full working.

Rowe probably left at this time, and after about 1787 Thomas Burnett appears to have ceased to have any connection with the firm. In 1787 Atwell Hayes and Co. received a premium from the Dublin Society for their glass made during the year ending in March, and valued at £1600.

Shortly after this Philip Allen appears as one of the proprietors with Atwell Hayes. From the following advertisements in the *New Cork Evening Post* of July 2nd, and August 30th, 1792, it would appear that perhaps the factory ceased work for a time after 1787. No premiums were claimed from the Dublin Society between the years 1788 and 1792. The advertisements read :

" Atwell Hayes and Philip Allen proprietors of the Cork Glass House beg to acquaint their fellow citizens and the public in general that they are now at full work, and are ready to receive all orders for flint glass, which they will be particular to have executed with accuracy and despatch and on such terms as to ensure them a preference. N.B. Glass cut to any pattern for country orders."

" As the flint glass house is now established, the proprietors mean to set the crown and bottle house to work, for which purpose they will take in one or two partners."

In 1793 and 1794 they received premiums from the Dublin Society for flint glass valued at £2304 and £500 respectively.

In 1793 another partner named Hickman joined the firm, and in January of that year Allen, Hickman, and Hayes, proprietors of the New Cork Glass House, advertise that they will sell by retail as well as wholesale. In this year they opened a shop in Patrick Street, Cork, for the sale of their flint glass.

The exact date when Atwell Hayes and Co. ceased to be proprietors of the Cork glass-house is not known. A notice in the *Cork Advertiser* states that they exported twenty-four hogsheads of glass from Cork in 1799, but probably shortly after 1800 they retired.

In 1803 the proprietors were Joseph Graham and Co., who in June advertised that, owing to the high price of materials and labour, they had been compelled to raise the price of wine bottles from twenty-four shillings to twenty-six shillings, British, per gross.

The partnership of Joseph Graham and Co. (William Kellock, Joseph Graham, and Joseph Salkeld) was dissolved on October 1st, 1804, when William Kellock retired. Joseph Graham and Co. carried on the business for a few years, but in 1810 it had again changed hands, Smith, White and Co. being the proprietors.

In January, 1812, a notice appears in the *Cork Mercantile Chronicle* stating that the Cork Glass House Company will in future be carried on under the firm of William Smith and Co.

There seems to have been some friction between the partners, Smith and White, for in May, 1812, White inserted the following notice in the same newspaper :

" The public and all those dealing with the Cork Glass House Company are requested to take notice that the undersigned William White is a partner in the above mentioned concern ; that the firm was changed without his concurrence ; that in consequence of the other partners he had been lately prevented from interfering in the management of the business. The said W. White also cautions all persons against purchasing the concern or the stock without his consent, and requests that the tenants to whom he, as

one of the partners, has executed leases, may not pay their rents, except to such persons as shall have authority from him, as he is about to proceed in a Court of Equity to obtain relief against his partners for their unjust proceedings.

Cork, May 3rd, 1812. (Signed) William White."

It is not known if White retired from the concern at this period, but shortly afterwards, and until about 1818, the business was carried on under the firm of William Smith and Co.

In April, 1817, a one-third share in the Hanover Street Glass House, which was then stated to be at full and constant work, was offered for sale.

Possibly no one purchased this share, for in the next year the whole concern was advertised for sale. There does not seem to have been much demand for it, as the following notice appears in the *Cork Southern Reporter* from April 23rd to August 11th, 1818 :

" To be sold with the consent of all concerned the old Hanover Street Glass House, Cork. The premises extend from Hanover Street to Lamley's Lane, and have a quay on the south side of the river. The glass house contains every accommodation for making flint glass and black bottles. The glass cutting machinery is modern, and of the best description, and has as a moving power a steam engine lately erected. Apply to Pope and Besnard, Thomas Carey, or to Johnson and Swiney, South Mall, Cork."

This sale was objected to by John Graham and Edward Brown, who said that they had an interest in the Hanover Street glass-house, but during May and June, 1818, the stock of glass belonging to the factory was sold by auction by William West, and included cut lustres, Grecian lamps, four-light Grecian lamps richly cut with patent drops, hall globes, side bells, candlesticks, dessert sets, butter coolers, pickle glasses, sugar bowls, cream ewers, jelly glasses, salt cellars, jugs, decanters, rummers, wine and finger glasses, wine coolers, etc.

Graham and Brown, mentioned above, had a glass-cutting establishment at Glanmire, close to Cork, and in May, 1820, they advertised that as efforts were being made to introduce glass ware into Ireland, but not of the manufacture of the country, they would open a warehouse in the Grand Parade, Cork, for the sale of their own glass.

This glass was made probably at the Hanover Street glass-house

Plate XXVII

Four salt cellars. No. 1 plain, Nos. 2 and 4 cut, and No. 3 moulded. Probably Dublin or Cork glass, early 19th century.

1. Egg-cup, probably Waterford. Nos. 2, 3, and 4 salt-cellars, probably Waterford, early 19th century. No. 5 salt-cellar, moulded glass, probably Irish, late 18th century. Author's Collection.

Three candlesticks. Nos. 1 and 2 moulded glass with cup-shaped nozzles. No. 3 cut glass with removable nozzle. Probably Waterford, early 19th century. Author's Collection.

1 2 3 4

1 2 3 4 5

1 2 3

when they had an interest in it, and afterwards it was cut at Glanmire. Apparently when the stock was exhausted they went to Dublin, for in directories of 1823 and 1824 their names occur as proprietors of a cut-glass warehouse, 48 Lower Sackville Street.

No later notice of the Hanover Street glass-house is to be found, and probably it ceased work in 1818. The site of the glass-house is now occupied by Messrs. Beamish and Crawford's brewery, on whose premises the old glass-house chimney stood, until pulled down in 1915. A view of the chimney appears on Plate VII.

A new glass-house was established in Cork a few years before the Hanover Street one ceased work. About the year 1810 the name of Daniel Foley appears in Cork directories as the proprietor of a glass wareroom in Hanover Street, and in 1815 he erected a glass-house on Wandesford Quay, on the opposite side of the south channel of the River Lee from, and a little above, the Hanover Street concern.

This glass works he called the Waterloo Glass House Company, and it was established for making both flint and bottle glass.

In the *Overseer*, a Cork weekly newspaper, for December 24th, 1816, we find the following notice : " Waterloo Glass House. By his forming the Waterloo Glass House Company, which is now at work, Mr Daniel Foley is giving employment to more than one hundred persons. His workmen are well selected, from whose superior skill the most beautiful glass will shortly make its appearance to dazzle the eyes of the public, and to outshine that of any other competitor. He is to treat his men at Christmas with a whole roasted ox, and with everything adequate. They have a new band of music with glass instruments, bessons (sic) serpents, horns, trumpets, etc., and they have a glass pleasure boat, a cot and a glass net, which when seen will astonish the world."

In the same paper for February 11th, 1817, it is stated that " Sir John Doyle, commanding the Cork district, had bespoken a large glass trumpet from the Waterloo Glass House Company, the sound of which will reach to the shores of Seringapatam ! "

Daniel Foley appears to have retained his shop in Hanover Street, as in 1819 he advertises lustres and fancy glass at his warerooms there. The number in Hanover Street is put down sometimes as 14, and at other times as 16.

In 1821, in addition to glass, he states that he sells china, having been appointed agent in Cork for Mason's Ironstone china, and Grainger and Lee's Worcester china.

In 1824 Foley opened a warehouse for the retail sale of his glass at 48 Lower Sackville Street, Dublin, the same place as occupied by Graham and Brown, who possibly took on the sale of the Waterloo Company's glass. In the advertisement announcing the opening of this warehouse Foley states that, owing to the amount of labour and machinery at the Waterloo Works, he can execute orders quicker than other firms, and can supply glasses for medical purposes, phials, gallipots, etc. In 1825 Geoffrey O'Connell became partner with Foley, and in October of that year a notice appeared in the *Cork Constitution* stating that in future the Waterloo Glass Works Company would be under the firm of Foley and O'Connell.

In the same paper for June 27th, 1829, Foley and O'Connell, Waterloo Glass Works, Hanover Street, Cork, and 48 Lower Sackville Street, Dublin, state that they have reduced the price of glass 20 per cent, and by a recent improvement in the process of annealing they are enabled to warrant the glass hot-water proof. The firm of Foley and O'Connell carried on the business until 1830, when Daniel Foley retired, and in May of that year the whole stock of Foley and O'Connell, late partners in trade, was advertised to be sold at reduced prices to clear the partnership accounts. When Foley retired from the glass-making business he appears to have set up as an agent for selling glass and china, and as such his name occurs in Cork directories until 1845 ; his place of business being 21 South Mall.

In January, 1831, the premises were advertised to be sold by auction by J. McDonnell, together with the stock of cut glass belonging to the late firm of Foley and O'Connell. The sale to be continued until the entire stock was disposed of, consisting of decanters, claret jugs, crofts, tumblers, rummers, butter coolers, pickle urns, chimney lustres, chandeliers, ceiling lustres, etc.

Geoffrey O'Connell appears to have purchased the whole concern, for in the *Cork Constitution* of November 24th, 1831, we find the following notice :

" The Waterloo Glass Manufactory is re-established by Geoffrey O'Connell who respectfully solicits his old friends for a renewal of their business. The warehouses in Hanover Street and Wandesford Quay will

be extensively supplied with cut and plain glass, china, earthenware, lamps, lustres, etc., all new and excellent. Cork, November 17th, 1831."

O'Connell continued the manufacture of glass, and in *The Comet*, a Dublin newspaper, he states in March, 1832, that he has restored the Waterloo Glass Works to life and one hundred families to employment; and also that the glass works since their establishment in 1816 had enjoyed military patronage.

In October, 1833, however, he states that he is retiring from business and that a great sale of splendid cut glass, ceiling lustres, china, lamps, etc., will take place at the Waterloo Glass Works, on Monday, October 28th, and following days, until the entire of the magnificent stock is disposed of. He says he will sell by auction a matchless collection of property of the newest and most fashionable description, selected within the last three years, consisting of dinner and dessert services, tea and coffee equipages, ceiling lustres, lamps, etc. These articles were evidently mostly china, for the sale of which he appears to have been an agent. The cut glass consisted of pint and quart decanters; water crofts; tumblers; wine, claret, and liqueur glasses; claret and water jugs; pickle, celery, and jelly glasses; dessert services; toilet ornaments, and a large collection of miscellaneous property.

The auction seems to have been continued at intervals until December, 1833, for advertisements occur up to that period announcing the sale of splendid cut-glass decanters, salad bowls, celery glasses, sugar bowls, pickle urns, rummers, and wine glasses.

Notwithstanding that he stated he was retiring from business, he advertises in the *Cork Constitution* of October 9th, 1834, that he has recommenced glass-making, and will be supplied with glass ware, cut and plain, of the best quality. The warehouse and stores in Hanover Street are, at the same time, announced to be let.

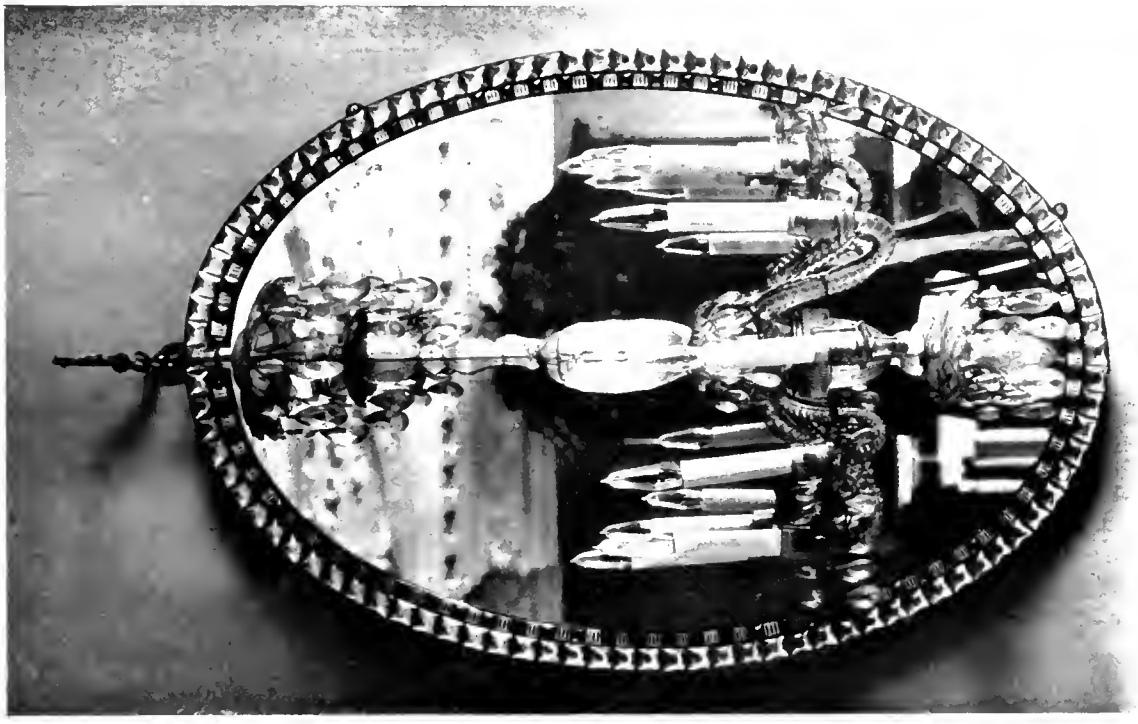
Owing to the heavy excise duties on glass Geoffrey O'Connell became bankrupt in 1835, and in the newspaper there is a notice that there will be "an auction, for non-payment of excise duties, of splendid cut and plain glass at the Waterloo Glass Works, Clarke's Bridge, on Thursday, June 18th, until the entire of the splendid stock is disposed of, consisting of rich cut decanters; jugs; salad bowls; celery and pickle glasses; dessert plates and dishes; tumblers and wine glasses of every description; hall and staircase globes; side lights; water crofts and tumblers, etc., after the stock

Plate XXVIII

Three candlesticks. No. 1 moulded and slightly cut, with removable nozzle. No. 2 plain with cup-shaped nozzle. No. 3 moulded, with removable nozzle. Irish, early 19th century. Author's Collection.

Mirror, with double row of faceted pieces of glass. The outer row of clear glass, and the inner of alternate pieces of dark blue and opaque white with gold flutes. Chandelier suspended in front. The imitation candles were added for electric light. Made by a looking-glass maker, probably in Dublin or the South of Ireland. Late 18th century. National Museum, Dublin.

1 2 3



is sold, the household furniture of a house in Mardyke Parade is to be auctioned."

Evidently the stock of glass was sold off, as in a Cork newspaper of July 21st, 1835, this announcement occurs :

" For non-payment of excise duties. To be sold by auction on Wednesday, July 22nd, on the premises situated at Wandesford Quay, in the City of Cork, all the fittings-up ; glass cases ; tables ; moulds and working implements, together with a steam engine and the fittings-up of the cutting shop ; ten excellent pots, a quantity of fireproof clay and bricks, coal, sand, cullet, beams and scales, with a variety of other property, all useful in the manufacture of glass, such as old timber, lumber, a quantity of arsenic etc., also office desk and fittings. John McDonnell auctioneer."

The Waterloo Glass Works evidently ceased work in 1835, as all the fittings and materials were sold, and in February and March, 1836, we find this notice in the newspaper :

" In the matter of Geoffrey O'Connell, a bankrupt,—To be sold at the Commercial Buildings, Cork, on Tuesday, February 15th, all the bankrupt's interest in the concern known as the Waterloo Glass Works and warerooms situated on Wandesford Quay and in Hanover Street. The glass house is allowed to be the best adapted for that purpose in the kingdom, and requires a very trifling outlay. The premises on Wandesford Quay are subject to a rent of £105 per annum, and the Hanover Street ones to £90 per annum, one and a half years arrears and a mortgage. Full particulars from McCarthy and Murphy, 25 South Mall. William Marsh, Auctioneer."

The last notice regarding Geoffrey O'Connell is an announcement of the sale of his debts in June, 1836. The site of the Waterloo Glass Works is now occupied by timber stores, and not a trace of the old concern remains.

In the year 1818 a third glass-house was set up in Cork by the brothers Edward and Richard Ronayne. This glass-house, which apparently made only flint glass, was situated at the western end of the South Terrace and was known as the Terrace Glass Works.

In May, 1819, the brothers Ronayne announce that their glass-house is now at work, where glass, plain and cut, of superior quality and newest patterns, is on sale at as low prices as at any house in the Empire.

In 1821 they advertise lustres, Grecian lamps, etc., and state that their

glass, cut and plain, is superior to any heretofore exhibited in the city, and equal to any in the United Kingdom.

The firm had a shop at No. 25 Patrick Street, Cork, for the retail sale of their glass, but in December, 1833, they removed to No. 121 Patrick Street, and stated that they had no further connection with No. 25, Mr. Norris' shop, and that they were selling glass of all descriptions at the factory, South Terrace, 25 per cent under prices hitherto charged, and will continue to sell at the establishment they are about to open at 121 Patrick Street.

In 1832 they opened a shop for the sale of their glass at No. 2 Dame Street, Dublin, the manager being J. Griffin, formerly of Foley's glass shop at 48 Lower Sackville Street. The Ronaynes, in 1835, stated that they were enlarging their premises in Patrick Street, Cork, and were going to exhibit a stock of richly cut quart and pint decanters, claret jugs, dessert services, all descriptions of table glass, also plain glass.

In the *Cork Constitution* for October 5th, 1837, we find this notice referring to the Terrace Glass Works :

" Flint Glass Manufactory, South Terrace, and at 121 Patrick Street. Ronayne Brothers having completed the new arrangements and repair of their furnace and engines, are prepared to receive and execute orders for sets of glass ware to pattern. The factory and warerooms are now well stocked. In the cutting department they employ none but the best hands under the superintendence of a first rate artist. They offer goods finished in the most splendid style. Military services of glass engraved to order or pattern."

In 1838 the partnership between Edward and Richard Ronayne was dissolved, and the business was carried on by Edward Ronayne alone, who announced that he would make glass of the most perfect and brilliant metal, ornamentally cut and engraved to order or pattern. He did not continue the manufacture very long, as in September, 1841, the Terrace Glass Works were advertised to be let. In the *Cork Southern Reporter* of September 14th, 1841, the following notice is to be found : " The old established Terrace Glass Works, Cork. Thomas Jones, lessee of John Cotter and the Revd. Archibald Robert Hamilton and others, and Joseph Ronayne. To be let the old established glass works, warerooms and concerns at the South Terrace, in the City of Cork, subject to redemption ; with the following articles the exclusive property of the lessors, namely : Steam engine, tools

and apparatus for turning for forty glass cutters, an excellent clay mill attached thereto, and a large quantity of pot clay, fire brick, from fifty to sixty glass-house iron pans, and all other necessary materials for the immediate working of the concern. Cork is decidedly the best position in the United Kingdom for a glass manufactory, by reason of its long known character for superior glass, and the vast extent of home trade, and its large exports to foreign markets. Besides these reasons, the small capital necessary to work the concern, and its quick returns, are inducements to capitalists very rarely to be met with. For further particulars apply to Kyrl Allen Deane solicitor, offices, Commercial Buildings, Cork, and No. 2 Upper Ormond Quay, Dublin." No further notice of this factory occurs, so apparently no purchaser came forward to carry on the business of glass-making. With the closing of the concern the manufacture of glass ceased in Cork, having lasted nearly sixty years.

No trace of the Terrace Glass Works remains at the present day, the site being now occupied by timber stores.

In his account of the Cork Exhibition of 1852, J. F. Maguire states that in 1825 the export orders of Cork would have kept a glass-house with eight pots in constant employment ; and also that the Waterloo and Terrace Glass Works each employed twenty-four glass blowers, thirty cutters, and sixteen apprentices, besides clerks, labourers, etc.

In Cork, as also in Waterford and Belfast, after the manufacture of glass had ceased, some of the glass workers eked out a precarious existence for a short time, making small objects in glass, such as tumblers, decanters, wine glasses, etc. These are usually of a very poor greenish metal, full of small air bubbles, and were hawked about the streets and sold for a few pence each. Illustrations of one or two pieces of this glass are given on Plate IX.

The small tumbler I obtained many years ago in Waterford from an old man who remembered the glass-house when it was working. He obtained the piece from one of the glass workers who tried to make a living, after the works were closed, by making and selling such wares.

In the account of the Cork Exhibition of 1852 noticed above, Maguire mentions some of these poor glass makers, and says, " A few weeks since my attention was directed to the fact that there were two or three poor fellows, journeymen glass blowers, then trying to establish themselves and

Plate XXIX

Five cruet bottles. No. 1 cut in printies, No. 2 with fine diamonds and slanting blazes, No. 3 with strawberry diamonds, No. 4 with pillar flutes, and No. 5 engraved. Most probably all Waterford, early 19th century. Author's Collection.

1. Butter cooler with plain diamond cutting. Probably Dublin or Cork, early 19th century. National Museum, Dublin.
2. Piggin with large pillar flutes, pillar band and fan escallop handle. Perhaps Belfast, 19th century. Author's Collection.

1 2 3 4 5

1 2

their trade by hard industry. I went with a friend to visit them, and in a remote corner of a smith's yard, under a shed whose roof was pervious to the weather, I saw in a kind of twilight, now and then flashed in upon by the lurid glare from the opened door of a small furnace, the figures of two smoked and toil-grimed men, actively engaged in the manufacture of glass. These were men who had worked, twenty years before, in the fine concern of Ronayne Brothers ; whose splendid factory and noble warerooms rose to my memory, as I beheld the various rude contrivances of this miserable shed—the naked walls, the broken roof, the little heap of fuel, the scanty stock of broken glass, and the couple of hampers in which the entire produce of their hard toil was contained. Some little attention has been called to their case, and they have received small assistance in fuel and cullet as well as orders."

Maguire also says, " I can remember the time when the glass cutters and the glass blowers of Cork took the foremost rank in every public demonstration ; and how as a boy I often listened with delight to the strains of the " Glass house Band "—a company of musicians consisting exclusively of the workmen of one local house. Many of these men earned wages from two pounds to five pounds a week, and were remarkable for their intelligence and refinement of taste. Unhappily all that is gone, and scarcely more than a tradition remains to recall the memory of former industry."

An old saying in Cork was " as sure as there is a glass cutter in Cork."

CHAPTER VI

NEWRY, BALLYCASTLE, AND LONDONDERRY GLASS-HOUSES

Newry

THE manufacture of flint glass was introduced into Newry probably shortly after 1780, when the export of Irish manufactured goods was allowed. The earliest notice, however, as yet found referring to glass-making in Newry occurs in the year 1792. In the *Newry Chronicle* of October 22nd to 25th, 1792, we find the following notice :

" Newry Flint Glass Manufactory. Emanuel Quin and Co. have pleasure in acquainting their friends and the public that they have now ready for sale at their glass-house in William Street a great variety of flint glass work, both cut and plain, which they are determined to sell at the most reduced prices, and will give every encouragement to those who buy to sell again. They will have a constant supply of tobacco pipes of their own manufacture."

In the Irish Custom House books glass is entered as having been exported from Newry to Carolina in 1785 and 1790, but of course we cannot tell if this glass was manufactured in the town.

In 1795 the proprietors of the William Street glass-house were Michael Dunbar and Co., who in the *Belfast News Letter* of August 7th, 1795, stated that at the Newry glass-house, and at their warerooms on the Merchant's Quay, they had for sale an extensive variety of flint glass of their own manufacture, which would be found equal in quality to any manufactured in this kingdom.

Michael Dunbar and Co. had a pottery manufacture for black ware and tobacco pipes on the Merchant's Quay for some time prior to taking over the glass works. In 1793 they advertise black ware and sugar moulds, floor and kiln tiles, garden pots, fire bricks, etc., all made at their manufactory on the Merchant's Quay.

In 1796 Samuel Hanna and Co. appear as proprietors of the Newry glass-house, and in August of that year they advertise for " a person of experience and knowledge in a glass-house who would take a share in, and undertake the management of, the business."

Apparently John Chebsey, one of the partners in the Ballybough Glass Works, Dublin, either took over the management, or became a partner, as in March, 1801, there was advertised to be let " the concern near the Dublin Bridge (William Street) whereon the glass-house is built, and lately in possession of J. Chebsey, held by lease of lives renewable for ever." Most probably the William Street glass-house ceased working about this period. In the first volume of the *Newry Magazine*, published in 1815, it is stated that " a manufacture of glass formerly existed in Newry, but for several years it has been discontinued."

No other notice referring to this glass-house occurs until, in the *Newry Telegraph* of August 5th, 1845, this advertisement appears :

" To be sold the interest in the lease of those extensive premises known as the Old Foundry and Glass Works in the town of Newry, county of Armagh, situate within a few perches of the terminus of the intended Newry and Enniskillen Railroad, and bounded by Needham Street, the Monaghan Road, Ruddell's Row and Mrs Magee's gardens."

No glass appears to have been made in Newry from shortly after 1800, until 1824, when a new glass-house was established at No. 16 Edward Street.

In the *Belfast News Letter* of October 28th, 1824, this notice occurs :

" Newry Glass works. John R. Watt and Co. have commenced the above business and have engaged an experienced foreman, and purchased their materials of the best quality. Edward Street, Newry."

The *Newry Telegraph* of July 11th, 1826, calls attention to the excellence of Messrs. Watt's glass and says :

" We are uncertain whether or not we have before now called the attention of the public to the beauty of the glass manufactured by Messrs Watt and Co. at their glass-house Edward Street, Corry Square. As a proof of the excellence of the manufacture, we have been shown some claret glasses ordered by His Excellency The Marquis of Wellesley."

About 1827 John Kirkwood became a partner with John R. Watt, and in February, 1828, the Newry glass works were advertised for sale ; applica-

tion to be made to John Kirkwood, Belfast, or to John R. Watt on the premises.

Watt retired shortly after this, as in the *Newry Telegraph* of May 2nd of the same year a notice was published saying that " the firm of John R. Watt and Co. having been dissolved, John Kirkwood, late partner, takes into partnership Isaac McCune, and that the business will in future be carried on under the firm of Kirkwood and McCune, in Edward Street." This partnership was carried on until 1837, when Isaac McCune retired and went to the glass works at Ballymacarrett, Belfast.

John Kirkwood, then sole proprietor, in January, 1838, offered the Newry glass works for sale, saying that he wished to remove to his extensive flint glass manufactory at Rainhill, nine miles from Liverpool. In April of the same year a notice appears in the *Newry Telegraph* announcing that as he has failed to dispose of the concern, he will continue to conduct the Newry glass works.

The name of Robert Stephen, " Flint Glass Establishment, 16 Edward Street," occurs in 1839, but he was probably the retail seller at the factory.

Kirkwood continued the manufacture of glass in Edward Street until 1847, but in October of that year the concern was closed, and it was announced that the stock-in-trade of the Newry glass works was being sold off. This terminated the glass manufacture in Newry, which had been carried on altogether for about thirty or forty years.

Up to the present it has been found impossible to trace any piece of Newry glass bearing a mark. The writer has been shown decanters, wine glasses, etc., which he was assured were made in Newry, but not having been given any definite proofs he was inclined to take the assurance for what it was worth. The glass mentioned was of a good white metal, cut in rather large flat surfaces.

Although glass was made in some quantities in Newry, it was imported from Cork and Waterford, even during the time it was being made in the town. The following notice appears in the *Newry Examiner* both in 1830 and 1833 :

" Anne Savage, china and glass warehouse, is supplied with an elegant assortment of cut flint glass received direct from the manufactories in Cork and Waterford."

In the Report of the Commissioners of Excise Inquiry in 1835, William

Kilpatrick, collector of Excise, Dundalk, stated that the glass works at Newry were small and that the glass was sold mostly in the towns round about, but that a good deal was sent to Dublin and some was exported.

No trace remains at the present day of either of the glass-houses formerly working in Newry.

Ballycastle

In the year 1754 a glass-house was erected at Ballycastle, Co. Antrim, and in *Pue's Occurrences*, a Dublin newspaper, of June 8th and 11th of that year, it is stated that "there is a glass house erecting at Ballycastle by a company for the making of bottles, window glass, plate glass, etc., which when finished will be as complete a building of the kind as any in Europe."

There was a colliery at Ballycastle working for many years previous to this, and having fuel on the spot may have induced the proprietors to establish the glass manufacture.

Ballycastle coal appears to have been used for other glass works in Ireland, for in a petition of William Deane, glass maker of Dublin, in 1762, he says that he used £1500 worth of coal a year, but if Ballycastle coal were used he would require £2000 worth.

Hugh Boyd, proprietor of the colliery, appears to have been the leading partner in the Ballycastle glass-house, and with him were associated Jackson Wray, Laurence Cruise, James Urch, and John Magawly.

On November 1st, 1755, Jackson Wray and Laurence Cruise, Esqrs., and James Urch, merchant, petitioned Parliament for aid to carry on the glass manufacture at Ballycastle, and on February 28th, 1756, it was resolved that they deserve encouragement.

In awarding the premium for manufactures, in June, 1755, the Dublin Society stated that the Ballycastle glass-house was not working yet, but by October of that year it appears to have been finished, as in the *Dublin Journal* of October 14th, 1755, this notice is to be found :

"The Ballycastle Glass-house and warehouse and all the materials thereto belonging, being now finished and ready to go to work, the public both in Dublin and in all the seaports in the Kingdom may be served with any quantity of bottles they please to bespeak, as vessels with coal from thence may bring bottles to any seaport in the Kingdom, and as said glass house is sixty feet in diameter in the clear, capable of carrying on said

PLATE XXX

Pair of butter coolers. Moulded glass. Marked "FRANCIS COLLINS DUBLIN." Early 19th century. National Museum, Dublin.

Three butter coolers. No. 1 probably Dublin or Cork. Nos. 2 and 3 probably Waterford. No. 2 of a very good white glass. National Museum, Dublin.

1 2 3

manufacture in all its branches, the proprietors in time intend to make window glass and other plate glass which must be of great advantage to the nation."

Laurence Cruise, one of the partners, appears to have died in 1756, for in the *Dublin Journal* of August 24th, 1756, there was advertised " to be sold the third part of the Ballycastle glass-house lately erected for the manufacture of bottles, with all necessary tools, furnace, pots and all materials for carrying on for one year. Proposals to be sent to Mrs Cruise, Oxmantown, Dublin, or to John Magawly, Ballycastle."

Hugh Boyd and the other partners appear to have carried on the bottle manufacture until 1764, when, at the instance of Boyd, Henry Lunn and Thomas Smith Jeudwin, proprietors of a crown glass works in Dublin, took a lease of the Ballycastle glass-house at a rent of £1000 per annum.

Hugh Boyd died on June 15th, 1765, and Lunn, Jeudwin, and Magawly appear to have carried on the manufacture of bottles until about 1766, when owing to disagreements between Jackson Wray and Jeudwin and Lunn, Lunn appears to have returned to Dublin. Jeudwin and Lunn were awarded £70 by the Dublin Society in 1765 for glass manufactured by them at Ballycastle, and in 1767 Jeudwin and Magawly received £61 for quart bottles made by them at Ballycastle, and valued at £1930.

The last mentioned seem to have continued the business until 1771, but on October 12th of that year there is a notice in the *Dublin Journal* stating that there was to be let from the 1st of November next the bottle house at Ballycastle, with stores, yard, offices, and a parcel of land. Proposals in writing to be received by Jackson Wray at Ballycastle, or by John McAllister in Abbey Street, Dublin.

No mention is forthcoming as to whether anyone took a lease of the concern or not, but apparently it was working until, at least, the early eighties of the eighteenth century. In 1781 it was mentioned that a stratum of clay had been discovered at Ballycastle which was found to answer very well for the glass-house pots, and in 1782 a notice occurs of the arrival in Belfast of a ship with glass from Ballycastle.

Possibly the manufacture ceased shortly after this. The Ballycastle colliery was advertised to be let in 1795, but no mention was made of the glass-house. Although in the earlier advertisements the proprietors state that they intend to make window glass, apparently nothing but bottles was

manufactured, and at the present day only broken pieces of black bottle glass are to be found in the refuse heaps near the site of the glass works.

The old chimney of the Ballycastle glass-house remained standing until December, 1877, or January, 1878, when it was demolished. See Plate VII.

Londonderry

The only reference, as yet forthcoming, regarding glass-making in Londonderry occurs in the year 1820. In the Ordnance Survey of the County of Londonderry, published in 1837, it is stated that, in the above-mentioned year, a Joseph Moore converted the sugar establishment in Londonderry into a glass-house, and with his son carried on the manufacture on a small scale until 1825, when it was abandoned owing to the imposition of the heavy excise duty on glass. It is not known for certain what kind of glass was made at the Londonderry glass-house, but from the statement that the manufacture was abandoned owing to excise duty, it is most probable that flint glass was produced, as black bottles would not have been liable to this heavy duty.

Small exports of glass from Londonderry to North America are entered in the Irish Custom House Books in 1790 and subsequent years, but at present we have no information concerning any glass manufacture in the town at that period.

CHAPTER VII

IRISH GLASS IN GENERAL

Duty on Irish Glass

AN Act of Parliament of 1746 (19 George II, c. 12) placed a duty of nine shillings and fourpence on every hundredweight of materials for crown, plate, flint, and all white glass, and two shillings and fourpence on each hundredweight of materials for bottle and green glass made in Great Britain. Section XIX of the Act reads : Whereas the importation of glass into Ireland may be of great prejudice to the manufacture of glass in Great Britain, it is enacted that from the 1st of May, 1746, no glass of any kind, except glass of Great Britain, be imported into Ireland ; and Section XXI reads : After May 1st, 1746, no glass of any kind is to be exported from Ireland under a penalty of ten shillings for every pound so exported.

From the drastic prohibitions of this Act it is apparent that at this period there was little incentive to make glass in Ireland, and consequently few glass-houses existed.

The restrictions on the exportation of glass from Ireland, imposed by the Act of 1746, were removed in 1780 ; but, although the export of glass from Ireland was allowed, Acts of Parliament were passed in 1781–2 and 1787 prohibiting the importation of any glass into Ireland, except that of Great Britain or the European dominions of France, under the penalty of forfeiture and payment of treble the value of the glass imported. This restriction was, however, removed in 1792.

Owing to the ability to export glass, and also on account of excise duties being placed on glass made in Great Britain, new glass-houses were set up in Ireland at Cork, Waterford, Belfast, Dublin, and Newry, shortly after 1780.

An Act of 1781–2 provided that the additional duty on coal imported

into Ireland was not to be imposed when the coal was used for the manufacture of glass, sugar, or salt.

No duty was placed on Irish glass until 1797. By an Act of Parliament (37 George III, c. 28) it was provided that from May 1st, 1797, upon every glass bottle manufactured in Ireland of common or bottle metal, not being phials, a duty of one farthing for every quart bottle, and so in proportion for any greater or less quantity, not less than one pint, was to be paid by the maker; and also that a licence of twenty shillings a year was to be paid by all sellers of glass bottles.

A licence of twenty pounds a year to be paid by the proprietors of glass-houses was imposed by an Act of 1825 (6 George IV, c. 81).

Various Acts of Parliament were passed between the years 1800 and 1825 imposing countervailing duties on glass made in Ireland and exported.

This countervailing duty was a duty imposed on articles imported from Ireland, the Isle of Man, and other places in the British Dominions, into Great Britain, to equalise the charges imposed on them with those imposed on articles manufactured at home or imported from abroad.

In the year 1825 the first excise duty was placed on glass made in Ireland, and according to the Act of Parliament (6 George IV, c. 117) it was declared that, on and after July 5th, 1825, on every thousand pounds' weight of glass metal for flint or phial glass made in Great Britain and Ireland a duty of twelve pounds ten shillings was to be placed; and on every pound of manufactured goods in excess of 50 per cent of the weight of metal already paid duty, a duty of sixpence. A drawback of twenty-nine pounds three shillings and fourpence on every thousand pounds' weight of flint glass exported was allowed, and no glass was to be entitled to the drawback, unless worth at least elevenpence per pound.

This act enforced most exacting conditions with regard to the payment of the duty, so that not a pound of glass should evade the tax. The glass-house pots were to be sealed up and only to be opened in the presence of an excise officer; no extra materials were on any account to be put into a pot once it had been measured, under penalty of a heavy fine; several hours' notice was to be given before a pot was filled or opened, and before glass was put into the lear or taken from it, and many other details were to be observed. One of the Waterford letters mentions that the excise officers

were always in the glass-house, night and day, to see that the provisions of the Act were strictly carried out.

In the report of the Commissioners of Excise Inquiry in 1835, it is stated that the duty paid on glass made in Ireland for the year ending January 5th, 1833, was as follows :

Geoffrey O'Connell, Cork	£1958
Ronayne Brothers, Cork	2917
Martin Crean, Dublin	2491
Charles Mulvany, Dublin	3476
George Forbes, Dublin	546
Costello & Co., Dublin	3390
Isaac McCune, Newry	1269
John McConnell, Belfast	1651
John Kane, Belfast	1694
Gatchells, Waterford	3002

It was also stated that between 1830 and 1834 the average annual output of glass made in Ireland was between two hundred and three hundred tons.

In 1835 the excise duty was reduced, and by an act of that year (5 and 6 William IV, c. 77) it was provided that there was to be a duty of six shillings and eightpence on every hundred pounds' weight of glass metal for flint glass made in Great Britain and Ireland, and also a duty of twopence per pound on every pound of manufactured goods in excess of 40 per cent of the weight of metal already paid duty. A drawback of eighteen shillings and ninepence was allowed on every hundred pounds' weight of glass exported, but no glass was to be entitled to the drawback unless worth at least fivepence per pound.

In one of the Waterford notebooks are some pages with columns of figures compiled by Jonathan Wright, manager of the factory, giving details of the excise duty for several years between 1830 and 1840. The columns are headed—" manufactured goods," " laded metal," " excess," " number of pots," etc., but these figures I am unable to make anything of.

During the period of the excise duty, most of the glass was sold by weight, and care had to be taken to ensure that each article was made of the requisite amount of metal. In the evidence given before the Excise Commissioners in 1835 there is the following list of a few articles of Irish glass, together with their weight and price :

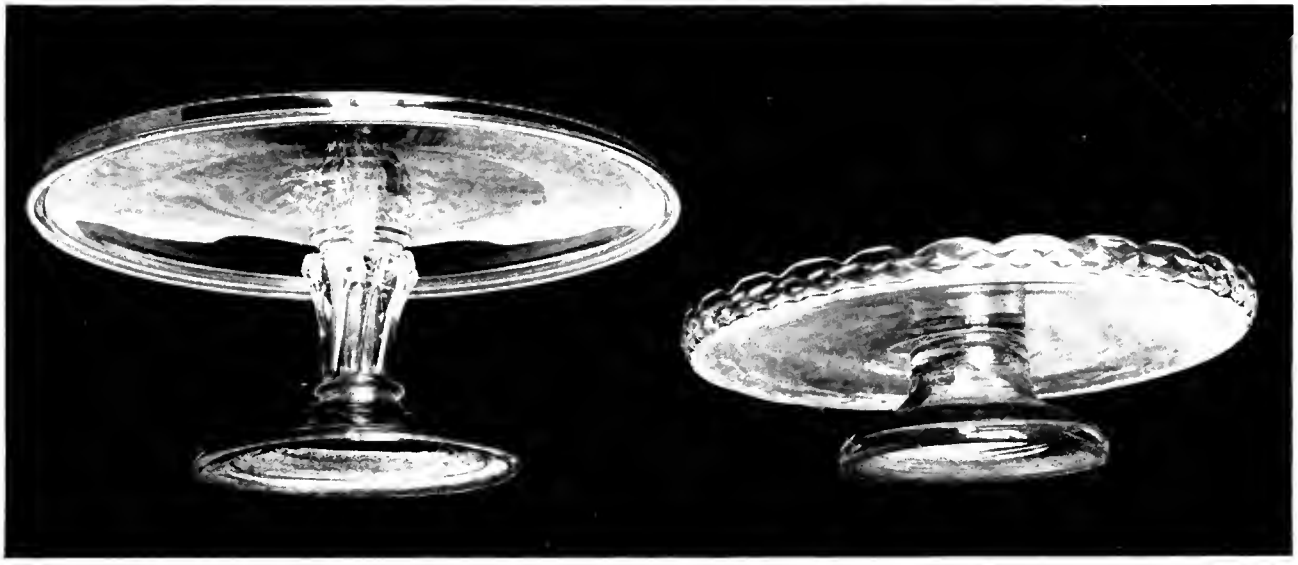
Plate XXXI

Four cream ewers. Probably Cork or Dublin glass. Nos. 1 and 3 early 19th century. Nos. 2 and 4 about 1830. Nos. 2, 3, and 4 National Museum, Dublin. No. 1 Author's Collection.

Two salvers. No. 1 with edge projecting above and below the plate, moulded Silesian stem and domed base, about the middle of the 18th century, and No. 2 with cut edge and hollow foot, early 19th century. Most probably Irish. Author's Collection.

Four goblets. No. 1 with plain flat cutting, No. 2 with zigzag splits, No. 3 with blazes, and No. 4 with alternate panels of plain diamonds and pillar flutes. No. 1 probably Newry, Nos. 2, 3, and 4 probably Waterford. No. 2 early 19th century, Nos. 1, 3, and 4 about 1830. Author's Collection.

1 2 3 4



1

1 2 3 4

	Weight per dozen.	Present price per dozen.	Price per dozen before 1825.
Best Rummers	7½ lbs.	8 6	5 5
Best Wines	3½ lbs.	4 6	3 1
Best Tumblers	1 lb.	1/– per lb.	10d. per lb.
Tale Tumblers	5 lbs.	2 10	2 4
Dram Glasses	2 lbs.	1 10	1 4½

From about the year 1825 the glass manufacture in Ireland seems to have begun to decline. In 1828 the tax on Irish glass produced £26,972, while in 1833 the amount had fallen to £17,652. The excise duty was removed in 1845, but by that time some of the Irish glass-houses had ceased working, and the output from the remaining ones had greatly decreased.

It is surprising how the flint glass works existed at all under the hard and unjust conditions imposed by the excise regulations. The output of all the factories was reduced, and some of the glass works had to close down altogether. The Ronaynes of Cork said in 1835 that they were then making only half of what was produced before the duty was imposed, and Mulvany of Dublin stated that wine glasses were then selling at four shillings and sixpence a dozen, which before the duty was imposed sold for three shillings and a penny.

A hardship complained of by the flint glass makers was the making of phials, and oil, pickle, and drug bottles by the bottle glass makers. Mulvany stated in 1835 that the bottle glass makers could produce these of practically the same materials as those used by the flint glass manufacturers, but that the latter had to pay 56s. per cwt. duty, while the former paid only 7s. per cwt.

During the period the excise regulations were in force numerous illicit glass furnaces were set up in various towns in Ireland. These small furnaces, known as " little-goes," were erected in out-of-the-way places and produced phials, perfume and druggist's bottles, etc. The metal was generally poor, being composed of any cullet the makers could obtain.

In 1785 it was stated that there were nine glass-houses working in Ireland, viz. six for flint glass, one for window glass, and two for bottles ; and in *Observations on the Manufactures, Trade, and Present State of Ireland*, by John, Lord Sheffield, published in 1785, he says that " nine glass houses

have suddenly arisen in Ireland, that the best drinking glasses are sold three or four shillings a dozen cheaper than English ones, that most of the drinking glasses exported in 1783 went to Portugal, and that previous to 1780 there was no glass exported from Ireland."

In his account of the Cork Exhibition of 1852, J. F. Maguire states, that in 1825 there were eleven glass-houses in Ireland; in 1833, seven—two in Dublin, two in Cork, one in Belfast, one in Waterford, and one in Newry, while in 1852 there were only three—two in Dublin for flint glass and bottles, and one in Belfast.

Imports and Exports

Immense quantities of glass were imported into Ireland from England, and some from the Continent, during the eighteenth century, and earlier, but, notwithstanding all this, and, also, what was made in the country, comparatively very few indeed of the old drinking glasses and wine bottles are to be found in the country at the present day. In fact, in Ireland, pieces of glass, either English or Irish, dating from even the first half of the eighteenth century are very seldom to be met with.

The average imports of glass into Ireland for different years, extracted from various sources, are here given. From about 1719 to 1727 the average yearly imports of drinking glasses amounted to about 133,000, and of bottles to nearly 35,000 dozens, besides other glass ware valued at about £4000.

In 1737 the average value of the imports for the previous three years was as follows:

	£	s.	d.
Glass bottles at 1/4 per dozen	5252	18	5
Drinking glasses at 2/– per dozen	846	8	11
Other glass ware, value	1919	18	8
Rhenish glass, £3 per webb	318	13	4
Cases at 30/– per piece	1942	11	0
Vials, 6/8 per 100	359	12	3
Total	£10,640	2	7

What a difference there is in the price of drinking glasses between 1737 and now! Little did the owners in 1737 think that their twopenny glasses would ever fetch £20 and more!

In 1740 the average imports were about 60,700 dozens of bottles, 110,420 drinking glasses, and 1455 cases of glass, and in 1747 the value of the imports was a little less than in 1737. The prices of the various articles were the same, except that bottles had risen to one shilling and sixpence per dozen.

The imported bottles at this period do not appear always to have been satisfactory, for in 1739 one John Sherigley complained that wine was sold in bottles named quart bottles, and that merchants had sent for bottles beyond the seas, fifteen of which contain only twelve quarts.

Between the years 1755 and 1761 the imports of bottles varied between 33,000 and 111,000 dozens annually, the total number of bottles imported during these seven years being over four and a half millions. In 1766 330,454 drinking glasses, 75,000 dozens of bottles, and 281,174 vials were imported.

After about 1770 the imports appear to have declined a little, for in 1773 about 40,000 dozens of bottles and 210,000 drinking glasses came into the country, while about 1783 the drinking glasses had fallen to about 22,000.

There must have been an enormous amount of breakage in the old days, as out of these millions of bottles and drinking glasses, comparatively very few remain at the present time.

Numerous advertisements appear in the eighteenth century Irish newspapers, announcing the importation of English glass, chiefly from London, Newcastle, Stourbridge, and Bristol. From about 1730 to 1800 the imports include: Decanters, branches, sillybub and jelly glasses, beer and wine glasses, vials, bottles and glasses (1731); English double flint wine glasses, eightpence per pound; single flint wine glasses, two shillings and fourpence per dozen (1745); flowered and plain wine glasses, beer glasses, water glasses and saucers, and diamond cut salts and cruets (1747); all sorts of wine glasses, champagne and beer glasses cut with any pattern or foliage, green bells for gardeners, vials, etc. (1751); cruets mounted with Stourbridge glass imported into Belfast (1754); diamond cut and scalloped bowls and dishes, flowered decanters, beer, cyder, and wine glasses diamond cut (1759); plain, cut, and flowered drinking glasses, cut and plain salad bowls, decanters, water plates, candlesticks and salt cellars (1765); plain, flowered, enamelled, cut and gilt drinking glasses; sweetmeat and jelly glasses with salvers for them (1769); gilt, cut, flowered and plain decanters, drinking glasses,

PLATE XXXII

Two views of a cut and engraved glass goblet. Formerly belonging to an Orange Lodge. Dublin, made by T. and R. Pugh, about 1870. National Museum, Dublin.


Wadcliffe Longer Sober

water glasses and curious cut salts (1773); cut glass girandoles by Handcock, London (1776); flowered, plain, and enamelled wine glasses, dram and beer glasses, flowered and plain decanters with cut stoppers, wine funnels, breast pipes and fountains, nipple shells, urinals, garden bells, ink fountains and stands, pomatum pots, jelly glasses, tumblers, cruets, and salts (1774); festooned and labelled decanters; wine, water, and hob-nob glasses, and flowered tumblers (1776); large quantities of girandoles, lustres, and cut glass imported into Cork (1791).

In 1834 a large consignment of rich cut glass was advertised to be sold by auction in Belfast, having been "imported from the first English and Scotch manufactories."

After 1780 increasingly large quantities of glass were exported from Ireland, and the following lists, giving the towns from which the glass was sent and its destination, are taken from the Custom House books preserved in the National Library of Ireland:

	Drinking glasses.	Bottles, dozens.	Value of other glass ware.
1781			
To West Indies		850	
1782			
Cork to America		488	
Dublin to America		363	
1783			
Cork to Portugal	7,510	120	£62
Belfast to Nova Scotia	2,400	468	
1784			
Cork to Barbadoes	4,800		£41 12 0
,, Newfoundland	4,800		£27
,, Pennsylvania	1,200		
,, Quebec	2,400		£18
Dublin to Carolina	5,136		
1785			
Waterford to Spain			£7
,, West Indies			£29
Cork to Nova Scotia			£68 12
,, St. Eustatia			£24

	Drinking glasses.	Bottles, dozens.	Value of other glass ware.
Cork to West Indies	1,200		£31 10
Dublin to Pennsylvania		2,802	£204 10
1786			
Cork to Portugal		120	
,, Pennsylvania		1,200	£22
Belfast to Barbadoes	672		
Newry to Carolina			£6
Waterford to New York			£215
1787			
Waterford to Newfoundland			£33
Dublin to New York	1,200		
Belfast to New York			£12
1788			
Waterford to Newfoundland			£17 8
Dublin to New York	8,240		£567
Cork to New York			£3
Cork to Virginia and Maryland	17,280 vials		£25
1789			
Waterford to France	1,440		
Dublin to Spain	8,244		£153
,, Isle of Man	1,728		
Larne to Carolina			£8
Dublin to New England	4,416	10,656 vials	
1790			
Dublin to Spain	850	240	
,, Antigua	7,920		£216
,, New York	10,693		£585
,, Pennsylvania	21,928		
,, Jamaica	1,080		
Waterford to Jersey	1,464		£25
,, Jamaica	3,744		£152
,, Newfoundland	1,200		£49
Belfast to Carolina			£100
,, New England	3,600 vials		£67
,, New York			£422
,, Virginia and Maryland			£455
Larne to Carolina			£52

	Drinking glasses.	Bottles, dozens.	Value of other glass ware.
1791			
Dublin to France	222		
,, Spain	942		
,, Antigua	3,600		
,, Barbadoes	1,200		£36
,, Jamaica	2,592		£527
,, New England	19,604	1,728 vials	£354
,, New York	12,479		
,, Pennsylvania	17,508	15,264 vials	£392
,, Madeira	1,200		£120
Waterford to Madeira	1,728		£3 18
,, Portugal		130	
,, Newfoundland	1,545		
Newry to Carolina		8	
,, New England			£45 10
Londonderry to Carolina			£15 10
,, Pennsylvania			£111 10
Belfast to New York	1,728		£168 15
Cork to Virginia and Maryland			£81 6 8
1792			
Waterford to Madeira	5,760		
,, Barbadoes	72		
,, Newfoundland	4,044		
Newry to Spain			£2 5 6
,, New England			£55
Dublin to Barbadoes	2,000		
,, New England	21,881		£794 4 6
,, New York	26,200	1,200	£1137 11 9
,, Virginia		16,848 vials	
,, West Indies	4,356		
Belfast to Carolina			£906
,, Jamaica	8,879		
,, Pennsylvania	3,000		
Cork to Pennsylvania			£250
,, St. Kitts			£12
1793			
Dublin to Spain	2,525		£193 3 2
,, Antigua	2,400		£80

	Drinking glasses.	Bottles, dozens.	Value of other glass ware.
Dublin to Barbadoes	2,000		£13
,, Jamaica	7,052		£224 17
,, New England	20,970		£970
,, Pennsylvania	45,048		
Waterford to Hudson's Bay	11,520		£64 16
,, Newfoundland	600		£73 4
,, New York	36,000		£290
Belfast to New York			£438 6 8
,, Virginia and Maryland			£145
Cork to New York			£4
,, Pennsylvania			£160
,, Virginia			£7 6
Newry to Virginia			£1 9 6
1794			
Cork to Jamaica		120	
,, Newfoundland			£200
,, New England			£5
,, West Indies		120	
Waterford to New York			£832 16
Dublin to New England	2,832		
,, Pennsylvania	24,250		
Belfast to New England	144,000		
,, Pennsylvania		14,400 vials	
,, Virginia	10,080	1,000	
1795			
Cork to Denmark	144		
,, Portugal		600	
,, Spain		720	
,, Jamaica	480		£492
,, Pennsylvania		72	
,, West Indies			£271
Dublin to Jamaica	19,082		
,, New England	78,920		
,, New York	28,800		£669
,, Pennsylvania	3,384	1,224	
Waterford to Newfoundland	3,516		£31
,, New York	5,000		£1091 13

	Drinking glasses.	Bottles, dozens.	Value of other glass ware.
1796			
Cork to Africa		720	
,, Spain		324	
,, Antigua			£50
,, Jamaica			£207
,, New York			£988 12
,, West Indies	480		
Newry to Italy		20	
Dublin to Madeira	4,109		
,, Spain	1,197	9,000	£23 8 4
,, Antigua	784		
,, Jamaica	20,600	1,503	
,, New England	23,930		£489 12 6
,, New York	95,240	349	
,, Pennsylvania	32,556	1,895	£412 5 5
Waterford to Portugal	864		£9 18
,, Pennsylvania	45,000		£287 10 0
,, West Indies	7,200		£216
Belfast to New England	360	2,500	
,, Denmark	1,080		
1797			
Dublin to Denmark		1,200	
,, Barbadoes	5,000		
,, New England	76,404		
,, New York	240,404		
,, Virginia	80,000		
Cork to Jamaica			£1140
,, Pennsylvania			£1155
Belfast to New England	154,980		
Waterford to Newfoundland	6,812		£76 2 4
,, New York	25,382		
1798			
Dublin to Barbadoes	2,000		
,, Jamaica		1,800	
,, New York	2,028		
,, West Indies	20,000		
Waterford to Newfoundland	7,583		£143
,, New York	30,000		£88

Plate XXXIII

Four wine glasses. Probably Waterford. About 1830. Nos. 1 and 4 have upright blazes, and Nos. 2 and 3 plain diamonds. Author's Collection.

Four wine glasses. No. 2 engraved, the rest cut. Nos. 1, 2, and 3 probably Cork, No. 4 probably Waterford. About 1820–30. National Museum, Dublin.

Three tumblers. No. 1 probably Waterford. Nos. 2 and 3 perhaps Cork. About 1830. National Museum, Dublin.

1 2 3 4

1 2 3 4

1 2 3

	Drinking glasses.	Bottles, dozens.	Value of other glass ware.
Cork to New York			£1580
,, West Indies			£350
1799			
Cork to Africa			£50
,, West Indies	4,000		
Waterford to Jersey			£500
,, New York	40,000		
Dublin to Barbadoes		1,212	
,, Jamaica		1,898	
,, New England	13,000		
,, West Indies		6,361	
Belfast to New England	1,400		
Newry to New York			£150
1800			
Cork to Africa	312		
,, Virginia	6,960		£276
,, West Indies	264		
Waterford to Portugal	2,000		
,, Newfoundland	3,000		£113
Dublin to Straits	1,900		
,, Jamaica		3,822	
,, New England		2,660	
,, Pennsylvania	6,000		
,, West Indies		1,927	
Belfast to New York	7,920		
,, New England	19,560		
1801			
Cork to Jamaica	104,720	3,451	£937
,, New York	38,183		£476
,, Virginia	13,104		£374
,, West Indies	7,700		
Waterford to Newfoundland	6,600		£99 3 6
1802			
Cork to Africa	1,440		
,, England	720		
,, Straits	2,520		
,, Jamaica	19,640		£143

	Drinking glasses.	Bottles, dozens.	Value of other glass ware.
Cork to Montseratt	2,400		£130
,, New England	3,900		£94
,, New York	55,399		£488
,, Virginia	12,000		
,, West Indies	19,780		
Belfast to Georgia	13,324		
,, New York	19,080		£561
,, Virginia	8,064		
Waterford to Pennsylvania	57,740		£47
,, Virginia	73,000		
Newry to Virginia	3,240		
Dublin to Surinam		617	
1803			
Cork to Madeira	250		
,, Portugal		6,129	
,, Jamaica	20,600		£577
,, New York	960		
,, West Indies	18,308		
Dublin to Barbadoes		2,038	
,, Carolina		3,600	
Waterford to Newfoundland	21,224		
,, New York	72,000		
Belfast to New York	40,656	20,799	
1804			
Cork to Portugal	444		
,, Straits		1,224	
,, Antigua		554	
,, Jamaica		256	£380
,, New York	1,200		
,, Pennsylvania		2,298	
,, Trinidad			£88
Waterford to Jersey	1,944		
,, Newfoundland	5,220		£212
,, Pennsylvania	46,080		£400
Dublin to Antigua		2,829	
,, Jamaica		3,738	
Belfast to New York	9,648		£1224

	Drinking glasses.	Bottles, dozens.	Value of other glass ware.
1805			
Cork to Portugal		5,120	£40
,, Guernsey		661	
,, Antigua			£34 15 6
,, Barbadoes	14,880		£1078 10
,, Jamaica	11,400		£123 10
,, New York	17,568		£545 14 3
,, Pennsylvania	3,600		
Waterford to Jersey	864		£50 10
,, New England	17,280		£246 7 6
Belfast to Carolina		114	£307 1 8
,, Maryland	588		
,, New York	83,994		£1114 18 0
Dublin to New York			£1069 16 5
,, Jamaica	4,959		
1806			
Cork to England		4,119	
,, Portugal		400	
,, Straits		364	
,, Guernsey		530	
,, Antigua	1,220		
,, Barbadoes	480	2,014	
,, Jamaica	10,000	690	£539 4 9
,, Trinidad	480		
Belfast to Straits	432		
,, Demerara	10,080		£150
,, New York	8,544		
Waterford to Jersey	1,224		£44 10
,, Newfoundland	1,636		£499 8 9
,, Pennsylvania	82,080		£375 15
Dublin to Barbadoes		6,262	
,, Jamaica		7,132	
1807			
Cork to England	240	729	£115
,, Guernsey	400		
,, Barbadoes	170		£322 6 8
,, Jamaica	5,328	2,652	£909 12 5
,, Maryland	1,200		£300

	Drinking glasses.	Bottles, dozens.	Value of other glass ware.
Cork to St. Thome			£320 17 9
,, Trinidad		552	
Belfast to Straits			£109 2 6
,, Buenos Ayres	21,600		£217
,, Carolina	3,400		
,, Maryland	7,200		
,, New York	62,820		£481 13 1
Dublin to Antigua		1,269	
,, Buenos Ayres		763	
,, Dominica		200	
,, Jamaica		2,501	
,, New York			£2866 10 5
,, Italy		418	
Waterford to Newfoundland	2,772		£290 2 4
1808			
Cork to England	480	2,476	
,, Barbadoes	2,500		£120
,, Buenos Ayres	3,609		£136 6 11
,, Canada	12,000		£257 13 7
,, New York	4,500		
,, Trinidad	3,000		
Dublin to Portugal		252	
,, Barbadoes		1,593	
,, Jamaica	2,400	263	£260 7 2
,, New York			£1895 7 6
,, St. Vincent		714	
Belfast to Demerara	576		
,, New York	7,776		
Waterford to New York			£1831 3 7
,, Newfoundland			£1082 10
1809			
Cork to England		3,156	
,, Madeira		26	
,, Straits		150	
,, Barbadoes			£371 4 5
,, Brazil			£1104 6 6
,, Surinam		100	
Belfast to Straits		150	

	Drinking glasses.	Bottles, dozens.	Value of other glass ware.
Dublin to Barbadoes	1,008	2,357	
,, Honduras		52	
Waterford to Newfoundland		40	£1166 14
1810			
Cork to England		1,944	
,, Madeira		500	
,, Barbadoes			£1367 15
,, New York			£968 5 2
,, Trinidad		345	
Belfast to Portugal			£141 8 4
,, Carolina			£540
,, New York			£1691 3 2
Dublin to Straits		1,200	£10
,, Barbadoes		3,860	
,, Carolina	144,414	3,301	
,, Jamaica		2,747	
,, Maryland	20,160		
,, New York	205,200		
,, St. Croix	7,416		
Waterford to Maryland			£835 11 4
,, Newfoundland			£1147 16 10
,, New York			£724 17
Newry to New York			£174
1811			
Belfast to Africa			£6 3 2
,, Carolina			£2269 15
Waterford to Jersey			£91 18 8
,, New England	69,792		£436 18 6
,, Newfoundland	3,400		£1507 13 4
,, New York	17,856		£900 18 5
Dublin to Barbadoes		2,579	
,, New England	13,464	6,972	£67 13 9
,, New York	14,400	2,381	£3444 14 5
,, Pennsylvania	16,608		
Cork to Barbadoes			£685 4 8
,, New England			£1241 9 6
,, New South Wales			£17 17 2
,, England		1,020	

Plate XXXIV

Three sugar bowls. Nos. 1 and 2 with strawberry diamonds divided by split bands, and fan escallop edges. Most probably Waterford. About 1830. No. 3 with flat cutting and prismatic bands. Probably Irish. Late 18th century or early 19th. National Museum, Dublin.

Four pieces of moulded and cut glass of uncertain denomination. Nos. 1, 2, and 3 perhaps mustard pots. Moulded glass. No. 4 use unknown, being too thick for a drinking glass. Cut glass. Probably Irish, early 19th century. Author's Collection.

1 2 3

1 2 3 4

After about the year 1812 the number of drinking glasses exported seems to have decreased, but a large number of bottles and other glass ware was sent from Dublin, Cork, Waterford, and Belfast to the same places as enumerated in the foregoing lists. The totals for a few succeeding years are as follows :

1812.	4,800	drinking glasses,		8,319	dozen bottles,	glass ware, value	£4,196	1	7
1813.	11,534	dozen bottles					£8,672	15	11
1814.	1,954	drinking glasses,		4,549	dozen bottles		£5,918	17	11
1815.	577	,,	,,	6,215	,,	,,	£7,774	5	8
1816.	4,320	,,	,,	8,683	,,	,,	£27,962	16	5
1817.	1,600	,,	,,	4,386	,,	,,	£22,991	2	8
1818.				8,596	,,	,,	£20,651	4	9
1819.				4,317	,,	,,	£9,692	13	8
1820.				5,373	,,	,,	£11,128	0	9
1821.				4,490	,,	,,	£7,200	4	7
1822.				6,644	,,	,,	£6,098	19	10

Difficulty of Telling Irish from English Glass, and the Different Irish Glasses from Each Other

There are many people at the present day who imagine that they can tell the exact place where a particular piece of glass was made, though upon what grounds it is often difficult to ascertain. Some will even go so far as to tell the year of manufacture also, and in statements which have been made to me, I have often been surprised that these very cocksure people did not also state the month and the day. From many years' experience in examining glass, I could not, and would not, state definitely, except in a very few instances, the exact place of manufacture of any piece of old glass. I can imagine the numerous learned collectors of glass saying —well, he cannot know much about glass ! I think it would be just as difficult for a botanist, if shown a daisy plant, to tell in what exact spot of the British Isles it grew.

We have practically nothing to go on with regard to metal, cutting, or shape peculiar to Irish glass. No details of these are to be found in any contemporary records, if we except the few Waterford patterns.

I am afraid it is now almost impossible, in most cases, to tell the differ-

ence between Irish and English glass, although many profess to find it quite easy, and it is still more difficult to differentiate between the products of the various Irish glass-houses.

It must be remembered that most of the glass works erected in Ireland were set up by Englishmen, who would naturally introduce English forms and cutting, and who would also use the same materials that they had been accustomed to employ in England.

In the report of the committee appointed in 1785 to inquire into the commercial relations between Great Britain and Ireland, John Holmes, flint glass manufacturer, Whitefriars, London, stated that three-quarters of the glass workmen in Ireland were emigrants from England, and that the masters of four of the Irish glass-houses were Englishmen.

Glass is a material which varies comparatively so little that it is almost impossible to locate a piece on account of its colour. The colour, in old glass, of course, varies somewhat, but then, even in a particular factory every pot of metal would not necessarily be of exactly the same quality. Even in a single pot of metal, what were known as the " tale " goods, made from the upper portion of the metal, would not be of as good quality as those made from that taken from the middle of the pot, which was always considered the best. In one of the old Waterford letters it is stated that the " tale " glass was of inferior quality (not necessarily in colour), and that the residue was the best for the fine cut goods.

In the old days, owing to the impurity of the ingredients, a scum called sandiver rose to the surface of the fused metal, and this had to be skimmed off before the operation of glass blowing could commence. There does not appear to be any hard and fast rule to go by with regard to colour, as to whether a piece of old glass is English or Irish. The colour varies a good deal from a fairly good white to a decided bluish tint.

Some say that the old glass with the dark or blue tint is all Irish, simply because glass with that peculiarity is found in Ireland. A good many, however, of the glass fittings of epergnes and other Sheffield plated wares, have a decidedly dark tint, and these are mostly, if not all, of English make. During the late eighteenth century and early nineteenth Ireland imported vast quantities of these Sheffield goods.

One reason perhaps for the different tints in old glass is the use of cullet, or broken glass, from various localities. For instance, the Waterford

glass-house obtained cullet from various towns in Ireland—Belfast, Dublin, Cork, etc., from England, and even from North America. This cullet was the product of glass-houses situated in widely separated localities and so would vary in quality and colour. Thus it is evident that a certain proportion of the metal made in one factory was produced originally in others. Glass made with a certain percentage of cullet added to the raw materials, which cullet may have been made in the same way, is usually of inferior quality to that made solely of raw materials.

It seems to be a generally accepted idea now that Waterford glass is at once known by the blue tint of the metal. This theory was put forward in Hartshorne's great work—*Old English Glasses*—published in 1897, and since then appears to have spread everywhere, until at the present day no glass is considered to be " genuine Waterford " unless the blue tint is apparent.

Several books on glass have been written recently, containing a chapter or a few words on Irish glass, and all of them invariably insist on the blue tint being a distinctive characteristic of all Waterford glass. Many of the books and articles dealing with Irish glass have derived most of their information from the little guide on the subject which I prepared in 1913, for the National Museum, Dublin, but usually no acknowledgment is given. The blue tint is, however, always ascribed to Waterford glass, notwithstanding the conclusive evidence to the contrary which I brought forward.

In a recently written book on Irish glass it is stated that after about 1820 the metal of Waterford glass became much whiter. The two scent bottles illustrated on Plate VIII, one dated 1794 and the other made in the glass works for Susannah Gatchell, previous to her marriage in 1793, are both of a good white metal with no trace of blue.

I would wish now, once for all, to state that the glass made in Waterford has not the decided blue or dark tint always ascribed to it.

In my possession are several pieces of glass, and I have seen many others, such as jugs, decanters, and finger bowls, each marked underneath, as illustrated on Plate IX, with PENROSE WATERFORD. Now, every one of these pieces is of a good white clear glass, with no trace of the blue or blackish tint always associated with Waterford glass. Of course the whiteness of this authentic Waterford metal is not as good or as brilliant as modern glass, but compared with the old glass having the dark tint, it appears white. Some will say, how do you know these marked pieces

Plate XXXV

Cut glass bowl, with large geometric design, and solid base. This class of glass is usually of a slightly greenish metal, and is of English or continental make. It is constantly being passed off as Waterford.

Iron cutting wheel used in one of the Cork glass-houses. Early 19th century. In author's possession.

are not fakes ? Well, those that I possess were purchased many years ago when little was thought of old glass, and at prices varying from sixpence to five shillings, which amounts would hardly tempt the faker. The whole appearance of the pieces, also, would indicate that they are not modern glass.

The examples I have were picked up at various places, and at different times, and could not possibly have come out of the same pot of metal, so that it is apparent that the blue tint is not a peculiarity of Waterford glass. As far as I can judge from examining many authentic pieces, the metal of Waterford glass is much whiter than that of any other of the old Irish glass-houses.

I have placed marked pieces of Cork, Dublin, and Belfast glass beside marked pieces of Waterford manufacture, and the difference of colour was at once apparent.

Dublin, and especially Cork, glass, often has the blue or dark tint. On some decanters I have, marked CORK GLASS Co and WATERLOO Co CORK, the metal is quite bluish, but again, some of the marked Cork pieces are of a whiter metal, but not as white as that of Waterford. I have never seen a marked Waterford piece with the blue tint. I was told by Richard Pugh, the last of the Irish flint glass makers, that the blue tint in the old glass metal was caused by impure oxide of lead having been used in the manufacture. The old flint glass contained a large percentage of lead, about 36 per cent, so that if this was not of good quality, it would probably affect the colour of the metal.

In the reports to the British Association in 1865 there is an article on Red Lead, in which it is stated that the principal supply was, at one time, obtained from Derbyshire. The quality was inferior, and imparted to the glass an objectionable shade of colour, known in the trade as the " Derby blue." On the subject of the blue or dark tint in old glass my friend Mr. H. J. Powell of the Whitefriars Glass Works, London, writes to me as follows :—

" The bluish tint in old glass is not exclusively Irish, and I believe it to be purely accidental. After very many experiments, I had some success in imitating the slight black tint of old glass. This result I obtained by a balance of oxide of nickel and oxide of cobalt, but it was a question of grains to hundredweights of glass. In the eighteenth and early nineteenth cen-

turies the sand, lead and alkali contained traces of iron, and the glass mixture had to be doctored to neutralise the yellow or green colour due to iron. In some cases arsenic trioxide was used, which, in excess, gave the milky effect noticeable in some glass. The arsenic was used as a source of oxygen. Oxide of manganese was used for the same reason. Oxide of manganese was used in the form of powdered ' hand picked ' pyrolusite. Pyrolusite varies considerably in quality ; in some cases being practically pure oxide of manganese, in others containing impurities as iron, nickel, cobalt and copper. The ore was merely ' hand picked,' and crushed and sold as ' best manganese.' Does it not therefore seem probable that the material added to the glass mixture to neutralise the effect of iron, produced the black or blue tint ? If cobalt and nickel were present in the oxide of manganese the effect would be blue, and the colour is a question of grains."

The Waterford manufacturers appear to have been always very careful as to the quality of the glass ingredients, and, at the time it was being made, the glass was spoken of as of very good quality, equal, if not superior, to English glass.

In 1813 Carey and Co., china and glass merchants, Cork, advertise that they sell Waterford glass, and state that it is superior to that of any other factory in Ireland.

In one of the Waterford letters it is stated that it was regretted that glass ordered could not be sent immediately as the colour was not up to the usual standard, consequently the pieces were broken, and fresh ones were to be made.

In a letter from Exeter dated December 7th, 1832, Elizabeth Walpole, one of the partners in the Waterford glass works, says that she had a conversation with Edward Eardley, a glass merchant of Exeter and Plymouth, about some glass she was getting over from Waterford, with a view of selling. She says that Eardley stated that all the Irish glass he had ever seen was dark coloured, but she told him she had sent for some Waterford glass so that he might see for himself. This statement seems to imply that Waterford glass had not the dark colour.

I have seen it stated that the bluish tint of old glass is due to oxide of cobalt having been used as one of the ingredients. Cobalt was certainly not employed in the manufacture of flint glass at Waterford, for the original recipes give all the ingredients, and cobalt is not mentioned.

As previously stated, a very large percentage of the glass makers in Ireland were Englishmen, and in the Waterford and Cork glass-houses, when they were established, all the workmen and materials were brought over from England. The proprietors of the Cork glass works consisted of brewers, etc., and the Penroses who set up the glass factory at Waterford were general merchants, consequently the owners of neither of the concerns knew anything of the art of glass-making.

The Cork proprietors sent people over to England to obtain men and materials, and the Penroses of Waterford obtained materials and a complete set of workmen, with a John Hill as compounder, from Stourbridge in Worcestershire.

In the evidence taken before the Committee in 1785 to inquire into the commercial relations between Great Britain and Ireland, Mr. John Blades, cut glass manufacturer, Ludgate Hill, London, stated that a Mr. Hill, a great manufacturer at Stourbridge, had lately gone to Waterford, and had taken the best set of workmen he could get in the County of Worcester; and, later on, he said that Mr. Hill took eight or ten men to Waterford, and that numbers of skilled glass workers went to Ireland and France. John Holmes, flint glass manufacturer, London, said that English workmen were constantly going backwards and forwards to Ireland, that six went some time ago, and four or five recently.

The glass-house set up at Drumrea, near Dungannon, and also the one at Belfast, were both carried on by Benjamin Edwards, a Bristol glass maker, and, as we have seen, the Cork and Waterford factories were worked by Stourbridge glass makers, and obtained all their materials from England. Thus the glass made, during the early period at least, at Cork and Waterford, would be simply Stourbridge glass made in these towns, and that made at Drumrea and Belfast would be very similar to Bristol glass. The Drumrea glass-house used local sand, which may have caused a slight difference in the metal, but for the Belfast glass works the sand used during the eighteenth century would probably have been obtained from the same source as that for the Bristol works.

The workmen who came over to Ireland to carry on the manufacture would naturally employ the same materials and designs which they had been accustomed to use in England; though after a time when Irish workmen began to be employed, and to learn the art, the patterns may

have changed, but the materials were still obtained from the same sources.

Because a piece of glass is obtained in Ireland at the present time it does not follow that it was made there ; or even if a piece is purchased now in Waterford it is just as likely as not that it may have been made in England.

Probably a very large percentage of the old glass now found in Ireland is of English origin. In Wallace's *Essay on the Manufactures of Ireland*, published in 1798, speaking of the glass manufacture, he says that " at present we are able not only to supply our own consumption, but to export very considerable quantities to America and elsewhere. Much of the glass ware consumed in Ireland is imported, for our houses find the supply of the American market so much more lucrative, and have so much of that trade, that they think lightly of supplying the home consumption. The houses of this city (Dublin) which are in the American trade have generally orders for New York sufficient to occupy them entirely for two years. The principal materials are imported from England, though we are able to undersell the British Manufacturer." Also in *The Account of Ireland Statistical and Political*, by Edward Wakefield, published in 1812, he says that the use of English glass is very prevalent in Ireland, and in 1785 it was stated that Williams' glass-house in Dublin had as many orders from New York as would keep the factory working for at least a year.

Coming to later times, Martin Crean, giving evidence before the Excise Commissioners in 1835, stated that all the richly cut decanters and very heavy articles came from England, and that great quantities of English glass came into Ireland. In the *Ulster Times* it is stated that in the early forties of the nineteenth century large quantities of English cut glass were imported into Belfast.

As we have seen from the lists of exports of glass from Ireland that a very great deal went to North America and the West Indies, it is possible that these countries would perhaps have more Irish glass at the present day than even Ireland herself.

It is just as difficult to tell the difference between the old drinking glasses made in Ireland and those made in England. In the old newspaper advertisements, the glass goods made in Ireland are generally stated to be of the latest fashion used in London, and the materials would probably have been obtained from the same sources as for the English glass. The glass-

house in Mary's Lane, Dublin, that in Fleet Street, Dublin, and possibly that near Waterford, would have been the only Irish sources of supply for the drinking glasses made during the first half of the eighteenth century. I have often been told by people that they could testify to the locality of manufacture of this or that piece of glass, as it had been purchased at a particular factory's warehouse, by an ancestor. Even purchasing a piece of glass at a glass-house wareroom, does not guarantee that it was made in the particular glass-house, for one glass-house may have sold glass to another. For instance, one glass-house may have a surplus of uncut glass, while another may have their cutters idle for want of glass, consequently the latter would buy from the former. In one of the Waterford account books there is an entry in 1823 of the Ronaynes, proprietors of the Terrace Glass Works, Cork, purchasing glass from the Waterford factory, and in one of the Waterford letters, mention is made of the purchase, for the glass wareroom, of coloured glass and other Birmingham goods.

If any possessors of old glass are fortunate enough to have the original bills for glass purchased, and can identify the pieces, that would go some way towards settling the question as to place of manufacture, but unless a piece is marked with the name of the factory we cannot be absolutely certain.

From the foregoing remarks it will be seen how very difficult it is to state with any certainty from what particular factory a certain piece of glass emanated. The term " Waterford " is now applied to a large proportion of the glass, new and old, found in the British Islands. We must remember that there was only one factory working in Waterford, while in Dublin, Cork, and Belfast there were several, some of them working longer than the Waterford one. It seems curious that out of the vast quantities of old Irish glass that has been broken, such a very large amount of the Waterford glass should have escaped destruction !

The dates assigned to pieces of so-called Waterford and Cork glass are rather amusing. Notices are to be found at the present time advertising specimens of Cork and Waterford cut glass dating from 1750 and 1760, which is over thirty and twenty years respectively before any glass was made in either town.

Too early a date is very often assigned to a large proportion of Irish glass, for it must not be forgotten that in the case of Cork, Waterford, Belfast, Newry, and some of the Dublin works, there were not quite twenty years of

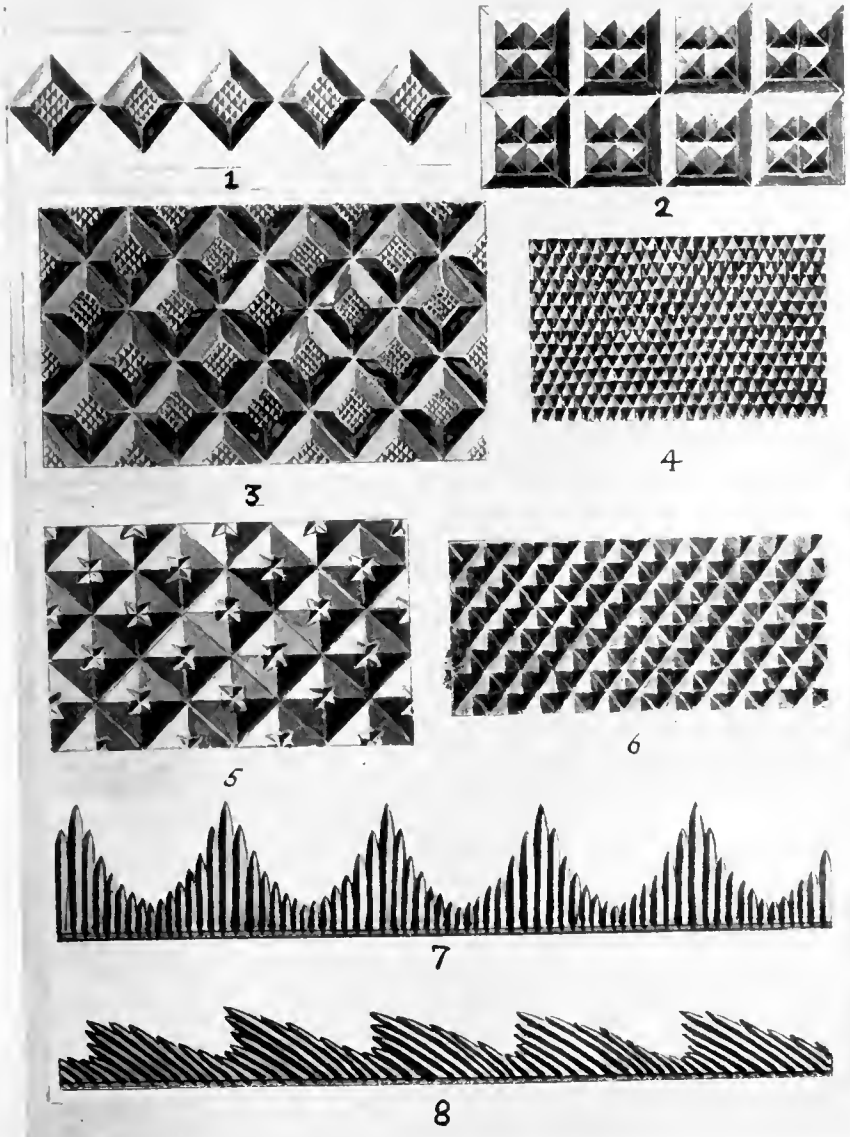
Plate XXXVI

Illustrations of various kinds of cutting :

1. Prismatic cutting. Erroneously called " step cutting."
2. Alternate prisms.
3. Pillar flutes. Erroneously called " lustre cutting."
4. Large hollow facets. Very often used on salad bowls, decanters, etc.
5. Large shallow diamonds.

Illustrations of various kinds of cutting :

1. Single row of strawberry diamonds.
2. Chequered diamonds.
3. Strawberry diamonds.
4. Fine diamonds.
5. Cross-cut diamonds. Erroneously called " Hob-nail cutting."
6. Plain sharp diamonds.
7. Perpendicular blazes.
8. Slanting blazes.



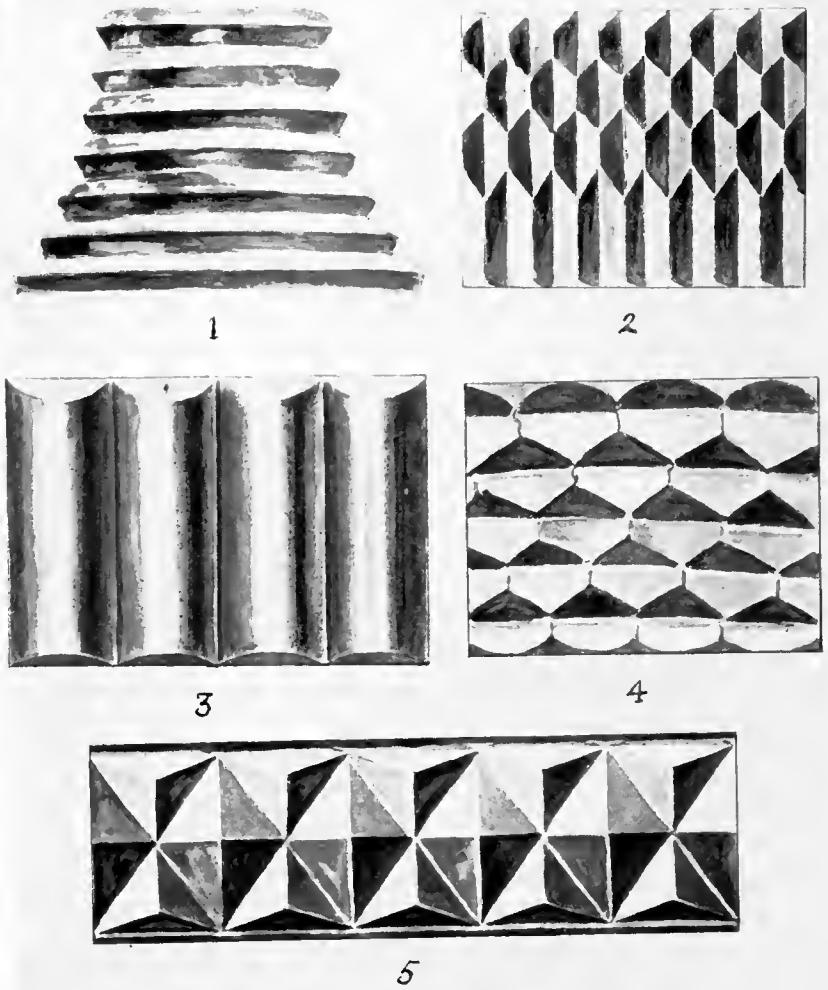


PLATE XXXVI

the eighteenth century during which glass was produced, while in some instances there were over fifty years of the nineteenth. Thus we see that there must have been a far larger quantity manufactured during the latter period.

Materials for Irish Glass

To ensure the making of good flint glass, the greatest care must be taken in the selection of the various materials, the slightest impurity, or the smallest quantity of any foreign substance, causing the metal to become discoloured; for instance, it is said that $\frac{1}{20000}$ part of gold will give a rose-coloured tint to flint glass. The sand, the chief ingredient, must be of the best quality, and before being mixed with the other materials must be thoroughly cleaned, so as to extract iron and other deleterious matter. The clay of the glass-house pots must be of such a quality that it will stand the great heat of the furnace, and indeed, generally speaking, the utmost cleanliness must be observed in all matters connected with the mixing of the materials. Nowadays the melting of the ingredients does not take long, but formerly this took about fifty or sixty hours. The glass-house pots were filled but once a week, usually on Friday or Saturday morning, Saturday and Sunday being the days when the furnace required the greatest heat. The glass-blowing began on Monday morning, and generally ended on Friday. Constant attention had to be paid to the fire, for if it were not kept up to the required heat the glass would be spoilt; thousands of pounds' worth of glass having been lost owing to the carelessness of workmen.

In melting the materials, the best results are to be obtained by an intense and continuous fusion. Too little heat will fail to refine the metal, and drive off air bubbles and the colouring matter of the manganese, which gives a purplish tint. Too long continuance of intense heat will destroy the manganese, and cause the glass to attack the pot and become striated and greenish. Thus the moment the metal is fully fused, the great heat of the furnace should be reduced to a working temperature, this being known as the crisis. When flint glass is kept in fusion at the intense heat, beyond the crisis, it usually assumes a greenish tint.

The process of annealing or gradually cooling the glass articles, is a matter of the utmost importance in the manufacture. If glass were not annealed it would be so brittle that it would fracture from a slight knock

or even from atmospheric conditions, and cutting would be impossible owing to the vibration. Glass is annealed by being gradually passed through a heated oven, in which the heat becomes gradually less and less.

The lear is the term applied to the oven, which is open at both ends. Each lear has a small furnace at the receiving or heated end, which keeps it at a temperature just short of a melting heat. The glass articles are placed, at once, when finished, and as hot as possible, on iron pans which travel slowly on a miniature railway downward from the heated end to the cooler end, a distance of about sixty feet.

The time for annealing varied from about six to sixty hours, the heavier articles requiring the most heat and time.

Kilns were formerly used for annealing glass, but differed from the lears in being closed at the further end. When the kiln was filled with goods, it was closed with the burning fuel also, and in this case the annealing was slow, it being generally a week before the glass was cool enough to be placed out in the sorting room.

The materials employed in the manufacture of Irish flint glass appear to have been mostly obtained from England and abroad, and were derived from the same sources as those used for English glass.

The sand, the chief ingredient, was obtained from England, and principally from the Isle of Wight and Lynn in Norfolk. In the Birr glass-house, working in 1625, it is mentioned in Boate's *Natural History of Ireland* that the sand came from England ; and Isle of Wight sand is mentioned at the end of the seventeenth century as having been used in the glass-houses in England.

In the old Waterford account books there are several entries of the purchase of sand. For instance, in 1815 sixty tons of sand were obtained from Blain and Saunders, shippers of Liverpool ; in April, 1823, nineteen tons of sand were paid for, having arrived by the ship *Lovely*, Captain James ; on May 25th, 1825, eighty-two tons of sand were entered as having arrived by ship (name not given), Captain McGrath ; and on May 5th, 1829, about one hundred and sixty tons of sand were paid for, having arrived by the ship *Navarino*, Captain Playford. Unfortunately, in these entries the name of the place where the sand came from was not given, but on looking up the shipping news in old Waterford newspapers of the above dates I find the following notices : " Ship *Swan*, Captain McGrath, arrived in Waterford,

May 18th, 1825, with a cargo of sand from Lynn " ; and " Ship *Navarino*, Captain Playford, arrived in Waterford, April 26th, 1829, with a cargo of sand from Lynn."

This seems to settle the question as to the source from which the Waterford glass-house procured its sand. Cork probably obtained its sand from the same locality.

Various theories have been put forward as to where the sand was obtained from, some saying that it came from France as ballast in ships trading between that country and the south of Ireland, others that it was obtained locally. When in Waterford some years ago I inquired as to where the sand was obtained for the glass works, and was shown a limestone quarry just outside the town, and told that this stone was crushed and used for making the glass !

In a recent book on glass it is stated that the Waterford glass was made from flint which was obtained from pits in the vicinity. First of all, flint was not employed for making Waterford or any other Irish glass, and secondly, no flint is found in the vicinity of Waterford.

In Wallace's *Essay on the Manufactures of Ireland*, writing in 1798, he says that " the principal materials for glass making are imported from England, the sand, which mixed with red lead, and now used as a substitute for flints, is taken principally from the Isle of Wight. The sand used for bottle glass is obtained in Ireland, that for the Dublin glass-houses being taken from the North Bull." Also, in the evidence taken by the Committee in 1785, John Blades, glass manufacturer of London, stated that some of the sand for Irish glass was obtained from the Isle of Wight.

Probably some of the sand used in Waterford came from the Isle of Wight, as in one of the Waterford notebooks there is an entry about 1830, noting the address of Joseph Squires, Yarmouth, Isle of Wight, in connection with sand. Joseph Squires appears to have been one of the owners of the property where sand deposits were situated. Some of the sand used in the manufacture of Irish flint glass was, however, obtained locally. The glass-house at Drumrea, near Dungannon, working about 1772, employed sand which the proprietors stated was found on the spot, and in the beginning of the nineteenth century, the fine sand from Muckish Mountain, Co. Donegal, was used in the Belfast glass works. In the *Statistical Survey of*

Co. Donegal, published in 1802, we find the following reference to the Muckish sand :

" On Muckish Mountain within four miles of two safe and deep harbours, namely Sheephaven and Dunfanaghy, silicious sand is there in inexhaustible abundance. It has been for some time sent to the Belfast glass manufactory. There is now in the Bay of Ards a brig almost ready freighted with a cargo of it for Mr Edwards of Belfast, who has already proved and approved of it. He now imports none from England and uses no other but this. William Brenan of Ards supplies it at the Bay of Ards for two guineas a ton. Next year by means of roads which are to be made, and a trough to run the sand from the top to the bottom of the mountain, he will be enabled to sell it at half that price."

In the Cork Exhibition of 1902, a small quantity of glass was made from Muckish Mountain sand. The metal which was clear and white showed well to advantage when cut. Goblets, wine glasses, etc., were among the objects made and some are illustrated on Plate IX.

Martin Crean, a Dublin glass manufacturer, giving evidence before the Excise Commissioners in 1835, stated that Irish glass makers had to import all their materials, that the lead and Stourbridge clay were very expensive, that the potash from Quebec was the only ingredient which they could obtain as cheaply as the English manufacturers, owing to its being directly imported, and that the sand was brought from Lynn in Norfolk and from the Isle of Wight, but that the Lynn sand was the best.

In an article on glass in the *Weekly Account of the Dublin Exhibition of* 1853, it is stated that the sand used for flint glass made in Ireland was obtained from the Isle of Wight and from Lynn in Norfolk, and mention was also made of good sand from near Omagh in Co. Tyrone, and that from Muckish Mountain.

Mr. Richard Pugh informed me that some of the sand used in his glass-house in Dublin in the second half of the nineteenth century was obtained from Fontainebleau near Paris, and some also from Germany, but that the Fontainebleau sand was preferred.

Sand for bottle glass made in Ireland was usually obtained locally, that for the Dublin glass-houses from the North Bull, a sandy stretch of ground to the north of Dublin, for Cork, probably, from Youghal or Tramore, and for Ballycastle from the immediate neighbourhood.

In March, 1784, the crown glass and bottle manufacturers of Dublin petitioned Parliament against a duty on sand for glass-making, stating that " they were obliged to import both sand and fire clay, as there had not been any of either kind yet discovered in the kingdom sufficiently fine, and that for some time sand was not considered as merchandise, but came in as ballast, but of late years the Customs Officers had insisted that both sand and clay must be entered and an *ad valorem* duty paid."

Although sand, pearlashes, etc., for glass-making were imported into Ireland, it appears that some of the ingredients employed in English glass-houses were derived from Ireland, for in 1785, Robert Hurst, a Bristol crown and bottle glass manufacturer, stated that most of the materials for his glass were obtained in Ireland.

The clay for making the glass-house pots was also almost entirely obtained from England and principally from Stourbridge. For the Birr glass-house, about 1625, however, the clay was stated to have come from the north, probably the north of Ireland ; for the Ballynagerah glass-house, about 1622, the clay was obtained from Fethard (probably Fethard in Co. Wexford), and for the Drumrea glass works in 1773, it was stated that fire-clay fit for pot-making was to be had on the spot.

Jeudwin, one of the proprietors in the Square Glass-House in Dublin, giving evidence before the Dublin Society in 1762, stated that Irish clay was used for some purposes, but not for the glass-house pots, these being all of Stourbridge clay.

In John Angel's *A General History of Ireland*, published in 1781, he states that " there is recently discovered at Ballycastle a stratum of clay over the coal which is found to be as strong in the glass-house pots as the clay of Stourbridge and to endure the heat as well." This clay may have been used at the Ballycastle glass-house, but not generally in Ireland.

In response to the offer of a premium by the Dublin Society, a George Minty of Molinroe Colliery, Kilkenny, exhibited in 1758 a sample of new fire-clay.

The clay for the glass-house pots in the Waterford glass works was always obtained from Stourbridge, several entries occurring in the old account books of clay having been purchased from Littlewood, King and Co. of Stourbridge.

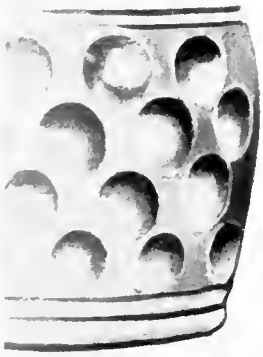
Plate XXXVII

Illustrations of various kinds of cutting :

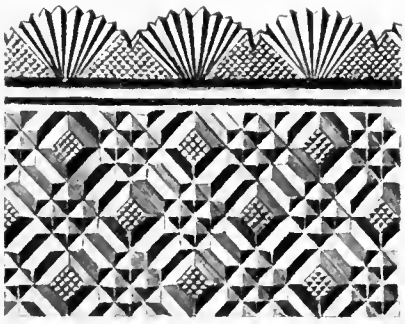
1. Leaf festoons, splits below, and star cutting above.
2. Printies. Very often used on the late decanters, claret jugs, goblets, etc.
3. A combination of strawberry diamonds, plain diamonds, and prisms. Fan escallop edge with intervening spaces cut in fine diamonds.

Four examples of moulded glass. Thin glass moulded to represent diamond cutting and flutes. Nos. 1, 2, and 3 probably Cork, No. 4 probably Waterford. Early 19th century. Author's Collection.

1



2



3

1 2 3 4

In 1816 they were paid £76 12s. 5d. for thirty-two casks of Stourbridge clay, and in 1823 £57 5s. 1d. for twelve tons.

The greatest care had to be taken in making the glass-house pots, as if not of the best materials, they would crack owing to the intense heat of the furnace, and thus, in many cases, all the fused metal would be lost.

It was found that a mixture of old pots ground down and new clay in the proportion of about one to three, was the most serviceable. The pots when made had to be very carefully dried, this operation sometimes taking six months, but a good pot would occasionally stand the heat of the furnace for six months or more.

The potash, or pearlash, or simply ashes, as it was usually called, an ingredient of flint glass, was also mostly obtained through England from abroad.

Kelp made from seaweed was obtained largely from Galway, and the Orkneys also produced great quantities. James Keir, a glass manufacturer, stated in 1785, that Ireland had kelp and coarse sand for bottles, and that a great quantity of the kelp used in England came from Ireland. Kelp was not, however, used in the manufacture of flint glass.

A good deal of the potash used in the Waterford glass-house came from Quebec ; an entry in one of the account books of 1816 is for the payment of £48 5s. 8d. for " three casks of pearlashes from Quebec."

The coal used in the Waterford works and also in most of the Irish glass-houses appears to have been obtained chiefly from South Wales, and at times during the first half of the nineteenth century varied in price from five shillings and sixpence to seven shillings and sixpence per ton. *Tempora mutantur !*

The saltpetre and lead for the glass were obtained from England ; Newcastle, in former days, being the chief source of supply for the latter. In a letter, dated 1800, of James Ramsey's, one of the partners in the Waterford glass works, he mentions purchasing saltpetre in London at seventy-three shillings per hundredweight, and lead at Bristol. In 1817 the lead appears to have been about thirty shillings per hundredweight.

As previously mentioned, I possess the original recipes for making the glass produced in the Waterford glass-house. These recipes were used by John Hill, who came over, as compounder of the glass material, from Stourbridge in 1783. In 1786 he left Waterford, but before his departure he

gave the recipes to Jonathan Gatchell. These are in Gatchell's handwriting, having been probably given to him orally by John Hill.

The recipes are headed " Receipts for making Flint, Enamel, Blue and Best Green Glass, always used by John Hill. May 17th, 1786."

For flint glass the proportions of sand, lead, ashes, saltpetre, and manganese are given, and also it is said " if the colour be too high use a little arsenic and if too low add more manganese."

The manganese is used to counteract the green discolouration produced by even a small quantity of iron in the sand, and the arsenic to correct the tendency the manganese has to give a purple tint to the glass.

For enamel glass the proportions are also given, but no mention is made of any oxide of tin being used. For blue glass, the flint materials were used, together with a small proportion of " Saphora," which is probably oxide of cobalt, and for green glass the flint materials also, with a small addition of calcined copper.

I have also the recipes used at Waterford in 1828, and at that period the proportions of the ingredients varied somewhat from those employed in 1786. No mention at all, at either date, is made of red glass, so that most probably coloured glass, other than dark green and blue, was not made at the Waterford glass works.

In the book of recipes dated 1828, there are instructions for filling the pots for different kinds of glass, which are as follows :

" To fill a pot with best metal. Put into the tray about one hundredweight of best fine metal or chest metal, fill it up with batch, and put a pinch of manganese into the bottom of the pot with the first strockall full, and likewise put about four pinches more in each tray until the pot is full. To fill a pot with tale. Fill the tray nearly full with skimmings or chest metal or washed tale, and put about eight shovels full of batch. Put in a pinch of manganese at bottom, and likewise about eight or ten pinches of manganese, and so till full. To fill a pot with ordinary. Fill your tray with ordinary cullet or blacks, and put in about two shovels full of batch, and a patty pan full of manganese in each tray."

Richard Pugh informed me that, in his glass works in Dublin, about the third quarter of the nineteenth century, the materials used were Fontainebleau or German sand, oxide of lead, pearlashes (from Montreal), saltpetre, black oxide of manganese, a little borax, and a small percentage of arsenic.

The old Irish flint glass appears to have all been made of the same materials, the only difference in the various factories being the altering of the proportions of the several ingredients. The chief aim was to obtain a good white clear glass, and probably most of the factories made experiments by altering the proportions, as we have seen in the case of Waterford, to attain this end.

Flint glass, of which the products of a large number of the Irish glass-houses, at least those dating from about the end of the seventeenth century, were made, derives its name from having originally been composed of ground flints. The Venetians made their "cristallo" from crystalline pebbles obtained from the beds of Italian rivers, but when the Italian glass makers came to England it is said that they replaced these pebbles by the native flints. After a time silicious sand was used instead of the flints, but the term "flint glass" was still retained.

Flint glass is composed of different ingredients from those employed for crown or window glass, plate glass, and bottle glass. For flint glass the usual proportions were :

Sand	3 cwt.
Lead	2 cwt.
Potash	1 cwt.
Saltpetre	14 to 28 lbs.
Manganese	4 to 12 oz.

For Crown Glass

Sand	5 parts.
Ground chalk	2 parts.
Carbonate of soda	1 part.
Sulphate of soda	1 part.

For Plate Glass

Sand	400 lbs.
Carbonate of soda	250 lbs.
Ground chalk	30 lbs.

For Bottle Glass

Sand	100 parts.
Soaper's waste	80 parts.
Gas lime	80 parts.
Common clay	5 parts.
Rock salt	3 parts.

The making of flint or lead glass has been carried on in the British Islands from some time in the seventeenth century. Before this period the glass would have been somewhat similar to the Venetian glass, which was a soda-lime glass, containing no oxide of lead. The use of lead in English glass-making was not exactly a new discovery, for clear glass of the Roman period containing lead has occasionally been met with. England, however, was the first country to bring this glass to perfection.

The exact period when the use of lead in English glass-making was introduced has not been ascertained. It is mentioned in 1665 that lead glass was not made in the English glass-houses on account of its brittleness, which proves that the use of lead was then known. Within about ten years, however, it was being employed in the London glass-houses.

Notwithstanding the mention in 1665, it is thought that perhaps it was introduced about 1620, or a little earlier, when coal was first used for fuel instead of wood.

The use of coal necessitates the employment of pots closed at the top, thus in some degree protecting the materials to be fused from the heat of the furnace ; consequently it becomes desirable to increase the proportions of the more fusible ingredients. In this case oxide of lead would answer the purpose.

The peculiarities of flint glass, notwithstanding its comparatively slightly dark tint, are its transparency, brilliancy, and its powers of dispersing the rays of white light. This latter property is, however, only fully brought out by means of angular and faceted cut surfaces. Flint glass is also softer and more easily fusible than those glasses which have no lead in their composition.

Form, Cutting, etc., of Irish Glass Objects

The various shapes of the glass articles made in Ireland, and the cutting employed on them, during the eighteenth century at least, must have been very similar to those in fashion in England, on account of the large number of English glass makers working in Ireland.

Most of the earlier Irish glass appears to have followed much the same lines as that made in England, for, as previously stated, the old advertisements generally emphasised the fact that many of the articles were of the latest London fashion.

There are probably no glass objects so distinctive in shape or cutting that we can at once point to them as having been made in Ireland. In fact there is very little to go on with regard to form or decoration, as it is certain that English designs were carried out in Ireland by English glass workers.

With the exception of the drawings of some of the patterns used at the Waterford glass works, no others belonging to Irish glass-houses appear to be known. Probably all were destroyed years ago, in fact Richard Pugh informed me that all the pattern drawings used by his firm in Dublin were burnt shortly after the factory was closed.

The Waterford patterns, previously mentioned, were prepared by Samuel Miller, foreman cutter in the glass works, in the twenties and thirties of the nineteenth century.

The patterns illustrated on Plates X to XIV are drawn in pen and pencil, some on quarto size pages stitched together, and some on loose leaves. Those in book form are headed " English, Irish and Scotch patterns," which seems to indicate that English and Scotch forms were copied at Waterford. Following this heading is a list of the following articles which were manufactured in Waterford : Baskets, butter coolers, candlesticks, cans, cruets, cream ewers, decanters, dishes, egg cups, jelly glasses, mustards, pickle jars, salts, salad bowls, smelling bottles, sugar bowls, squares, tumblers, wines and rummers, celery glasses and jugs. After each item is a number and certain letters, the significance of which is not known, but which probably referred to prices or to individual cutters.

Some of the paper on which the drawings are made is water-marked with the date 1795, some with 1820, and one sheet with 1825, but from the style of the decanters, almost all having perpendicular sides, about 1830 or so may be taken as the approximate date of the patterns. There are in some instances a few particulars describing the cutting, and these are given with the patterns.

It will be better perhaps to take the various glass objects separately, and endeavour to tell what little is now known about any peculiarities of Irish glass. We will begin with decanters, which are probably more frequently met with now than any other pieces of late eighteenth or early nineteenth-century glass.

The earlier decanters have rather globular bodies and long slender necks, but probably few, if any, of these are now to be found of Irish manufacture.

Towards the end of the eighteenth century one form of the decanter is that illustrated on Plate XV, No. 1 of the upper illustration. It has straight sloping sides, gradually contracting to a narrow neck which has no rings. The one illustrated would date from shortly after 1796, the year in which the Irish Yeomanry were raised.

Many of the decanters of the late eighteenth century and of the early nineteenth up to about 1820 or 1830, are either barrel shaped, or with gradually expanding bodies, the lower part of which is perpendicular and not contracted. These almost always have rings round the neck, two, three, or four, most commonly three.

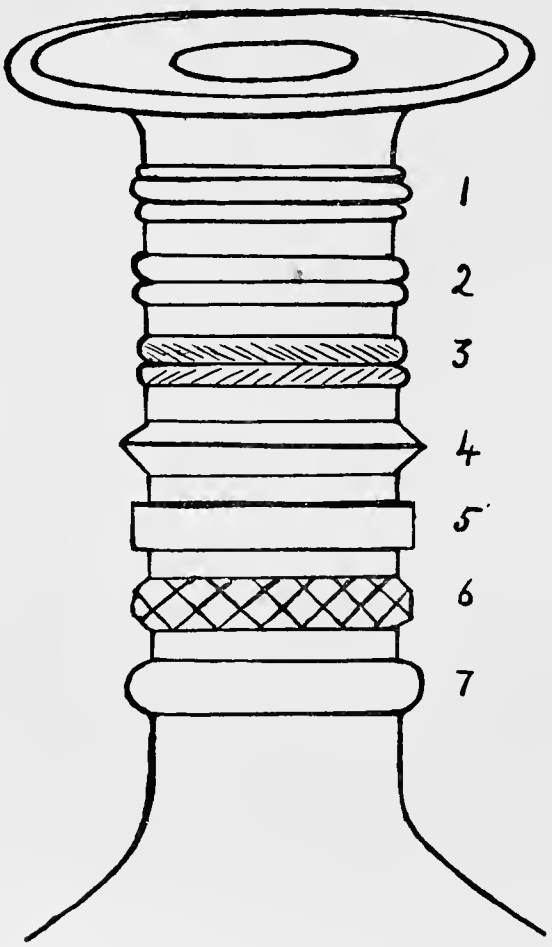
These rings vary somewhat in pattern, but there are at least seven distinct forms, viz : the double ring, the triple ring, the plain rounded ring, the triangular ring, the feathered ring, the square ring, and the cut ring. A rough sketch of the neck of an imaginary decanter having all the seven varieties of rings is shown on page 179.

The rings were for the purpose of ensuring a firm grip of the decanter. In the days of the three-bottle men this precaution was perhaps necessary, as a smooth-necked decanter might easily have slipped through the fingers.

The rings were put on in the following manner : When the pontil iron had been attached to the base, and the mouth heated and shaped, another workman gathered on a pontil iron a small piece of glass which was dropped on the part of the neck where the ring was required. By rotating the decanter on the arms of the chair the ring was formed, and became welded to the piece. The surplus was tapered off, and then torn suddenly away. The ring thus formed would be plain, but if double, triple, or other shaped rings were required, the pucellas, an instrument somewhat like a spring sugar tongs, but in this case, with two dies affixed to the prongs, was pressed upon the ring while hot. The decanter was rotated, and thus the required form was given. The succeeding rings were put on in the same way.

The triple ring was the one usually employed on Waterford decanters, and also on some made in the Waterloo Glass Works, Cork. Many of the decanters made in the Hanover Street factory, Cork, have plain rounded, or feathered rings, while any authentic Belfast examples I have seen have two triangular rings. Dublin also used rounded rings. Most of the old decanters have three rings, but I have seen Waterford examples with four, and many of the later Irish ones have only two, very often the double ring.

The lip of decanters appears to vary also. On marked specimens we find that in the Waterford examples the lip is comparatively large in diameter and distinctly flat, while in Cork, though still generally large, it is more



1. Triple Ring. 2. Double Ring. 3, Feathered Ring. 4. Triangular Ring. 5, Square Ring 6. Cut Ring. 7. Plain Rounded Ring.

Neck of a decanter showing 7 varieties of rings.

sloped towards the interior of the neck. In Belfast decanters the lip is usually very small, and in Dublin ones intermediate between these latter and those of Cork make.

In one decanter, of rather champagne bottle shape, I possess, marked

Cork Glass Co., the lip is small, though not quite as small as that of Belfast examples. Plate XVIII, No. 4, upper illustration.

Of course these various rings and lips are not an infallible test, as in any factory the ring and lip could be made to any pattern according to the fancy of the workman.

I have heard the theory put forward that if you find a decanter in which the measurement of the circumference of the lip is exactly the same as that of the height of the piece, you may know at once that it was made in Waterford. This, I may point out, is utter nonsense. In decanters the measurement of the circumference of the lip may be greater or less than, or equal to, the height of the object, but the two being equal does not prove that the decanter was made in Waterford or in any particular factory.

The later decanters, after about 1830 or so, usually have perpendicular sides, such as most of those illustrated in the Waterford patterns. Some few have rings round the neck, but generally these are absent, the neck being often cut in prisms or other patterns.

Square decanters, or " squares " as they were usually called, appear to have been made in most of the Irish glass-houses, the later ones being finely diamond cut. These squares were made in large quantities to fit into the mahogany gardevins.

Occasionally we find decanters octagonal in form with perpendicular sides ; most of those I have seen have rather a bluish tint, and probably emanated from the Cork or Dublin glass-houses. See Plate XV, lower illustration.

What are known as ships' decanters are also to be found, but not in any great numbers. These have a broad cone-shaped body, flat base, and narrow neck. The cutting on the body is often of the horizontal prismatic design, though occasionally diamond and flat cutting are found.

About the middle of the nineteenth century decanters with straight slightly tapering sides and long narrow necks appear to have been the fashion. These were made in Waterford shortly before the factory closed, and also in Dublin. The cutting on these decanters, especially on those made in Waterford, is often what was known as hollow prisms, as if a piece of glass had been cut out by a tool V-shaped in section. Decanters of this style were exhibited in the London Exhibition of 1851 by George Gatchell. One is shown on Plate XV, No. 4, lower illustration, and one on Plate V.

Many of the decanters we now find are those, probably the cheaper quality, which have been blown into shallow fluted iron moulds. These moulds were in many cases impressed with the name of the glass works, and sometimes also with the name of the proprietor. Hence many of these partly moulded decanters bear the factory mark in cameo on the base, usually in a ring as shown on Plates IX, XVI, and XVII to XIX. Besides decanters we find water jugs and finger bowls with this raised mark. Often the mark is very difficult to decipher, and occasionally wholly obliterated, owing to the glass being in a soft state when removed from the mould, and, more especially, to reheating the piece for finishing.

Some decanters and finger bowls bear the names FRANCIS COLLINS, DUBLIN and MARY CARTER & SON, DUBLIN, in circular rings on the base. These two firms were not, I think, glass manufacturers, but simply dealers who had the articles made for them at one of the Dublin glass-houses.

In the *Dublin Evening Post* of November 4th, 1783, Francis Collins, China, Delft, and Irish Glass Warehouse, 5 Lower Ormond Quay, advertises that he " has an elegant assortment of Irish cut and plain drinking glasses, decanters, etc."

In one of the Waterford account books of 1820 is an entry of a payment of £4 10s. for moulds, and in letters from Jonathan Wright in 1832 and 1834 he says, " We want the moulds from Aldritt," and, " we send a pattern from which a mould is to be made by Mooney." Both letters are addressed to Dublin, where it is evident that the moulds were made. In a Dublin directory of 1823 Joseph Aldritt, 20 Stafford Street, is entered as lathe, tool, and steam engine maker ; and Thomas Mooney, 41 Pill Lane, as ironmonger, hardware, and steel merchant.

Some of the moulds used in Waterford were obtained from Christy of London, as entries in the old account books testify.

The claret jugs followed much the same forms as the decanters, except that the former have handles and spouts. The earlier ones are found barrel shaped, and the later with perpendicular sides, the spouts being sometimes short and rounded and sometimes long and very pointed. Flat cutting and " printies " or concave circles, are common designs on the late examples. Plate XIX, No. 1, lower illustration.

The " salad " bowls, which have recently been bringing such high prices, seem to have been made in fairly large numbers in most of the Irish

Plate XXXVIII

Three pieces of coloured glass :

1. Dark green cut glass butter cooler. Probably Waterford, 19th century.
2. Plain purple glass hyacinth glass. Made by Pugh, Dublin, about 1870.
3. Dark blue glass finger bowl. Marked Penrose Waterford. Author's Collection.

1. Goblet used on the occasion of the visit of George IV to Dublin in 1821. Probably Dublin glass.
2. Williamite glass. Bowl engraved with vines and inscribed " The Glorious Memory of King William." Probably Dublin, about the middle of the 18th century.
3. Williamite glass. Bowl engraved with King William on horseback, and inscribed " The Glorious Memory of King William July 1st 1690." Probably Dublin, first half of 18th century.
4. Williamite goblet. Bowl engraved with King William on horseback, and inscribed " The Glorious Memory of King William," also G R crowned. Probably Dublin, about 1820–30. National Museum, Dublin.

1

2

3

1 2 3 4

glass-houses. Although all termed "salad bowls" now, many of them, especially the very large ones, were probably used for fruit, etc.

If we could only foresee events we could make fortunes in a comparatively short time. Who was to know fifteen or twenty years ago that these little thought-of pieces of glass would bring such high prices? Yet I have been offered in Dublin beautiful boat-shaped and circular bowls for thirty shillings a piece and refused them. I have heard of far cheaper salad bowls; for instance, two were sold years ago in an auction in Ireland for two shillings, and the owner seemed disappointed, saying he thought at least he should have got five shillings! A year or two ago these two might have brought £200.

Although I refused the salad bowls for thirty shillings I made one glass purchase upon which I still congratulate myself, and this was a pair of beautiful Bristol candlesticks of translucent white glass, for the sum of £2. They are worth somewhat more than that at the present day!

To return to the salad bowls; a good many now called "Waterford," or even Irish, probably never saw Ireland until many years after their birth, which took place in England. Cut and plain salad bowls are advertised as having been imported into Ireland from England as early as 1765, so it cannot be possible that these objects were peculiar to Ireland, although I have been informed that the large boat-shaped bowls do not occur in England among the so-called native-made glass.

The form of the Irish bowls was based probably on that of those in fashion in England, and as time went on slightly different shapes may have been evolved.

Salad bowls are not mentioned in any of the early lists of Irish-made glass. The earliest notice of them, as far as I have been able to ascertain, occurs in a list of 1789.

The stock of a Dublin glass seller in 1771 included enamelled, flowered, cut, and plain wine, beer, and cider glasses; cut, flowered, and plain decanters; water glasses and plates; tumblers; cruet casters; cans; jugs; salvers; jelly and sweetmeat glasses; flowered, cut, and plain salts; hall bells, etc., but no mention was made of salad bowls.

The Irish bowls appear to have been made both circular and oval, either with upright or turned over edges. The earlier ones are generally attached

to a solid foot, either square, oval, or diamond shape, of glass pressed into a mould, though in some cases the foot is hollow and circular.

Occasionally the circular bowls of the earlier period are found with three plain cylindrical feet attached to them instead of the central stem and pressed foot. These three feet are more commonly found on the bowls with the turn-over edge, though rarely they occur on the straight-edged ones. Plate XXXIX, No. 2, upper illustration.

The bowls with turned-over edge were made commonly in England, and those without foot, which fitted into Sheffield plated stands, were obtained from Birmingham and other English glass-houses.

Through the courtesy of Mr. Frederick Bradbury of Sheffield, I am enabled to give a few particulars of the sources whence the old Sheffield plate manufacturers obtained their glass. The following extracts are taken from the old ledgers of Messrs. Thomas Bradbury and Sons, one of the oldest firms in the plating trade in Sheffield. The entries ranging from 1779 to 1813 give the localities of the glass-houses, their proprietors and the amounts paid for glass, viz.: John Dixon, Whittington glass-house, 1779 to 1807; Isaac Hawker and Son, Birmingham, 1784 to 1794; James Smart, Birmingham, 1794 to 1799; Jones, Smart and Co., Birmingham, 1799 to 1805; William Beatson and Co., Rotherham, 1801 to 1803; John Benson, Dudley, 1803 to 1812; Lee and Large, William Large, and Large and Hodgetts, Dudley, 1804 to 1808; Brueton Gibbons, Birmingham, 1806 to 1812; Hughes and Harris, Hughes and Fearon, Daniel Hughes and Co., and Fearon, Collins and Co., all of Birmingham, 1798 to 1812, and John Withey and George Nichols of Sheffield, 1800 to 1813. The amount of glass purchased by this one firm for fittings of the Sheffield plated articles was considerable. In some years it amounted to over one thousand pounds, which in those days would have purchased a large quantity of glass.

From these particulars it will be seen that the Sheffield plate glass fittings were not purchased from Irish glass-houses, though at the present day epergne and other glass fittings are constantly said to be Irish, usually, of course, Waterford. It is scarcely likely that the Sheffield manufacturers would send to Ireland for glass when they had glass-houses near at hand from which they could obtain supplies.

Many of these English bowls, dishes, etc., have the dark or bluish tint

usually attributed to, and considered an exclusive characteristic of, Irish glass. Some of the glass fittings of Irish silver epergnes now extant may have been made in Ireland, for epergnes and epergne saucers are advertised in lists of Irish glass towards the end of the eighteenth century. Of course, glasses belonging to epergnes, stands, etc., of Sheffield plated ware were probably broken from time to time, and most likely the owners, if in Ireland, would possibly have had them replaced from the nearest glass works. It would, however, be difficult now to tell the Irish copies from the English originals.

Some of the salad bowls, both in the earlier and later examples, have the stand in a separate piece from the bowl. The base in this case is usually hollow. The earlier stands are often cone shape or cylindrical with a circular or oval cup to receive the bowl, and the later generally circular with diamond or prismatic cutting. Examples are illustrated on Plate XXI, upper illustration.

I have frequently been told by people that they possess a glass Dish Ring, but these Dish Rings invariably turn out to be these stands for bowls. I have never come across a stand in glass similar in shape to the Irish silver Dish Rings, though of course the silver rings and the glass stands served the same purpose, viz., to support a bowl. The Irish silver rings are always circular, while the glass stands are often oval.

The later salad bowls of about 1830 and after, are almost always circular, with straight edges occasionally fan cut, and have a stem with a knop, and a circular flat base often star cut. Illustrations of this type are to be found among the Waterford patterns on Plate XIV.

The star cutting on the underneath part of the base of an object almost always denotes a late period, as also does the presence of the knop on the stem. Probably from about 1820 or so these ornaments were used. They are both to be found on salad bowls, celery glasses, pickle jars, goblets, wine glasses, etc., and the star base alone, on jugs, tumblers, etc.

The celery glasses followed much the same style as the salad bowls, except that they were all circular, and taller and narrower. We find them with straight and turned-over edges, the earlier ones on a square pressed foot, and the later on a circular foot usually star cut, and having a knopped stem. Plate XXI, Nos. 2 and 3 show the earlier form, and the later forms are to be seen among the Waterford patterns on Plate X and also on Plate

XXII. Celery glasses do not appear to be mentioned in eighteenth-century lists of Irish-made glass.

Finger bowls, or finger cups as they were sometimes called in former times, vary somewhat according to age. The earlier ones have usually perpendicular sides, sometimes with two lips, sometimes with one, and sometimes they are lipless. Upright flat cutting running from the base is the most general form of decoration, though many have diamond and leaf cutting, and some are engraved. A large number of the old straight-sided finger bowls were moulded with upright fluting to a height of about one and a half inches from the base, and these were often marked underneath with the name of the factory. In my possession are several of these bearing the Dublin, Waterford, and Belfast marks. These are illustrated on Plate XXIII.

The later finger bowls have generally rounded or pear-shaped sides, with the upright cutting and also a band of small diamonds, or other design, round the body. As time went on the sides became slightly incurved at the top. Both the perpendicular and curved-sided finger bowls were made in dark blue and dark green glass.

The pickle jars, pickle urns, or pickle glasses are somewhat similar in design to the celery glasses, but the bodies are often globular in shape and there is always a lid.

The older pickle jars usually have straight sides often turned over at the edge, and stand on a square pressed base. The lid is sometimes turned in at the lower edge and fitted inside the bowl, but often the edge is curved outwards and rests on a flange inside the edge of the jar.

The later examples sometimes have the body globular, a knopped stem and circular star-cut base.

The earlier cutting was often the leaf design, while the later was mostly diamonds. Engraving was also employed as was moulding in imitation of diamond cutting and flutes. Examples of various pickle jars are given on Plates XXIII and XXIV.

Water jugs are generally low and rather squat, but occasionally we find them tall and comparatively narrow, sometimes on a circular hollow foot. The low broad form of the early nineteenth century is the most common, and these are found finely cut in diamonds, leaf designs, flutes, etc., and also moulded and engraved. An example of the latter is shown on Plate XXII.

The earlier jugs usually have the base continued round in an unbroken line, and just polished off in order to make them stand, but in a good many of the later examples of about 1820 and 1830 there is a flanged base projecting outwards a short distance. Some of the later jugs have a short constricted stem below the body, and a circular star-cut base.

The handle of the old glass jugs is almost always larger at the upper end where it joins the body than at the lower. Here it tapers, and is either cut off or finished in a wavy or curled end. In modern jugs the lower part of the handle joins the body in a comparatively large blob, and if this feature be found on cut-glass jugs it is pretty certain that they are not very old. Various types of jugs are illustrated on Plates XXIV and XXV.

The blob on the lower part of the handle of the modern glass jug is simply a return to an early fashion, as in many pieces of old Roman glass we find exactly the same characteristic.

From a common-sense point of view the handle of a glass water jug should be thicker and stronger at the upper part of contact with the body than at the lower. One of these jugs filled with water is fairly heavy, and when held by the handle, the strain is outwards at the upper connection and inwards at the lower, therefore the greater strength should be above.

Dessert services were made of glass in Ireland during the first half of the nineteenth century, being mentioned in lists of glass of that period, but, apparently, do not seem to have been made much earlier. They appear to have consisted of dishes—oval, octagonal, and circular—and plates. The earlier sets appear to be those with rather shallow-cut leaf designs, etc., while the later ones usually have deep diamond cutting. The glass in the old dishes is generally very unequal in thickness ; on one side at the edge it may be quite thin, and on the other perhaps more than double as thick. Dessert dishes and plates are illustrated on Plates XXIII and XXVI.

In modern times the glass is found to be very equal in thickness all round, hence the inequality in the thickness of a piece is a point in favour of its antiquity. See Plate XXVI, No. 2, upper illustration.

Oval dishes are occasionally found fitted to a hollow, separate stand, and the octagonal ones sometimes have a separate stand with four short feet. Some of these may be of Irish make, but probably the greater number are English, and belong to the nineteenth century.

Plate XXXIX

1. Goblet on square pressed foot. Bowl cut with leaf festoons and stars. Probably Waterford, early 19th century.
2. Tripod bowl. Turn-over edge cut in alternate prisms. Probably Dublin or Cork, late 18th century.
3. Candlestick with diamond and flat cutting. Star-cut base. Probably Dublin or Cork, about 1820. National Museum, Dublin.

Four custard glasses :

1. Probably Irish, early 19th century.

2, 3, and 4 probably Waterford, about 1820. National Museum, Dublin. See also Plate XIII.

1 2 3

1 2 3 4

Scent bottles seem to have been made in fair numbers in the glass-houses in Ireland, being occasionally noticed in lists of glass. Mention is made of them in one or two of the Waterford letters. A good many were made of a flat vesica shape. Two Waterford specimens are illustrated on Plate VIII. The one with the initials S.G. was made about the year 1790 for Susannah Gatchell, sister of Jonathan Gatchell, afterwards proprietor of the Waterford glass works. It is now in the possession of her grandson, Samuel H. Wright.

The salt cellars of about the end of the eighteenth century are often like miniature salad bowls, being found circular and oval, often with turned-over edges, and on a square, oval, or diamond-shaped pressed foot. Others have a rectangular bowl, often moulded, on similar feet. The later ones are mostly cup-shaped and diamond cut, resting on small cut saucers. Plate XXVII.

Cut-glass candlesticks of the baluster stem type with domed base were probably made in some of the earlier Irish glass-houses, but those made in Cork, Waterford, and the other later works, appear to have been mostly of the moulded type, sometimes with a small amount of cutting. These often have the lower part of the stem in the shape of an inverted cone, moulded in a fluted design, and stand on a square pressed glass foot. There is a flange round the base of the nozzle which in some cases may have held in place a radiating disc from which hung glass drops. Some of these candlesticks, however, which have this flange have also a cup-shaped or turned-over edge to the nozzle, which would effectually prevent the glass disc from being put over the nozzle on to the flange.

Glass candlesticks with diamond-cut stems and nozzles, on circular star-cut bases of the first half of the nineteenth century are also to be found and were probably made in the Irish glass-houses. Specimens of the moulded and slightly cut candlesticks are illustrated on Plates XXVII and XXVIII, and a later diamond-cut example on Plate XXXIX.

Many of the large chandeliers which are now said to be Waterford are most probably of English make.

Chandeliers and girandoles, however, are often mentioned in the lists of glass stated to have been made in Irish glass-houses, but a large percentage of the cut-glass drops appears to have been imported from England. In one of the Waterford letters dated October 23rd, 1832, it is stated that

the drops were purchased from Follet Osler of Birmingham, and in 1835 Martin Crean, a Dublin glass maker, stated that there were no manufacturers of drops for lustres in Ireland. There are several entries in the Waterford account books of the sale of cut-glass chandeliers, the price varying from £10 to £30. In the Town Hall of Waterford is a very fine chandelier, which, according to tradition, was presented to the town of Waterford by the Waterford Glass Works. When in Waterford I inquired about this chandelier, but was given to understand that there was no documentary evidence of the gift having been made.

The oval mirrors with frames of coloured cut glass, frequently found in Ireland, were probably made by the looking-glass manufacturers in Dublin and the South of Ireland. The clear, dark blue, opaque white and green faceted pieces forming the frame were made and cut probably in the various glass works and then fitted up by the looking-glass makers. Many of these mirrors have a cut-glass chandelier, suspended from a hook above, in front. A very fine example is shown on Plate XXVIII.

Cruet bottles appear to have been made in most of the Irish glass houses, numbers having been made in Waterford. They are usually straight-sided, with sloping neck very often with one or two rings. The cutting varies a good deal, fine diamonds, blazes, and flutes or pillars being found, while engraving was also employed. Plate XXIX.

Pillared peppers and mustards are mentioned in the Waterford books in 1822. Plate XXIX, No. 4. The frames for these bottles were mostly imported from England.

Glass butter coolers vary a good deal in shape and design. Some are oval, others circular or octagonal, each having a domed lid and usually a stand or dish. The oval ones appear to be the earlier, and these are often found partly moulded and partly cut. Some of the later examples are very similar to finger bowls, having the upright moulded flutes. Plates XXIX and XXX. Butter coolers were also made in green and blue glass.

Some of the curved-sided bowls with fan-shaped or other kinds of handles, often called butter coolers at the present day, appear to have been really sugar bowls. Two are illustrated among the Waterford patterns on Plate XIII, and " Sugars " is written below in the original drawing.

Glass piggins for butter, sugar, etc., seem to have been made in fairly large numbers in Ireland. The wooden piggin, from which the glass one was

copied, was formed like a barrel cut in half, with one stave left a little longer than the rest, which served as a handle. These piggins were commonly used in Ireland for ladling milk, etc. The glass ones very rarely have two handles. The edge of the glass piggin is cut and has not the fire finish usually found on glass. Probably the sides could not be cut while hot so as to leave the handle, consequently both handle and edge were cut on the wheel. The purchaser of the glass piggins should be on his guard, as many are now made from old decanters cut down to the required shape. Plate XXIX, No. 2, lower illustration.

A short time ago when very high prices were being obtained for old Irish glass the following advertisement was inserted in an Irish newspaper, by some one who evidently failed to grasp what a piggin really was : " Waterford Glass ! Waterford Glass !—Wanted two Piggetts or Pig Buckets." The ignorance here displayed is perhaps on the same level as that shown by those who will call the Irish silver Dish Rings, Potato Rings, though what potatoes had to do with them no one appears to know. During the period in which they were made, they were always called Dish Rings.

Salvers are other objects often mentioned in lists of old Irish glass. The earlier ones, with circular flat top having a narrow gallery projecting above and below the edge, moulded stem and domed base, appear to have been used for jelly and sillabub glasses ; while the later ones, of the late eighteenth century and early nineteenth, have the gallery projecting above only, and rest on a hollow spreading base. These later ones appear to have been used for liqueur glasses. Plate XXXI, middle illustration.

Rummers, large size drinking glasses on foot, were probably made in most of the Irish glass-houses. Rummer is a corruption of the German word Roemer, which was applied to the old drinking glasses with hollow stem, so that the liquid went down as far as the top of the base. The Irish rummers have convex-sided, pear-shaped and conical bowls ; pear-shaped rummers being mentioned in the Waterford letters. Those on square pressed foot are much more uncommon than those with the circular foot. See Plate XXXI, No. 2, lower illustration, and Plate XXXIX, No. 1, upper illustration.

The square, diamond, or oval pressed foot to be found on salad bowls, celery glasses, pickle jars, salt cellars, and rummers appears to have been in fashion from late in the eighteenth century until about 1820 or so. Rummers

on square pressed foot and also those on circular tool-formed base seem both to have been made during the first two decades of the nineteenth century. After that the circular base alone was used. Star cutting, as previously mentioned, on the circular foot and also on the base of decanters, etc., is, however, characteristic of a late period.

Pieces of glass, such as bowls, pickle jars, covered jars, etc., are often found with the stem and square foot decorated with flat cutting. These pieces are, in my opinion, English and very often modern. I have never seen any glass, purporting to be old Irish, with this feature. The square, oval, and diamond-shaped pressed foot on Irish glass objects appears to have been only trimmed off and polished at the edges, and in many cases even this amount of cutting was not done.

Irish wine glasses of various sizes with rectangular, conical, and rounded bowls are to be found in large numbers belonging to the early part of the nineteenth century. The earlier glasses usually have a plain cylindrical stem, but from about 1820 or so the stem with knop is generally found, as is also the star-cut base.

Both the rummers and wine glasses were ornamented with cutting, such as bands of diamonds, leaf festoons, blazes, etc., and also with engraved designs.

Various names were applied to the different patterns of drinking glasses used in the early part of the nineteenth century, the following occurring in the Waterford books : Regents, Nelsons, Masons, Rummers, Hobnobs, Flutes, Drams, Thumbs, and Dandies. The last-named were small half-tumblers holding quarter of a pint. Illustrations of a few drinking glasses and tumblers are to be found on Plates XXV, XXXII and XXXIII.

The sugar bowls that were made in the Irish glass-houses are those we find with rounded bowl on a flat circular base. The cutting is usually some form of the diamond pattern. These bowls are the later ones, the earlier are probably those with no foot, either with round or straight sides, and sometimes with handles in prolongation of the sides. Plate XXXIV, upper illustration.

Cream ewers are somewhat like small water jugs, though often oblong in shape. Occasionally they are found with concave sides tapering towards the base, which is flat and without a foot. Plate XXXI.

Toddy fillers or punch servers are found fairly often in Ireland, and

were made probably in the Irish glass-houses at the end of the eighteenth century and during the first half of the nineteenth. The filler was used in place of a ladle to fill the glasses from the punch bowl, being plunged into the punch until the bulb was filled through the hole in the base. It was then lifted out, with the thumb pressed to the hole at the top, and transferred to the glass, when, by removing the thumb, the liquid ran out at the hole below. Sometimes these fillers have a triple or other ring round the neck a short distance from the top, to catch the first and second fingers when stopping the upper hole with the thumb, and often the neck and bulb are cut in flat surfaces.

Custard glasses, or custard cups, seem to have been made in some numbers in the later Irish glass-houses. The earlier ones are probably those somewhat wine-glass shape, but without stem. The later are usually cup-shaped, both with and without a handle, and often with a cover. Examples are shown on Plate XXXIX, and also among the Waterford patterns on Plate XIII.

Many other objects such as egg-cups, knife rests, ladles, whisky measures, flasks, etc., were made in the Irish glass-houses, though in some cases it is difficult to determine what certain pieces were used for. The pieces, for example, illustrated on Plate XXXIV may be mustard pots, but it is not certain.

In a trade circular in verse of about the year 1790 of Marsden Haddock of Cork, formerly in the possession of the late Mr. Robert Day, and published by him in the *Cork Archæological Journal* for 1901, is found amongst other items the following list of glass objects :

. . . . . His shop is now completely stored
With choicest glass from Waterford—
Decanters, Rummers, Drams and Masons,
Flutes, Hob Nobs, Crofts and Finger Basons,
Proof bottles, Goblets, Cans and Wines,
Punch Juggs, Liqueurs and Gardevins ;
Salts, Mustards, Salads, Butter Keelers,
And all that's sold by other dealers,
Engraved or cut in newest taste,
Or plain—whichever pleases best ;

Lustres repaired or polished bright,
And broken glasses matched at sight ;
Hall globes of every size and shape,
Or old ones hung and mounted cheap.

. . . . . .

I would like to call attention to the cut-glass bowls often of a very slightly greenish metal, with solid truncated cone-shaped base, and usually having rather shallow geometric cutting.

These are very often said to be of Irish manufacture and especially of Waterford, but on what grounds I have never been able to ascertain. As far as my experience goes I have never found them among any old glass that has any pretensions to be Irish, and I do not consider them to have been made in Ireland at all. The older ones are probably English, but the modern fakes, of which a goodly number are passed off as Waterford, are generally continental. Plate XXXV.

A large percentage of old Irish glass of the late eighteenth century, and a still larger amount belonging to the first half of the nineteenth, was cut and engraved, while some during the earlier period was enamelled, and probably a small quantity was gilt.

The earliest notice I have found referring to actual cut glass in Ireland occurs in the year 1747, when it was announced that diamond cut-glass salts and cruets were imported into the country. It was probably not until some years later that cut glass was produced in any quantity in Ireland. Diamond cut salts, cruets, etc., are advertised in 1752 as having been made in the Mary's Lane glass-house in Dublin.

" Fine salts ground and polished " are, however, mentioned as having been made in the Mary's Lane glass-house in 1729. Possibly these were simply plain pieces finished off by polishing, and would hardly be considered what we now call cut glass. Also the names of Dublin glass grinders are found mentioned from the year 1689, and onwards during the eighteenth century.

The carving of arms, crests, figures, etc., on glass, referred to in Joseph Martin's advertisement in 1735, although in a sense cutting, would not enable the pieces so carved to be classed as cut glass.

As to the patterns cut on the Irish glass, probably most of them were copied from English and Scottish designs. As mentioned above, the Water-

ford patterns are headed " English, Irish and Scotch," so that it would be very difficult now to tell the difference by the cutting between English and Irish glass.

As far as can be ascertained the cutting on the older glass is less in quantity, shallow, and consisting more of festoon leaf design and rather large diamonds ; while the later glass often has the deep sharp diamonds, and the surface of the piece is more covered with the cutting.

There is, however, no hard and fast rule with regard to the different kinds of cutting, for even on some of the nineteenth-century objects we find the shallow cutting.

The usual cutting consists of large and small diamonds cut into points ; strawberry diamonds, that is the diamond cutting with the points cut flat, and then very fine diamond cut ; chequered diamonds, which are similar to strawberry diamonds, but having four diamonds cut on each flat surface instead of the fine diamonds ; cross-cut diamonds, similar to the strawberry diamonds, but a single cross cut on the flat surface ; fine diamond cutting, usually in bands ; upright fluting or pillars, which, it is said, was the most difficult cutting to produce, and various designs in angular geometric patterns. Small angular grooves known as splits, were also extensively used in old Irish glass, being usually placed in the angles of the other cutting. Examples of various kinds of cutting are shown on Plates XXXVI and XXXVII.

Many varieties and combinations of the different kinds of diamond cutting are to be found. For instance a piece may have a band of cutting composed of strawberry and cross-cut diamonds, each row being divided by two or more lines of prismatic cutting.

A very favourite pattern used in Cork, especially in the Hanover Street factory, is a band of vesica-shaped panels, the enclosed part variously treated, either joined end to end, or separated by a lozenge often containing a star. This general pattern with numerous variations is to be found on Cork glass salad bowls, jugs, decanters, pickle jars, etc. Pieces with this design are illustrated on Plate XVIII, Nos. 3 and 4, upper illustration, and Plate XIX, No. 3, upper illustration.

Another design frequently found on Cork glass is somewhat similar to this, but the vesica is replaced by a lozenge enclosing diamond or star cutting. Plate XXV, lower row, Nos. 2 and 3.

Two patterns commonly employed in the Waterford glass-house are a continuous arched design, consisting of two pillars and a connecting arch, all in fine diamond cutting, generally with splits between the angles of the connecting arches, and a star within the arch ; and secondly a continuous semicircular pattern pendent from a straight horizontal line ; the semicircles filled with fine diamond cutting, generally with two or three splits between.

These patterns are also found on decanters, pickle jars, wine glasses, etc. A salad bowl with the semicircular cutting is shown in the Waterford patterns on Plate XIII, and decanters with the arched design on Plate XVIII, Nos. 2 and 4, lower illustration.

Another pattern often used in Waterford and probably in other Irish glass-houses, is that known as " blazes," either upright or slanting. This pattern occurs in some of the Waterford patterns, and is also illustrated on Plate XXXVI, Nos. 7 and 8.

Bands of chequered diamonds were also frequently cut on Waterford glass. Plate XXXVI.

A feature of most of the old Irish, and probably also of some of the old English, cut glass, is the unevenness of the cutting. In a large number of pieces which have the design cut horizontally, we find that the lines of the cutting, which should be parallel, are anything but such. Take a salad bowl, pickle jar, or any old piece with this horizontal cutting, and hold it on the level of the eye, and you will find that the lines round the body, which should be straight and parallel to the edge of the piece and to each other, are often quite undulating. This unevenness is generally a point in favour of the piece being old, although the modern faker will probably soon copy this peculiarity. On the other hand, a piece of glass with the horizontal lines exactly correct should be carefully examined, as very possibly it is a modern production.

Probably the unevenness of the early cutting was due to the method employed. Before steam power was used for glass-cutting it took two men to do the work by hand. One stood at the side of the cutting table and turned a wheel connected by a band with the actual cutting wheel, while another sat at the table and held the piece of glass to the edge of the rapidly revolving cutting wheel.

Possibly the man turning the wheel may not have been always very

regular in the turning, unlike the even motion of the steam-driven wheel, and this may have caused irregularities in the cutting. An illustration of one of the old iron cutting wheels, formerly used in one of the Cork glass-houses, is shown on Plate XXXV.

In the census of 1821 the occupation of a man named Mason in Dublin is entered as " turns the wheel for his father the glass cutter."

A good many of the old water jugs, decanters, etc., are decorated with a rather rough engraving. This was done by slightly grinding the surface on the wheel so as to obtain the required pattern, the rough surface being left so and not polished. The designs are usually festoons, knots, vine leaves and grapes, etc. In Cork engraved glass we frequently find a conventional flower filled with criss-cross lines, and having leaves springing from it. See Plate XVII, Nos. 1, 2, and 4, upper illustration, and Plate XXII, water jug.

This engraved glass, generally styled flowered glass in the old advertisements, appears to have been produced in all the later Irish glass-houses. The glass in these pieces is nearly always much thinner than in those that are cut. An engraved jug made in the Waterloo Glass Works, Cork, is shown on Plate XXII.

Besides the cut and flowered glass, a good many pieces are to be found which have been blown into moulds which produce imitations of diamond cutting and upright fluting. Celery bowls, decanters, pickle jars, salt-cellars, etc., are found with these moulded patterns, some of which are illustrated on Plate XXXVII. Most of these moulded pieces appear to belong to the early nineteenth century.

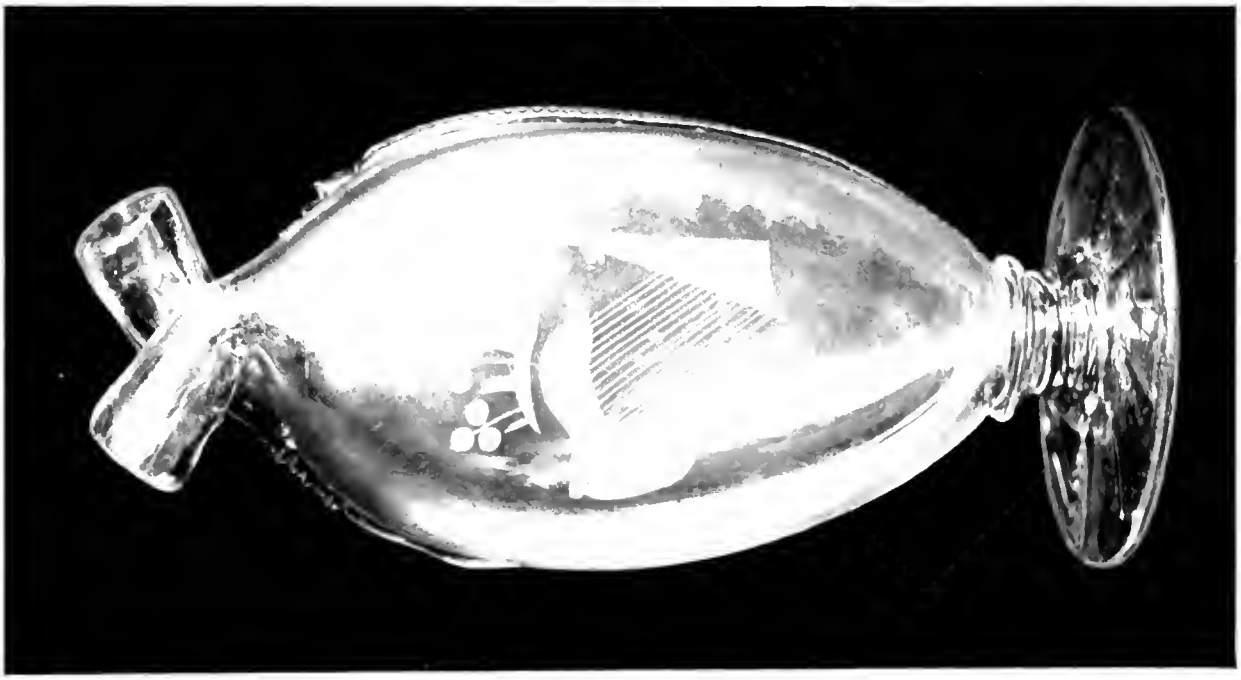
Some people appear to differentiate the cut and plain glass as cut and blown glass, quite forgetting that practically all the old glass had first to be blown. Decanters, jugs, pickle jars, celery bowls, goblets, etc., are all blown glass, no matter how much cutting they have, but dishes, butter coolers, etc., are, what is termed, " pressed " into a mould, and either left plain, or afterwards cut.

Although dishes, etc., are said to be " pressed " into a mould, they are in reality blown into it. There were two methods of making dishes, called " blowing off " and " blowing over." In the former, the gathering of glass on the blowing iron was made roughly square, and then pressed into the brass mould, being inflated by blowing through the iron. This expanded

Plate XL

Hookah base. Probably Cork, early 19th century. These were made for the Indian trade. Author's Collection.

Double bottle. Engraved with a harp and shamrock leaf crown. Probably Belfast, early 19th century. Author's Collection.



the upper part of the dish, called the blow-over, until it became so thin as sometimes to explode. A piece of wood was used to knock off the part not required for the dish.

"Blowing over" was much the same process, but the upper part of the gathering was less expanded and was therefore thicker. This surplus, not required for the dish, had to be cut off when cold by the glass cutter, and this often incurred great risk of fracturing the piece.

The term "blown" for plain or moulded glass as distinct from cut glass is misleading. In all the contemporary advertisements the glass was always said to be plain or cut.

All the old cut glass was cut from the solid, that is, the thick glass was blown quite smooth, and then cut to the required design. At the present day, however, especially in the United States, the piece is blown or pressed into a mould to give it a rough design, which is afterwards slightly ground and then polished, thus saving a very large amount of labour.

With the exception perhaps of the two or three recognised designs employed in Cork and Waterford, it is very difficult to tell, from the cutting, the glass of a particular factory. One reason for this is that English and Scotch designs were freely copied, and probably one glass-house copied the patterns used in another, while a second is, that the glass which was made in one town in Ireland was often cut in another. Possibly even English glass may have been cut in Ireland. Large quantities of Waterford glass were cut in Cork and Belfast and other towns in Ireland, while Limerick possessed glass cutters and engravers who cut and decorated glass, made probably in Cork and Waterford.

The following advertisements prove that Irish glass was cut in other towns than those in which it was made. In the *Cork Evening Post* of January 17th, 1793, Marsden Haddock of Cork states that "he supplies Cork and Waterford glass, does the cutting himself, and also employes a cutter from England." Thus English designs would most probably have been employed. In the *Hibernian Journal* for December 31st, 1777, James Armstrong, glass cutter, Dublin, states that he has "for sale cut, flowered, and plain drinking glasses, decanters, salts, sweetmeat, and water glasses, and that as he cuts his own glass, he is enabled to sell cheaper than any shop in the city." This may have been English glass.

John Kennedy, glass cutter, and proprietor of the Waterford glass

warehouse, 50 Stephen Street, Dublin, advertises in 1789 that he has lustres, chandeliers, girandoles, epergnes, oval and round glass dishes, salad bowls, etc., and that he gets all the glass cut under his own inspection.

In the *Belfast News Letter* of December 4th, 1786, James Cleland, of Belfast, advertises that he "has the greatest variety of the best flint glass of almost every denomination cut and engraved to the newest patterns by workmen from England in his employ here." Yet again English influence would be apparent.

In the same newspaper for October 31st, 1815, Jane Cleland states that "she has imported from Waterford a quantity of plain flint glass, which she has got cut to the newest and richest patterns."

Both James and Jane Cleland obtained large quantities of glass from Waterford, their names constantly occurring in the old Waterford account books as purchasers of glass.

Occasionally we hear of a wonderful and "unique" piece of glass, such as a salad bowl, which has not been cut, nor have the rough edges of the moulded foot been removed. This is simply a piece of glass just as it left the annealing oven, and is probably part of a consignment of glass received by one of the country glass cutters, who never decorated it, nor ground off the rough edges.

I have frequently come across pieces of perfectly plain glass, such as salad bowls, celery glasses, pickle jars, salt cellars, etc., which have still the rough edge that had been squeezed out on the pressed foot. These pieces were evidently intended to be cut, but have never been touched by the cutting wheel.

It is certain that dark blue, dark green, and enamel glass was made in Waterford, and probably coloured glass was made in most of the Irish glass-houses of the late eighteenth century and early nineteenth.

In one of the advertisements in 1772 of Williams' glass-house in Dublin, it is stated that any article and of any colour that is made of glass was made at his factory.

In a letter from Isaac Warren mentioned on page 97 ordering glass from Waterford, he asks for green pickle jars and blue butter coolers; and in another letter written from the glass works mention is made of half-pint flasks of a beautiful blue colour. In my possession is a dark blue finger bowl marked underneath PENROSE, WATERFORD, and in the old Waterford

account books there are numerous entries of payments for green cullet. Plate XXXVIII.

Enamelled glass also seems to have been made in some of the Irish factories. This glass, which is probably that decorated with some design in white enamel, was advertised as having been made at the Drumrea glass-house, at Edwards' glass works in Belfast, and at Richard Williams' glass-house in Dublin. Edwards advertised enamel glass as late as the year 1800.

The proprietors of these glass-houses all came from England, where this kind of glass was made to some extent.

It is uncertain whether the drinking glasses with the white spirals in the stem were made in Ireland or not. Possibly some may have been manufactured at the Drumrea glass-house, and perhaps also at Belfast during the early years of the glass works.

Glass, somewhat in the Bohemian style, was made at Waterford down to the closing of the factory. In the Royal Dublin Society's Exhibition of 1850, George Gatchell, of Waterford, exhibited a centre bowl and stand, two liqueur bottles, and six caraffes and tumblers all " opaque blue and white glass on crystal glass." I have seen pieces of this kind of glass in which the blue and white layers are cut away so as to form a design.

Possibly a little of the glass made in Ireland during the late eighteenth century may have been gilt. Gilt glass was often imported, and naturally the Irish manufacturers would have endeavoured to copy it.

In November, 1785, John Grahl, a native of Saxony, petitioned the Dublin Society for aid, and at the same time exhibited some specimens of cut glass curiously gilt by him, and among the premiums awarded by the Society in the year 1786, it was " ordered that thirty-five guineas be given to John Grahl for gilt glass, he having disclosed all the secrets for gilding glass, and fifteen guineas to Richard Hand for ditto, but he declining to give his receipt for copal or wine spirit varnish, a necessary article in his method of gilding."

This gilding was simply a kind of oil gilding and would not have been very lasting.

Richard Hand also practised the art of staining glass. He exhibited pictures in stained glass in Dublin in 1781 and 1785, and in 1793 the Dublin Society purchased a stained-glass window executed by him. Hand went

to London about the beginning of the nineteenth century, and died about 1816.

As previously mentioned, the early drinking glasses made in Ireland would not have differed very much from those made in England, as the English fashions appear to have been copied. Very few, comparatively speaking, of these old drinking glasses are to be found in Ireland at the present day, notwithstanding all that were made in the country, and also the hundreds of thousands of English ones imported.

Some try to make out that the old tall stem glasses with very small bowls were made in Ireland, but, as far as can be ascertained, there is no evidence to substantiate this theory. Probably many of the commemorative Williamite glasses were made in the country. Glasses inscribed "The Glorious Memory," etc., and with equestrian portraits of King William are found as late as the first half of the nineteenth century. Some of the Williamite glasses are shown on Plates XXXII and XXXVIII.

Possibly many of the eighteenth-century Irish glasses were engraved with vine borders, mottoes, coats of arms, etc., but alas! how few are now to be found!

The collector should examine most carefully drinking glasses, decanters, and other pieces bearing engraved mottoes, inscriptions, etc., as many genuine pieces of old glass have been engraved at the present day. A contemporary inscription, motto, or date greatly enhances the value of a piece of old glass, consequently unscrupulous persons have turned this to account, and have recently engraved pieces of old glass. In many cases, however, the whole piece is new. I have seen some of these latter engraved by the sand-blast method, but, of course, these can easily be distinguished.

Like the marks of wear on glass mentioned on page 203 the new engraving is of a more silvery grey colour than the old, which has a dusty yellowish appearance.

Some of the Jacobite glasses, although made in the British Islands, may probably have been engraved on the Continent.

Within recent years, large quantities of cut glass have been made in England, America, and on the Continent, many pieces being very fair copies in form, cutting, and even in the colour of the old glass. Modern glass, at least that not intended as a fake, is generally much more brilliant than the old, and is usually lighter in weight. Some of the modern pieces have been

produced with the dark or bluish tint peculiar to a good deal of the old Irish and English glass, so that with regard to these it often takes a practised eye to tell that they are not old. In some cases, however, the faker has rather overdone it and made the metal too blue, or has not quite got the tint.

The base of pieces of modern glass is often scratched to give them the appearance of age, but the wear produced by time is different from that done in a few moments with the aid of emery paper or some other abrasive substance. The latter effect is generally to be distinguished, when examined under a lens, by many of the scratched lines going in the same direction, while in the genuine wear caused by time practically no lines are seen, but the abraded surface presents a kind of granular appearance. If the worn part is washed, the scratches will appear of a dusty yellowish colour if the wear is that produced by time, but if new they appear of a greyish colour.

Taking the modern fakes all round, some few of them are so well done that they would almost deceive the very elect.

An essential point to be noticed in all old blown glass is the presence of the pontil mark. This was caused by the iron pontil having been attached by a piece of molten glass to the base of the article in order to hold it while the opposite end was being finished. When the upper end was completed, the pontil, together with the blob of glass, was snapped off, leaving a small portion of broken surface on the piece. The actual broken surface is not always to be found on old pieces of cut glass, as in many cases it has been ground down and polished. The presence of a pontil mark on a piece of glass is not necessarily a guarantee that it is old, as false pontil marks are placed on modern glass. The broken surface of an old pontil mark usually exhibits a clean break with an undulating fracture, while on many of the modern fakes the mark looks as if a piece of glass had been stuck to the piece and then pulled away.

The absence of a pontil mark on what purports to be early glass, and in cut glass, the absence of the mark, or the absence of the grinding off of the mark, denotes the fairly recent manufacture of the object. In many pieces of cut glass the pontil mark is left untouched, while often it is found ground down.

The pontil iron is still used for glass objects not blown in moulds and for odd sizes of wine glasses, but about 1860 the spring pontil or punty was introduced which obviated the necessity of fastening the iron pontil to the

piece of glass. In the spring punty the foot of the wine glass is received in a recessed head having a horse-shoe shaped clip above. This latter is so formed in order to admit the stem of the glass.

When the spring is released the foot of the glass is pressed between the head and the clip, thus giving it the required shape. The glass does not adhere to the head or the clip, hence there is no trace of any broken surface as is the case when the iron pontil is used.

Pieces of glass, such as water jugs, decanters, etc., having on the base a broad flat ring on which they stand, which is very highly polished, are generally to be regarded with suspicion. The base of these pieces would be perfectly flat across, were it not for a circular depression in the centre which is put there to make one believe that the rough pontil mark has been ground off. The whole base of old jugs and decanters is generally slightly concave, often left with the fire finish, except where the pontil mark has been ground off. Where these pieces have been polished one can usually detect the marks of the wheel, somewhat like a badly planed board, but they never have the beautifully polished even surface to be found on modern articles.

Old glass has generally what is known as a good "ring." The old wine glasses, goblets, bowls, etc., if flicked with the finger nail give out a fine sonorous tone—a clear true ring; that coming from the larger pieces lasting for some moments and gradually dying away, while in many modern pieces the ring is quite different, being sharp and thin and of very short duration. Some modern glass, however, has a fairly good ring. The ring depends on many things, the shape perhaps being the most important. Wide-mouthed pieces like bowls, finger glasses, goblets, etc., even though of present-day make, sometimes have a good ring.

So much modern glass and also old continental glass is, at the present day, passed off as old Irish, or as "Waterford," that the collector must be on his guard, and carefully examine each piece if he has the slightest doubt as to its genuineness; and as so many of the old-fashioned drinking glasses and also large quantities of cut glass are now faked, I will conclude this short and very incomplete account of Irish glass-making with the words "*Caveat Emptor*."

THE END.

INDEX