



3174300020900

STUDIES IN MATERIAL CULTURE RESEARCH

Edited by Karlis Karklins



Jefferson Library
THOMAS JEFFERSON FOUNDATION, INC.

Published by
THE SOCIETY FOR HISTORICAL ARCHAEOLOGY

Ronald L. Michael, editor

Anthropology Section
California University of Pennsylvania
California, Pennsylvania 15419

2000

ISBN 1-886818-06-1

Theoretical background and invention of the induction motor, engineering, research, and development from 1888 to 1891.

PARSHALL, H. F.
1916 Electric Traction. *The Electrician* 77(24):824.
Motive power and transportation.

PENN, E.
1987 Fifty Electric Motors. *Electronics & Technology Today* (Sept.):11-13.

Short discussion of the various type of electric motors normally found in a typical modern home with some theory.

WALKER, MILES
1916 Dynamo-Electric Machinery, 1878-1916. *The Electrician* 77(24):817.
New developments in direct-current machines.

WORMELL, R.
1897 *Electricity in the Service of Man—Popular and Practical Treatise on the Application of Electricity in Modern Life*. Cassell and Company, London, England.

Many engravings and descriptions of machines and apparatus, both domestic and industrial, including the history of power producing machines for AC and DC, dynamos, alternators, transformers, batteries, accumulators, lighting, motive power, electrochemistry and metallurgy, and telephone and telegraph.

Electroplating

HASLUCK, PAUL N.
1908 *Electroplating—With Numerous Engravings and Diagrams*. Cassell and Company, New York, NY.

Illustrates and describes shop equipment such as vats, batteries, dynamos, measuring devices, shop machines and accessories, and hand tools; also explains procedures.

REETZ, HENRY C.
1911 *Electroplating—A Treatise for the Beginner and for the Most Experienced Electroplater*. Popular Mechanics Company, Chicago, IL.

Principles and apparatus, shop equipment, cleaning, copper-, nickel-, silver-, and gold-plating.

Communication and Recording (Telegraphy, Telephony, Wireless, Sound and Picture Recording)

BRIGHTS, CHARLES
1916 The Story of the Submarine Cable. *The Electrician* 77(24):801.

A short history (including new developments) of submarine cables for communication.

COHEN, B. S.
1916 Long-Distance Telephony. *The Electrician* 77(24):814.

The operation of long-distance telephone systems; new designs and schematic diagrams.

FLEMING, J. A.
1916 Radiotelegraphy: A Retrospect of Twenty Years. *The Electrician* 77(24):831.

A short history of technological advances in early-20th-century wireless telegraphy transmitters, receivers, and related apparatus.

HARRISON, H. H.
1916 The Story of Land Telegraphy. *The Electrician* 77(24):798.

Overview of telegraph systems on land including technical descriptions and schematic diagrams.

KINGSBURY, J. E.
1916 The Story of the Telephone. *The Electrician* 77(24):812.

Overview of telephone systems with technical descriptions and schematic diagrams.

KNAPPEN, RON, AND MARY KNAPPEN
1978 *History and Identification of Old Telephones*. R. Knappen, Galesville, WI.

Terminology, history, description, and illustrations of typical phones; description and identification by parts; switch boards; bell boxes; index of manufacturers many period illustrations.

MARCONI, ELECTRONIC TUBES AND COMPONENTS DIVISION
1951 *Radiotron Characteristics Manual*. Marconi, Electronic Tubes and Components Division, Toronto, Ontario.

Interpretation of technical data, classification, characteristics, and ratings of receiving tubes, special-purpose tubes, television picture tubes, non-standard tubes, outline drawings of tubes and tube sockets, and typical circuits.

READ, OLIVER, AND WALTER L. WELCH
1959 *From Tin Foil to Stereo*. Howard W. Soms, Indianapolis, IN.

Description and illustration of electrical apparatus and machines for telegraphy, telephony, radio, motion pictures, and sound recording.

GÉRARD GUSSET
MATERIAL CULTURE RESEARCH
ONTARIO SERVICE CENTRE
PARKS CANADA
1600 LIVERPOOL COURT
OTTAWA, ONTARIO K1A 0M5
CANADA

OLIVE R. JONES

A Guide to Dating Glass Tableware: 1800 to 1940

Introduction

Between 1800 and 1940, the glass industry production method in North America and Europe changed from predominantly mouth-blown to predominantly machine-made. At the beginning of this period, successful glass production was based on practical observation and experience but, step by step, the knowledge base changed to mechanical and scientific expertise. Hand-in-hand with changing production methods came changes in tableglass decorating technologies and new glass formulas. Increased mechanization and innovations provided lower-priced tableglass which significantly increased the number of consumers who could afford glass and, at the same time, increased the choices available to consumers.

Tableglass was made and purchased not only to be used but to be seen, motivations similar to those for choosing ceramic tablewares, furniture, and other domestic furnishings. Motifs and tableglass shapes often reflected the decorative arts movements of the 19th and early 20th centuries. At the same time, some motifs and shapes remained in production regardless of fashion. For example, tumblers decorated with vertical panels were made throughout the entire 1800-1940 period. Some tableglass was made with no surface decoration; some was completely covered with decoration; some motifs were pictorial, others were geometric or abstract. Increasingly, between 1825 and 1940, consumers could choose from a number of different styles and a variety of price ranges. Prestigious and expensive hand-cut or hand-engraved motifs were imitated in inexpensive mold-blown, pressed, or acid-etched glasses while inexpensively cut and engraved tableglass competed with pressed and acid-etched glasses. Consumers chose tableglass that reflected their purchasing power, aesthetic preferences, and social position. However, in any one household, the tableglass probably

represented a range of prices, a variety of styles, and different levels of service. In the same household, as with ceramic tablewares, one might also expect to find a mix of older and newer glassware.

During the 140 years covered by this guide, the goods produced by glass manufacturers reflected changes in drinking patterns and in food service. For example, tumbler usage increased as non-alcoholic drinks—such as soda water, water, lemonade, and fruit juices—became the drinks of choice for many consumers. The American habit of drinking tea from the saucer led to the production and use of glass cup plates between the late 1820s and about 1860. Celery glasses reflected the practice of serving celery stalks at the table. Salt shakers were introduced in the 1860s, and gradually became the dominant form for serving salt, although small individual open salts continued to be sold. Inns and taverns had always served food and drink but it was not until the 1840s that glass manufacturers started offering “bar tumblers” and decanters with “bar lips” for commercial use. By the early 20th century, suppliers offered a wide range of wares specifically for commercial use by restaurants, hotels, clubs, ocean liners, and railroads (Budde & Westermann 1913).

At the beginning of the 19th century, American markets were supplied with some domestically made glass and with glass imported from continental Europe and Britain (Lanman 1969:15-48; Wilson 1994[2]:769-772). Although glass manufacturers in the United States faced fierce competition from Europe and a shortage of experienced workmen, they were able to establish the basis for a successful American glass industry during the first 25 years of the 19th century. During the second quarter of the century, American glass factories began to compete seriously with foreign producers (Davis 1949:35-41, 50-64, 65-71) and by mid-century, the industry was firmly established. However, imported glasswares continued to be an important part of the American marketplace, particularly in mouth-blown and hand-decorated wares.

From the 1760s until the 1840s, the Canadian market was served almost entirely by British-made products, but after Great Britain adopted

free trade in 1845, the Canadian market was opened to American and European products (Jones 1986a, 1986b, 1986c, 1986d, 1992). Attempts to manufacture glass in Canada began in the 1840s, but the companies survived only briefly. In the 1870s, a glass factory in Hamilton, Ontario, was able to operate successfully for a number of years, but it was not until the 1890s that the Canadian glass industry truly became established (King 1987:front and back flyleaves). The primary tableglass products were pressed and machine-blown tablewares. Canadian cut glass firms operating in the early 20th century used imported blanks; Henry Birks & Sons, for example, used French and American blanks (Henry Birks & Sons 1903:8).

While the country of origin was sometimes used as a selling point, it is important to understand that the glass industry of the 19th and early 20th centuries was an international one (Great Britain 1907). Successful technological advances, decorative innovations, and decorative motifs were immediately copied by manufacturers and decorators in other countries, not just by rival firms. After the success of the 1851 London Great Exhibition, subsequent international exhibitions encouraged the diffusion of technology and styles throughout the western world.

From 1800 to 1940, the tableglass industry was one of innovation, invention, eclecticism, revivals, and imitation, particularly after about 1850, when interest in industrial design led to the establishment of design schools and of museums such as the Victoria and Albert Museum in London and the Musée des arts décoratifs in Paris. This interest led glassware designers to pillage the past for inspiration. For example, engraved glassware shown at the Paris Exhibition in 1878 highlighted classical motifs, but also included Arabian, Assyrian, Byzantine, Egyptian, Persian, Indian, Chinese, Japanese, Celtic, Medieval (Gothic Revival revisited), Renaissance, and 18th-century styles (Morris 1978:95-96). Colonial, Adam, or Georgian revival styles, which imitated patterns of the first 30 years of the 19th century, began to appear in the early 20th century and continued well into the 1930s. At the same time, the glass industry was a conservative one, with many shapes and motifs staying in production for decades. While it is possible to give introductory dates for many changes, it is more difficult to establish end

dates. Certain types of decorative motifs faded but never entirely disappeared, or they survived in a simplified form, or reappeared in a modified version or as a conscious revival which never quite matched the original. It is safest to assume that no motif or style disappeared for good. Nevertheless, it is possible to identify trends and to place individual pieces of tableglass within a context.

Technological innovations were also an integral part of the manufacturing and decorating techniques introduced between 1800 and 1940. However, while one part of the industry adopted new technology other parts did not, depending on the markets served by the manufacturer. Hand-blown and hand-decorated glassware existed alongside pressed glassware and, finally, machine-blown tablewares. For example, from about 1820 to 1860, trailed glass threads as decoration were applied to wares made in window and bottle glass factories in the United States. The process was mechanized in the 1860s, but hand-trailing continued to be used on glassware at the high end of the market (see *Glass on Glass*).

Morris (1978:14) summarizes the table glass industry at the end of the 19th century as follows:

Towards the end of the Victorian period production had crystallized into three main streams catering for different social strata with widely differing tastes. At the top end of the scale were richly cut and engraved table glass and expensive novelties such as "cameo" glass, for the high class trade and for export. Plainer, simpler glass, often historically based on earlier styles catered for those of aesthetic taste and for devotees of the Arts and Crafts movement. The third stream, the cheapest end of production, included pressed glass (sometimes in imitation of the current styles of cut glass, but often in entirely independent styles) and innumerable styles of fancy glass and novelties catering for the vast mass of the public.

With the large volume of detailed information available on tableglass manufactured between 1800 and 1940, no attempt has been made to duplicate these details. Instead, this guide will summarize datable attributes, introduce the primary and secondary sources, and provide guidance as to which sources have additional information on a specific decorative or manufacturing process. Discussion centers on American, British, and Canadian glass, with some information given on Bohemian and other continental

European glass. Emphasis is placed on less expensive tablewares as these are found most frequently in archaeological contexts.

The guide is organized in three sections. The first introduces the secondary and primary literature available for research. The second concentrates on method of decoration, providing introductory dates for technological innovations, and, where appropriate, discusses the motifs popular in different time periods. The third section discusses tableware forms, illustrates examples of these forms, and, for stemware and decanters, provides additional dating information.

Researching Glass Tablewares

Secondary Sources

Numerous books and articles have been written on the tableglass produced during the 1800-1940 period. However, coverage is uneven and reflects the interests and needs of 20th-century collectors. It is often difficult to follow the history of a specific type of tableware if it is not considered collectible. For example, a great deal of research has been done on American mold-blown tableglass of the first half of the 19th century, but very little on glassware decorated this way in Britain at the same time or in either country during the second half of the century. Most books concentrate on glassware made in a specific country, such as the United States, Canada, or Ireland, and frequently on production at a specific factory or in a specific region. However, most pay little attention to the types of glassware used in a region or country, regardless of manufacturing origins. While it is difficult to get a complete picture of glassware used in a particular country or region from these sources, they nevertheless offer useful dating information for archaeologists.

Fueled by interest in Colonial and Federal America, collectors and dealers in the early 20th century began researching the history of "early American glass." Many researchers, like Knittle (1927), Lee (1944, 1958), and McKearin and McKearin (1948), sought to identify the products of known American factories of the 19th century. Both Palmer (1993a:13-39) and Wilson (1994[1]:17-20) provide useful discussions of the early history of glass collecting in the United

States, and the often symbiotic relationships between dealers and collectors. Researchers such as Revi (1959, 1964), Wilson (1972, 1994), Innes (1976), Heacock and Bickenheuser (1978), Spillman (1981, 1982), Welker and Welker (1985), and Palmer (1993a) have expanded on the earlier work by refining and redefining the conclusions reached by earlier researchers and by studying other parts of the industry. In the 1970s, collecting interests expanded to include common tableglass of the 1920s and 1930s, and books began to appear on this glass (Weatherman 1974; Florence 1995a, 1995b, 1996). Within the last twenty years researchers have begun publishing on tableglass produced in the United States after 1940 (Weatherman 1978; Florence 1992; Rogove and Steinhauer 1993; Measell 1994b). The high end of the glass market, such as brilliant cut glass and art glass, has also been the subject of much study in the last 30 years (Revi 1965; Farrar and Spillman 1979; Spillman 1989, 1996). Dozens of publications exist on individual American companies that made glassware in the late 19th and 20th centuries and whose products are of interest to collectors (Stout 1972; Fauster 1979; Husfloen 1992:130-148, 186-190). Organizations, such as the Early American Glass Club and the Sandwich Historical Society have active publishing programs which encourage new scholarship; these two produce *The Glass Club Bulletin* (Spillman et al. 1993) and *The Acorn*, respectively.

Academic studies of American glass production have primarily been in the economic and labor history tradition and generally lack details concerning products made by the industry (Scoville 1948; Davis 1949; Zembala 1984). These are important resources for understanding the context in which the American glass industry operated, although they are less useful for identifying and dating individual objects. Theses by American curators trained in decorative arts offer a great deal more information on objects produced in American factories (Lanman 1968; Baker 1986; Leinicke 1986; Nelson 1988; Blaszczyk 1995).

Organized or systematic research into Canadian glass production began under the impetus of Stevens (1967) and MacLaren (1968) and continued with work by Unitt and Unitt (1969), Holmes (1974, 1987), King (1987), and others (Holmes and Jones 1978). Although Stevens

and MacLaren had begun researching the history of Canada's glass industry in the early 1960s, it was the Canadian centennial (1967) which spurred wider interest in Canadian-made glass. As the Canadian industry did not even begin until the 1840s, and was not on a firm footing until the 1870s, the bulk of the glassware discussed dates from the 1870s to 1920. Since the demise of the *Glasfax Newsletter* in the late 1970s and the *Canadian Antiques Collector* in the late 1980s, there is no obvious publishing venue for new research on Canadian tableglass.

For most of the 20th century, researchers studying glassware manufactured in Britain and Ireland had little interest in tableglass made after 1830. The first book on British Victorian glass appeared in 1961 (Wakefield 1961), but it was virtually the only one until the late 1970s, when several important studies began to appear (Morris 1978; Lattimore 1979; Wakefield 1982; Slack 1987; Thompson 1989; Hajdamach 1991). In the late 1980s British researchers began to publish work on 20th-century British glass (Tyne and Wear County Council Museums 1983; Dodsworth 1987; Crowe 1989; Jackson 1997; Launert 1997). Both British glass collectors' organizations, the Glass Circle and the Glass Association, publish newsletters and periodic journals (*The Glass Circle* and *Glass Cone*, respectively) which are encouraging new research.

Continental European studies on the glass of the 19th and early 20th centuries have tended to concentrate on the high end of the market or on specific factories, such as Baccarat and Lalique in France or Val St. Lambert in Belgium (Philippe 1975). The cheaper wares, which were certainly sold in North America (Lanman 1969), have received less attention and very little has been published in English. However, some publications are available (Charleston 1965; Lanman 1969; Buchwald and Schlueter 1975; Mucha 1979; Drahota 1983), and comparative discussions in both Hajdamach (1991:81-94) and Wilson (1994[2]:523-526) highlight the key role Bohemian glass styles played in British and American glass production and decoration in the 19th century.

Documentary Sources

TECHNICAL BOOKS

Books written by practicing glassmakers such as Pellatt (1849), Jarves (1865), and Bontemps (1868) provide much useful and accurate information on glassmaking practices of their own time. They are less trustworthy when discussing manufacturing techniques and products from earlier eras, such as Roman or Venetian glass.

NEWSPAPER ADVERTISEMENTS

Advertisements published in newspapers have been heavily used by such researchers as Wilson (1972, 1994), Jones and Smith (1985), and Palmer (1993a) for understanding products either made or used in North America during the 18th and early 19th centuries.

PATTERN BOOKS, PRICE LISTS, AND GLASSWARE CATALOGUES

Some illustrated pattern books exist from the early 19th century, although most of them are undated (Charleston 1965; Lanmon 1969:29-47; Westropp 1978:232-233, Plates x-xiv; Wolfenden 1987, 1992; Hajdamach 1991:45-56; McFarlan 1992; Pattern Book n.d.). Unillustrated price lists dating to the first half of the 19th century give an idea of the range of products that were made by different branches of the glass industry, although it is difficult to be certain what the glasses looked like from the descriptions (e.g., the 1829 list in Hughes [1958:24-25] and Sullivan [1985]). It was only in the 1840s that published, illustrated glassware catalogues began to appear (Wakefield 1968; Spillman 1983). In the 1860s, several American companies making pressed glass published illustrated catalogues (Watkins 1970 [or Spillman 1997]; Innes 1976:298-311; M'Kee and Brothers 1981). From the 1870s onward, more catalogues were published and/or have survived. Several glass catalogues were reprinted in the 1970s, and parts of others are available in various publications. Microfiche or microfilm copies of catalogues

are available from The Juliet K. and Leonard S. Rakow Research Library of The Corning Museum of Glass (Corning 1987), the Winterthur Library (McKinstry 1984), and the Peabody Essex Museum (1794-1819) in Salem, Massachusetts.

RETAIL CATALOGUES

These generally date from the 1890s onward. Wholesale distributors, such as Butler Brothers, assembled glassware assortments for retail stores and their catalogues generally show a wider range of glassware than the large North American catalogue shopping stores such as Sears Roebuck, Montgomery Ward, or T. Eaton Co. (Toronto). For example, glassware offered in Eaton's catalogues between 1889 and 1940 tended to be conservative, generally offering only one or two choices in either object or style, with essentially two price ranges; one for the low end and one for a moderately high end market. English catalogues include Silber and Fleming (1990), *The Victorian Catalogue of Household Goods* (1991), and *Yesterday's Shopping* (Army and Navy Stores 1969). Price lists and retail catalogues provide useful comparative data concerning price variations between differently manufactured and/or decorated glasswares.

DESIGN REGISTERS

In 1839, the British Patent system began to include designs and, in 1842, the British Design Register system was set up (Morris 1978:190; Slack 1987:21-22). In subsequent years many glass designs were registered. Thompson (1989) extracted the glass designs registered between 1842 and 1908, and has itemized, and often illustrated, patterns registered by the principal manufacturers of pressed glass. Slack (1987:135-198), whose typewritten list for the years 1842 to 1883 is easier to read than the photocopied originals shown in Thompson, has also listed the design registers until 1900. Edgley (1996) compiled a list of glass registration numbers for the years 1908 to 1945. From 1842 to 1883, the design mark embossed in the glass is diamond-shaped like those on ceramics and metalwares. After 1883, the mark is simply "Rd" followed by a number.

PATENTED DESIGNS AND PROCESSES

From the late 1820s, submissions to the American patent office have contained information about the pressing process (Zembala 1984; Wilson 1994[1]:265-285) and, from the late 1860s (Innes 1976:299), pressed glassware designs. Among the authors who have published design patent illustrations are Revi (1964), Innes (1976), and Welker and Welker (1985). Along with catalogues, these records form the basis for dating American pressed patterns of the late 1860s to 1890s. Descriptions and illustrations of several different decorative processes developed in England can be found in Hajdamach (1991).

GOVERNMENT DOCUMENTS

Other government documents providing information on the glass industry include reports on industries, and investigations into tariff regulations, child labor, and excise administration (Britain between 1745 and 1845). Examples include Great Britain (1835, 1865, 1907), Weeks (1886), and United States Senate (1911). These reports are useful for understanding how the glass industry operated and occasionally offer details useful for dating.

ARCHIVAL MATERIAL

Archival materials from glass factories, including design books and business correspondence, are available and much new work is continuing to be done using these sources. Three examples of new work are Spillman (1996) on recently available material from the T. G. Hawkes firm in Corning, New York; Evans et al. (1995) on the Whitefriars factory in London, England; and Blaszczysk's (1995) work in the Corning Glass Company archives, Corning, New York, on the development of Pyrex.

EXHIBITION CATALOGUES

Beginning with the 1851 exhibition in London, exhibition catalogues illustrated and commented on the glass entries from many different countries. While these entries usually featured the finer, more elaborate end of the market, less expensive ordinary glassware echoed the themes

shown at the world's fairs. As one commentator noted, concerning the Pellatt and Company products shown at the 1862 exhibition:

Their costlier works are of rare excellence: these are to be regarded, however, rather as examples of what they can do than what they continually produce, for Messrs. Pellatt are extensive manufacturers of every class and order of "table glass;" and the same good taste and sound judgement that have produced more expensive objects, have been exercised to form and decorate such as are within the reach of persons of ordinary means (*The Art-Journal* 1862:128).

TRADE JOURNALS

Beginning in the mid 1870s, trade journals such as the English *Pottery Gazette and China and Glass Trades Review*, subsequently referred to as the *Pottery Gazette*, and the *American Crockery and Glass Journal* began to appear. Welker and Welker (1985:490-491) summarize the publishing histories of American glass trade journals. *The Canadian Pottery and Glass Gazette* was published briefly in the first decade of the 20th century.

Glassware

COMPANY NAMES AND TRADEMARKS

Embossed company names in blown-molded glassware appeared in wares manufactured by Irish glass factories, dating from ca. 1790 to 1820 (Figure 64a) (Warren 1981:71-98, 199-200). Several pressed salts made in the late 1820s had company names embossed on them (McKearin and McKearin 1948:Plate 165, Nos. 1-3, Plate 142, No. 4; Wilson 1994[1]:295-297). English trademark legislation came into effect January 1876, and shortly afterwards several English pressed-glass firms used trademarks embossed in the glass to identify their wares (Slack 1987:133-134). Peterson (1968) illustrates American glass marks, who registered them, and how they were applied: embossed, etched, stamped, or labeled. Acid-etched marks were used primarily by cut-glass firms around 1900. Pullin (1986) includes European and North American marks, and King (1987:247-250) shows Canadian marks, primarily for containers. Dodsworth (1987:109-110) illustrates early-20th-century English marks.

ARCHAEOLOGICAL EXCAVATIONS

Dated archaeological contexts provide information on glassware used at the same time and place and may contribute to refinements in dating. However, the chief contribution archaeological material makes is for understanding social contexts in which glassware was used, such as work groups (Jones and Smith 1985) or ethnic affiliation. Studied in combination with ceramic and metal tablewares, food and beverage storage containers, and food preparation items, glassware helps in understanding food and beverage choices and different levels of service at the table of consumers.

Excavations on glass factory sites have also been a technique used in the United States and Canada to identify products from specific factories (Stevens 1967; MacLaren 1968; White 1974; Starbuck 1986). With the exception of Starbuck's work at the New England Glassworks in Temple, New Hampshire, a great deal of this work has, unfortunately, consisted of digging holes on the sites, finding glass fragments, and concluding that whatever was found was made at the factory. Glass batches require the use of cullet, which can come from anywhere, thus this may or may not be a valid conclusion. Sheeler (1978) discusses the thorny issue of cullet and how many sherds of a specific pattern or bottle style are needed to state that it was made at the factory. Certainly glass scrap from manufacturing processes is more likely to reflect wares made at the factory, rather like wasters found during excavations at ceramic factories.

GLASSWARE

Handling and closely examining glassware is one of the best ways to develop expertise concerning manufacturing and decorating techniques, and how glass from different periods looks and feels. Archaeological collections provide the best context but often are too fragmentary to provide information concerning the appearance of complete pieces. Museum collections (Spillman 1981; Palmer 1993a; Wilson 1994), private collections, and antique shops and shows all provide opportunities to refine our knowledge of how to date glass and are particularly useful for hands-on knowledge of glassware illustrated in secondary sources.

Decorative Techniques

Colored Glass

Although many different glass colors were known and used by glassmakers, colorless glass has been the primary choice for tableware for 500 years. Nonetheless, colored tableglass has been fashionable at different periods.

Coming into the 19th century, colors in production were cobalt blue, amethyst, emerald green, and opaque white. Early-19th-century tablewares made in bottle and window glass factories in the United States also came in aqua, dark green, and amber shades (Figure 8) (Wilson 1994[1]:73-88, 153-160). These colors were caused by iron and other impurities in the sand, not by deliberate attempts to create them. On the other hand, colorless glass is a deliberate choice achieved partly by adding certain metallic oxides to the glass batch which change or mask the colorizing effects of any impurities (Jones and Sullivan 1989:12-13).

In the late 1820s, Bohemian glassmakers began to experiment with color and developed a gold ruby glass (an intense transparent red), as well as black, opaque sealing-wax red, cornflower blue, opaque white, apple green, and turquoise. By the early 1830s, glassmakers had learned how to use uranium which gives glass a distinctive lime-yellow or lime-green color. In the 1840s, translucent colors, sometimes called alabaster or clam broth, in white, pink, aqua, and green were introduced. Although these colored glasses were introduced at the high end of the market, some were also made in pressed glass. Most distinctive of all were the cased glasses composed of two or three layers of differently colored glass which were cut or engraved to expose the colors under the surface layer. In archaeological contexts, these layered glasses are usually window glass or lighting devices, particularly lampshades, although vase and tableware fragments are occasionally encountered, and usually date closer to 1900. Yellow and red stains introduced in the 1830s were used as cheaper versions of cased glass. For colored illustrations, see Spillman (1981:Plates 1-16), Drahota (1983:166-167, Plates 122-128), Hajdamach (1991:81-94, 104), and Wilson (1994[1]:249-263).

In the 1880s, colored glass once again became fashionable, from the cheapest to the most expensive wares, with an astonishing array of colors made possible by the introduction of new glass formulas and new decorative techniques, including many which are outside the scope of this guide (Revi 1959; Hajdamach 1991:249-329). The prevailing theme from the 1880s onward seems to have been "more is better." Exuberantly decorated glass stayed popular into the 20th century, as can be seen by the water and lemonade sets offered by Butler Brothers in 1910 (Figure 1). Colored glasses made in this period include the following:

1. Transparent colors. In the 1880s, red became a very popular color but uranium yellow/green, amber, aqua, pale blue, and grass green (ca. 1900) were also produced.

2. Opaque colors (Figure 2). Opaque white pressed glass was relatively common before the 1870s, but in the later 1870s, British and American manufacturers expanded the opaque glass repertoire to include yellow, ivory, greens, blue, turquoise, and black (Spillman 1982:185, 190; Slack 1987).

3. Heat-sensitive glasses (Figure 3). For batches containing arsenic, uranium, or gold, the glass was cooled slightly and then reheated to change its color wherever the heat was applied and the glass was thickest. This meant that shaded colors could be made in transparent or opaque glass, shading from ruby to amber, pink to yellow, transparent blue to opalescent blue, or vice-versa. Pressed glass patterns sometimes had protuberances, such as hobnails, so that the tips would be a different color than the base. Developed in the United States in 1883, the formulas spread like wildfire, with many different color combinations tried out, including cased glasses in which the outer layer changed color but the inner did not. Even in fragments, the graduated colors of heat-sensitive glass make it easy to identify.

4. Cased or flashed glasses. New in this period was the treatment of layered glasses using hot glass techniques, which took advantage of the transparent and translucent properties of glass and of the new heat-sensitive glasses. Cutting, engraving, and acid-etching continued to be used on layered glasses. Extremely complex technical processes were used. For example,



FIGURE 1. Selection of jugs from the 1910 Butler Brothers catalogue which illustrates the variety of decoration offered from the 1880s until World War I, including colorless, green, blue, and ruby glass; opalescent and iridescent glass; enameling; and gilding as well as pressed, engraved, and etched patterns in geometric, naturalistic, and abstract motifs. With almost no exceptions, the glass is covered in decoration. One of the characteristic jug shapes in the early 20th century was a small handle placed in the center of the tall characteristically waisted (wider at the top and base and narrow through the middle) (Butler Brothers 1910:401). (Courtesy of Collins Kirby Art & Antiques, Fort Payne, Alabama.)



FIGURE 2. Opaque glassware: *left*, creamer in opaque turquoise blue, called Vitro-Porcelain glass, introduced ca. 1885, made by Tyne Flint Glass Works, South Shields, England (Slack 1987:107); *right*, creamer in opaque white glass, probably English. (Photo by Peter Lockett, private collection; digital image by Rock Chan.)

shaded opalescent glassware (Figure 1, center, bottom two rows), which featured opalescent white patterns such as coin dots, swirls, and hobnails against a colored ground, was accomplished by layering a heat-sensitive colorless glass over a colored ball of non-heat-sensitive glass. The vessel was blown in a pattern mold, the glass cooled slightly and then reheated to "strike" the opalescent white (Revi 1959:32-34; Spillman et al. 1994:70,74-75). Cased glass

refers to two or more layers of glass of equal thickness; flashed glass refers to a thin layer of colored glass over a thicker layer, usually colorless (Jones and Sullivan 1989:52-53).

5. Marbled glasses (Figure 4). In the late 1870s, English pressed-glass manufacturers reintroduced marbled glasses—generally opaque white mixed with transparent purple, blue, green, pink, and brown—which are characterized by swirled color variations (Slack 1987:34, 51, 93, 94). These types of glasses were also made in the United States.

6. Solarized glasses. Colorless pressed glass tableware made after 1864 in the new soda-lime glass (see Glass Composition) can be found with a purplish tint. Manganese, used to decolorize the glass, produces a photo-sensitive glass which begins to turn purple after prolonged exposure to ultraviolet rays. Solarized glass is most common from the 1870s to World War I, but some 18th-century French table glass is also affected. Although also decolorized with manganese, colorless potash-lead glasses are not affected by sunlight.

In the late 1920s, a new color palette was developed for the U.S. and Canadian market: transparent pastel colors in pink, green, yellow, and blue; transparent dark blue and deep red;



FIGURE 3. Pressed creamers made in heat-sensitive glass patented in 1889, by George Davidson & Co., Gateshead-on-Tyne, England (Slack 1987:74, 76-80): *left*, Primrose Perline, a yellow transparent glass shading into translucent/opaque yellow; *right*, Blue Perline, an "electric" transparent blue glass shading into translucent/opaque blue. (Photo by Peter Lockett, private collection; digital image by Rock Chan.)



FIGURE 4. Pressed salt in marbled glass, called Blue Malachite, introduced in the late 1870s by Sowerby's Ellison Glass Works, Gateshead-on-Tyne, England. (Photo by Peter Lockett, private collection; digital image by Rock Chan.)

and black. These colors are distinctive and, combined with motifs from the period, can easily be distinguished from earlier colors after some experience with real examples (Weatherman 1974; Spillman 1982:15, 90; Florence 1995a, 1996).

Applied Colors

Glass could also be colored by enameling, gilding, or staining, which are cold techniques that do not need to be done in a glasshouse, and by exposing hot glass to metallic chlorides which is done at the time of manufacture.

ENAMELING

In this process, vitreous colors combined with an adhesive are applied to a glass surface and then reheated between 700° and 900° F (370° and 480° C), fusing them to the surface and burning off the adhesive. The technique is an old one which was particularly favored by decorators in the German/Bohemian regions of Europe. Enameling was one of the popular decorative techniques used from the 1880s into the early 20th century (Figure 5).

Beginning in the late 1920s, enameling once again became popular for beverage wares in North America (Figures 14, 69) and was done partly by hand and, after the mid 1930s, also

by machine. Several techniques were used, including turning glass against a wheel filled with paint, using a rubber stamp, rolling glass in paint or enamel dust, by silk screen technique (Weatherman 1978:5-6), or by using a transfer to outline the pattern which was filled in by hand (Golledge 1987:29-30, 56-59). Motifs used in the 1930s, and often later, included colored horizontal or swirled bands in red, yellow, black, white, jade green, or navy blue; playing card motifs (hearts, clubs, diamonds, and spades); sailboats, checkerboards, tulips, polka dots, Spanish dancers, "Mexican theme," polar bears, fighting cocks (cocktails), and Scotty dogs. Generally at least two colors were used. One pattern, which had raised frosting on the lower half of the pitcher and tumblers with a narrow red band above it, was described in this way: "The frosting gives this Beverage Set a very cold appearance and the red bands give a colorful cheerful effect . . ." (Weatherman 1978:91). "Colorful cheerful effect" sums up this whole range of wares.

GILDING

Gilding is done by applying a layer of gold leaf, paint, or dust to the glass surface, which may then be fired or unfired (Newman 1977:131-132). Unfired gilding can be easily rubbed off and appears to be the type used in the 1890s and later for cheaply decorated wares (Figures 5, 89) where it was applied around the rim, in bands, or to highlight parts of pressed patterns (Measell 1994a:127-130, 165). As an alternative to gilding, some used iridescent gold (Figure 93).

STAINING

Using silver chloride to produce a yellow stain was developed in 1820 and a red stain in 1840 (Newman 1977:293). The technique was a cheap imitation of cased or flashed glasses. From the late 1880s and into the 20th century, red and yellow stains became popular ways to color cheap pressed wares (Figure 6). The stains do not adhere well to the glass surface and are usually worn or scraped off. Ruby staining was often used for cheap souvenir wares which exhibit crudely engraved designs and wording that celebrate famous attractions, special occasions, and sentiments.

IRIDESCENT GLASS

In the 1870s, another distinctive color development was iridescent glass which was produced by exposing hot glass to metallic chlorides. Depending on the color of the base glass and the composition of the fumes, the surface of the glass became iridescent in colors such as ambers, blues, or greens. As pressed-glass manufacturers were usually prompt to imitate more expensive techniques, it is puzzling that pressed iridescent glass, called "carnival" by collectors, was not made until 1905 (Figure 1) (Spillman 1982:51, 65, 286-289; Measell 1994a:132-136, 153-155, 163-168). After that date American, European, and even Australian glass companies made carnival glass and it continued to be a well-known product past the 1930s.

DEPOSIT-WARE

Bonding silver onto glassware was being done by 1880 (Revi 1959:198-201; Hajdamach 1991:287-289), and continued into the 1930s. Patterns offered in the T. Eaton Co. catalogues around 1914 were in sinuous art-nouveau styles, while those in the 1930s resembled acid-etched patterns of the period.

Glass Composition

The basic glass compositions of potash-lime, potash-lead, and soda-lime continued during the 1800-1940 period. Potash and soda are fluxes added to the glass batch to lower the melting point of sand. Lime and lead are also fluxes but their primary purpose is to make glass stable after it is cool (Jones and Sullivan 1989:10-12). However, determining glass composition is difficult without expensive time-consuming tests. Although shortwave and longwave ultraviolet lights are useful tools for archaeologists to sort glass fragments of different composition (Jones and Sullivan 1989:12), determining what the fluorescences actually mean is impossible without further tests. For example, in contexts dating to the second half of the 19th century, a purple fluorescence in colorless glass fragments probably indicates the presence of lead in the composition. However, no chemical analyses have been done to confirm this. Purple fluorescence has been found on both tablewares and lamp chimneys. Be cautious when reading documentary material as words such as "flint" and "crystal" are sometimes used to suggest higher quality glass than is

justified, such as the "pure crystal glass" offered by Montgomery Ward & Co. (1901:45). These terms describe colorless glass of good quality but not necessarily with any lead content. Only if the source states that the glass contains lead can one assume that it does; e.g., "Pure thin lead blown glass" (Butler Brothers 1905:147). Another term found in early-20th-century literature is "pot metal" which refers to glass melted in a pot furnace rather than a tank furnace. Pot metal was of better quality (Rosenhain 1908:109-110).

It is impossible to use glass composition to determine date and country of origin because of the international nature of the glass trade in the 19th and 20th centuries and the lack of hard base-line data. Some datable composition changes are known, most of which are related to color, such as the introduction of heat-sensitive glasses and uranium for yellow/green glass (see Colored Glass).

One important composition change is related to American pressed glass. From the introduction of mechanically pressed glass in the late 1820s, American manufacturers used potash-lead glass. Lead glass has a high refractive index which was considered desirable in pressed glassware. Its luster compensated for deficiencies in pressing technology, particularly in the early years, and it echoed the luster and weight of cut glass. Lead glass, however, sets up slowly; that is, it remains fluid longer than soda-lime glass which meant that in the pressing process, glass had to remain in the mold longer for the glass to "set." The ingredients for lead glass were also comparatively expensive. In 1864, William Leighton in West Virginia developed a formula for soda-lime glass. The formula substituted bicarbonate of soda for the type previously used. It produced glass which resembled lead glass, but was lighter in weight, and could be made for one-third the cost of lead glass (Wilson 1994[2]:522). Within a few years, most American pressed-glass factories had switched to the new formula. Patterns made from the 1840s into the late 1860s and early 1870s can be found in both lead and soda-lime glasses, depending on the date of manufacture. Patterns introduced after the late 1860s, however, were only made in soda-lime glasses.

English manufacturers also altered their pressed-glass formulas, as an 1888 article in the *Pottery Gazette* indicates, by retaining a small



FIGURE 5. Jug decorated with pink, white, blue, and brick red enameling; gilding; optic molding; and a crimped rim. Crimping tools were introduced about 1874, but came into widespread use in the 1880s (Hajdamach 1991:297-300). The handle was first applied at the base and pulled up to the rim. The jug has optic-molded panels on its interior (see Optic-Molded Glass). The absence of mold lines indicates that the second, full-size, mold was a turn mold. There is a rough pontil mark on the base, demonstrating that the pontil continued in use in the tableglass industry long after the mid 19th century, when alternative tools had come into use (Hajdamach 1991:34-36). Based on the combination of decorative techniques and overall style, the jug dates from the 1880s to early 20th century, and was probably made in Bohemia, although American firms also made similar wares (Measell 1994a:127). (Photo by Rock Chan, Parks Canada collection.)

amount of lead in the formula (Slack 1987:47, 50).

HEAT-RESISTANT GLASSES

Borosilicate glasses have a low coefficient of expansion which makes them suitable for coping with extreme temperature changes. Formulas for this type of glass were developed in the early 20th century to make specialty products such as railway lanterns and battery jars.

PYREX

By 1910, Corning Glass Works had developed several different borosilicate glass formulas for

railway signal lenses, lantern globes, and battery jars. The new formulas were so effective that the rate of breakage dropped dramatically and sales of replacement lenses and globes plummeted. The company began searching for alternative uses for its borosilicate glasses. Between 1911 and 1915, Corning Glass Works concentrated on developing a chemically stable, safe, chip-proof glass suitable for baking, on determining the right product mix, and on developing a product with consumer appeal (Blaszczyk 1995:489-521). In 1915, after four years of research, the company had perfected its formula and began to sell casseroles and baking dishes, custard cups, loaf pans, cake dishes, and pie plates (Rogove and Steinhauer 1993:70-83). Other items followed, such as teapots in 1922, measuring cups in 1925, and refrigerator dishes in 1929. Sales were brisk from the beginning. In its 1917 fall catalogue, the T. Eaton Co. showed the new baking dishes, placed in a silver-plated holder: "Silver plated casserole, lined with transparent oven glass, cut glass cover. Glass will stand heat of the oven, fitted in silver-plated pierced design bright burnished seven-inch frame" (T. Eaton Co. 1917-18:289).



FIGURE 6. The Red Block pattern, introduced in the mid 1880s, was made by several American firms and reissued several times during the 1890s by the United States Glass Company (Jenks and Luna 1990:432-433). This is a sugar bowl in colorless glass with a scratched and worn red stain around the rim and on the top of the blocks; the handles were pressed at same time as the body. (Photo by Rock Chan, Parks Canada collection.)



Pyrex Casserole, Cut-glass Cover
30-1601. Handsome Casserole with a real Pyrex glass lining, cut glass cover, pierced design frame with conventional ornamentation, wood handle diameter about 8 in. Pyrex glass is transparent and will stand the heat of the oven. Would be appreciated as a gift; most moderately priced. Price, delivered 7.25

FIGURE 7. An early offering of Pyrex by T. Eaton Co., with cut decoration on the cover, and placed in a silver-plated holder for service at the table. (T. Eaton Co. 1918-19:359; reproduced with the kind permission of The T. Eaton Company Limited, Toronto; digital image by George van der Vlugt.)

The 1918 Spring/Summer catalogue noted that the glass casserole would not chip or break from the heat, that it did not absorb odors, was easy to keep clean, and "with proper care will last indefinitely" (Figure 7) (T. Eaton Co. 1918:225). The casserole and its electro-plated frame cost \$6.00. Eaton's catalogues continued to offer both pie plates and casseroles until 1940, with frequent design changes. In the Eaton's catalogues, Pyrex competed with, and soon replaced, white-lined brown earthenware baking dishes called Guernseyware.

In 1922, Corning had plants in Europe and Britain manufacturing Pyrex (Tyne and Wear County Council Museums 1983:8), but Canadian production did not begin until 1946 (King 1987:192).

Pyrex sales slowed down in the 1920s for a number of reasons: high prices, stagnant designs, and breakage which resulted when Pyrex was not treated properly. It was considered expensive and had not reached lower income consumers except as wedding presents. Company research showed that the middle-class market was saturated (Blaszczyk 1995:649-651; 660-662). Through the 1930s, the company worked at lowering its prices, at redesigning products, and at developing a glass that could be placed directly on the burner.

PYREX FLAMEWARE

Alterations in glass formulas produced an aluminosilicate glass which could be used on top of the stove. It was made from 1936 to 1979. Between 1936 and 1946, the glass had a bluish tone to it to distinguish it from Pyrex (Rogove and Steinhauer 1993:100).

Molded trademarks and green stamped marks for Pyrex and Flameware can be found in Rogove and Steinhauer (1993:67-69), although they do not date most of them.

FIRE-KING GLASSWARE

Borosilicate glasses were also developed by other firms. "FIRE-KING" is the trademark used by the Anchor Hocking Glass Corporation between 1942 and 1976. Kilgo et al. (1991) illustrate and date the different forms and decorations produced under this trademark, but the most familiar product is the translucent white or green coffee mug.

Glass on Glass

Placing glass onto glass can be part of the process of making an object, such as attaching a stem, foot, or handle, or it can be a decorative technique. It was a common decorative technique during two periods: initially during the first half of the 19th century and again, at the higher end of glass production, during and beyond the 1880s.

DOUBLE GATHERS

With the exception of cased or flashed glass, double gathers were usually done on the lower part of the body and could be plain or decorated by ribbing or tooling (Figures 8, 42 [nos. 16 and 21], '48, 74f). Often combined with a flaring rim, objects decorated by this technique echo classical Greek-urn shapes. Pillar molding, which has bold protuberant ribs, does not have an obvious second layer, and dates from the 1830s to ca. 1870 (Wilson 1994[1]:195-196).

LOOP OR FESTOON GLASS

"A thread—generally opaque white but sometimes blue or red, was trailed horizontally around



FIGURE 8. Glass threading and "lily pad" decoration applied to the lower body of hollowares, such as bowls, pitchers, and vases, was done in bottle- and window-glass houses in New England, New York state, and possibly, in 1840, in a short-lived factory at Mallorytown, Ontario. As a group, the tablewares manufactured in these factories were made in shades of aqua, green, and amber, and date from ca. 1820 to 1860 (Spillman 1982:Nos. 122-123; Palmer 1993a:174-179; Wilson 1994[1]:46, 142-144). (Courtesy of The Corning Museum of Glass, Corning, New York.)

the body of a piece and then, after reheating, pulled up and then down" (Wilson 1994[1]:94, 147-150). The technique was used in the 18th century and again in the United States around 1840.

THREADED GLASS

This is another old technique which continued in use in the early 19th century in North America, primarily for tablewares made in bottle and window glass factories. The threads used were the same color as the body of the glass and were applied by trailing a thin stream of glass onto the object as it was rotated by the glassmaker (Figure 8, far right). In 1876, a machine for threading was patented in England and subsequently several other machines were developed. Usually in a different color from the base glass, these threads are distinguished by their consistent size, the mechanical regularity of application, and were used to cover all or parts of an object (Figure 9). Combining threading with other decorative techniques, glassmakers produced amazing variations on the

theme over the next few decades (Hajdamach 1991:273-283).

TRAILED GLASS

In the 1880s, under the influence of Rustic styles and Japonism, and at the higher end of the glass market, glassmakers applied asymmetrically crude (often decorated by ribbing) trails or irregularly shaped buttons of differently colored glass over a glass piece already decorated in other ways. Sometimes they added pointy feet or handles (Hajdamach 1991:Color Plate 30).

Blown Glass

Mouth-blown glassware is shaped by blowing air through a blowpipe into hot glass and manipulating it with various types of tools into whatever style is desired. *Free-blown* glassware is made without using molds but may still be decorated in some way by tooling or adding glass (Figures 8, 39 [tumblers]), or by cold techniques like cutting, engraving, acid-etching, enameling, or gilding. *Mold-blown* glass is

OLIVE R. JONES: A Guide to Dating Glass Tableware: 1800 to 1940

shaped and decorated by the use of some type of mold (Jones and Sullivan 1989:50-54, 23-33). *Semi-automatic machine-blown* tableware production began in 1897 for tumblers, finger bowls, lemonade glasses, and stemware using a machine developed originally for blowing light bulbs and lamp chimneys (Scoville 1948:97-98, 133-135, 152-154, 195-196). These were turn- or paste-mold machines so they left a highly polished surface with no visible mold lines. The role of *automatic machines* in blown tableware production in the 1920s and 1930s has not been discussed in detail in the sources used (Scoville 1948; Weatherman 1974; Dodsworth 1987), but it is doubtful if details of manufacturing technology will provide much refinement in dating objects whose patterns can be dated and assigned to specific factories.

Even after the introduction of machines, mouth-blown glassware continued to be made because, as Davis (1949:227) points out in connection with the pressed-glass trade, hand production is profitable for items not made in large enough quantities to justify mechanized production and also to supply a market which values "hand-made" glassware. For example, from the late 1930s and into the 1950s, American industrial designer Russel Wright used American hand factories to manufacture his designs for department stores catering to middle-class shoppers (Blaszczyk 1993:2-22). Unfortunately most of these American hand factories faced financial difficulties in the 1940s and 1950s, and many had closed by the early 1970s. Not without difficulties, hand production continues in Britain, Ireland, and parts of continental Europe.

It is frequently difficult to determine how individual pieces of tableglass were made if there are no obvious signs of mold use. Glassmakers made free-blown wares, and used fire-polishing or turn molds to eliminate mold lines and dulled surfaces, resulting in glasses with the same look. It is likely that products blown in semi-automatic or automatic machines can be identified with more research.

PATTERN-MOLDED GLASS

Pattern molding, in which the glass parison is blown into a patterned mold and then removed and blown to full-size, is not a technique which translates to machine production. It is a very old technique and was still in use in the first



FIGURE 9. Footed goblet with an engraved bowl, a colorless applied frill at the stem and bowl junction, and a foot decorated with cranberry threads applied by machine. Based on these decorative methods, the goblet dates no earlier than the 1880s. (Photo by Peter Lockett, private collection; digital image by Rock Chan.)

half of the 19th century for tablewares, particularly tumblers, and jelly and wine glasses (Figures 10, 85). Although various types of diamond patterns were used in the 18th century, the 19th-century motifs are primarily ribs, rib/flutes, and rib/panels. The technique, which gives a diffuse look to motifs, was still a useful decorative technique for art glass in the last quarter of the 19th century. Pattern molding can be identified by the corresponding profiles on the interior and exterior surface: a rib on the outside can be felt as a rib on the inside.

CONTACT-MOLDED GLASS

In this process, glass is blown into a full-size open-and-shut mold which can shape and



FIGURE 10. Wine glasses with drawn stems with bowl, knop, and step decorated by pattern molding. This style of drawn stem—with a knop and a step—is shown in the 1840 Apsley Pellatt catalogue as a "six-fluted ball stem" (Wakefield 1968:52). (Photo by Olive Jones, private collection.)

decorate it at the same time. In comparison to labor-intensive techniques such as cutting and engraving, it produces a decorated item with minimum effort and can imitate cut and engraved motifs successfully, although the resulting pattern is more diffuse. Contact molding can be identified by comparing the profiles of the interior and exterior surface: a rib on the outside corresponds to a depression on the inside. With some exceptions, the role of contact molding in forming and decorating tableglass was not discussed in the sources used.

From ca. 1790 to ca. 1820, several Irish glasshouses used a full-size partial mold for decorating the base and lower body of decanters, finger bowls, and other vessels. Generally, the lower body is decorated with ribs/flutes which, on the base, become rays encircling an undecorated center which may or may not have a molded company name on it (Figure 64a) (Warren 1981:71-98, 199-200). Warren is unclear as to whether a dip mold or a hinged mold was used for these objects, although both are feasible.

"Blown three mold" is an American collectors' term for a wide range of decorated tablewares blown in full-size open-and-shut molds from about 1810 to 1840s (Figures 11, 48). The molds usually consisted of three vertical parts

and a base part (Wilson 1994[1]:168-171, 205, 214-247). The earlier patterns imitated cut-glass styles, primarily vertical rib/diamond combinations. In 1814, Rundell stated in her book on domestic cookery: "Those who wish for trifle dishes, butter stands, &c. at a lower charge than cut glass, may buy them in molds, of which there is a great variety that looks extremely well if not placed near the more beautiful article" (Wilson 1994[1]:170).

From the 1820s to 1840s, there appeared densely packed vertical ribs and patterns with more flowing lines consisting of scrolls, fans, arches, guilloches, peacock eyes (or comets), and rosettes. Characteristic of all these patterns is overall coverage in the molded parts. McKearin and McKearin (1948:240-331) provide comprehensive analysis of the blown three-mold patterns and have assigned numbers to each pattern which subsequent authors continue to use. Colors produced were colorless, aqua, amber, cobalt blue, purple, and olive green.

Fully mold-blown Anglo-Irish tablewares made during the first half of the 19th century have not been studied as thoroughly as American ones. Anglo-Irish factories made tablewares with vertical rib/diamond patterns, possibly earlier than the American examples (Warren 1981:200-212; McNally 1982:112-113; Jones and Smith 1985:32, 73). The factories, however, also seem to have produced other types of patterns, particularly for tumblers. Included in an 1829 list of prices for the English flint-glass trade are a number of molded items: cruets and castors, decanters, blow-over and blow-back dishes and salts (see Blow-over Molds), liquor bottles, and tumblers with "molded, star or ornamental bottom" (Hughes 1958:24-25). Tumblers with molded ribs, with star bursts on the base, are examples of this type of decoration (Figure 12) (Brooks 1987:11, 15, 18) and were probably blown in a partial full-size mold similar to the marked Irish pieces. The discrepancy between American and British coverage of the "blown three-mold" group makes it difficult to compare products. Was this a decorative technique little used in the English glass industry or, as seems more likely, is its absence in the secondary literature based on a lack of interest by English researchers and collectors? Did much of this type of glassware find its way across the Atlantic from the 1920s to the 1950s,



FIGURE 11. Examples of blown-three-mold glass attributed to New England and Midwestern factories. The creamer and decanter on the left are in the "baroque" style while the other decanter and sugar bowls are in the "geometric" style which imitates cut glass motifs of the early 19th century (Figure 40). The colorless decanter is of lead glass. Both covers on the sugar bowls have pontil marks on top of the finial. (Courtesy of The Corning Museum of Glass, Corning, New York.)

and become transformed into "early American glass?"

After the mid-19th century, the use of contact molding for decorating tableware becomes less clear. Some American products can be identified, such as molasses cans, bar bottles, or colognes made in bold patterns similar to pressed patterns of the 1850s and 1860s (Wilson 1994[2]:523, 540-545). From the 1870s onward, the principal type of contact molding used seems to have been optic molding (below) although some contact molding continued (Figure 13). It is likely that pressing (see Pressed Glass) had become the dominant technique for making and decorating cheaper tablewares, a position pressed wares held until the development in the late 1890s of semi-automatic machines to make blown-molded, but undecorated, tumblers and stemware. A commentator in the *National Glass Budget* made the following observations on the new machine, which Michael J. Owens had developed and the Rochester Tumbler Company had bought the rights to use:

The commentator went on to compare the output of each system: a hand blower could make about 700 punch tumblers in the same period as the machine made between 1800 and 2000 tumblers. Comparative costs were 50¢ per hundred compared to less than 6¢ per hundred. As this was a semi-automatic machine there was still considerable human involvement but it was

The commentator went on to compare the output of each system: a hand blower could make about 700 punch tumblers in the same period as the machine made between 1800 and 2000 tumblers. Comparative costs were 50¢ per hundred compared to less than 6¢ per hundred. As this was a semi-automatic machine there was still considerable human involvement but it was



FIGURE 12. Colorless lead glass tumbler decorated by contact molding on the base and body and by sketchily done engraving on the upper body, similar in execution to Bohemian-style engraving often found on tumblers. As this is of lead glass and the ribs and flutes were executed by contact molding, the tumbler was likely made in England sometime during the first half of the 19th century. Similar Bohemian-style tumblers would have been made in potash-lime glass and decorated by pattern-molding (Figure 85). The pontil mark consists of rough bits of glass around the resting point. (Photo by Rock Chan, private collection.)

less skilled and lower-paid work. It is likely that the tumblers shown in the Butler Brothers (1914:324A) catalogue were made in a semi-automatic machine: "9 $\frac{1}{2}$ oz. LEAD BLOWN TABLE TUMBLERS. Just think of it! We have a half million of these tumblers in stock and we'll sell them all before the month is out. Are you one of the lucky buyers?" The tumblers were tapered, completely plain, thinly blown, and cost 23 $\frac{1}{2}$ cents per dozen.

The next obvious group of tableware decorated by contact molding is found in the late 1920s and 1930s. In the Butler Brothers (1929, 1930) catalogues, thin blown tumblers, stemware, and water sets are offered in greater variety than in

previous catalogues and the term "thin blown" is highlighted (Figure 14). Designers of the period used the flexibility offered by contact molding to produce patterns with distinctive modern looks (Weatherman 1974:48; Florence 1995a:182).

BLOW-OVER MOLDS

In this technique, glass is blown into the mold and then burst off, which leaves a thinner edge, or blown over, which leaves a thicker edge (Figure 15) (Pellatt 1849:96). The technique was used to make objects in which the rim could be cut and polished, such as salts or open dishes, or ground for a fitment, such as castor and cruet bottles. The finish or rim was ground or polished when the glass was cold, thus it was not necessary to use a pontil to hold the object while it was being made. On small dishes the glass can be so thick that the inner surface is smooth, without the concave/convex relationship between the interior and exterior surface so characteristic of contact molding (Wilson 1994[1]:205). Using descriptions in American period documents, Wilson (1994[1]:171-173, 205-213) dates the technique ca. 1810 to ca.

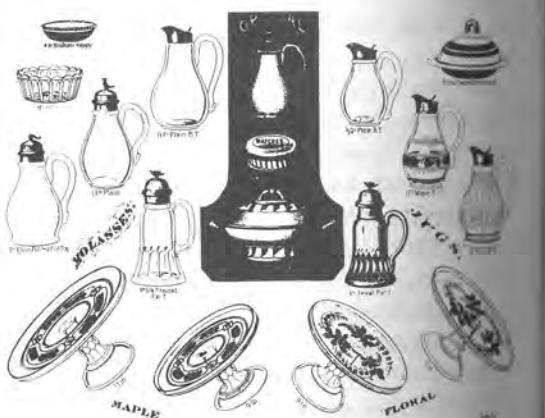


FIGURE 13. The pint Rose pattern jug (center right) was blown in a mold while the jugs adjacent to it in Maple and Jewel patterns were pressed (Pennsylvania Glassworks 1972:30). Molasses or syrup jugs are characterized by metal covers, often of Britannia metal and often patented, which regulated the flow of viscous liquid (Spillman 1982:192-194). They were introduced at least as early as the 1850s (Figure 22), and continued to be offered into the 1930s (Butler Brothers 1930:n.p.). Salvers in Maple and floral patterns are also shown on this page. (Courtesy of the Juliet K. and Leonard S. Rakow Research Library of the Corning Museum of Glass, Corning, New York.)

1830. Its inclusion in Pellatt's book suggests, however, that it was still in use, at least in British glasshouses, into the 1840s. For vessels with glued-on fitments or screw tops, such as molasses jugs, or salt and pepper shakers, the burst-off technique continued to be used into the 20th century. For this use it was not always necessary to grind the finish and without the metal covers, one can sometimes note the horizontal mold line at the top and the thin burst

off remnants (Spillman 1982:No. 185; Jones and Sullivan 1989:91; Lyon 1994:71-74).

TURN-MOLDED GLASS

It is likely that some tablewares from the 1870s onward were blown in turn molds. The turn mold is a full-size multi-part mold that is coated with a paste which is moistened before blowing the object. During the blowing process,

WATER and BEVERAGE SETS



FIGURE 14. The majority of the jugs and tumblers in these water and beverage sets are described as "blown" and many of the horizontal-rib patterns, such as IC-1851 and IC-1047, are best made by blowing into a full-size mold. Technically, the horizontal nature of these patterns would make it feasible to blow the jugs and tumblers in turn or paste molds, to eliminate mold lines. In the same catalogue, berry bowls and nappies, and cream and sugar sets are all吹制的, mostly in older, less-adventurous patterns than these (Figure 61) (Butler Brothers 1930:n.p.). (Courtesy of Kirby Art & Antiques, Fort Payne, Alabama.)



FIGURE 15. Glass dish made in the blow-over method. Its roughly ground rim and undecorated surface indicate that it was to be used as a liner, probably for a silver or silver-plated dish. Generally open vessels made in this technique have a flat or decorated and polished rim. (Photo by Rock Chan, Parks Canada collection.)

the object is rotated, riding on a thin cushion of steam which imparts a shiny surface and eliminates mold marks (Figure 5) (Jones and Sullivan 1989:30-31). The technique is suitable for mouth-blowing or machine production, and was used for making bottles, lamp chimneys, and light bulbs as well as tablewares.

OPTIC-MOLDED GLASS

Optic molding is a technique in which the glass is blown into a small patterned mold and then transferred to a full-size undecorated mold and blown. The pattern, usually consisting of panels, ribs, or circular protrusions, is transferred to the inside of the object (Jones and Sullivan 1989:32-33). When the full-size mold is a turn mold or dip mold, no mold lines appear on the piece. Tumblers blown in this way have been found on 18th-century French colonial sites in North America, but the major use of the technique in tableware dates from the 1880s into the 20th century where it was used principally for drinking glasses and jugs (Figures 5, 14) (Diamond Flint Glass Company 1904:25; Butler Brothers 1910:408; Wilson 1994[2]:605-974). It is one which translates into machine production as it involves the use of two molds, a process familiar to 20th-century glass manufacturers. In addition to optic molding, glasses are often decorated with enameling, gilding, needle etching, and light cutting. In the 1905, 1910, and 1914 Butler Brothers catalogues, optic molding was not common; however, in the 1925, 1929, and 1930 catalogues, for both tumblers and stemware, it is the dominant decorative

technique. Continental European glassmakers are still making optic-molded tableware.

COMPRESSED AIR

In the early 1830s, Robinet—a glassblower at Baccarat in France—invited a mechanical pump which supplied sufficient air pressure to enable French manufacturers to produce complex patterns with crisp definition. This technique was largely used in European glass houses, particularly in France. Air was used rather than a plunger, thus it may be possible to feel the characteristic surface on blown contact molding (Spillman 1982:164). The French patterns are generally very detailed and often resemble American pressed lacy patterns. Examples of this type of glass from Launay Hautin & Cie ca. 1840 catalogues are published in Innes (1976:299-300) and copies of complete catalogues are available on file from The Juliet K. and Leonard S. Rakow Research Library of The Corning Museum of Glass. English manufacturers also used this technique (Figure 16) (Hajdamach 1991:96-97).

Pressed Glass

PINCHING

During the 18th century, specialized branches of the British glass industry used hand-held pinchers to form small objects such as chandelier drops and fob seals. By the end of the century, vessel manufacturers used the technique to form decanter stoppers and feet for salts and bowls (Figure 17) (Jones and Sullivan 1989:33-35). These techniques continued to be used at least into the late 1820s. In 1828, Thomas Leighton, of the Boston & Sandwich Glass Company, sent examples of articles to his colleague in Scotland: "We make them the Same as you Make the Square feet. the Mould Lifts with 2 ha[n]dles and opens at the Corners" (Spillman 1992:6). The surface was ruffled, hence the pinched elements were decorated, usually with ribbing, and flat parts, such as edges and resting surfaces or feet, were cut and polished.

MECHANICAL PRESSING

Pressed glass is formed in a multi-part mold in which glass is pushed into the mold by a

plunger powered by a screw or lever mechanism. At its simplest, the whole object can be shaped and decorated quickly and cheaply with very little skill as only the correct amount of glass needs to be dropped into the mold. Initially mechanical pressing was developed in the United States in the mid-1820s to manufacture glass furniture knobs. By 1828, however, the technique was being used to make a variety of tableware forms, and firms making the new wares were already having to protect their designs from competitors (Nelson 1988:48-62, 98). Both the technique and the products spread quickly. By 1831, Apsley Pellatt in London was taking out a patent for pressed glass and in 7 June 1832, the *Brockville Gazette* (Ontario), advertised "75 Casks American pressed Glass Ware, consisting of Sugar bowls, Creams, Salts, Preserve Dishes, Fruit, and Stand dishes, 3, 4, 5, 6, 7, 8, and 9 Inch Plates, 110 Dozen Glass Knobs" (Jones 1992:11). Plates and open bowls or dishes

had not been a strong product line in the glass industry prior to mechanical pressing but open forms, including salts, were particularly suited to the pressing technique. Rectangular and square objects require effort to make freeblown, however, along with blown contact molding (Figure 64d), pressing expanded the range of angular forms which could be made quickly and cheaply. Until the late 1830s, the traditional backbone products of the glass industry—stemware, tumblers, and decanters—were not made by pressing because of difficulties in making a vessel with a thin upper part (see Tumblers) as well as narrow-mouthed vessels.

Manufacturers very quickly figured out how to make multi-part objects, such as lamps and even decanters, by attaching different parts to each other with thin wafers of hot glass, sometimes by pressing one part and blowing another, or by using multi-part open-topped molds with subsequent retooling to form the object (Figures 18, 19) (Wilson 1994[1]:278-280). Throughout the 19th century glass manufacturers, machinists, and engineers continued to invent time-saving and cost-cutting improvements in the process of pressing (Scoville 1948; Davis 1949:226-229; Zembala 1984; Slack 1987:14-20; Wilson 1994[1]:265-285). Wilson (1994[1]:289-517) documents manufacturing processes in his descriptions of pressed pieces in the Toledo Museum, one of the few authors to do so. In 1917, automatic feeders were introduced to the pressed-glass trade and bit by bit, other parts of the process were mechanized. However, hand plants continued to make pressed specialized products whose production runs were too small for machines (Davis 1949:226-229).

Pressed glass is usually described by its decorative motifs because pressing not only shaped the object but also decorated it. The motifs possible in this technique ranged anywhere from plain to highly decorated; they could mimic simple or complex geometric cut-glass patterns or the realism of engraved patterns. Complex cut and engraved patterns took hours to make; pressed imitations took seconds.

PRESSED GLASS, 1827-CA. 1850

Pressed glass of this period is generally covered in decoration; the decoration is bold,



FIGURE 16. Cream or milk jug in thick, heavy lead glass may have been formed by compressed air as the inner surface follows the contour of the outer surface. The top has been fire-polished, however, to form the pouring lip which may have altered the relationship between the inner and outer surfaces. As well, the glass is close to 1 cm (0.4 in.) thick which may also affect the profile of the inner surface as thick glass retains heat longer than thin glass. Handle was applied first at the rim and then looped down to the lower body; it has a cut and polished base with impressed starburst and scalloped rim. Probably English, mid-19th century. (Photo by Rock Chan, Parks Canada collection.)



FIGURE 17. Decanter stopper made by pinching. (Photo by George Lupien, Parks Canada collection.)

detailed, and well-defined, with crisp edges. The glass sparkles because it is made of lead glass, which has high refractive qualities, and because it is covered by over-all patterns which provide many surfaces for light to catch. The dense patterns also serve to hide imperfections left by the pressing technique such as shear marks, which appear as cracks in the glass, and dulled surfaces caused by under-heated molds.

The earliest pressed glass, dating 1827 to ca. 1830 or 1835 (Spillman 1981:37-44; Wilson 1994[1]:276, 292-312), was decorated with imitation Anglo-Irish cut motifs: strawberry diamonds, crosscut waffle squares, and fans. Dating for these patterns is based on the absence of mold lines associated with the use of a cap ring, introduced about 1830, which was a mold part that formed and controlled the thickness of an object's rim (McKearin and McKearin 1948:345; Nelson 1990:44-48).

From about 1830 until ca. 1850 (Figure 20) (Wilson 1994[1]:278), the patterns are known as "lacy" because of the presence of dots, diamonds, or lines on the background. Thousands of pattern variations exist which imitate cut and

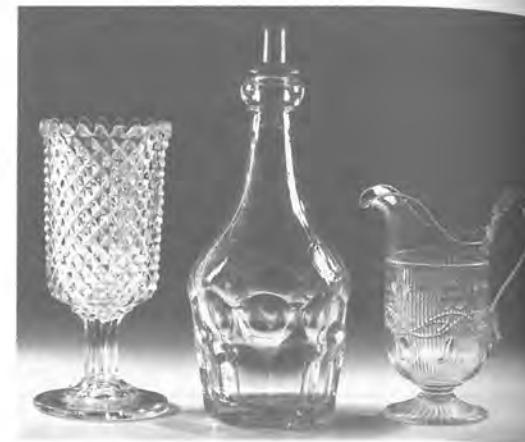


FIGURE 18. Pressed glass made in multi-part open-topped molds (from left to right): *Celery* in the Diamond Point or Sharp Diamond pattern which was made from the late 1840s to ca. 1870. Three mold lines, hidden in the pattern, extend from foot to rim although they were eliminated at the rim when it was fire-polished. Made in colorless lead glass, the piece is very heavy. As no pontil mark appears on the piece, a snap case or other holder was used to hold it while the rim was fire-polished. *Decanter* in the Ashburton pattern which was introduced at least as early as 1848, and continued to be made into the 1880s (Watkins 1970:151-152, 157-159; Husfloen 1992:32; Wilson 1994[1]:280, 285, n. 69). Narrow-mouthed vessels like this were pressed in a mold with a plain, flat base part, three or four body parts bearing the decoration, and above them an undecorated one-piece cylindrical mold part (Wilson 1994[1]:478). Held by a pontil, the cylindrical part was reheated and tooled to form the shoulder, neck, and lip. Mold lines encircle the heel and follow the edges of the body pattern and across the top of the design. As this piece was empolished, the pontil mark has been ground away and then polished, resulting in a smooth, circular depression. The one-piece cylindrical upper part in the mold made it possible to make complex objects without mold lines showing on the undecorated part and was adaptable to different forms, including stemware bowls and feet. An American patent illustrating this concept was taken out in 1847 (Wilson 1994[1]:271), and pressed items, such as goblets, shown in this guide with no mold marks on the upper undecorated surface were made in this type of mold and subsequently fire-polished. *Creamer* in Ribbed Leaf pattern (Figure 24) in which the upper part was initially formed in the same way as the Ashburton decanter, reheated, and tooled to form the pouring lip. Three vertical mold lines are hidden on the vertical ribs and extend down over the foot where a fourth mold part was used to shape the bottom of the foot. A horizontal mold line encircles the top of the pattern. The handle was initially applied at the top and looped down to be attached on the lower body. No pontil was used. Made of lead glass, the piece dates 1864 to ca. 1875. (Photo by Rock Chan, Parks Canada collection.)

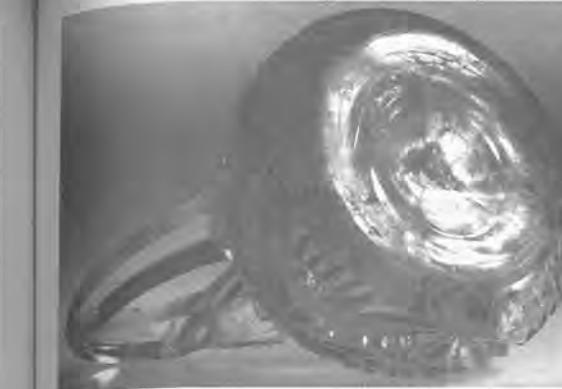


FIGURE 19. Narrow-mouthed vessels made in cut-and-shut molds were pressed upside down with a large band of undecorated glass at the base of the object. After withdrawing the object from the mold, the glass at the base was tooled inward and cut off which left a swirled crease on the base. The technique was developed in the 1870s (Innes 1976:66-67) and is most commonly found on cruets and molasses jugs. (Photo by Rock Chan, Parks Canada collection.)

engraved patterns and/or reflect decorative arts movements of the period. Motifs include classical (acanthus leaves, palmettes, cornucopia, oak leaves, shells and scrolls, feathered leaf shapes), gothic revival (arches, rosettes, quatrefoils, lancets, hairpins), folk art (hearts, tulips), historical/realistic (ships, eagles, buildings), peacock eye (later called comet), guilloches, thistles, and pineapples (McKearin and McKearin 1948:Plates 144-175).

Lacy-type patterns were also made in Europe, either by pressing or compressed air, and their production continued past mid-century (Spillman 1981:358-359).

PRESSED GLASS, CA. 1840-1870S

Pressed panel tumblers, introduced in the late 1830s (see Tumblers), seem to have been the first products made in a new style, now called geometric. During the 1840s, many new patterns were introduced in both the United States



FIGURE 20. Covered sugar bowl, open dish, cup plate, salt, and plate decorated by "lacy"-type pressed patterns produced in American factories between 1830 and ca. 1850. They are characterized by crisp, well-defined patterns against a textured ground and are of lead glass. The cup plate, center front, shows the *Chancellor Livingston* which operated between New York City and Providence, Rhode Island, until 1834, when it was decommissioned (Spillman 1981:137) (Courtesy of The Corning Museum of Glass, Corning, New York.)

JAS.B.LYON&CO.MANUFACTURERS & FLINT GLASSWARE

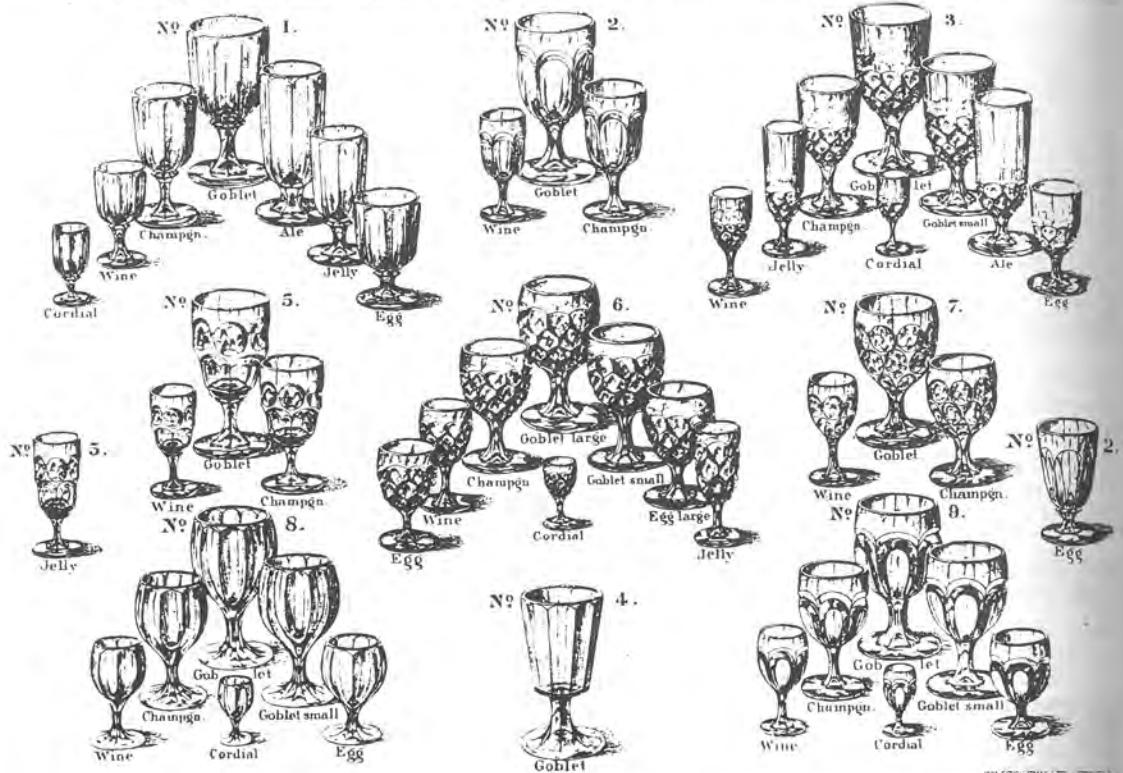
N^o 116 Water Street (five Doors below Monongahela House) Pittsburgh, Pa.

FIGURE 21. Page from the O'Hara Flint Glass Works catalogue which illustrates examples of geometric styles, sizes, and different functions of the stemware made by this firm (O'Hara Flint Glass Works 1861:3). Patterns are: No. 1 - Huber; No. 2 - Hotel; No. 3 - New York; No. 4 - Bohemian; No. 5 - Ashburton; No. 6 - Cincinnati; No. 7 - St. George; No. 8 - Huber; and No. 9 - O'Hara. Several patterns of this type continued to be made past the 1870s. Patterns resembling New York, for example, were still being made into the 1920s. (Courtesy of the Juliet K. and Leonard S. Rakow Research Library of The Corning Museum of Glass, Corning, New York.)

and Britain which imitated cut-glass motifs, particularly panels, flutes, round or oval facets, hexagons, diamonds, cross-hatching, and miters (Figures 21-23). During the 1850s, advertisements in Montreal newspapers by the Boston & Sandwich Glass Company and other American glass manufacturers showed both the range of objects and the range of patterns in the new style (Figure 22) (Jones 1992:10, 13-15). One piece of evidence suggests that the new styles in pressed glass competed head to head with cut glass and may even have forced the lowering of some cut-glass prices. An advertisement in the *Montreal Transcript* (1842) stated that it had "English Cut Dishes, as cheap as American pressed." The geometric style was produced in both Britain and the United States (Morris

1978:190-197; Spillman 1982:416-417; Slack 1987). Although its patterns were less detailed than the lacy ones, they nevertheless tended to cover all or most of the vessel surface up to the rim. The glass is thick, heavy, and of potash-lead composition. It is not clear if lacy patterns continued to be made during the 1850s and 1860s in the United States.

PRESSED GLASS, CA. 1865-1880S

In 1864, William Leighton developed a new soda-lime formula (see Glass Composition) which was considered a satisfactory visual substitute for potash-lead glasses. Most American pressed glass manufacturers had switched to the new formula within a few years because it was

American Pressed Glassware,
ON ACCOUNT OF THE
Boston and Sandwich Glass Company.

THE Subscribers will Sell by Auction, at
the Stores of the Agents, Messrs, MILLAR,
GLASSFORD & CO., No. No. 5, St. Sacrement
Street, on TUESDAY, 26th September—

106 cases ASSORTED GLASSWARE, first
quality manufactured at the Works
of the Boston and Sandwich Glass
Company, comprising:—

Punty Bowls on Feet
Spangle and Panel Dishes
Do Bowls on Feet, Jugs
Bedford, Providence, and other Lamps
Cone, Egg, and Concave Bell Lamps, Bronze
Mountings
Napies, with or without Covers
Quart, half-gallon and gallon Specie Jars
Ice Cream Glasses, Salts
Mo-flu. and Spangle Bitter Bottles, Brit. Tubes
Astor and Revere Champagne Goblets
Egg Cups, Jellies, and Cellaries
Gothic, Arch and Ashburton Lemonades
Astor and Ashburton Wines
Spoon Holders, Cup Plates and Candlesticks
Punty and Sp. Knob Ale Glasses
Spangle and other Pat. Decanters
Castor Bottles, assorted
Molasses Jugs and Mustards, Brit. Covers
Tumblers in great variety of weight and pattern,
&c. &c.

—ALSO—
An assortment of Druggists' Ware
Terms:—Six months credit on all amounts ex-
ceeding £25.

Catalogues will be ready for delivery, and Sam-
ples on view, on the 20th September.

Sale at TEN o'clock.
JAMES SCOTT & CO.

FIGURE 22. Named patterns from the Boston & Sandwich Glass Company include Punty, Spangle, Panel, Astor, Revere, Gothic, Arch, and Ashburton. The list includes a wide range of tablewares, including specialized forms with Britannia-metal tubes or covers (Montreal Gazette 1852:3).

much cheaper to produce. A comment in the *Crockery and Glass Journal* in 1879 about a newly introduced pattern extolled the visual appeal of pressed glass: "Every line in the design is a component part of an exquisite group and when this entire set of twenty-four pieces is placed on a well-spread table, the crystalline effect is beautiful" (Wilson 1994[1]:281).

Several different types of motifs were introduced during the ca. 1865-1880s period (Figures 24-25). Generally, the orientation of the patterns was horizontal; they circled the object rather than going from rim to base. *Geometric* patterns from the 1850s and 1860s continue, particularly honeycomb, facets, panels, and

V-shaped ribs. *Plain* patterns left most of the object undecorated except for decorative elements on the rim, finial, stem, or foot. Blank areas could be decorated with engraving (Figure 49) or, from the 1880s onwards, by staining. *Naturalistic* patterns, such as fruit, flowers, leaves, animals, hands, shells, baskets, and people, were used on finials, stems, and on the main body of the piece. The motifs stood out from the background and most typically went around the object. *Textured* patterns had stippled grounds with raised dots or frosted areas in contrast with smooth shiny areas. This type of design began in the mid 1860s (Morris 1978:194-196), and the effect was achieved by molding, acid-etching, engraving, or sandblasting. Many of these types of patterns continued to be made into the 1890s and later. Beginning in the 1870s, handles began to be pressed in the mold, rather than being applied by the glassmaker in a separate operation.

PRESSED GLASS, 1880S AND LATER

During the 1880s, color innovations became an important feature of pressed glass, including not just the glass (see Color), but also ruby and yellow stains, enamels, and gilding. Motifs introduced in the 1870s continued to be made, but several design changes were introduced in the late 1870s and early 1880s (Figures 26-29). The most prominent change concerned the orientation of patterns which switched from a horizontal to a vertical orientation. *Naturalistic* patterns featuring fruit and flowers, birds, animals, people, and scenes had a vertical orientation and were often confined in panels. Many new floral and leaf designs were shallower and less sculptured than the 1870s ones. Patterns in *contrasting textures* continued to be popular. *Rustic* designs were characterized by handles, feet, and finials disguised as twigs or branches. *Hobnails*, featuring protuberant rounded or pointed circles on the body of vessels, were often made in heat-sensitive glass. *Japonism* motifs were asymmetrical, with designs enclosed in parallelograms rather than squares or rectangles, and included such things as fans, butterflies, and swallows. Square bowls and plates were made under the same influence. *Plain* patterns often had a heavy band of decoration at the base in sharp contrast to an undecorated



FIGURE 23. Called Comet in period catalogues, collectors also call this type of pattern Horn of Plenty or Peacock Eye (Wilson 1994[1]:483). It dates mid-to-late 1850s into the 1870s. This group illustrates the range of shapes produced in a single pattern, including lamps. (Courtesy of The Corning Museum of Glass, Corning, New York.)

body. Some earlier *Geometric* patterns continued to be made. *Brilliant patterns* imitated brilliant cut patterns (Figure 26) (see Cut Glass). They were in production almost immediately after 1882, and continued to be a dominant style in pressed glass for much of the 20th century.

Patterns produced in English factories followed themes similar to those produced in American and Canadian factories, such as imitation cut patterns (Figure 52), rustic and Japonic patterns, contrasting textures, and naturalistic patterns. The naturalistic patterns tend to have a crisper, more sculptured look to them than North American examples, and often include realistically shaped vessels (Figures 2-4) (Slack 1987). Evidence for English production in the late 1870s and 1880s comes from the design registers, trademarked pieces, catalogues, and *The Pottery Gazette*. Partly because so much of the production is easily identified, and partly because of its attractiveness, glass from this period has been popular for both collectors and researchers.

PRESSED GLASS, 1890S AND LATER

In 1891, 18 companies in the American Midwest amalgamated to become the United States Glass Company although, after a devastating strike between 1893 and 1896, several of the original factories closed. By 1904, only six remained, plus three additional specialized plants (Revi 1964:306, 308). Production from this new company included new designs and reissues of many older patterns from its member factories (Figures 27-29). Catalogue pages from the U.S. Glass Company are illustrated throughout Revi (1964), in *Pennsylvania Glassware* (1972:133-156), and Heacock and Bickenheuser (1978). These catalogues serve as a snapshot of American pressed glass production in the 1890s, for both patterns and vessel shapes. A number of independent glass firms, however, continued to make pressed tablewares during the 1890s and first decade of the 20th century (Husfloen 1992:130-146).

During the 1890s and the first decade of the 20th century, consolidation also took place in the Canadian industry with several smaller factories being taken over by Diamond Glass which became the Dominion Glass Company in 1913 (Figure 30) (King 1987:84, 107-126).

Although a good variety of new patterns was issued, dozens of best-sellers from previous decades continued in wide production. Sometimes they were given a face lift by the addition of color, such as ruby and amber staining, and the application of flashy gold or colored enamel trim to highlight the design" (Husfloen 1992:102-103).

Colored glassware, including transparent and opaque colors and "marbled" colors, continued to be popular. Introduced into pressed-glass production in the early years of the 20th century was "Carnival glass" which featured iridescent golds, blues, and greens (Figure 1), and was often decorated with fruit or flower motifs.

From the patterns shown in the catalogues of the U.S. Glass Company, of Butler Brothers (Figures 1, 79), and of retail firms such as Montgomery Ward & Co. and T. Eaton Co., it is clear that imitation cut patterns and geometric patterns dominated the pressed-glass market



FIGURE 24. Although the Ribbed Bell-Flower or Ribbed-Leaf pattern has been attributed to several manufacturers and even to a ca. 1850 date, the 1864 M'Kee catalogue is the first dated documentary evidence for its production (M'Kee and Brothers 1981:29-31). The pattern does not appear in M'Kee's 1859-1860 illustrated catalogue, while the 1864 catalogue illustrates 42 pieces, strongly suggesting a new pattern. The style of decoration, with naturalistic motifs going around the object, as well as the contrast between a smooth pattern against a heavily patterned background, supports the view that this is a pattern introduced in the mid 1860s. Objects shown here include the "set" consisting of creamer, covered sugar, spooner, and covered butter, as well as a tumbler, different stemware, a plate, and pitcher. (Courtesy of The Corning Museum of Glass, Corning, New York.)



FIGURE 25. Examples of pressed-glass patterns of the 1870s (from left to right): *Footed sugar* in the Princess Feather or Rochelle pattern which appears in the ca. 1875 catalogue of Bakewell Pears & Co. It has three feathered medallions with a crosshatched center and a stippled ground. Patterns of this type bear some resemblance to lacy pressed patterns of the second quarter of the 19th century. *Goblet* with patterns similar to Nova Scotia Grape and Vine or Grape Band were introduced about 1870 and exhibit typical 1870s realistic decoration going around the vessel (Maple and Floral salvers in Figure 13). *Goblet* in a plain panel pattern of a type in production for decades. *Creamer* in Lion Head pattern, introduced ca. 1877, which consists of a plain undecorated bowl with panels supporting the bottom of the bowl, three lions' heads on the stem, and a cabled foot rim. The stem and foot are frosted by acid etching. *Creamer* in the Jacob's Ladder pattern which was patented in 1876, and was in production as late as 1907, in both Canada and the United States (Jenks and Luna 1990:297). This pattern has a vertical orientation which presages the patterns introduced in the 1880s. *Jug* in Victor or Shell and Jewel pattern was introduced in the 1870s but continued in production into the 20th century, and in Canada into the 1920s although the later Canadian versions have a flat rim (Figure 30). It is characterized by bold, high-relief glossy motifs against a stippled ground. (Photo by Rock Chan, Parks Canada collection.)



FIGURE 26. The Daisy and Button pattern, in imitation of the brilliant-cut Russian pattern, was a perennial favorite produced by many companies. Note the square celery and bowl in the lower left corner, an 1880s design change which reflected the angular forms of Japanism (Hobbs Glass Company n.d.). (Courtesy of The Winterthur Library, Printed Book and Periodical Collection.)



FIGURE 27. Examples of tumbler patterns offered by the United States Glass Company (1894) in an undated catalogue of the 1890s as reissues of patterns originally produced by member companies in the 1880s (Revi 1964:18-22, 54-61, 67-68, 86-90, 125-127, 148-151, 163-171, 216-223, 270-276). In this group, the patterns cover most of the body. Some have stiff, formal repeats (**top far right, bottom center**). Other motifs include imitation cut diamonds, swirled ribs, swirled rosettes, a meander (in the **far right of the last row** called Ribbon Candy), and one naturalistic vertical pattern enclosed in a frame which is called Fan and Butterfly. (Courtesy of the Juliet K. and Leonard S. Rakow Research Library of The Corning Museum of Glass, Corning, New York.)

from the 1890s to the 1920s. In the early 20th century, several American firms marketed these patterns under trade names such as Prescut (M'Kee; patented 1904), Plunger-cut (Heisey; patented 1906), and Nu-cut (Imperial; patented 1914) (Wilson 1994[2]:642). Although some new patterns featuring plants and flowers were introduced during these 30 years, usually for iridescent-glass patterns, they were far fewer in number, and "realistic" patterns, featuring such things as coins, were even fewer (Husfloen 1992:104). As a rule, patterns were oriented vertically on the piece, and as they tend to be narrower than patterns from earlier periods, the

necessary repeats around the object often give a stiff, formal look to the patterns (Figures 27, 31).

Brilliant cut patterns included stars, pinwheels, Xs, strawberry diamonds, buzz-saws, fans, curved miter cuts, and crosshatching (Figure 32). In 1905, Butler Brothers offered a new pressed pattern: "Heavy pure crystal glass in beautiful new deep cut pattern copied from the latest genuine cut glass design, brilliantly fire polished" (Butler Brothers 1905:141). *Vertical ribs and panels* (Figure 29) were a common motif, sometimes plain, sometimes decorated, sometimes alternating plain and decorated, and were often outlined in

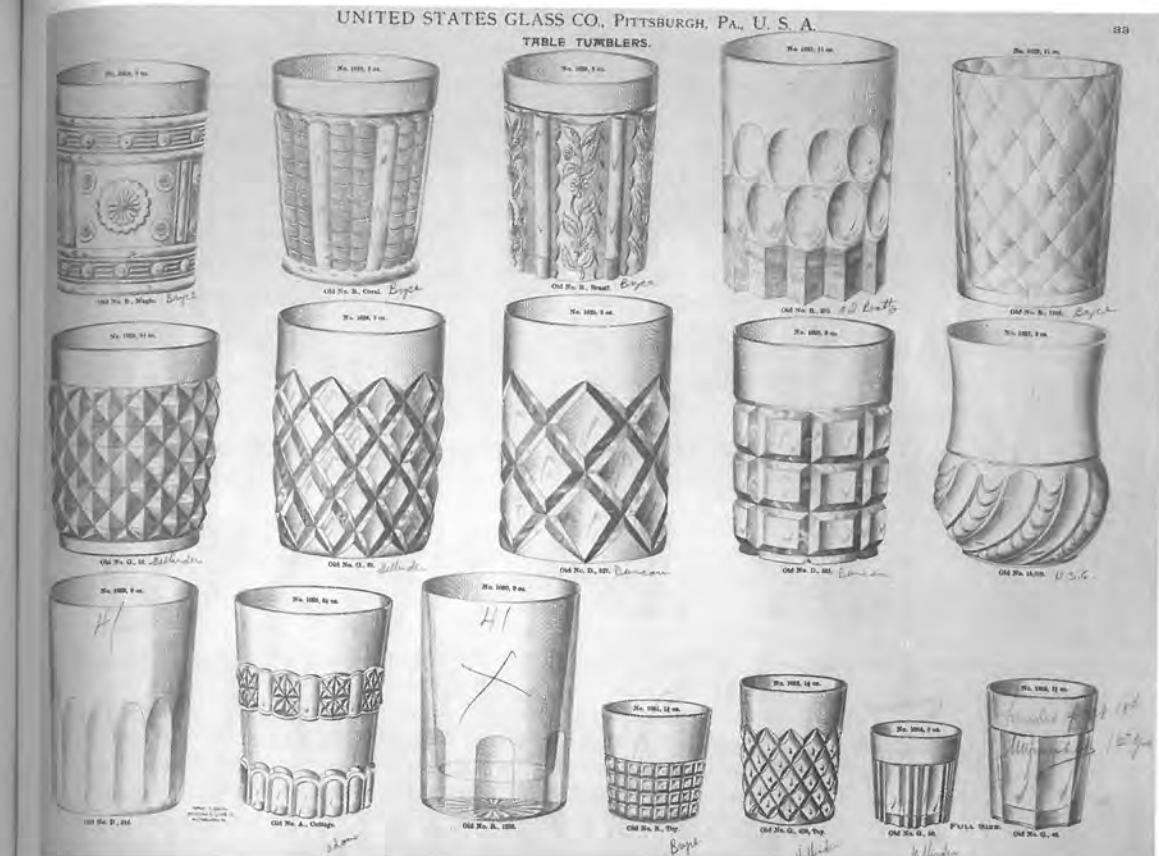


FIGURE 28. More from the 1890s U.S. Glass Company catalogue. The top row features (left to right): Magic, a rosette-type pattern, Fish-scale or Coral with alternating matte and shiny surfaces, and Brazil or Paneled Daisy which is a naturalistic pattern with vertical orientation and enclosed in a panel. The other patterns are largely imitation cut motifs including, in the middle row, diamond or square patterns composed of deep V-shaped grooves. (Courtesy of the Juliet K. and Leonard S. Rakow Research Library of The Corning Museum of Glass, Corning, New York.)

notches, beading, or cross-hatching. *Swirled ribs and panels* (Figure 29) helped give movement to an otherwise repetitive and stiff pattern. *Squares and diamonds* (Figure 28) created by V-shaped grooves formed a comparatively plain group of patterns. *Rosettes* (Figure 27), a round "floral" pattern consisting of a center and "petals," were also made during this period. *Meander, serpentine, and guilloche* (Figure 31) formed sinuous patterns, often combining both vertical and horizontal movement. *Naturalistic* patterns (Figure 27), featuring flowers, vines, leaves, or fruit, were oriented vertically and usually confined within panels although some patterns were placed over the panel edges. *Rococo revival* styles (Figure 33) appeared in both

pressed and acid-etched glassware in the early 1890s, with designs characterized by curving asymmetrical figures, scrolls, shells, and patterns with names such as "Louis XV" (Revi 1964:269). Beginning in the early 1900s, relatively plain paneled patterns, called "colonial" (Figures 34, 93), represented a growing interest in plainer patterns associated with Colonial Revival aesthetics.

PRESSED GLASS, CA. 1920-1940

From the early years of the 20th century, in response to Colonial revival tastes, some pressed glass had been offered in comparatively plain patterns. The bulk of pressed glass, however, carried the heavily patterned look of the late



FIGURE 29. This page from the 1890s U.S. Glass Company catalogue features tumblers with plain upper bodies and imitation cut patterns on the lower body which often swells out at the base, a characteristic feature of this time period. (Courtesy of the Juliet K. and Leonard S. Rakow Research Library of The Corning Museum of Glass, Corning, New York.)



FIGURE 30. A group of Canadian patterns produced ca. 1900 to 1920s (Rottenberg and Tomlin 1982). From left to right: *Covered butter* in *Stippled Swirl and Star* is an example of the swirled-rib type of pattern; *Jug* in *Maple Leaf* pattern is a naturalistic-type pattern with a large well-defined motif, reminiscent of patterns from the 1880s; *Sugar bowl* in *Nugget* pattern, a Canadian version of Victor first produced in the 1870s, and reissued by the U.S. Glass Company in the 1890s, and still in production in the United States in the early 20th century and in Canada until the 1920s (Figure 25); *Covered sugar* which illustrates the vertical-type patterns (*Beaded Oval* and *Fan No. 1*) with an undecorated oval outlined by beading, another characteristic feature of the ca. 1900-1920 period; *Footed nappy* in *Beaded Oval* and *Fan No. 2* pattern which is a brilliant-cut imitation; *Jug* in *Athenian* pattern which has a large bold motif placed on a textured ground and, like *Maple Leaf*, harks back to patterns of the 1880s; *Covered butter* in *Bow Tie* pattern, consisting of overlapping vertical ovals and small horizontal ovals decorated with crosshatching which form a horizontal row through the center of the vertical ovals. (Photo by Rock Chan, Parks Canada collection.)

Victorian period. By the late 1920s and into the 1930s, however, it was largely replaced by a lighter look which, although often profusely decorated, was achieved through the use of light colors, thinner transparent glass, shallow decoration, and clean lines (Figures 35-37). Pressed patterns tended to echo acid-etched or engraved designs, the lighter cut patterns introduced around 1910, and even blown glassware. Interest in the Colonial or Georgian period brought revivals of cut and pressed patterns of the 1820-1840 period and reinterpretations of neo-classical motifs. New vessel forms introduced during this period were serving plates with handles in the center, grill plates with three dividers molded in the glass, cups and saucers, soup bowls, and dinner and salad plates (Figure 59). Although introduced before the turn of the century, specialized plates or trays for such things as cheese and crackers, spoons, bonbons, olives, and mayonnaise were common. The impression from the Butler Brothers catalogues is that by 1929-1930, machine-blowing had become more prominent than pressing for making jugs, tumblers, and stemware.

Beginning in the mid to late 1920s, pressed glass (and blown glass) is most easily recognized by its color palette: pastel pinks, ambers, lime and emerald greens, blues, deep intense blue and red, amethyst, and opaque colors including white, custard, and black (Florence 1995a, 1996). "Carnival" glass also continued to be made. *Brilliant cut patterns* (Figures 38, 61) continued to be offered although in much smaller variety and were commoner in "company" pieces, such as berry bowls, vases, and sugar and cream sets. Often referred to as "colonial," *vertical panels* were staple patterns, in varying heights, widths, with rounded or square tops, or going from top to bottom of the object (Figure 34). *Horizontal panels/ribs*, sometimes combined with vertical ribs, were completely new to pressed tableware and reflected art deco aesthetics. This type of combination was also found in blown glassware (Figure 14). *Squares* or *hexagons* assumed more of an art deco look although they had been introduced earlier (Figures 28, 36). Overall patterns, such as *bull's-eyes*, *hobnails*, and *crackle*, continued to be produced (Figure 55). *Acid-etched* designs featuring florals, borders, festoons,

**OUR "BIG BRILLIANT"
TABLE SET ASSORTMENT.***Large full size sets at a price usually charged for small ones.*

C1030—Ass't. comprises: 6 sets each of 3 patterns, all footed, each with large double handles. Each set consists of covered butter dish, sugar bowl, spoon holder and cream pitcher, all in rich new crystal patterns. Total 18 sets in bbl. (*B&L 35:1*)
Per ret. 16½c

NEW "MAGNIFICENT" TABLE SET ASST.*Positively the most beautiful set ever offered at a \$50 pr. v.*

C1034—Three elaborate and brilliant genuine cut glass patterns, all extra large, heavy and massive, richly finished and polished. 4 sets of 3 patterns. Total 12 sets in bbl. (*B&L 35:1*)
Per ret. 32c

FIGURE 31. Selections from the 1905 Butler Brothers catalogue: *upper*, intertwined-type pattern contrasted with one of the stiff vertical patterns; *lower*, pattern featuring guilloche with central rosette, a meander-type pattern and a brilliant-cut-type pattern (Butler Brothers 1905:142). (Courtesy of Collins Kirby Art & Antiques, Fort Payne, Alabama.)

hanging pendants, medallions, and other vaguely neoclassical-inspired designs were shallowly pressed and imitated popular acid-etched motifs (Figures 35, 37, 82). *Lacy* patterns imitating pressed lacy glass of the 1830-1850 period were part of Colonial revival esthetics.

Cut Glass

Cut glass is a cold decorating technique and as such can be done in a glass factory, in a

cutting shop, or by individuals (Kaellgren 1993; Palmer 1993b, 1993c; Spillman 1996). It was a decorating technique favored by, but not exclusive to, the English, and enhanced the lustrous light-transmitting properties of potash-lead glass.

The surface of the glass is cut away by grinding with wheels and grit. Polishing is accomplished by using increasingly finer abrasives and polishing wheels. In the 19th century, the edges of the cut motif are generally crisp, the cut surface is shiny, and the wheel marks can be seen on some pieces. For most cut glass, there is a difference in surface texture between the cut and uncut areas. In the early 20th century, however, acid baths began to be used for polishing, replacing the laborious and time-consuming wheel work (Hajdamach 1991:178; Wilson 1994[2]:640). As acid removes the surface, it also removes the marks of the wheel and softens the sharp edges so characteristic of earlier cutting. Motifs in cut glass tend to be geometric, based on straight line cuts, although curved lines and ribs are possible.

"Rich cut glassware" or "elegant cut glassware" were phrases used over and over in 19th-century Canadian newspaper advertisements because cut glassware, whether consisting of elaborate designs or simple panels, had an immediately recognized prestige which it still retains. From the 1790s onward, the constant imitation of cut-glass-inspired motifs in both contact-molded patterns and in the pressed glass industry attest to the popularity of the cut-glass look. Cut glass imported from Great Britain and Bohemia or made in the United States served the American market while Canadians used British cut glass almost exclusively. By the early 20th century, several Canadian firms were using imported blanks from Europe and the United States to make cut glass. Blanks are pieces of glass produced to be decorated by cutting or engraving.

For much of the 19th century, glassware cut in simple motifs, such as panels, flutes, miters, and facets, was the standard offering in the market. More elaborate cut patterns, however, were fashionable in different periods.

Variously called Georgian, Regency, or Anglo-Irish, patterns featuring V-shaped miter cuts were characteristic of British and American cut glass from ca. 1800 to the 1840s (Figures 39-42). In addition to flat cuts forming panels, cutters used

designs were shown at the 1851 exhibition, but these were certainly not bread-and-butter wares (*The Art-Journal* 1851:32, 70, 138-139, 174-175). As glassware became lighter in the late 1860s and 1870s, cut motifs tended to be shallow and simple (Figure 44) (Boston & Sandwich Glass Co. 1992).

From 1882 until 1915 and later, elaborately cut glass, known as brilliant cut glass, was fashionable. The first of it, in the Russian pattern, was patented in 1882, by a cutter working for T. G. Hawkes & Co. of Corning, New York, although many other glass companies also made it (Figure 26) (Spillman 1982:29; 1996:239-241). Brilliant cut glass featured stars, hobstars, strawberry-diamonds, fans, sunbursts, pinwheels, Xs, and curved V-shaped miters deeply cut into thick, heavy blanks and, in the earlier years, covering the entire object. "The characteristic feature of the work itself was the exact mathematical precision to which the cutters aspired. Usually composed of bold groupings of relatively small elements, the decoration gave an effect of great richness" (Wakefield 1982:45). Cut in the United States, Canada, Britain, and Bohemia, brilliant cut glass became a standard of social and material success



FIGURE 32. Jug in imitation brilliant-cut design which exhibits its characteristic complex motifs and the overall exuberance of decoration. (Photo by Rock Chan, Parks Canada collection.)

a V-shaped wheel to produce a repertoire of motifs consisting of V-shaped grooves, fields of plain diamonds or strawberry diamonds, blazes (straight or diagonal), fans, splits, and swirls (McFarlan 1992:1-12).

Beginning in the late 1820s and 1830s, a new vertical look was introduced into cut glass. This style had broad flute cuts which tended to go all the way up the body of the vessel to meet similar cuts coming down the neck and shoulder (Figure 42).

By mid-19th century, cut glass was characterized by simple bold motifs such as broad panels, large facets, and deep miter cuts (Wilson 1994[2]:523), similar to those seen in pressed glass (Figures 21, 23), generally on thickly blown glass (Figure 43). "Between 1851 and 1860 Stevens and Williams, for example, recorded over 1,000 cut glass designs in their pattern books. The majority of these patterns consisted of flutes, hollows, miters, prisms and fan scallops . . ." (Figure 87) (Hajdamach 1991:359). Vessels covered with elaborate cut



FIGURE 33. Covered sugar in opaque white glass in a rococo-revival-type pattern, although it is a subdued and rather stiff rendition in contrast to some of the acid-etched versions (Figure 56). (Photo by Rock Chan, Parks Canada collection.)



FIGURE 34. Innumerable patterns with vertical panels, called Colonial, were made by many companies from ca. 1900 onward, and they are one of the long-lived "looks" of the 20th century. These patterns were part of the Colonial revival movement and both the names used and the shapes made echoed early 19th-century styles. For example, the high squared handles on the compote imitate early-19th-century Georgian silver forms. Two forms offered as a parfait or egg glass and as a sundae or grapefruit glass suggest that the same shape could be used for different purposes. Dessert glasses, particularly individual serving bowls, become far more obvious in early-20th-century catalogues. For example, in addition to the six sundae variants on this page, the company also offered three other styles in different sizes (Stevens 1967:164-167). Figure 34 is taken from an undated catalogue of the Jefferson Glass Company, a Canadian company which operated from ca. 1912 to 1925 (Rottenberg and Tomlin 1982:10). (Photo by Rock Chan; original in Dominion Glass Company Limited papers in the National Archives of Canada, Ottawa.)

and was popular as giftware, particularly for weddings. For example, in the early years of the 20th century, Henry Birks & Sons of Montreal offered "ATTRACTIVE WEDDING GIFTS IN CUT GLASS" which featured boxed versions of water sets comprising a carafe and six tumblers, cream and sugar sets sometimes in combination with a berry bowl, or a berry bowl with six small bowls (Henry Birks & Sons 1906:94-95). Over the next 20 years,



FIGURE 35. Bowl, 4 in. (10 cm), in lime green glass in Cloverleaf pattern which was made between 1930 and 1936 by the Hazel Atlas Glass Company (Florence 1996:38-41). (Photo by Rock Chan, Parks Canada collection.)

both technological innovations and changes in the patterns lowered the price of brilliant cut glassware (Farrar and Spillman 1979:13-15; Wilson 1994[2]:635-643). In the 1880s, the patterns on individual pieces tended to consist of a single motif, but later ones generally had a mixture of motifs. "On glass with a repeat design, . . . it is especially important that the cutting be perfectly even, the lines parallel, and that all points of the design meet properly. With mixed motifs, you may overlook poor cutting . . ." (Spillman 1982:262). Blown or



FIGURE 36. Footed sherbet in pink glass showing an imitation cut pattern in which V-shaped grooves intersect to form diamonds. This is the Waterford pattern made by Anchor Hocking between 1938 and 1944 (Florence 1996:225-226), although it resembles patterns from the 1890s shown in Figure 28. (Photo by Rock Chan, Parks Canada collection.)

glass factory. It was a technique favored by, but not exclusive to, German/Bohemian decorators.

Like cutting, engraving involves the cutting away of glass by using abrasives and wheels, but the wheels are smaller and capable of producing a much greater variety of motifs than the cutting process. Generally, the surface is left unpolished, providing a matte surface in contrast to the original glossy surface. As engraving is flexible, it can be shallow to accommodate very thin glass or deeply incised for a rich carved look. Many different levels of engraving were done, from simple motifs (Figures 44, 46-51, 88) to complex scenes covering the whole vessel; from sketchy quickly-done motifs (Figures 12, 85) to superbly executed imitations of period prints requiring hundreds of hours of work. Engraving was so adaptable, it could be used to produce personal mementoes as well as large-scale commercial works.

In the early 19th century, Bohemian engravers favored motifs in the Federal or neoclassical style, such as swags, festoons, knots, hanging tassels, stars, bouquets, closely packed rows of tiny vertical flowering plants, narrow bands with small oval or round cut and polished facets, and floral sprays (Lanman 1969:29-47; Spillman 1982:No. 101; Pattern Book n.d.). Similar motifs were adapted by engravers working in the United States and were produced up to ca. 1840 (Figure 47) (Innes 1976:166-171). Also in the first 40 years of the 19th century, engravers working in Britain and the United States made commemorative glasses for places, events, ships, buildings, and clubs, as well as for individuals, engraving people's names or initials, and dates. They also engraved words such as "wine" or "spirits," and idyllic scenes (Wakefield 1982:80-86; Hajdamach 1991:149-156).

Most authors discuss high-end engraved glassware of the mid to late 19th century, which featured complex, finely executed patterns done by famous engravers, often for international exhibitions (Morris 1978:76-100; Hajdamach 1991:156-173). Rock crystal engraving, which has polished surfaces, was introduced in the 1880s, and "intaglio" engraving, which is deep engraving done by stone wheels and produces larger bolder patterns, came in about 1900 (Wakefield 1982:94, 98, 102). Elaborately engraved glassware was still being made in the 1920s and 1930s (Farrar and Spillman

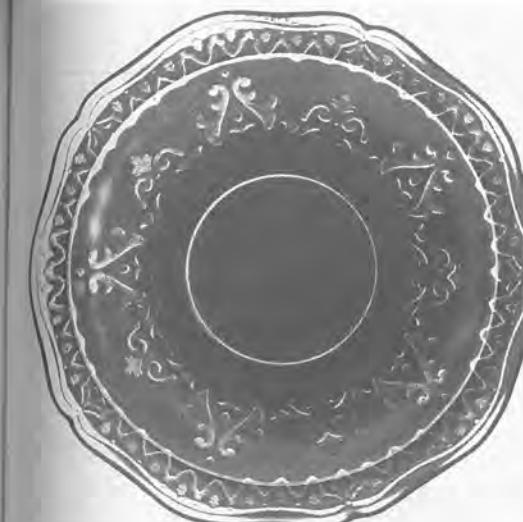


FIGURE 37. Saucer in pale amber glass with a pattern imitating acid-etched designs, including the frosted surface. This is the Patrician pattern made by Federal Glass Company, 1933 to 1937 (Florence 1996:168-169). (Photo by Rock Chan, Parks Canada collection.)

molded blanks with patterns already roughed out virtually eliminated the preliminary roughing process. Pressed glass imitations of brilliant cutting were a successful part of the marketplace from the 1880s into the 1920s (Figure 32), and, in the opinion of some, were partly responsible for the demise of brilliant cut glass (Wilson 1994[2]:643).

About 1900, brilliant cut styles were joined by a light, shallow cut style with simple floral/fruit/leaf and stem designs which left most of the surface uncut (Figure 45). Flowers were stylized, facing outward with a round center and petals coming out from it. Sometimes this type of cutting was offered in a "gray" finish; it was left unpolished, like copper wheel engraving or acid-etched designs. Shallowly cut glass could be done on the thin light glass so widely used up to and during the 1930s, and on Pyrex (Figures 7, 82, 94). This type of cutting significantly lowered the price of cut glass, offering its prestige to a lower economic range, but it also appealed to consumers who wanted a lighter look. Conscious imitations of early 19th-century glasswares also affected cut glass (Figure 46).

Engraved Glass

As with other cold-decorating techniques, engraving can be done independently from the

Inferior Goods Cause Nothing But Dissatisfaction. We Do Not Sell Them.

JUGS AND TANKARDS—NO PACKAG CHARGE

In comparing these very low prices with manufacturers' quotations, bear in mind we make NO CHARGE FOR PAGES. We save you freight. We save your capital because you do not have to wait from two to six weeks for your goods.

FULL SIZED-PRESSED CRYSTAL



FIGURE 38. Selection of jugs from the Butler Brothers (1925) catalogue showing pressed designs. Note variety of vertical panels offered, all called Colonial. The distinctive short, squat jug in the center of the row was shown in their 1914 catalogue as was an ice water pitcher featuring a bent-in lip designed to hold back ice, which became generally available as refrigerators became more common. (Courtesy of Collins Kirch Art & Antiques, Fort Payne, Alabama.)

1979; Spillman 1982:No. 33, No. 275, No. 307
1996)

In the 1870s, it is possible to pick up the threads of less expensive engraved glasses through catalogue illustrations and glassware (Figures 49-51) (Bakewell, Pears & Co. 1875:43-44; Boston & Sandwich Glass Co. 1992). Borders, horizontal bands of floral/leaf/fruit motifs, sprays of flowers, and monograms enclosed in wreaths seem to have been standard ware. The role of simpler engraved patterns past 1900 is not clear as simple cut, acid-etched, and enamelled patterns seem to have fulfilled the role.

Frosted Glass (Textured Glass)

Terminology for these techniques is difficult to sort out as both period documents and 20th century authors have used the same terms inconsistently.



FIGURE 39. Lynn-molded and cut glassware (from left to right): Both *tumblers* are decorated by a hot-glass technique known as Lynn molding which leaves irregularly spaced, shallow, horizontal grooves around an object. Examples have been found in archaeological contexts in Canada dating from the late 18th to early 19th century. *Decanter* decorated with cut panels on the shoulder and lower body, as well as tiny vertical V-shaped grooves. Although the cutting elements are vertical, they are placed in bands around the object, which, when combined with the applied neck rings, give the decanter a squat horizontal look. Ringed decanters with this tapered-body shape date from the late 18th century into the 1840s (Figure 64 *left*); *Stemware* with a centrally knopped stem and a bucket bowl was the dominant style during the first half of the 19th century and continued to be made during the second half of the 19th century, although in far fewer numbers (Figure 74). Two glasses are decorated with cut panels, and the large goblet on the right has angled blazes as well. All cut glassware from archaeological sites of this period tends to be comparatively plain. (Photo by Rock Chan, Parks Canada collection.)

ROUGHED GLASS

A fashion for contrasting textures began in the 1840s and 1850s (Morris 1978:25-26). It consisted of a gray granular ground with shiny pattern superimposed on it or of a textured pattern against a shiny ground (Figure 51). Several different techniques were used to achieve these results:

1. Grinding the glass surface with a wheel and leaving it unpolished, like engraving, or by using stone wheels normally used for cut glass but eliminating the polishing steps (Figure 52). In some examples, the horizontal lines left by the wheel can be seen. This technique was superseded by pressing and acid etching beginning in the late 1860s and 1870s.
 2. Polishing the glass surface with a wheel until it is smooth and shiny, as in Figure 53. The polished surface is then decorated with acid etching or painting.
 3. Sand blasting, in which sand is directed against glass by air pressure, was developed in the late 1860s and early 1870s. The areas to be left undecorated were protected by an overlay resist and a stencil or cut-out design was used to make the pattern. The technique was used to decorate or label windows, lampshades, and



FIGURE 40. Jug, attributed to a New York glasshouse, decorated in the Anglo-Irish style of cutting which features horizontal and vertical miter cuts, diamonds with crosshatching, and flat panels. Inexpensive imitations of these motifs were done by contact molding. (Courtesy of The Corning Museum of Glass, Corning, New York.)



FIGURE 41. Cut glass attributed to the Pittsburgh area, ca. 1820 to 1850, which shows different combinations of motifs associated with the Anglo-Irish repertoire. The cut motif on the celery vase, second from the left, was imitated by an English firm in the 1930s (Figure 69). (Courtesy of The Corning Museum of Glass, Corning, New York.)

**APSLY PELLATT,
(J.ATL PELLATT & GREEN),
GLASS MANUFACTURER AND CUTTER,
Falcon Glass Works, Holland Street, Blackfriars' Road, London.**

NET CASH PRICES FOR THE BEST FLINT GLASS WARE.

BUTTER BASINS.

No.		i. d.
1	Butter basin and plate, moulded pillar, scolloped edge, and star, each	12 0
Do.	cut feather pattern, each	15 0
2	Do. Rom. shape, cut basin, cover & plate,	15 0
Do.	plain, pointed only, each	.7s. 6d to 10 0
3	Taper butter basin, plate and cover, flat flutes, slight, each	15 0
Do.	strong and larger, each	21 0
Do.	cut rich pillars, each	25 0



CRUETS.

4	Cruets, castors, mustards, and soys, tale n.s. per doz.	7 0
5	Do, slight flint, small cut, per doz.	10 6
6	Do. flint, half fluted, n.s. per doz.	12 6
7	Do. stronger, cut all over, p.m. per doz.	16 0
8	Do. very strong, cut pannels, p.m. per doz.	24 0



CADIES.

9	Cadies, 12 oz. engraved, each	2 0
10	Do. 16 oz, cut variously, each	3s. to 4 0
11	Do. 1 lb, 8 oz. do. scolloped edge, each	5s. to 6 0
12	Do. 2 lbs. very richly cut, each	.7s. to 9 6



CUSTARDS.

13	Custards, flattened bottom, per doz.	8 6
14	Do. do.	8 0
15	Do. reform shape, narrow flutes, per doz.	12 0
16	Do. do. broad flutes, per doz.	16 0
17	Do. medicean shape, purled, flattened bottom, per doz. about	10 0
18	Do. do. cut flutes, narrow	12 6
19	If the above are without handles, deduct 1s. to 1s. 6d. per doz. from the above prices.	
20	Tale jellies, very slight, per doz.	5 0
21	Flint do. c.n. per doz. about	8s. to 9 0
22	Jellies, reform shape, narrow flutes, doz.	12 0
23	Do. do. broad flutes, per doz.	16 0
24	Do. do. medicean, fluted, per doz.	14 0
25	Do. do. plain flattened bottoms	10 0



DECANTERS.

22	Slight quart decanters, plain moulded stopper, each about	3 0
23	Do. cut stopper, and fluted top and bottom n.s. 1-lb. 12-oz. each	5 6
Do.	do. stronger p.m. 2-lb. 4-oz. each, 5s. to	7 6
24	Do. Impl. cut broad flutes, 3lb. p.m. ea 8s. to	9 0
25	Do. Nelson shape, cut all over, bold flutes and cut brim & stopper, p.m. ea. 10s 6d. to	12 0
26	Do three-ringed royal shaped, cut on and between rings, turned out stop, p.m. ea.	10 0
Do.	do. not cut on or between rings, nor turned out stopper, p.m. each	.8s. to 9 0
27	Fancy shapes, cut all over, eight flutes, spire stopper, &c, each, p.m.	16s. to 18 0
Do.	six flutes only, each, p.m. .21s. to 24 0	
Deduct about one-third off quart decanters to ascertain the price of pints.		
P. M. indicates Polished Mouths to Cruets or Decanters.		
R. M. indicates Rough Mouths.		



FIGURE 42. First page of Apsley Pellatt's 1840 catalogue showing three decanters in the bottom row which are decorated with a broad flute-style of cutting. (Courtesy of the Juliet K. and Leonard S. Rakow Research Library of The Corning Museum of Glass, Corning, New York.)



FIGURE 43. Decanter and stopper in heavy lead glass with deep-cut finger flutes on the body alternating with a curved uncut surface, cut vertical panels on the neck, and a deeply cut star on the base. This decanter resembles some produced in Britain in the late 1830s and 1840s (Hajdamach 1991:52; Morris 1978:19, 28). (Photo by Rock Chan, Parks Canada collection.)

called this technique "overshot," but Nelson (1992:13, 15, 17-18) notes that the Boston & Sandwich Glass Company called glassware decorated by this technique "frosted;" ground surfaces were called "roughed;" vessels with ground surfaces decorated by wheel-polished designs were called "Frosted and Bright;" and the term "etched" was used for acid-etched designs.

3. Using pressed patterns to imitate glassware decorated by either of the above methods. The Tree of Life pattern, resembling overshot technique, was introduced in the late 1860s, and versions of it continued in production into the 1890s (Jenks and Luna 1990:524-525). Twentieth-century versions included Spider Web in carnival glass (Spillman 1982:197) and crackle glass (Figure 55).

Acid-etched Glass

A glass object is coated with a compound which resists the action of hydrofluoric acid; a design is incised through the resist; and the glass is placed in an acid bath or in fumes where the acid attacks the exposed glass surface. Afterwards, the resist is removed from the glass. Depending on the mixture in the acid bath, the surface can be made silky smooth, shiny, frosted, textured, or granular, and, depending on the time in the acid, the glass can be etched shallowly or deeply. More complex designs can be done by etching sequentially.

The discovery of hydrofluoric acid and its effect on glass dates to the 18th century, but until the middle of the 19th century, it was regarded more as a curiosity than a viable commercial proposition. In the 1850s, both Benjamin Richardson and John Northwood began experimenting with different parts of the process, including the resist material, ways of transferring the pattern through the resist, and the acid mixture itself. In those early years, and later, acid-etching could involve a great deal of handwork, sometimes making it as expensive as engraving (Morris 1978:113-126; Hajdamach 1991:175-201).

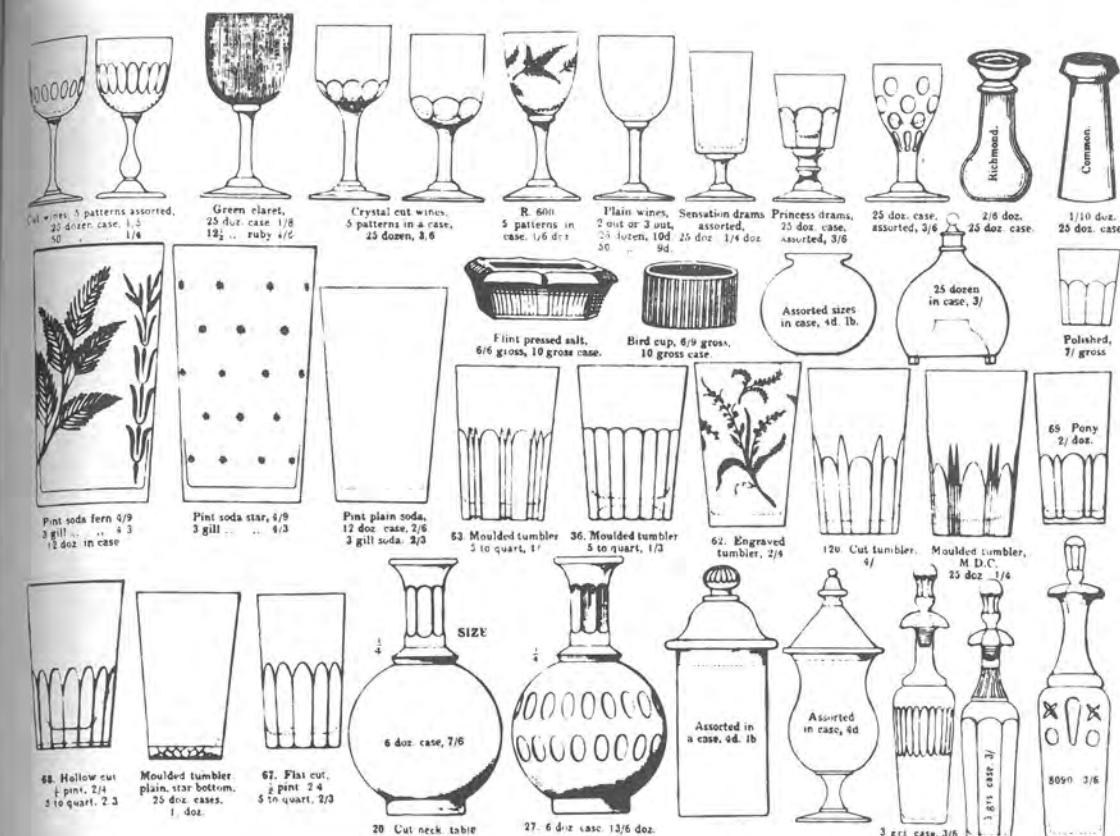


FIGURE 44. Selection of plain, cut, and engraved stemware and tumblers offered by M. Davis & Co. in the *Pottery Gazette* (1881:near 817). Bicolored glasses, like the claret glass in the top row, third from the left, with green or red bowls and colorless stems and feet, date from ca. 1850 to World War I. In marked contrast to brilliant-cut glass, these designs are plain, traditional, and vary little from earlier periods. It is not clear if the molded tumblers are pressed or blown-molded. Also shown in the lower right corner are three castor and cruet bottles decorated by cutting (Courtesy of The British Library, London; digital image by George van der Vlugt.)

NEEDLE ETCHING BY TEMPLATE

In 1861, Northwood developed a template machine for tracing patterns through the resist, which made it possible to produce complex patterns of great delicacy, comparable to engraving (Figure 56) (Morris 1978:116, 118; Hajdamach 1991:179-182).

NEEDLE ETCHING BY LATHE

In the mid 1860s, Northwood developed a geometric etching machine for incising a design through the resist (Hajdamach 1991:182-184). The apparatus resembled a lathe and was capable of producing repeating patterns, such as a Greek key design or a continuous band of overlapping circles (Figure 57) (Boston & Sandwich Glass Co. 1992:Plate 27). A host of repeating patterns

followed and were still in production in the 1930s. This type of decoration was particularly suited for thinly blown glassware popular from the 1870s into the 1930s, and is often found in conjunction with optic molding (Figure 94, bottom left).

PLATE ETCHING

Through a complicated process similar to transfer printing on ceramics, the resist was put on paper and transferred to the glass, leaving the pattern open. The rest of the glass was then covered in the resist as well so that the vessel could be dipped in acid. This process was developed in the 1850s (Hajdamach 1991:196-197). A simpler process, in which the acid pattern was put on paper and then applied to the glass, was developed in the 1870s

Handsome, Brilliant



Brilliant Cut-glass Water Set

11-321. Cut-glass Water Set, consisting of one jug, capacity one quart, and standing 8½ inches high, and six tumblers. Has beautifully cut design. Shipping weight 15 lbs. Price 10.75
11-322. Jug only. Price 5.65
11-323. Tumblers. Price, each 85c

FIGURE 45. Three water sets offered by T. Eaton Co. (1918/19:514) showing the difference in price between the brilliant-cut set (**upper left**), which is a comparatively plain pattern, the simple-cut style (**upper right**), and the brilliant-pressed pattern (**right**). The new style of cutting tended to be done on lighter glass, not only cutting costs at the factory and cutting shop, but also shipping costs. The cut grape water set continued for a long time in Eaton's catalogues, being offered intermittently until 1930-31 when the price had fallen to \$1.25 per set. The pattern also appeared on individual tumblers, fruit bowl and nappy sets, and decanter or cordial sets. (Reproduced with the kind permission of The T. Eaton Company Limited; digital image by George van der Vlugt.)

(Hajdamach 1991:197-198). Patterns done by this type of process tended to be pictorial (Figure 58).

Tableware Forms

Glass tableware is part of a whole group of objects of different materials that are used to serve and consume food and beverages. Identifying their function from fragments, therefore is important for archaeologists interested in studying foodways. This section of the guide briefly discusses tableware forms made between 1800 and 1940, and, when appropriate, provides guidance for dating attributes.

Glass tableware was used in a variety of settings. Different meals and occasions, such as breakfast or dinner, afternoon tea or evening tea, formal or informal, required different assemblages (Williams 1985). If the meal were eaten at

Sparkling Cut-Glass



Handsome Grape-design Water Set

11-324. Seven-piece Water Set, with a handsome grape design cut on clear blanks. Light-weight tumblers. Set consists of 6 tumblers and 1 jug, capacity 3 pints. Shipping weight 7 lbs. Price 2.50
11-400. Extra Tumblers, per half-dozen. Price.... 1.00

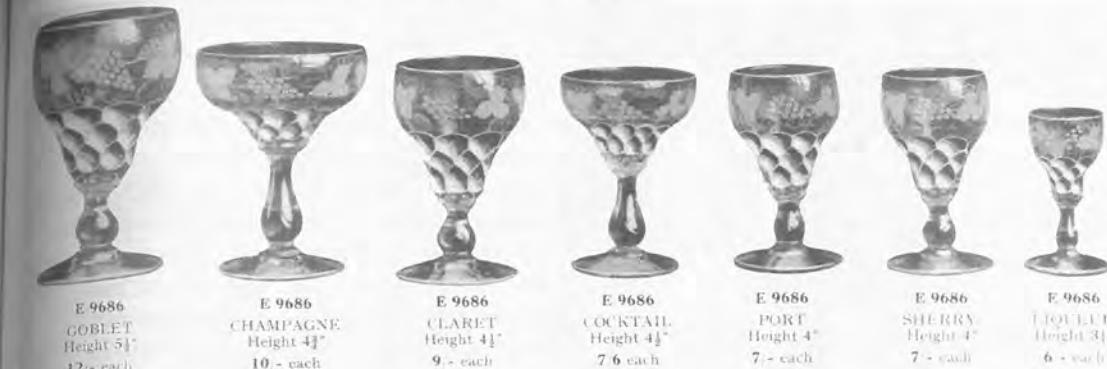


7-piece Water Set

11-330. Seven-piece Crystal Glass Water or Lemonade Set; made of extra heavy, clear crystal glass with an attractive and handsome "prescut" design. Set consists of 1-qt. jug and 6 tumblers. Shipping weight 12 lbs. Price, per set 1.75

home, it may have had a different composition than meals eaten at the workplace, taverns, restaurants, or hotels. As well, social class influenced both the selection of objects and the cost level of the choice:

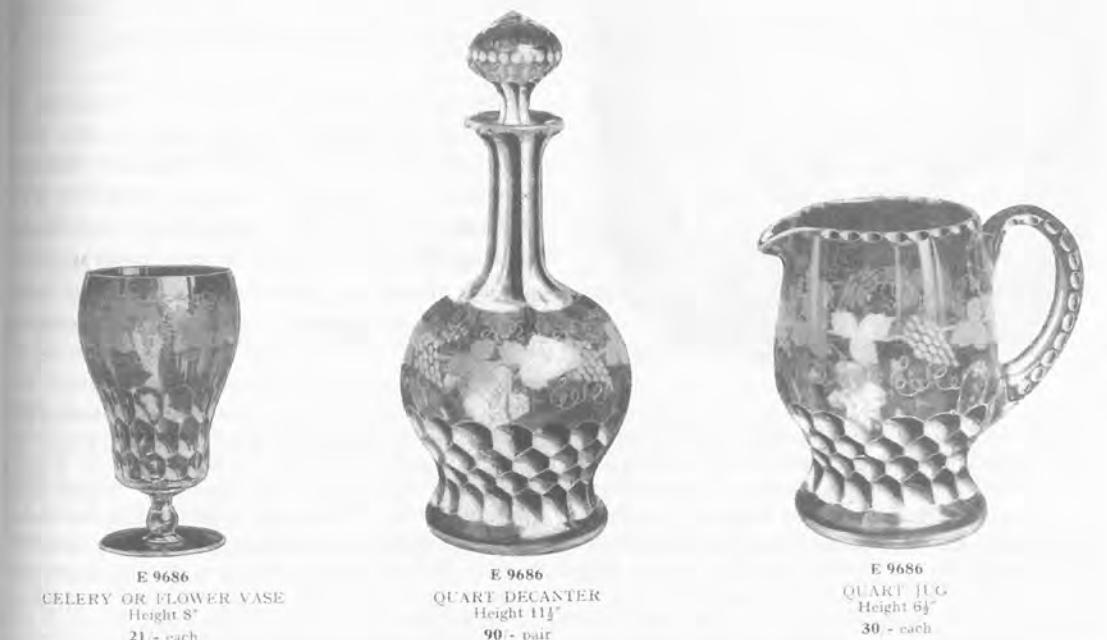
"Fortunately," replied Monsieur, to whom this aside had been addressed, "the persons who consider Champagne, japonicas, and attar of roses necessaries of life are very well able to provide cut-glass receptacles for them. But isn't it worth one's while to be proud of a country where every artisan's wife has her tumblers, her goblets, her vases, of pressed glass, certainly, but 'as good, to her mind, as cut,' to quote our friend? And don't you think it better that twenty-two thousand dozen pressed tumblers should be sold at ten cents apiece than one-third that number of cut ones at thirty cents, leaving all those who cannot pay the higher



E 9686 GOBLET Height 5½" 12/- each
E 9686 CHAMPAGNE Height 4½" 10/- each
E 9686 CLARET Height 4½" 9/- each
E 9686 COCKTAIL Height 4½" 7/- each
E 9686 PORT Height 4" 7/- each
E 9686 SHERRY Height 4" 7/- each
E 9686 LIQUEUR Height 3½" 6/- each



E 9686 FINGER BOWL Dia. 5" 11.6 each
E 9686 ¼-PINT TUMBLER Height 3½" 7.6 each
E 9686 GRAPE FRUIT GLASS Dia. 4" 9/- each



E 9686 CELERY OR FLOWER VASE Height 8" 21/- each
E 9686 QUART DECANTER Height 11½" 90/- pair
E 9686 QUART JUG Height 6½" 30/- each

FIGURE 46. This type of design, with the bowl bulging out over a constricted base, is reminiscent of Anglo-Irish styles of the 1820s (Figure 74e) and is a good example of the top-heavy look in glass which came in with Colonial revival and art deco styles, and which, to a certain extent, still persists. Hillston Crystal produced a variety of 18th- and 19th-century styles as revivals or as reproductions (Hill-Ouston Co. 1936:81). Virtually the same pattern, without the engraving, was produced in pressed glass by Hocking about 1930, and called "Georgian" (Figure 95) (Weatherman 1974:140). (Author's collection; digital image by George van der Vlugt.)

price to drink out of . . ." (Austin 1991:84).



FIGURE 47. The engraved motifs of swags, bows, stars, and hanging pendants were typical neoclassical motifs favored by Bohemian engravers of the first half of the 19th century, as was the contrast in texture between the polished leafy branches and flower against the matte surface of the unpolished swag. The three-ring decanter shape, pressed mushroom stopper, lead-glass composition, and ground and polished pontil mark point either to an English origin for the decanter or to an American imitation of an English style. As with all cold-decorating techniques, like cutting and engraving, the decoration could be done anywhere and was not necessarily part of a glass factory operation. Independent cutters and engravers operated in cities such as New York, Philadelphia, and Baltimore, decorating domestic and/or imported glass, or whatever glass their customers wanted (Palmer 1993b, 1993c). Although this decanter is attributed to the American Midwest, as Wilson (1994[1]:197) points out in connection to a similarly engraved celery in lead glass, attributions to specific areas have been based on the presence of glass houses capable of producing this type of ware and on the fact that in the early days of collecting, from the 1920s to the 1950s, objects of this type were being found in certain locations. (Courtesy of The Corning Museum of Glass, Corning, New York.)

The structure of a meal, such as one with a soup course, followed by one or two meat and vegetable courses and finally a dessert, necessitated the use of different vessels. Until about the middle of the 19th century, it had been customary to place the serving dishes on the table in a balanced and aesthetic manner so that guests served themselves and each other. Beginning about mid-century, however, a new style was introduced into North America, called *service à la russe*, which had the serving dishes placed on a side table and the food carved and brought to the table by servants (Williams 1985:149-155). Flowers, ornaments, vases, or ornamental scenes were placed in the center of the table. Although the method of service changed the location of the serving pieces, it did not necessarily affect their number or variety. At the other end of the scale, individuals or households living a marginal existence may have had little or no glass.

Beverage service also varied from situation to situation, depending on place, the consumers, and the occasion. It was not necessarily associated with the consumption of food or even with a table.

Sets or services of glassware decorated in the same way and with the same motifs were available in the early 19th century (Warren 1981:224-239; Gray and Gray 1987:11-18). Until the middle of the 19th century, sets tended to be confined to things that were used together, such as paired decanters, drinking glasses, cruet sets, dessert glasses, glassware for traveling



FIGURE 48. A group of engraved glasses, attributed to the Pittsburgh area, dating ca. 1815-1840s (Innes 1976:154-164; Spillman 1982:71, 130), from left to right: *Covered sugar bowl* with galleried rim. The bowl is decorated with an engraved berry-and-leaf design; the cover with a leaf-wreath design. *Celery* decorated with a blown-three-mold baroque-style design on the lower body and engraved with daisies and leaves. *Celery* with a ribbed double gather of glass at the base of the bowl, and above it, an engraved scene with house, pots of flowers, and birds. Below the scene is a rough band decorated with shallow cut and polished round facets, and beneath that a swag with pendants and stars. *Jug* decorated by 12 contact-molded ribs and an engraved floral/leaf/berry design. The handle is hollow and the pontil mark unground. (Courtesy of The Corning Museum of Glass, Corning, New York.)

chests, and matching bottom plates for butter tubs or finger bowls. When one considers the similarity of cut, engraved, or blown-glassware patterns available in the first half of the 19th century, however, consumers certainly had the choice to purchase different forms in the same or similar patterns if they wished to do so. As the century progressed, larger groups of matching glassware became more common, particularly in pressed glass where as many as 42 different pieces were offered in a single pattern (Figures 23-24) (Jenks and Luna 1990). Although the compositions of the groups sometimes changed over time, forms used together continued to be sold together, including pressed glass "sets" consisting of butter, sugar, creamer and spooner, cruet and castor sets, salt and pepper shakers, beverage sets consisting of a jug and six glasses, decanter sets of a decanter and six glasses, or a large berry bowl with six nappies.

It was not until the late 1920s and 1930s, that the equivalent range of tableware forms found

in ceramics was made in glass (Florence 1995a, 1996). During this period, glass manufacturers introduced cups and saucers for hot beverages as well as dinner and salad plates in the same patterns as other glass tableware. Nevertheless, it is clear from catalogues of the period, such as those of T. Eaton Co., that serving pieces did not have to match each other or the drinking glasses or plates. Hostesses could use their prized glassware pieces, perhaps received as wedding gifts, as special embellishment for the table. Another group introduced in the early 20th century (Butler Brothers 1910:407), although not included in this guide, were matched kitchenwares used in the storage and preparation of food, such as pantry jars, measuring cups, and, later, refrigerator dishes and mixing bowls (Florence 1995b), some of which may have ended up on informal dining tables.

Specific dating factors for glass tableware forms are more difficult to develop than for the manufacturing and decorative techniques

for a number of reasons. Most glass publications, with the exception of Spillman (1981; 1982), Warren (1981:105-198), Jones and Smith (1985), and Palmer (1993a), are not organized by functional form. Establishing date ranges for specific forms requires one to piece together information from a number of sources—dated examples in the secondary literature, and primary sources in both published literature and in documentary collections. Information found in documents is not straightforward, however. It is frequently impossible to match glassware shapes with those mentioned in unillustrated documents. Nouns and their modifiers vary from one document to another both in the same period and over time. American and British usage varies. It is not clear how closely the names used in documents reflected how consumers

used that form. Manufacturers even offered different uses for the same form (Figure 34).

With some exceptions, most tableglass forms made in 1800 were still in production in 1940. Starting in the 1880s, however, a number of specialized shapes were introduced which were seldom entirely new but were rather an adaptation of forms already in production. While some shapes underwent stylistic changes, became static, and then changed again, others remained relatively static for long periods of time. Some shapes, such as plates, were in production throughout the whole period under discussion, but their roles on the dinner table changed. Other forms became more specialized over time. As with the decorative motifs, once a form was introduced, it tended to remain in production although sometimes its use became far more

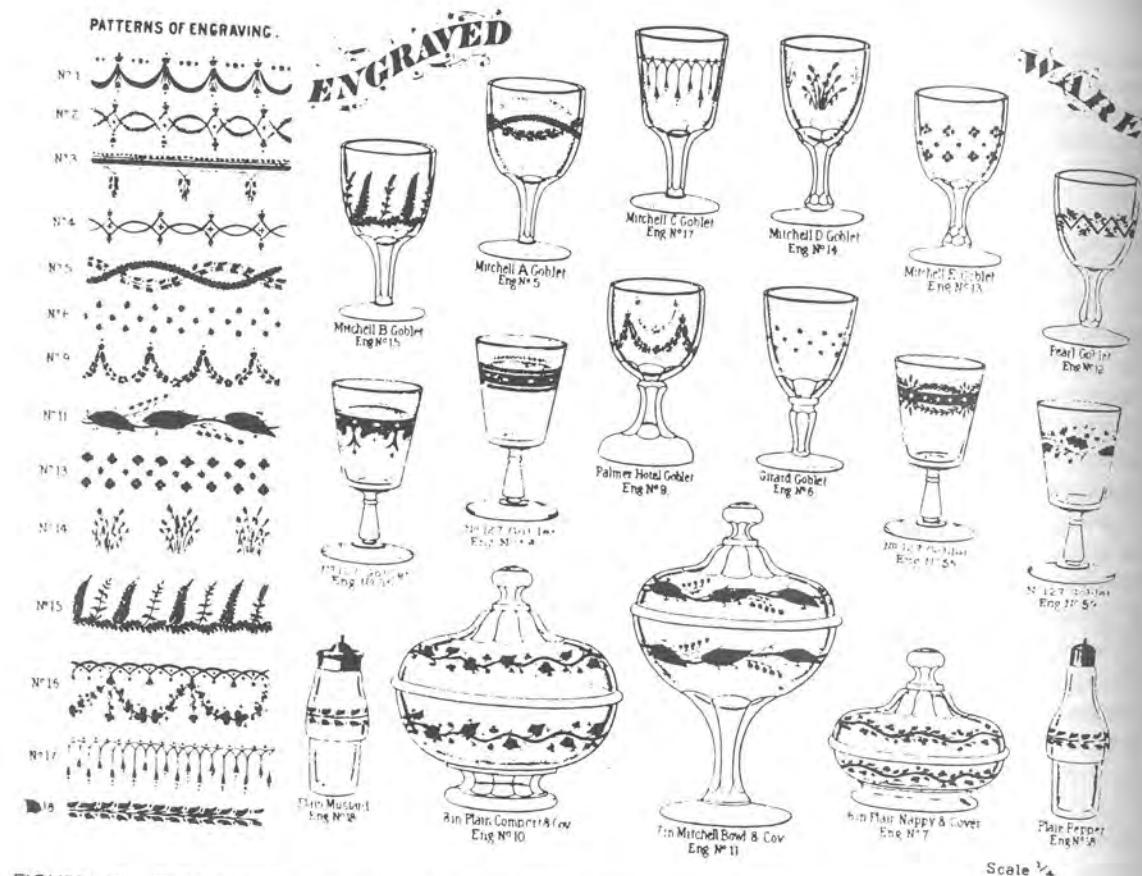


FIGURE 49. Page from the King, Son & Company catalogue, early 1870s, which shows simple engraving on glassware made in plain pressed patterns such as Mitchell. The motifs are horizontal and some echo the (Pennsylvania Glassware 1972:38). (Courtesy of the Juliet K. and Leonard S. Rakow Research Library of The Corning Museum of Glass, Corning, New York.)

lower than bowls, and *trays* are flat or almost flat (footed examples are called *salvers*); all three styles were made without a foot, with a foot, with a foot and stem, and with or without a cover. Bowls were made throughout the period but in increasing variety and quantity after the mid-19th century, particularly in pressed glass (Figures 13, 20, 23, 26).

This group of glassware was used primarily for food service, but it also included pieces for individual use. Common throughout the 1800-1940 period was the use of bowls for serving cold food such as salads, vegetables, or different types of desserts. Bread trays, often with wheat themes, were made in the 1870s and 1880s. Celery trays were introduced in the 1890s, and spoon trays, oval pickle dishes, small olive or bonbon dishes (often with a single small round handle), and mayonnaise bowls appeared at about the same time (Figure 59) (Spillman 1982:248-289). A standard offering in 20th-century catalogues was the berry set consisting of a bowl with six matching nappies but the same bowl, without the nappies, was also sold as a salad bowl (Figures 60-61).

Castors, Cruets, and Covered Pots

Serving vessels for condiments included a range of vessels (see Salts). *Cruets* were for



FIGURE 50. Blown cruet decorated with cut vertical panels on neck, a small cut facet on top of the handle, a cut starburst on base, and engraved fern pattern on the body. Ferns were a long-lived and popular engraved motif from the 1860s onward, after publication in the late 1850s of John Moore's book on ferns (Morris 1978:82). Sketchy fern motifs like this one show up in catalogues of the 1870s and 1880s (Figure 88). As indicated by the swelling at the base of the handle, it was attached first at its base and then brought up and attached at the neck. This method was introduced in the late 1860s and became the dominant technique by the 1880s (Spillman 1982:79; Hajdamach 1991:274). The earlier method was to attach the upper part of the handle first (Figure 16) and pull it down towards the base. The squat jug style of cruet with handle and globular body was in production by the 1880s (Spillman 1982:190-191) and became the common cruet style in the 20th century. (Photo by Rock Chan, Parks Canada collection.)

restricted, such as with open salts, or its production faded away, such as with the celery vase. In the following discussions, more-detailed dating guides have been offered for stemmed drinking glasses and decanters as these are forms likely to be found in archaeological contexts. Other forms are discussed generally as they are found less frequently.

Bowls, Dishes, and Trays

As a general guide, *bowls* have curved sides, *dishes* have straight sides and are usually shal-



FIGURE 51. Page from early 1870s King, Son & Company Catalogue showing engraved patterns (Figure 49), including sprays and an initial enclosed in a wreath, and "frosted and cut" patterns (bottom half) (Pennsylvania Glassware 1972:39). (Courtesy of the Juliet K. and Leonard S. Rakow Research Library of The Corning Museum of Glass, Corning, New York.)



FIGURE 52. Sugar bowl made by Percival Vickers & Co. of Manchester in design registered 7 May 1873 and marketed as St. Petersburg into the 1880s (Slack 1987:161; Yates 1987:35). The bowl was completely pressed and the exterior surface roughed by wheel grinding, as evidenced by horizontal striations left by the wheel visible in the close-up. (Photo by Rock Chan, private collection.)

liquids such as oil and vinegar, and prepared sauces, and had a pouring spout, a stopper and ground (or ground and polished) bore, and sometimes a handle (Figures 44, 50). Castors were for powdered substances such as pepper,

sugar, cayenne, and were fitted with a perforated top (Figure 49). The exterior upper neck surface was usually ground so that the top could be glued on; later versions had screw threads to accommodate a threaded cover. Covered pots were for wet condiments such as mustard, horseradish, and pickles. Specific forms were made for mustards and pickles during the 19th century (Wakefield 1968:50-51; Jones and Smith 1985:69-70, 74-77). In the late 19th and early 20th century, other specialized forms were



FIGURE 53. Pressed goblet in Lion Head pattern in which the stem and foot have been acid etched, leaving a frosted surface that is satiny to the touch. Pattern dates to the late 1870s. (Photo by Rock Chan, Parks Canada collection.)



FIGURE 54. Sand-blasted designs from a ca. 1900 United States Glass Company catalogue. (Courtesy of the Juliet K. and Leonard S. Rakow Research Library of The Corning Museum of Glass, Corning, New York.)

offered, including a bowl for mayonnaise (Spillman 1981:Bowls), elaborate stands for highly decorated pickle jars, and a small single-handled dish for olives or bonbons. Commercially prepared foods could be placed on the table in their original bottles or jars, and by 1900, some silverware firms even offered special holders for things such as Maclarens Imperial Cheese jars, and Lea and Perrins, Tabasco, or Harvey's Sauce bottles (Rainwater 1973; Langbridge 1975). It was, of course, practical to leave food in its original container, but the commercial package with its label and distinctive look also attested to the quality of the condiments being served.

Although condiment containers were used by themselves, the popular and acceptable way for most of the 19th century was to put them together in a stand made of wood, silver, silver plate, or Britannia metal. After electroplating was introduced in the 1840s, the market for silver-plated cruet stands expanded, and they became standard on middle-class tables. The condiments offered varied, depending on the meal and household, so that stands held different assemblages of containers. Newspaper advertisements, production and sales documents, and numerous patterns in catalogues attest to the popularity of cruet stands and specialized glasses for condiments (M'Kee and Brothers 1981; Wilson 1994[1]:228). In Canadian newspaper advertisements in the mid-19th century, they are

mentioned frequently; e.g., "Cruet stands with 3,4,5,6,7 bottles of surpassing elegance, being quite new designs" (*Montreal Gazette* 1867).

Two types of stands were available. The first had a flat base and cage-type holders for straight-sided castors, cruets, and pots (Figures 42, 44). These types were made throughout the 19th century. About 1880, a squat bottle with a globular body and handle was introduced and also put in this type of holder (Figure 50) (Spillman 1982:190-191). This shape became the standard one for oil and vinegar. The second type of stand had the castors, cruets, and pots suspended in a holder, either a flat circular piece with holes for the bottles or an open frame. Containers for this type have a narrow cylindrical lower body and an upper body that swells out over the holder (Figure 49). This type was probably introduced during the mid-19th century as examples are shown in the 1858 catalogue of the Rogers Brothers Mfg. Co. (*Victorian Silverplated Holloware* 1972:34-36). Although early 20th-century catalogues, such as the 1901 Montgomery Ward & Co. catalogue, show elaborate cruet stands, they were on their way out for middle-class households.

During the early 20th century, cruet stands were replaced by smaller sets or by individual dishes, such as salt and pepper shakers, mayonnaise bowls, pickle dishes, pickle jars in elaborate stands, small handled oil and vinegar cruets sometimes in a stand, or salt and pepper shakers with one vinegar or oil cruet in a small handled stand, often made of glass (Butler Brothers 1910:406). For example, T. Eaton Co. (1914-1915:219) advertised a simple stand holding both a vinegar and an oil bottle, and salt and pepper shakers. On the same page were illustrated a stand holding two jam dishes, and an elaborate stand holding a covered pickle jar. Individual pieces or small sets were ideal candidates for presents or wedding gifts so that a relatively modest table might sport one or two more elaborate and expensive condiment dishes.

Celeries

Celeries—substantial footed vases with a tall bowl—were used to serve celery on the table (Figures 18, 23, 48). The first dated evidence for their production appears in 1820, in an

PRESSED and THIN BLOWN JUGS

THE BIG SELLERS IN PRESSED CRYSTAL JUGS

Wide Optic and Cracked Effect

\$2.40 Dos

Pressed Crystal
These jugs were made to repeat all over genuine cracked effect at a much lower price and still make a good profit!

WATER and BEVERAGE SETS

CRACKLED EFFECT 7 PIECE WATER SET

An amazing value! Think of it! You can sell this set lower than most wholesalers ask for their sets. A \$5.00 value that can be profitably featured at about half that price!

Emerald Green - Blown Glass

Red Color

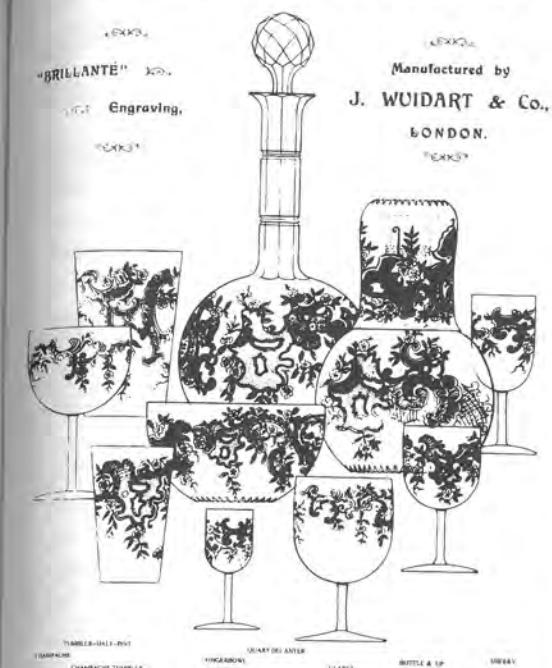
Tee Set Emerald Green

BUTLER BROTHERS, Wholesalers of General Merchandise, CHICAGO

255

FIGURE 55. Examples of crackled glass offered by Butler Brothers (1929:255) although the method used to achieve the effect is ambiguous as they describe it as "embossed cracked effect" or as "all-over genuine cracked design." (Courtesy of The Fenton Art Glass Company, Williamstown, West Virginia.)

The "New LOUIS XV." Suite of Crystal Glass



or three more out upon the spotless damask? (Palmer 1993a:270).

Flat dishes for celery were shallow, rectangular or oval (Figure 59) (Higgins & Seiter 1899:27). Vertical celery glasses were still offered, however, without stem and often unfooted, and sometimes with a shorter body, more closely resembling spoon holders (Figure 62). As late as 1936, this later style of "flower or celery vase" was still available (Hill-Ouston Co. 1936:39).

Cups

Small handled cups usually with hemispherical bowls, sometimes footed, were in production throughout the 140-year period discussed in this guide and were used in a variety of ways. The



FIGURE 56. Drinking glass set with a needle-etched design, probably using a template, in a rococo revival design called "New Louis XV" (*Pottery Gazette* 1894: before 49). (Courtesy of The British Library, London; digital image by George van der Vlugt.)

advertisement from Virginia which offered celery stands along with a variety of other products (Wilson 1994[1]:173). From that period on, they became standard offerings in advertisements, glassware price lists, and catalogues. For much of the 19th century, growing celery was a labor-intensive task, making it expensive, and its presence on a table was a sign of prestige. Commercially grown, self-blanching celery was available by the 1880s, however, so that its status diminished thereafter (Williams 1985:109-111). Although the tall, footed celery glass was still offered around 1900 and later, it had become old fashioned:

Why does not some inventive woman give us a pretty celery glass? asks a society writer. The old tall vase is, I am told, 'out of fashion,' and it is now supposed to be more correct to hand it round upon a flat dish, which, from every point of view, is a mistake (*Pottery Gazette* 1893:4). Who . . . has not mentally anathematized the old fashioned tall celery glass, from which it is almost impossible to remove one stalk without dragging two

FIGURE 57. Blown tumbler decorated around the rim with needle-etched pattern typical of the relentless repeats of the lathe-type process and on the lower body by cutting. This glass is thin and light, of a type introduced in the 1870s, but far more pervasive in North American markets between 1900 and into the 1930s, after the introduction of semi-automatic machines. (Photo by Rock Chan, private collection.)



FIGURE 58. Pressed goblet decorated by plate etching. Detailed patterns were possible using this technique. Although the etching has no depth there is a discernible difference in surface texture. (Photo by Rock Chan, Parks Canada collection.)

most common seems to have been for desserts, primarily custard or, by the late 19th century, for sherbet (Figure 63). Cups or small handled mugs were also used for drinking lemonade, and, starting around 1900, were part of punch sets with a large matching bowl. There do not seem to be any obvious differences in the illustrated documents between dessert cups or cups for drinking. In the late 1920s, cups and saucers for hot beverages were introduced

(Figure 59). Mugs in opaque white or green heat-resistant glass for drinking coffee appeared in the 1930s (Spillman 1982:69).

Decanters

Decanters were produced throughout the 1800-1940 period (Figures 64-69). As temperance became more and more acceptable, however, many households made the choice not to drink liquor, replacing alcohol with tea or cold beverages, such as water or lemonade, for social and family occasions (Williams 1985:134-140). The T. Eaton Co., whose founder Timothy Eaton was a staunch opponent of both alcohol and tobacco, generally did not include decanters in its catalogues although they did sell wine glasses as late as 1908. In the catalogues of the late 1920s and early 1930s, after the repeal of prohibition in Canada, the company sold a set labeled "cordial set" or "decanter set" which consisted of a "Seven-Piece Decanter Set of generous size in the popular cut grape design. Bottle and six glasses for . . . \$1.00" (T. Eaton Co. 1930:286). The accompanying tumblers, also sold separately, were "Bell-shaped Optic Tumblers. Strong, fine glass in graceful optic cut grape design. Have smoothly rounded edges. Popular tall, slender shape. Price dozen . . . 84¢" (T. Eaton Co. 1930:286). In comparison, one or more lemonade or water sets, consisting of a jug and a half dozen tumblers, were always included in the catalogue and the design changed regularly. Eaton's customers, from personal experience, included a large clientele which chose to serve their guests tea or cold non-alcoholic drinks. In comparison, the Army and Navy Store catalogue for 1907 offered over two dozen different "table glass services" consisting of decanters, stemware, and finger bowls as well as one and one-half dozen spirits bottle styles, and another two dozen jug styles for drinks such as claret cup, champagne, etc. (Army and Navy Stores 1969:923-924, 936-938). These offerings ranged from plain thicker wares for regimental and naval messes to elaborately cut and engraved wares. It is clear from the glassware offered in this catalogue that their clientele included those who expected formal and elaborate table settings and who served alcohol as a matter of course, a well-established British military tradition (Jones and Smith 1985). Drinking sets,

OLIVE R. JONES: A Guide to Dating Glass Tableware: 1800 to 1940

195

Category	Item Description	Price
SALAD PLATES	Emerald Green	Doz. \$9.20
	Green or Rose	Doz. \$1.35
COMPARTMENT PLATES	IC-641 - Rose	\$1.35
	IC-642 - Green	\$1.75
MATCHED SALAD BOWLS AND CAKE PLATES	IC-643 - Rose	\$3.25
	IC-644 - Green	\$2.75
CRYSTAL CAKE SALVER ASST.	IC-645 - Rose	\$3.95
	IC-646 - Green	\$2.75
OLIVE DISHES	IC-647 - Rose	\$8.75
	IC-648 - Green	\$8.75
LEAF SHAPED PRESERVE DISHES	IC-649 - Rose	\$8.75
	IC-650 - Green	\$1.75
CELERY TRAYS	IC-651 - Rose	\$8.75
	IC-652 - Green	\$8.75

BUTLER BROTHERS, National Distributors of General Merchandise, ST. LOUIS

FIGURE 59. Selection of serving pieces from the 1930 Butler Brothers catalogue as well as cups, saucers, and plates for individual service (Butler Brothers 1930:n.p.). (Courtesy of Collins Kirby Art & Antiques, Fort Payne, Alabama.)

with decanter and matching glasses or decanter and matching tumblers, were also offered in American catalogues in the 20th century but in fewer numbers (Figure 38). Only a handful of the late higher-end 1920s and 1930s drinking sets shown in Florence (1995a) had decanters, although a few had cocktail shakers and some had ice buckets. This glassware catered to a middle-class clientele which shopped in department and gift stores and might be expected to use decanters. On the other hand, all the traditional drinking sets (Figure 46) in the English 1936 Hill-Oouston Co. catalogue had decanters, although cocktail sets in trendier designs (Figure 69) were also featured in the catalogue. Cocktail shakers, with a wide mouth, cover, and pouring lip, were introduced in the 1930s.

From the late 1840s onward, *pressed decanters* were made for both domestic and commercial use including those made with bar lips and a

specialized stopper suitable for pouring (Figure 18, caption for decanter). Most bar-lipped decanters are associated with the geometric-style patterns which came in during the late 1840s and early 1850s. Without a pouring stopper of some type, it is very difficult to pour liquid successfully from these vessels. From the 1870s onward, decanters appear in far fewer numbers in the catalogues, if at all, and seem to have been made primarily for use in bars and restaurants. For example, in 1868, M'Kee and Brothers (1981:123-154) offered decanters in ten patterns but only one was shown with a glass stopper, and five had patent cork stoppers with bar lips. In the 1880 catalogue, only one decanter was shown (in the Huber pattern, introduced around 1850) and it is on the same page as bitters and bar bottles, suggesting it was used in the same setting (Stout 1972:85). The Bakewell Pears & Co. Glass Catalogue (1875:10-11) offered four decanters but, again,



FIGURE 60. Berry set offered by T. Eaton Co. (1918-19:514) in the lighter style cutting. The pressed set offered on the same page cost only \$1.40. (Reproduced with the kind permission of The T. Eaton Company Limited; digital image by George van der Vlugt.)

these were placed with bitters and bar bottles. In the lists of vessels made in each pressed pattern in Jenks and Luna (1990), decanters are seldom mentioned but when they are, the patterns were introduced prior to 1870. Virtually

none of the pressed-pattern sets made in the late 1920s and 1930s included decanters (Florence 1996).

Bar bottles appear to have been intended for use in commercial settings like bars and restaurants. They had tall bodies, with short necks, sometimes with bar lips and patented cork stoppers or sometimes with flanged lips and glass stoppers. Later examples were shaped more like bottles (Figure 68). Some catalogues show them with names such as Brandy or Whiskey cut or engraved on them, but most appear to have been plain. *Bitters bottles* were in production at least as early as the 1850s (Figure 22) and continued into the 20th century. They tend to be smaller than bar bottles because they contained strong flavorings such as peppermint, ginger, or bitters.

Comprehensive glassware drinking sets included different stemware shapes and sizes



FIGURE 61. Selection of berry bowls from the 1930 Butler Brothers catalogue in which older, heavily patterned pressed styles predominate, in contrast to the more modern designs offered in water and beverage sets (Figure 14) (Butler Brothers 1930:n.p.). Two new colors (pink and emerald green) join colorless and iridescent glass which were the only choices offered by the company in their 1925 catalogue. (Courtesy of Collins Kirby Art & Antiques, Fort Payne, Alabama.)

OLIVE R. JONES: A Guide to Dating Glass Tableware: 1800 to 1940

Spoon Holders and Celery Glasses

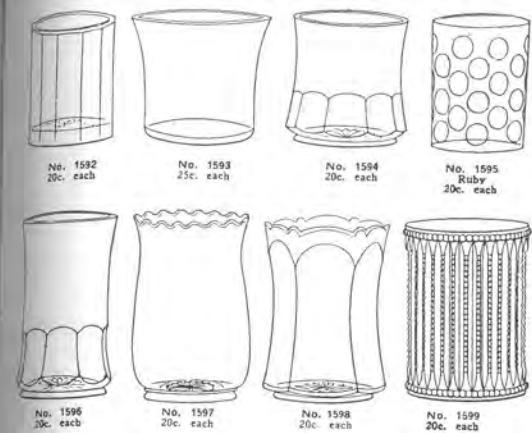


FIGURE 62. Shorter spoon holders and taller celery glasses from the Budde & Westerman (1913:45) hotel wares catalogue. In the 20th century celery glasses tended to be made without the stem and foot found on 19th-century examples. (Courtesy of George Miller.)

for different beverages, tumblers, finger bowls, water bottles or carafes, and sometimes matching tumblers set upside down over the top of the bottle (Figure 56), and sometimes narrow-mouthed "claret" jugs or wide-mouthed jugs for hard liquor.

The implications of finding decanters on sites need to be considered in both temporal and cultural contexts. Decanters are storage and serving containers, not commercial packages, thus they represent a level of service above the minimum, particularly during the 1800-1940 period when bottled wines, beers, and distilled liquors were commonplace. As the 19th century progressed, decanters represented an increasing level of formal service in either domestic or public settings, or, at least, a continuing level of service at certain strata of society. Depending on the time period and context, decanters may represent a masculine setting, such as a club, or army or navy mess, or may reflect different ethnic or socio-economic groups. Judging by the early-20th-century documentary evidence, Britons may have been more inclined to use decanters than either Americans or native-born Canadians. The decreasing presence of decanters in pressed glass, in comparison with the host of examples offered in cut, engraved, or acid-etched styles, suggests that, by the end of the 19th century, they were not used by lower-income groups. Finally, families and groups who did not drink

HANDED SHERBET CUPS
Sold in 2 doz. lots only.



C620 C628
C620— $2\frac{1}{4} \times 2\frac{1}{4}$, clear crystal, double
 pressed band. 1 doz. in box, 3 doz.
 in pkg. Doz. 25¢
C628— $3\frac{1}{4} \times 2$, full finish, crystal, plain
 pattern, ground bottom. 1 doz. in box,
 Doz. 45¢



C633 - $3\frac{3}{4} \times 2\frac{1}{4}$, finest crystal wide colonial flutes, thin bell edge, fire polished bottom. 1 doz. in box.

C641 — 3 $\frac{3}{4}$ x 2 $\frac{1}{4}$, squat thin blown crystal, French handle. 1 doz. in box..... Doz. 87c



C642—Bell shape, French lead blown crystal, stuck handle. 1 doz. in box.

C644 — Deep, diam. $3\frac{1}{2}$ in., ground and polished edge, stuck handle, engraved all over fern pattern. 1 doz. in box..... Doz. 95c

In Original Package.



C1646 - About 2½ in. diam., good crystal, 3 designs, cut deep, miter and milled bands. 1 doz. each, 3 doz. in case. 15 lbs. Doz. 24c

FIGURE 63. Handled sherbet cups from Butler Brothers (1914:319); footed sherbets without handles were also made. (Courtesy of the Juliet K. and Leonard S. Rakow Research Library of The Corning Museum of Glass, Corning, New York.)



FIGURE 64. Examples of decanter styles, 1800 to ca. 1850: **a**, classic Anglo-Irish decanter shape between 1800 to 1840s. It is characterized by a pronounced flanged lip, tapered body, three applied and tooled neck rings, and cameo with a mushroom, lozenge, or target stopper. It may be undecorated or decorated by cutting, engraving, and contact molding. This example is decorated by contact-molded ribs on the lower body and base, on which is molded the words "Waterloo Co. Cork," one of many Irish glasshouse products marked in this way (Warren 1981:54-55, 71-98). This company was in business between 1815 and 1835. In British and American factories the shape continued in production after the mid century but the rings had basically disappeared by the 1850s (Figure 65f). The form with neck rings continued to be made, however, in Swedish and Danish glass factories after 1850 (Buchwald and Schlüter 1975:37-116 [16-18]; based on Warren 1981:91); **b**, by the mid to late 1820s, decanters with more cylindrical bodies were available as were examples without neck rings. This decanter illustrates the shape suited to the vertical broad-flute cutting style introduced in the late 1820s. The body is decorated with cut ribs alternating with flutes decorated with flutes. The decoration, however, still retains the elements of earlier horizontal bands on the shoulder and neck. Illustration based on WHR drawings discussed in Wolfenden (1987:22). Real example shown in Wakefield (1982:30); **c**, American style consisting of globe-shaped body on a foot, with or without the three applied neck rings, made undecorated, or with contact molded, cut and/or engraved decorations. This style was illustrated in several American newspaper advertisements between 1823 and 1831 (Innes 1976:139; Palmer 1993a:138; Wilson 1994[1]:176) and is considered to date ca. 1815 to 1840s. Without the neck rings, slenderized versions of the footed spherical body were made in the mid-19th century (Wakefield 1982:40; Hajdamach 1991:134). Based on Wilson (1994[1]:199); **d**, squared decanters decorated by engraving or cutting, or blown in plain or patterned contact molds were made for liquor stands and for cases or traveling trunks. Those for cases and trunks were usually decorated on the shoulder. Square decanters are very conservative forms and can still be found in late-19th-century catalogues. Based on mold-blown decanter in McKearin and McKearin (1948:252, GII-28, Plate 10, 264-265); **e**, claret decanter decorated with cut panels from base to lip in the broad flute style which dates from the late 1820s onwards. Claret decanters with taller narrower bodies, tall narrow necks, pouring lips, and handles became a fixture in glass production from the 1840s onwards. This example is based on one in Pellatt's 1840 catalogue (Wakefield 1968:51; Warren 1984:122); **f**, tall narrow decanter dating from the 1840s onward. Dated examples in the literature are colorful and decorated in many different ways. Based on yellow opaline example decorated with transfer print in Hajdamach (1991:104) (Drawings by Dorothea Larsen.)

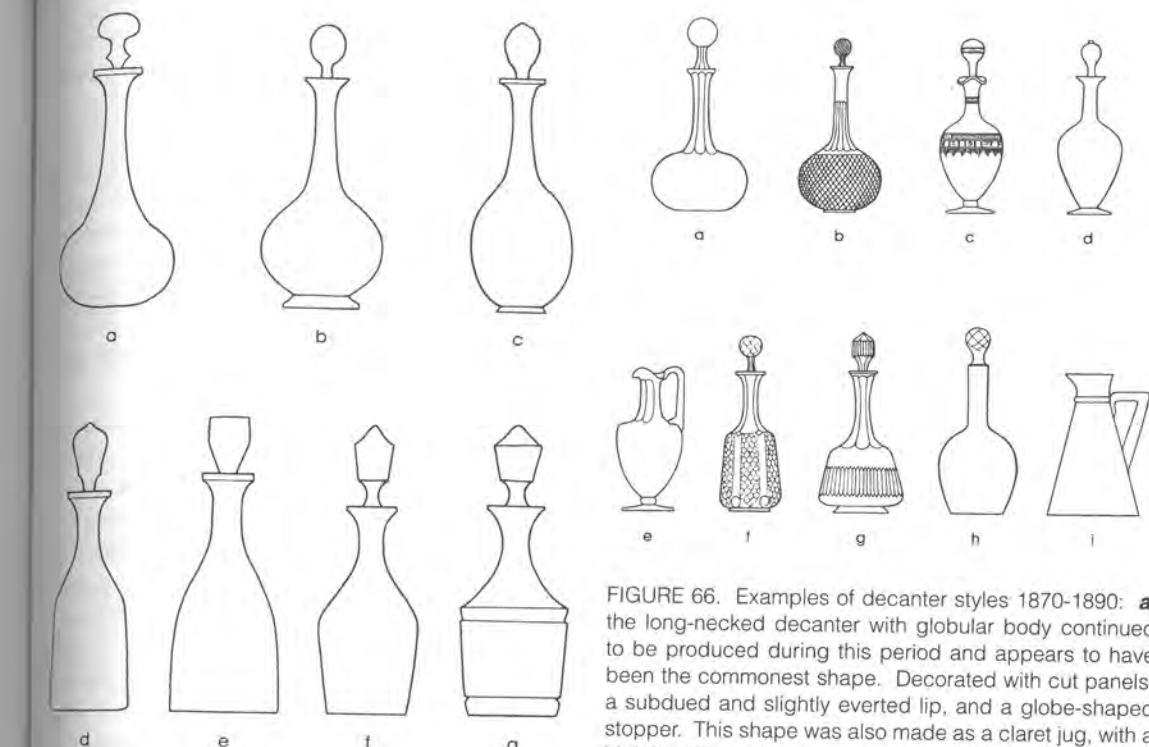


FIGURE 65. Examples of decanter styles ca. 1850-1870: **a**, decanters with long necks and spherical bodies continued in production from ca. 1850 into the 20th century (Figure 67). They often had vertical cut panels on the neck which emphasized the squatness of the body. Based on a decanter exhibited at the 1851 exhibition (*The Art-Journal* 1851:175); **b**, similar in style to a but with an applied foot. Based on a decanter made in London for the Viceroy of Egypt, 1854-1863 (Warren 1984:131); **c**, long-necked decanter with an ovoid body and applied foot (*The Art-Journal* 1851:175); **d**, decanter with body sloping outward towards the base, based on a decanter made in England about 1850 (Morris 1978:28); **e**, a pressed version of d with a less-defined neck as it curves into the long sloping shoulder; based on an illustration in the 1861 James B. Lyon & Company catalogue (Innes 1976:345); **f**, pressed decanter with body widening towards the shoulder. This form was in style from the early 19th century and continued in production at least as late as 1869 (based on Watkins 1970:158; Spillman 1997:95); **g**, pressed decanter with body widening towards the shoulder and an abrupt body and shoulder junction. This variant of **f** was introduced in the late 1840s (based on Watkins 1970:153; Spillman 1997:79). (Drawings by Dorothea Larsen.)

FIGURE 66. Examples of decanter styles 1870-1890: **a**, the long-necked decanter with globular body continued to be produced during this period and appears to have been the commonest shape. Decorated with cut panels, a subdued and slightly everted lip, and a globe-shaped stopper. This shape was also made as a claret jug, with a high handle and pouring spout. Based on Smart Brothers (1885:3); **b**, similar to a but with a foot. Based on M. Davis and Co. advertisement in *Pottery Gazette* (1881); **c**, shapes derivative of Greek pottery shapes, such as this one, were first introduced in the late 1840s and many examples were shown at the 1851 exhibition (Wakefield 1982:68). The decanter has an egg-shaped body, the characteristic trifoliate lip, a cushion knob separating the body and foot, and a globe stopper. Based on Smart Brothers (1885:3); **d**, similar to c but without the cushion knob and with a plain everted lip. Based on Smart Brothers (1885:3); **e**, claret jug with handle and pouring lip imitating another Greek pottery shape. This style can be found with or without the cushion knob separating the body and foot. Based on Smart Brothers (1885:3); **f**, body widens from shoulder to base, the lower body curves in towards the foot, although on other examples in the catalogue the angle is much more abrupt. Based on Smart Brothers (1885:3); **g**, a squatter version of **f** and a style which appears to start in the 1880s. This example has a different stopper style, one which reflects the body shape. Based on Smart Brothers (1885:4); **h**, Not all decanters had an everted lip. In this example the lip is simply left flat on top. Based on example in the ca. 1874 Boston & Sandwich Glass Co. catalogue (1992:Plate 37); **i**, decanters with this straight tapered body were often decorated with vertical trails of glass. The shape was apparently introduced in the Stourbridge area in the early 1870s and continued in production until the end of the century (Wakefield 1982:117-118). Based on Smart Brothers (1885:5). (Drawings by Dorothea Larsen.)

alcohol had little need of decanters. It appears that North American glass manufacturers and retailers had already responded to changing drinking patterns before the advent of prohibition in 1919.

Figures 64-69 are guides only to changing decanter styles, particularly after the middle of the 19th century when innovations in decoration became commonplace. It is clear that a strong conservative element resulted in the production of some decanter styles for over 60 years.

Dessert Glasses

Dessert glasses encompass a number of forms for individual service: small handled custard or sherbet cups (Figure 63), jelly glasses (Figure 42), small bowls or nappies, plates, and footed sherbets or sundaes (Figure 70). Serving pieces include large bowls and salvers (see Bowls), and plates (Figure 59).

Finger Bowls and Wine Glass Rinsers

There is some confusion as to how finger bowls and wine glass rinsers were used at the table. It is clear from English glass manufacturers' documents of the first half of the 19th century that they thought of finger bowls and wine glass rinsers as different. In his 1840 catalogue, Pellatt, for example, illustrated three styles of "finger-cups" but noted that the price for monteiths or wine coolers was an additional 10% (Wakefield 1968:51). In period illustrations and commentaries, however, the finger bowl style was also being used as a wine glass rinser.

These bowls held water which was used in three ways (Warren 1981:244-245; Lole 1993:2-4). According to some observers, it was a custom in England, dating from the mid to late 18th century, to rinse out one's mouth at the table using the water in the bowl and then spitting it back into the bowl. A second use was to rinse one's fingers before dessert was served. The third use was to rinse or cool a wine glass in the water. The latter use is one often seen in period illustrations where wine glasses are upended in bowls of water (Jones and Smith 1985:55-57). This practice continued at least into the early 1860s, as a photograph in the National Archives in Ottawa shows a table set at the governor's house in Halifax with each

place setting provided with a water bottle and tumbler turned upside down over it, two wine glasses (one colored), and a third resting in a bowl. During the second half of the 19th century, however, the only usage which remained was to rinse fingers, although even as late as 1865, an American etiquette guide still felt it necessary to caution diners not to rinse out their mouths (Williams 1985:41-42). Etiquette books suggest that the finger bowl be presented on a doily on a plate before the dessert course (Fenwick 1948:279). By the late 19th century and into the 20th century, their presence on a table suggests the presence of either servants or waiters.

The first style of bowl, generally considered wine-glass rinsers, is essentially a cylinder about 4 in. (10 cm) high and 4 in. (10 cm) in diameter. Some have one or two pouring lips or notches (Spillman 1982:272) which were used to support the stem of one or two wine glasses. Examples of this style in both glass and faience have been found on mid-18th-century French colonial sites in Canada. Both historic illustrations and documents make it clear they were intended to be used as wine glass rinsers or coolers. It is possible that the practice of rinsing or cooling wine glasses originated in France and was adopted in England during the 18th century. This style disappeared sometime during the first half of the 19th century.

The second bowl style, generally considered finger bowls, was a hemispherical bowl about 3 to 3 ½ in. (7.5 to 9 cm) high with a rim diameter of about 5 in. (13 cm). Period price lists often offer finger bowls in colored glass, and several examples found in early-19th-century contexts in Canada are in colorless, blue, or green glass. Finger bowls matched other tableware pieces (Figures 34, 56) (Weatherman 1974:278-279). By the early 20th century, finger bowls were about ½ in. (1.3 cm) shallower.

Pitchers, Jugs, and Beverage Sets

Pitchers and jugs were used to serve milk (see Sets), water, cider, beer, wines, and other alcoholic beverages. The two terms seem to have been used interchangeably. Their use increased dramatically in the 19th century and by the early 20th century, pitchers and jugs appear to have become the dominant form

CUT GLASS DECANTERS

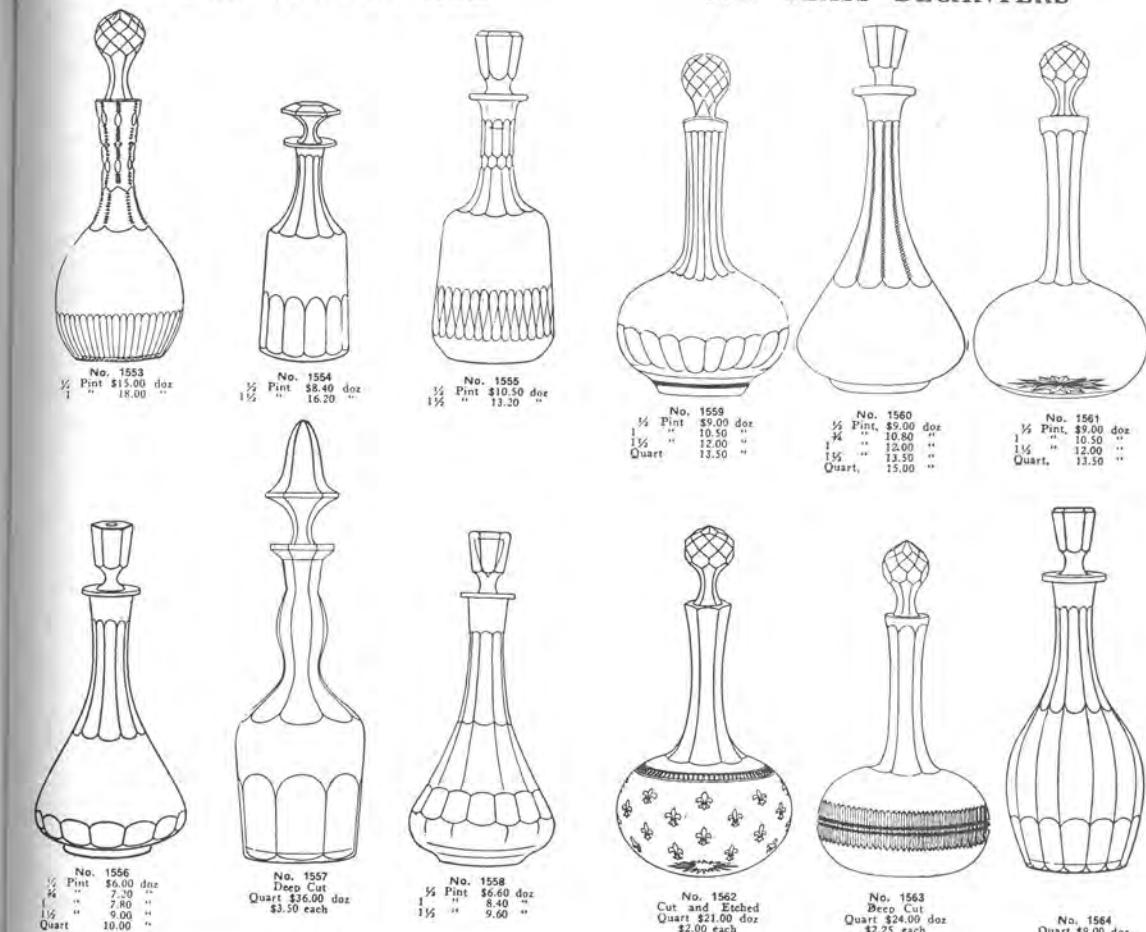


FIGURE 67. Decanters illustrated in Budde & Westerman (1913:39-40) showing the long-lived nature of some decanter shapes and decoration. (Courtesy of George Miller.)

Plates

Although glass plates were made from the 18th century onward, they were not common and, at least in the first half of the century, tended to be used as under-plates for butter tubs (Figure 42) or covered pickles, or as "ice plates" for serving ices, a popular dessert. In the 1830-1860 period, pressed-glass plates, called toddy plates by collectors, were made in 5 and 6 in. (13 and 15 cm) sizes, but their precise use is not clear. A common pressed or blown plate that was made between the late 1820s and

FLINT GLASS WORKING BOTTLES

(Capacity 26-28 oz.)

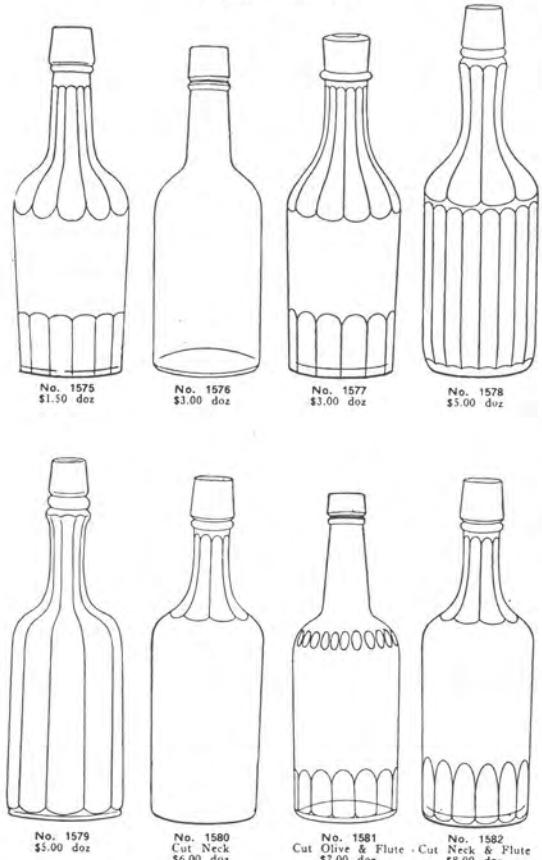


FIGURE 68. Examples of bar bottles in Budde & Westerman (1913:42). (Courtesy of George Miller.)

about 1860, was the *cup plate* for which more than 800 pressed patterns have been identified (Figure 20) (Wilson 1994[1]:274-275). Between 3 and 4 in. (7.5 and 10 cm) in diameter, cup plates held the cup while a person sipped tea from the saucer (Spillman 1971:128-133). Visitors to the United States often commented on this habit. In comparison to the large number of shallow bowls or dishes, the ca. 1874 catalogue of the Boston & Sandwich Glass Company (1992:Plates 5, 19, 21, 24, 31, 37, 39) offered very few plates. These included plates for serving ice cream, those with a domed cover for serving cheese or butter, and under-plates for cracker jars and butter tubs. Plates in pressed

patterns from the 1870s onward tended to be serving plates. In the late 1920s, however, individual eating plates were introduced in a full range of sizes, including ones divided into three sections (Figure 59). Also introduced during this period were serving plates with central handles which were either molded in the glass or made of metal and detachable (Spillman 1982:Nos. 212, 217, 218, 219).

Salts and Salt Shakers

Small open dishes for salt are one of the commoner tableware forms recovered from archaeological sites, at least until the 1870s (Figures 71-72). Some salts were made in the same patterns as other tableware pieces; others were made in distinctive patterns. Smaller individual salts began to appear in the catalogues in the 1860s. As salt and pepper shaker combinations became more common in the 1880s, larger open salts disappeared but individual salts, or "salt dips," continued to be offered, primarily in catalogues selling cut glass. They became the sign of formal service instead of everyday service. Salts were not traditionally part of the cruet or castor set, although pepper castors (or dusters) were. Salt shakers began to be made in the late 1850s, and by the 1880s, salt and pepper shaker sets had become common in both utilitarian pressed or blown glass and in expensively decorated pairs suitable for gifts.

Peterson (1970:50) outlined the steps which led to successful salt shakers and their common use: (1) molded screw threads for the finish, beginning in the late 1850s and early 1860s, which made it easier to keep salt away from the metal top; (2) mechanical devices to keep salt from caking and to facilitate the flow of salt, beginning in the late 1850s; (3) altering the nature of salt to keep salt from caking, beginning in the 1880s; and (4) changing the metals used in tops to ones less subject to corrosion.

Sets (*Creamer, Sugar Bowl, Butter Dish, Spoon Holder*)

Pressed "sets" are illustrated in many catalogues and consist of a *cream jug*, *sugar bowl*, *butter dish*, and *spoon holder* (Figure 71). The butter dish was often referred to as a covered

(text continues on p. 224)



FIGURE 69. Examples of cocktail and wine sets from Hill-Ouston (1936:105). Three of the sets are decorated with enameling and the cut set is an imitation of cut patterns of the second quarter of the 19th century (Figure 41). (Author's collection; digital image by George van der Vlugt.)

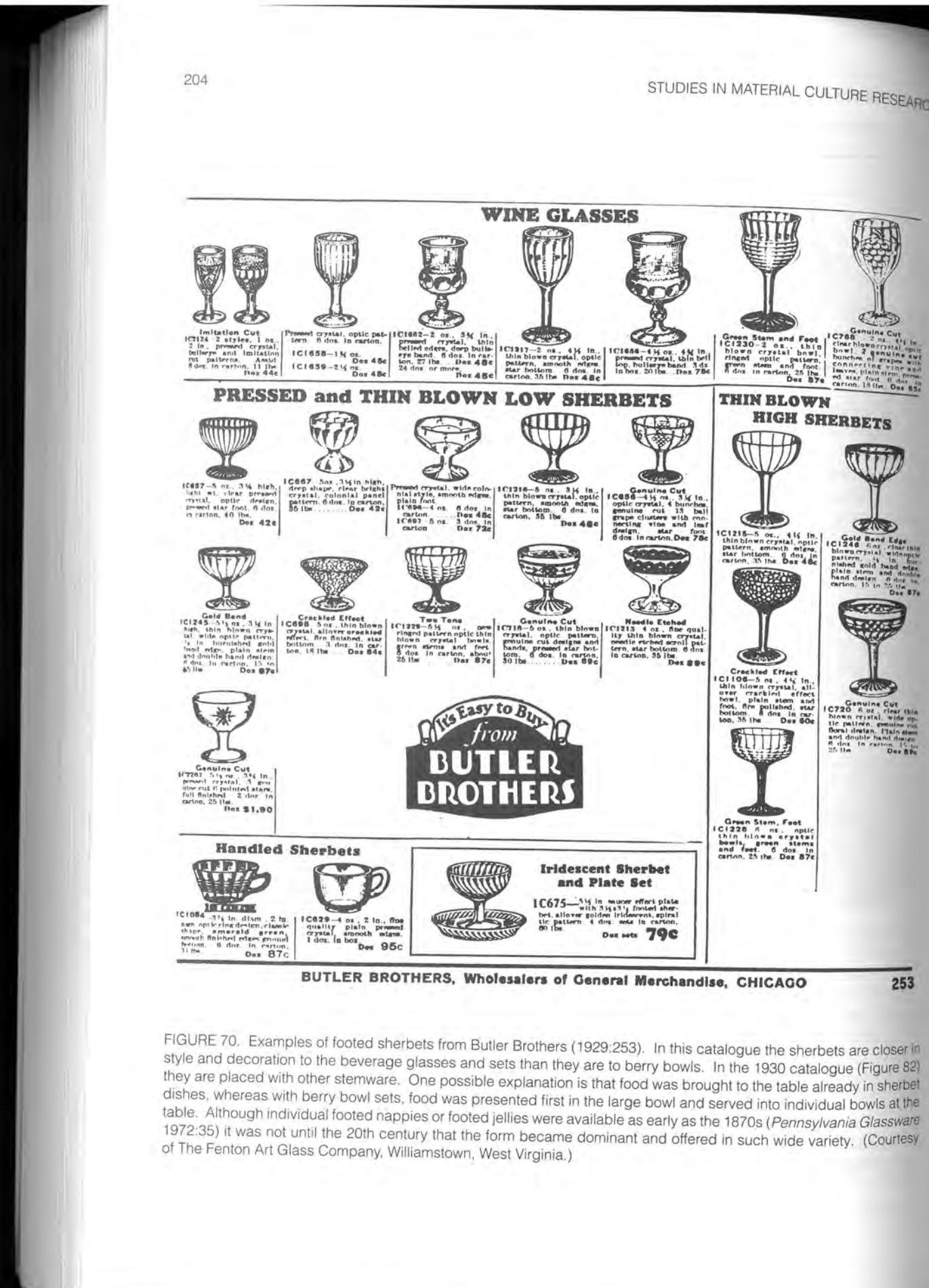


FIGURE 70. Examples of footed sherbets from Butler Brothers (1929:253). In this catalogue the sherbets are closer in style and decoration to the beverage glasses and sets than they are to berry bowls. In the 1930 catalogue (Figure 82) they are placed with other stemware. One possible explanation is that food was brought to the table already in sherbet dishes, whereas with berry bowl sets, food was presented first in the large bowl and served into individual bowls at the table. Although individual footed nappies or footed jellies were available as early as the 1870s (*Pennsylvania Glassware* 1972:35) it was not until the 20th century that the form became dominant and offered in such wide variety. (Courtesy of The Fenton Art Glass Company, Williamstown, West Virginia.)



FIGURE 71. Selection of salts from the early 1870s King, Son & Company Catalogue (*Pennsylvania Glassware* 1972:29). Note the presence of "master salts" which were shared between diners, individual salts, salt dusters, and an individual pepper which matches neither of the salt dusters. Maple and Floral patterns were part of large tableware sets. (Courtesy of the Juliet K. and Leonard S. Rakow Research Library of The Corning

TABLE GLASSWARE

SALT and PEPPER SHAKERS in CRYSTAL and COLORED GLASS



FIGURE 72. Salt and pepper shakers offered in the 1930 Butler Brothers catalogue showing both utilitarian sets in Colonial pattern and more decorative ones. Toothpick holders were introduced in the 1880s. (Courtesy of Collins Kirby Art & Antiques, Fort Payne, Alabama.)



BUTLER BROTHERS, National Distributors of General Merchandise, ST. LOUIS

FIGURE 73. Cream and sugar sets from Butler Brothers 1930 catalogue offered a mix of modern and older styles. By this time the paired cream and sugar were commoner than the four-piece sets including the butter and spooner, although one is still offered here in the center of the bottom row. Top right shows "new modernistic colonial design" with strong art deco elements including the inverse-shaped conical body at largest diameter at the rim, squared handles, and the squared motif. Although the look is more strongly associated with art deco, inverse cone-shaped bowls placed directly on the foot appear as early as 1916 in the Bryce Brothers' (1916:246) catalogue. (Courtesy of Collins Kirby Art & Antiques, Fort Payne, Alabama.)

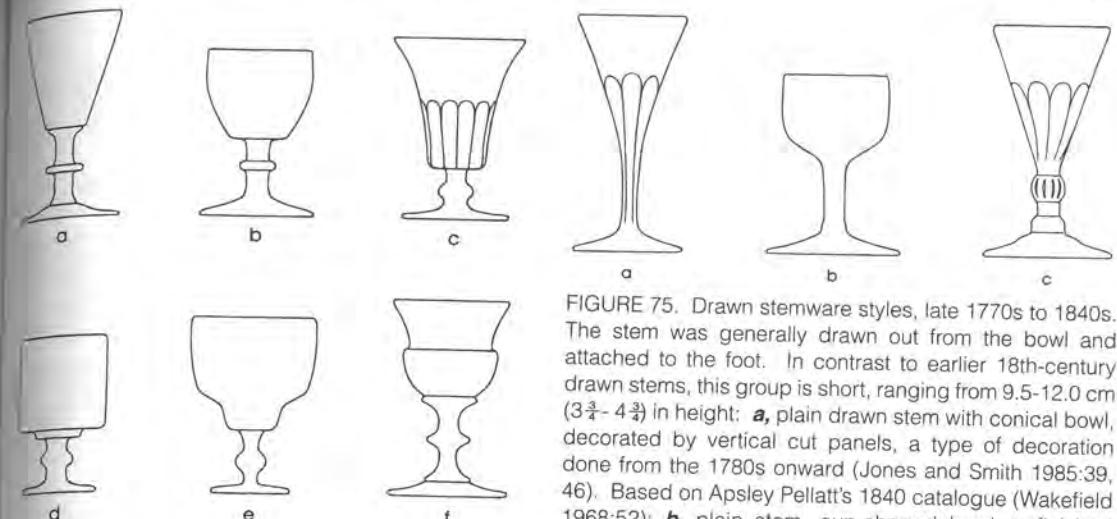


FIGURE 75. Drawn stemware styles, late 1770s to 1840s. The stem was generally drawn out from the bowl and attached to the foot. In contrast to earlier 18th-century drawn stems, this group is short, ranging from 9.5–12.0 cm (3 3/4–4 3/4) in height: **a**, plain drawn stem with conical bowl, decorated by vertical cut panels, a type of decoration done from the 1780s onward (Jones and Smith 1985:39, 46). Based on Apsley Pellatt's 1840 catalogue (Wakefield 1968:52); **b**, plain stem, cup-shaped bowl, unfinished pontil mark, folded feet, with the edge of the foot folded under, were called "welted" in price lists, and were still being offered as late as 1832 (Sullivan 1985). Based on example in Wilson (1994[1]:187, No. 162) dated ca. 1815–1830; **c**, drawn stem with knob, conical bowl, decorated by pattern-molded panels (Figure 10). This is one of the newer stemware styles included in the 1840 Pellatt catalogue. Based on glasses in private collections and archaeological examples. (Drawing by D. Larsen.)

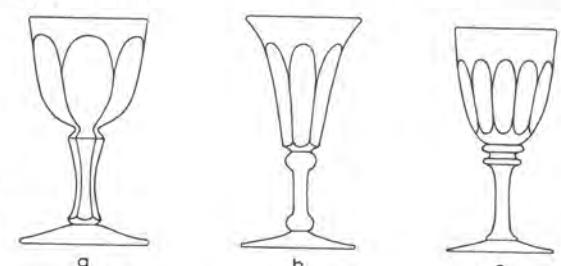


FIGURE 74. Centrally knopped stemware styles, ca. 1780–1840s. Called "button" stem in the documents, the style occurs with V-shaped, bladed or rounded knobs, or without a step at the foot, with or without a collar (merese) under the bowl, and with different bowl types: **a**–**b**, bucket; **c**, bell; **d**, cylindrical; **e**, ogee; **f**, stile. The bowls were decorated by cutting, usually panels, pattern-molding, contact-molding, engraving, and enameling. Although the basic style is simple, the different combinations of shape and decoration make it a complex group. It is not clear how datable the different combinations are. The picture is complicated by the fact that European glassmakers continued to make this type of stemmed drinking glass into the second half of the 19th century, generally in non-lead glass, and that it may never have entirely died out in English production (Figure 44). More revivals of the style were introduced in the 20th century (Spillman 1982:Nos. 8–9). Detailed descriptions: **a**, bucket-shaped bowl with engraved crest for the 13th Regiment of Foot who were stationed in Canada during the War of 1812–1814 (Jones and Smith 1985:114). Collar under the bowl, step at the stem, and ground and polished pontil mark. Height 11.0 cm (4 1/2 in.) (Parks Canada collection); **b**, incurved bucket with no collar or step, finished pontil mark. Height 8.5 cm (3 1/2 in.) (Parks Canada collection); **c**–**e**, based on Samuel Miller Waterford Glass House Patterns, dated ca. 1820–1830 (Warren 1970:41–42, 48). Several of the designs offered by this factory included star cuts on the base; **f**, the thistle shape achieved by a double gather of glass on the lower part of the bowl and a strong outward curve on the upper part. The bowl resembles classical urns and is found in other glassware items such as jellies (Figure 42, nos. 21) and celery vases (Figure 48) which date ca. 1830 to 1840s. Step and collar are present, pontil mark unfinished. Height 10.0 cm (4 in.) (Parks Canada collection; drawing by D. Larsen.)

FIGURE 76. Stemware styles introduced in the mid to late 1830s. The point of interest on these stems has shifted from the center to below the bowl and at the foot. Although Hajdamach (1991:47–48) and Spillman (1989:39) suggest these styles were in production in the late 1820s, other evidence supports a late 1830s introductory date. For example, dated English price lists for 1829 and 1832 offer only button stems and plain stems and Irish factory drawings thought to date to the 1820s (Warren 1981:43–51) do not show this style. However, **b** resembles one style in the 1840 Pellatt catalogue and **a** reflects the long flute cuts going from foot to bowl also included there. Both **a** and **b** resemble stems styles from a Manchester factory catalogue hand dated to 1846 (Yates 1987:32, 39). All three drawings are based on examples in a Webb Richardson pattern book thought by Hajdamach (1991:47) to date between 1829 and mid 1830s, but which probably dates no earlier than the mid to late 1830s: **a**, curved stem which swells out under bowl and above foot. Vertical cut panels on the stem, going up onto the lower part of the bowl in the broad flute style of cutting; **b**, straight stem with knobs at bowl and stem junction. Cut panels on bowl; **c**, straight stem with collar and knob under bowl and slight step at foot. Cut oval-shaped panels on bowl. (Drawing by D. Larsen.)

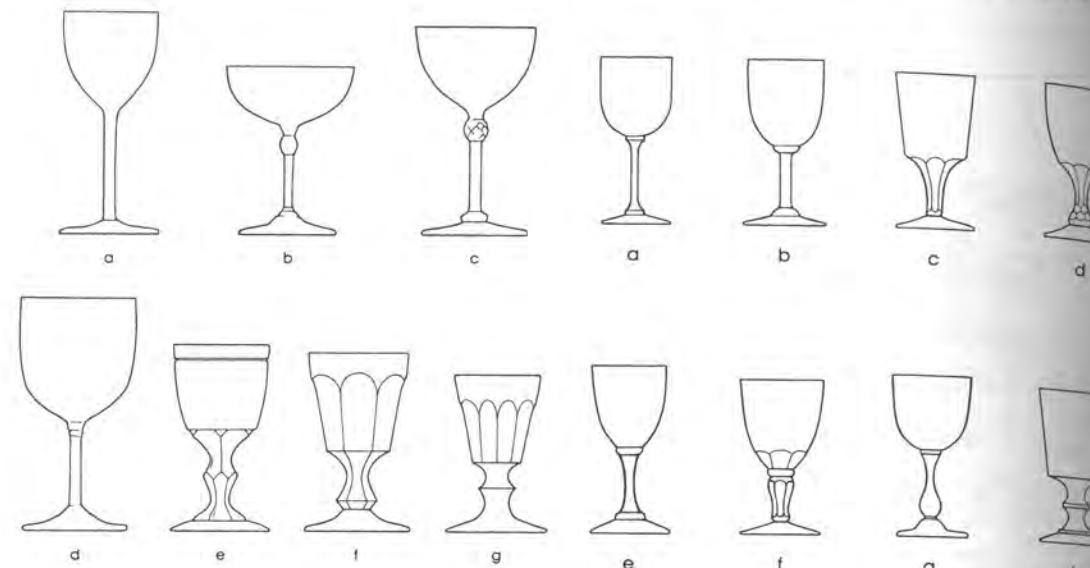


FIGURE 77. Examples of stemware styles 1850-1870: **a**, thin straight stem with rather flat foot and oval bowl. Profile of a wine glass accessioned at the Conservatoire National des Arts et Métiers in Paris in 1851, made by Apsley Pellatt's firm in London (based on Warren 1984:128, Figure 15); **b**, champagne glass characterized by an open shallow bowl, a style introduced about the middle of the 19th century and still associated with champagne. Profile of a glass given by Pellatt and Company to the Royal Scottish Museum in Edinburgh in 1864 (based on Warren 1984:128-129, Figure 17d); **c**, oval bowl on a thin straight stem with a knop near the bowl (and decorated by cut facets) and pronounced step at the base of the stem. The foot is relatively flat. Part of the same group as **b** (based on Warren 1984:129, Figure 17e); **d**, cylindrical bowl with curved bottom and a thin straight stem with a step at the foot. Part of the same group as **b** (based on Warren 1984:130, Figure 18c); **e**, stem is decorated by pressed vertical flutes which break at the central knop to form a serrated pattern. American pressed stemware of all types often has the knopped stem decorated in this way or with hexagonal facets. Based on Sharp Diamond pattern champagne glass made by the Boston & Sandwich Glass Company and shown in their 1868-1869 catalogue (Watkins 1970:153; Spillman 1997:79); **f**, bucket-shaped bowls continued in production in this period but definitely had lost their dominant position. Even in pressed glass, stems in this period had knobs or swellings lower on the stem or near the bowl. Shown in the same catalogue as **e** (Watkins 1970:160, Figure 12; Spillman 1997:94); **g**, pressed New-Orleans-pattern cordial glass, one of the last remnants of the centrally knopped stems with bucket bowls so common during the first half of the 19th century. Shown in the same catalogue as **e** (Watkins 1970:160, Figure 12; Spillman 1997:94). (Drawings by Dorothea Larsen).

Wine Glasses, Etc. *265



C86, 24c Doz.	C19, 29c Doz.	C83, 29c Doz.	C18, 30c Doz.	C73, 31c Doz.
Doz. \$30.28				
15. "Diamond" Wine—Imitation cut pattern.....				
16. "Beaded Wine"—Beaded pattern with plain edge, cut stem.....				28
17. "Bright" Wine—For wine and mantel.....				29
18. "Popular" Wine—You can double your money.....				29
19. "Mirror" Wine—Dot mirror pattern.....				30
20. "Plain" Wine—Cut stem.....				31



C80, 33c Doz.	C87, 35c Doz.	C88, 38c Doz.	C78, 40c Doz.
Doz. \$33			
192. "Beaded Panel" Wine—Brilliant flared top.....			
193. "Pressed Band" Wine—Three mold bands.....			
197. "Satin Cut" Wine—Cut glass pattern, fancy stem, star base.....			
198. "Shapely" Wine—Panel pattern, flaring shape, fancy stem.....			35
199. "Sherry" Wine—For wine or toothpick glass.....			38
			40



Cup Foot Wine Glasses. *264



Assortment of Wine Glasses. *243



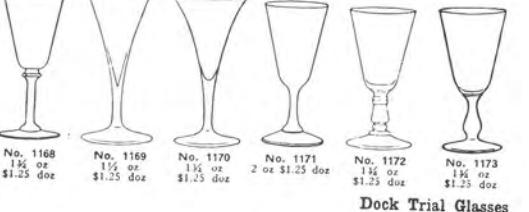
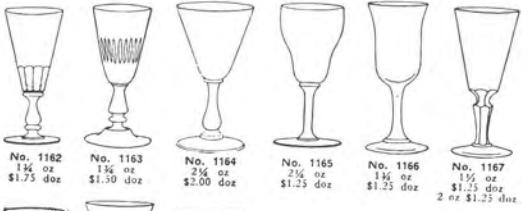
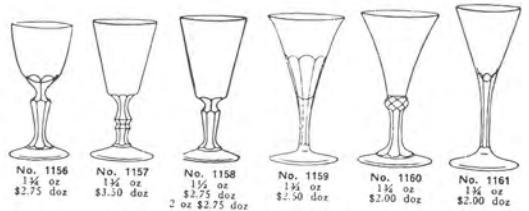
C641, 29c Doz.	C640, 30c Doz.
Doz. \$20	
641. "Staple" Wine Glass—1 doz. each of four patterns: colonial flute, bead panel, plain and flute and pressed band. Total 4 doz. in box, no charge for box.	
640. "Fancy" Wine Glass—Rich cut patterns, finished and fire polished. 1 doz. each of 4 patterns. 4 doz. in wood case, no charge for case.	30

FIGURE 78. Examples of stemware styles 1870-1890. Not shown in this group is the hollow-stemmed champagne glass with saucer bowl which was introduced in the mid 1870s (Innes 1976:352; Boston & Sandwich Glass Company 1992:Plates 27, 37): **a**, stem is straight and thin with a collar under the bowl that in many illustrated examples is quite thin and sharp and with a step at the base of the stem (Figure 44) (based on *Pottery Gazette* 1881:817); **b**, stem is slightly thicker than the previous example, the collar and step correspondingly larger and rounded (Figure 44) (*Pottery Gazette* 1881:817); **c**, relatively straight stem that widens considerably under the bowl. Whether cut or pressed, the panels on the stem go just onto the base of the bowl, making a kind of base for the bowl to rise from. This is in contrast to the earlier styles where the panels extended onto the bowl, sometimes as much as three quarters of the way up (based on King, Son & Company catalogue dated early 1870s [Pennsylvania Glassware 1972:38]); **d**, similar to **c** this glass has a swelling, a pronounced step at the base of the stem, which could be decorated. The stem profile is curved rather than straight (based on King, Son & Company catalogue dated early 1870s [Pennsylvania Glassware 1972:38]); **e**, a common style for this period was the curved stem sometimes ending with a collar and/or step (Figure 44) (*Pottery Gazette* 1881:817); **f**, the inverted baluster stem was also made during this period, sometimes in a vestigial form (based on King, Son and Company catalogue, dated early 1870s [Pennsylvania Glassware 1972:38]); **g**, true baluster stem, with the swelling at the base of the stem, not just a step before the foot, is common in this period. The stem can be plain or decorated with panels or facets. The domed foot is unusual (Figure 44) (*Pottery Gazette* 1881:817); **h**, although examples of the centrally knopped stem with bucket bowl were rare, they were still in production; based on Greek Champagne glass in Bakewell Pears & Co. (1875:8).

FIGURE 79. Pressed wine glasses offered by Butler Brothers (1902:124). (Courtesy of the Juliet K. and Leonard S. Rakow Research Library of The Corning Museum of Glass, Corning, New York.)

PORT AND SHERRY WINE GLASSES

Fine French and Bohemian Cut and Plain

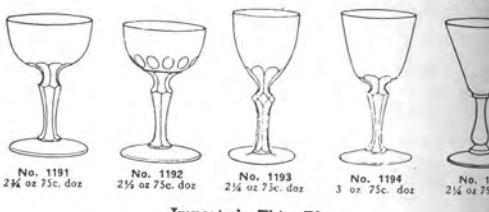
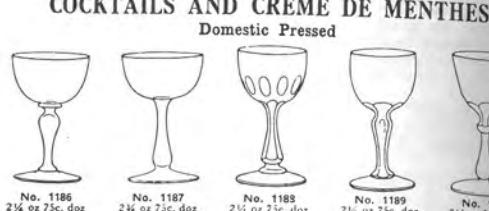


Dock Trial Glasses



PORT AND SHERRY WINE GLASSES

Domestic Pressed



Imported, Thin Blown



FIGURE 80. Selection of stemware from 1913 Budde & Westerman catalogue for hotelware. The catalogue illustrates the difference in price between blown, cut, and pressed wares. For example, No. 1159 plain blown cut stem cost \$2.50 dozen, No. 1170 plain blown stem cost \$1.25 dozen, No. 1183 plain pressed stem cost \$1.00 dozen. Many of the stemware styles shown here and in other catalogues of the same period, such as Bryce Brothers (1916), continue to show styles first introduced between ca. 1850 and 1880 (Budde & Westermann 1913:11-12). A shift in styles is beginning to appear, however, in the number of conical, ogee, or trumpet-shaped bowls being offered. The look is more open and echoes 18th- and early-19th-century bowl shapes. (Courtesy of George Miller.)

FIGURE 81. Blown stemware in pink glass, decorated by optic molded panels and lightly cut motif which has been left unpolished. This glass has a large bowl, with the bowl rim diameter of 3 1/2 in. (9 cm) considerably larger than the foot rim diameter of 2 3/4 in. (7mm), and a comparatively long stem. Total height is almost 7 in. (17.2 cm). These proportions are characteristic of stemmed drinking glasses from the 1920s onward. The cut pattern was done by a gang wheel, introduced about 1913, which had a serrated surface so that a single cut could make a petal or leaf. The resulting pattern—which consists of a group of narrow parallel grooves or, when cut again at right angles, creates crosshatching—is distinctive (Farrar and Spillman 1979:14, 21). (Photo by Rock Chan; Parks Canada collection.)

Popular Patterns

MATCHED STEMWARE

Popular Prices

Get your share of the GENEROUS PROFITS made possible by our low prices on glassware. Send us your order TODAY.

TIFFIN STEMWARE - "Classic" Plate Etched

With Milk Glass Stem and Foot
Thin lead blown, wide optic crystal base, etched medallions with raised circular shapes, outlined with scroll and festooning, mounted on rich floral and grape stems and feet, new and fancy shapes. Controlled and distributed exclusively by Butler Brothers.

BUTLER BROTHERS, Wholesalers of General Merchandise, CHICAGO

FIGURE 82. Selection of stemware offered by Butler Brothers (1929:254). Notable features for the late 1920s and 1930s were the preference for thin glass, large open bowls decorated by different optic molded patterns and then by cutting, acid etching, or gilding. Different dark-colored feet or stems and feet (such as "Tiffin" stemware) were introduced in this period. The stemware offered includes goblets, wines, and sherbets, plus tumblers for iced tea. Stems are thin, plain, and comparatively tall. Several patterns have decorated feet. (Courtesy of Fenton Art Glass Company, Williamstown, West Virginia.)



FIGURE 83. Heavy goblet with molded stem applied to bowl and foot, neither of which have mold lines. No pontil mark, lead glass. Total height is 5 in. (12.5 cm). Probably English, mid-19th century (Morris 1978:108, 111). (Photo by Rock Chan, Parks Canada collection.)

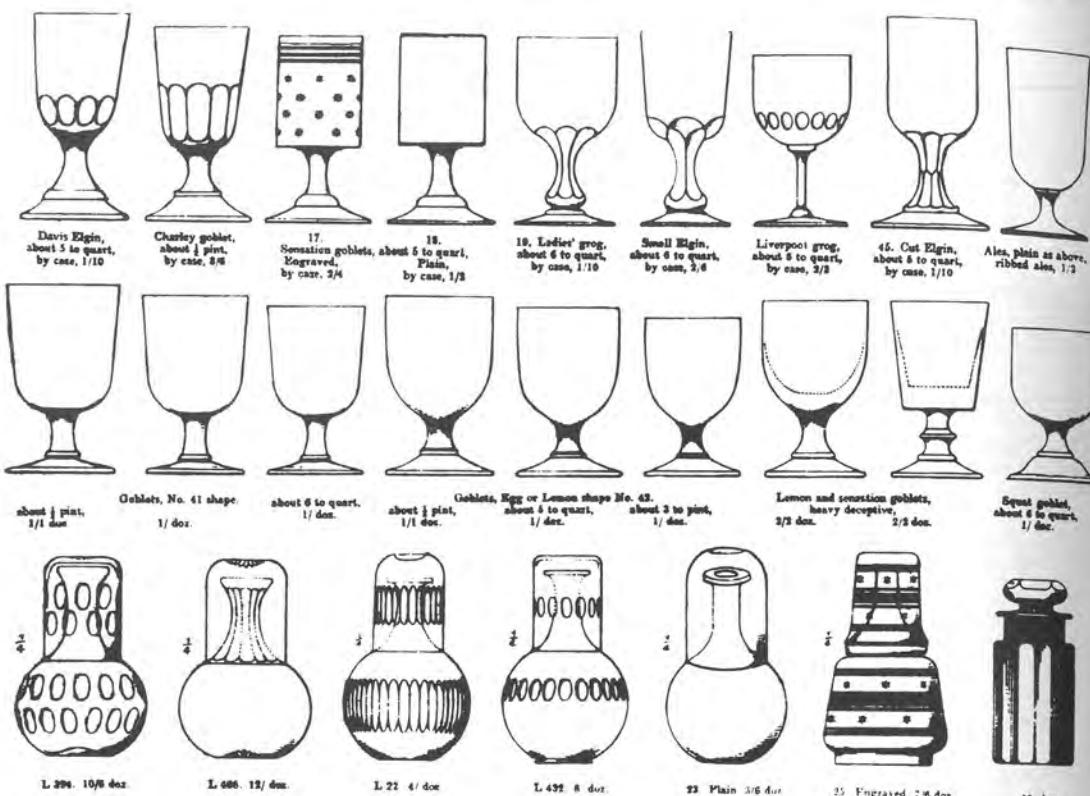


FIGURE 84. A selection of goblets and water bottles with their tumblers, called tumble-ups, inverted over the neck. The sizes of the bowls are indicated by how many would be needed to hold a quart of liquid—"about 5 to quart" (*Pottery Gazette* 1881: before 817). (Courtesy of The British Library, London; digital image by George van der Vlugt.)



FIGURE 85. Example of a Bohemian-style tumbler with pattern-molded panels and ribs, and sketchy engraving at the rim. Made of non-lead glass which, when compared with the heaviness of the tumbler in Figure 12, makes this tumbler extremely light. One feature which has been found on mid-18th-century examples excavated from French colonial sites in Canada is the rough grinding around the pontil mark. Tumblers such as this date from the mid 18th century into the early years of the 19th century. (Photo by Rock Chan, private collection.)

PRICES OF TUMBLERS, per Box of 6 doz. each. (See Plate.)									
No.	Description.	Cut.	Plain	Flat	Wine-glass	No.	Description.	Cut.	Plain
30	Third quart, Huber, held., 1 doz. in box	600	-	60		47	Half pint, Cincinnati table, handled,	600	53
31	Half pint, Gaines, pillar flute, -	600	-	60		48	Gill, Huber, -	600	24
32	Half pt. Gaines, pillar flute, handl'd	650	-	60		49	Gill, Huber, handled, -	600	27
33	Half pint, Astor, plain, large,	650	-	60		50	Third quart, N. E. 9 flute, Heavy,	650	73
34	Half pt. 8 flute, Heavy, taper bar,	650	-	70		51	Half pint, large, Cincinnati, footed,	600	60
35	Half pint, Huber, taper,	650	-	60		52	Half pint, Cincinnati, footed,	600	60
36	Half pint, Huber, taper, handled,	650	-	60		53	Half pint, Sage, 8 flute, -	600	61
37	Half pint, plain taper, Heavy,	650	-	60		54	Third pint, Brooklyn, plain,	600	38
38	Half pint, plain taper, Punch,	600	-	50		55	Third pt. Brooklyn, plain, handled,	600	35
39	Third pint, Saloon, plain, Heavy,	600	-	50		56	Third pint, Cincinnati table, handled,	600	41
40	Third pint, Saloon, plain, Punch,	600	-	50		57	Gill, Cincinnati table, -	600	38
41	Half pint, Mobile bar, Heavy,	550	-	48		58	Gill, Cincinnati table, handled,	600	36
42	Pint, Soda, 6 flute, tall, 4 doz. in box,	500	-	90		59	Half pint, Huber, 10 flute, -	600	47
43	Third pint, Philadelphia bar, -	600	-	38		60	Half pint, Huber, 10 flute, handled,	600	43
44	Pint, Astor Julep, 4 doz. in a box,	650	-	70		61	Third pint, Western bar, -	600	40
45	Third quart, Astor Julep, -	650	-	50		62	Half pint, O'Hara, footed,	600	40
46	Gill Saloon, plain, Heavy,	600	-	50		63	Pint, Gauche, 6 flute, large,	600	44
47	Gill Saloon, plain, handled,	600	-	50		64	Pint, Gauche, 6 flute,	600	70
						65	Half pint, New York table,	600	50
						66	Gill, New York table,	600	22
						67	Gill, New York table, handled,	600	25

JAS. B. LYON & CO. Manufacturers, No. 116 Water Street, PITTSBURGH, PA.



FIGURE 86. Text and accompanying illustrations from the 1861 catalogue of the O'Hara Flint Glass Works in Pittsburgh. The text lists capacity, pattern name, and other distinguishing features such as handled, heavy, table, or bar. Although 63 tumblers are illustrated in the catalogue, most are paneled patterns, along with two hexagonal patterns. Lists such as this one frequently mention bar tumblers, generally heavy and with a thicker base. Handled tumblers or mugs were offered throughout the 140 years covered by this guide. (Courtesy of the Juliet K. and Leonard S. Rakow Research Library of The Corning Museum of Glass, Corning, New York.)

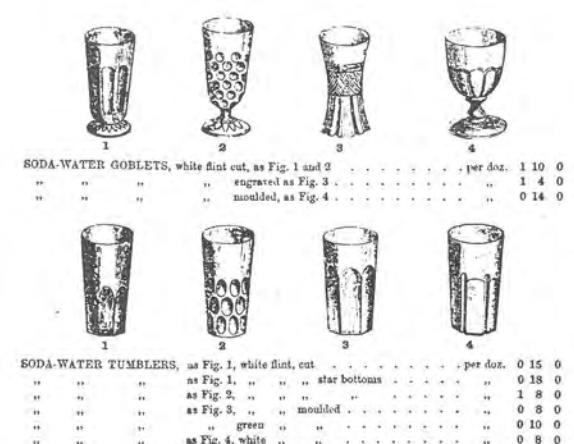


FIGURE 87. Soda water glasses are taller and slimmer than other tumblers. The 1840 Apsley Pellatt price list illustrates an example (Wakefield 1968:52) so they were in production at least that early. Specialized glasses for soda water reflect the growing popularity of this type of beverage. In American sources, however, they were often referred to as lemonades and in the 20th century as iced tea glasses. This group, decorated by cutting, engraving, or molding, appears in S. Maw & Son (1866:260). (Private collection.)



FIGURE 88. A group of engraved tumblers offered by M. Davis, many of which exhibit the rather stiff vertical orientation of patterns introduced in the 1880s. The pattern in the bottom row with the swallows was inspired by Japanese motifs (*Pottery Gazette* 1884:before 817). (Courtesy of the British Library, London; digital image by George van der Vlugt.)



FIGURE 89. Tumbler in aqua glass decorated by optic molding, enameled floral/leaf sprays around a decal of Niagara Falls put on a white enamel ground, and gilding on the rim. The body surface has been lightly acid-etched to provide a matte surface for the enameling and to hide its less attractive back view. This tumbler represents Bohemian-style taste both in decorative techniques and motifs around the turn of the 20th century. It also represents a whole group of inexpensive souvenir ware produced at the same period. Although decals were introduced in North America during the 1890s, they were in use in continental Europe in the 1870s. The flat ground rim, disguised with gilding, is also a Bohemian feature found on drinking glasses. English glassblowers preferred to cut excess glass off from wide-mouthed wares, such as wine glasses or tumblers, with a pair of shears in a single operation. "In Bohemia and Germany, generally, the workmen are said not to be sufficiently skilful to use the shears; but the edges of bowls are blown in the rough, and cut smooth by the glass-cutter when cold, which leaves a flat and unsightly finish, far inferior to the round, smoothed edge of fire-polish after shearing" (Pellatt 1849:82). (Photo by Rock Chan, private collection.)



FIGURE 90. Jelly glasses for storing preserved jellies were in production at least by the early 19th century. Early examples were tumbler-shaped with a folded-in, slightly everted lip which held the oiled-paper or cloth covering in place (Wilson 1994[1]:186-187). These early 1870s examples from the King Company had glass or tin covers, and were intended for domestic use (Pennsylvania Glassware 1972:22). (Courtesy of the Juliet K. and Leonard S. Rakow Research Library of The Corning Museum of Glass, Corning, New York.)

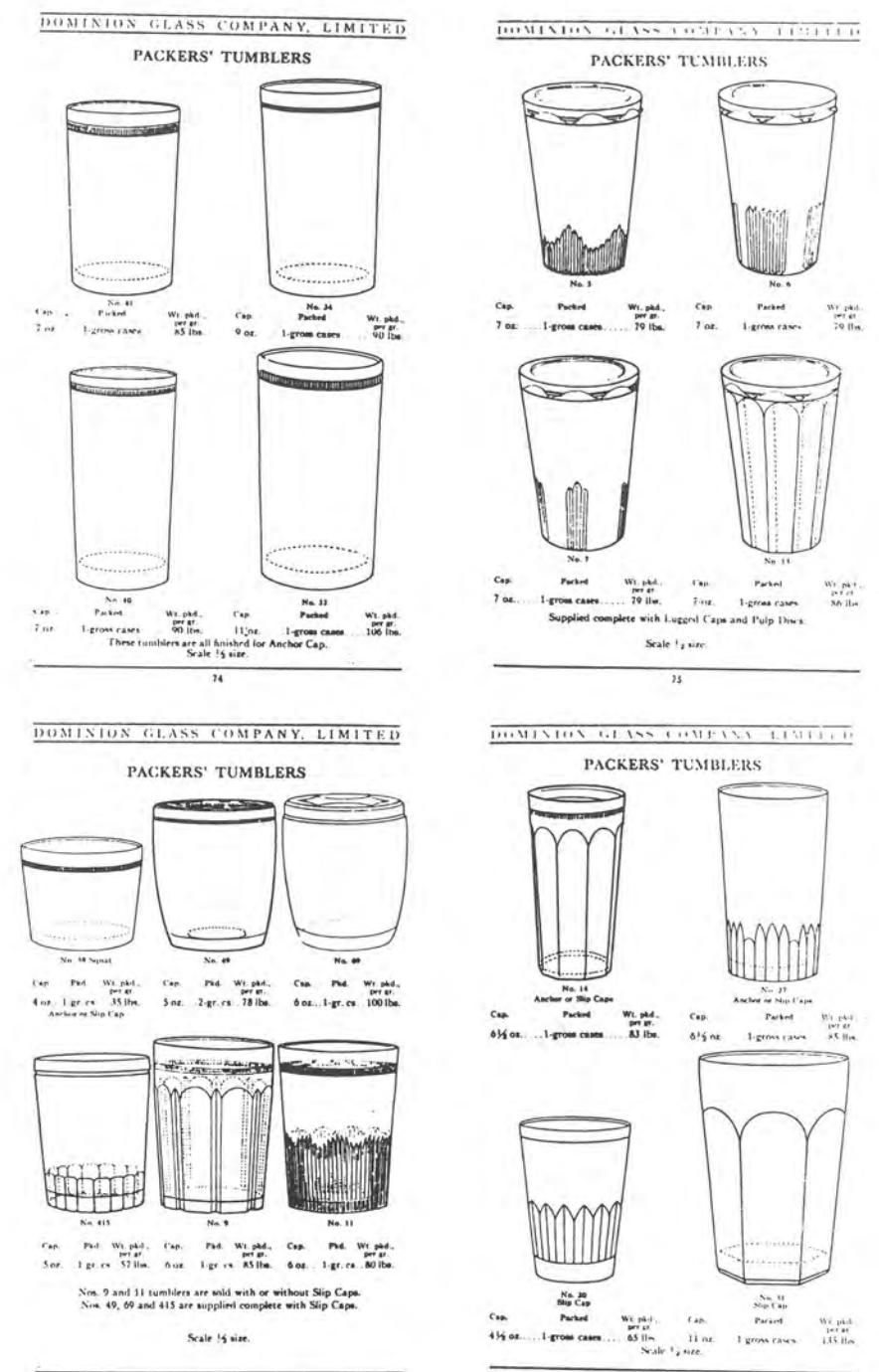
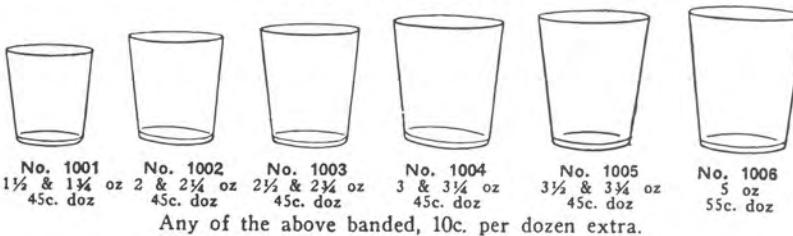


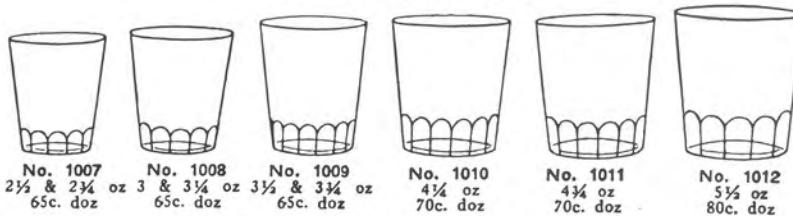
FIGURE 91. Packer's tumblers made by Dominion Glass Company were sold filled with mustard, jelly, and other foods, and then the consumer could use them as tumblers afterwards. These were suitable for Anchor Caps (with fine vertical ribs), lugged closure, or slip top (Dominion Glass Company 1915:74-77). The Anchor Cap was introduced in 1908 under the Sure Seal trade name and with some variations continued to be made into the 1960s (Bender 1986:77-79). Even fragments of these lips are easily identified. (Papers of Dominion Glass Company Limited, National Archives of Canada, Ottawa.)

BAR OR WHISKEY TUMBLERS

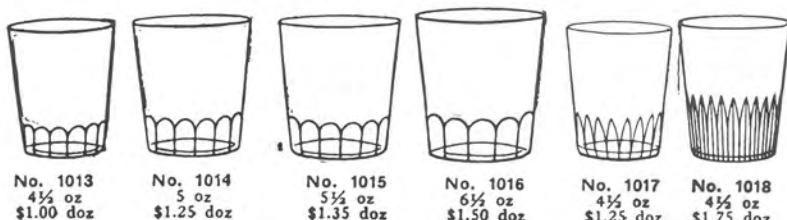
Thin Blown, Plain



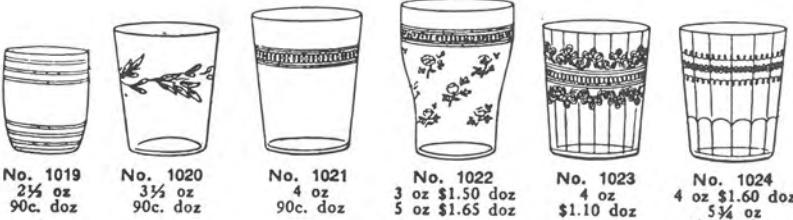
Thin Blown, Cut Flute



Cut Flute and Polished Bottom



Thin Blown, Etched



Heavy Pressed Whiskies

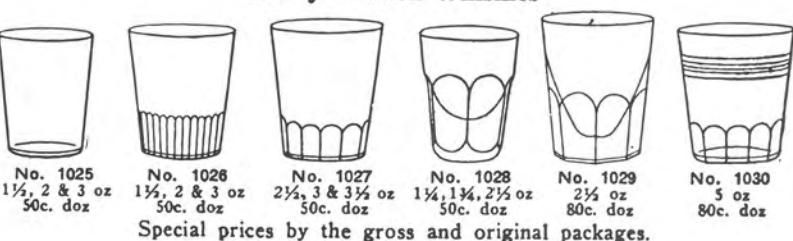


FIGURE 92. Selection of tumblers offered to the restaurant and hotel trade which includes thinly-blown wares, heavy pressed wares, and cut or acid-etched decorations. The extra-thick glass in the two tumblers on the lower right in the last row is often found on pressed tumblers and probably dates as early as the mid-19th century (Budde & Westermann 1913:1). (Courtesy of George Miller.)



FIGURE 93. Tumbler in Athenia or Paneled 44 pattern, introduced by the United States Glass Company in 1912 (Peterson 1973:127-129). The T. Eaton Co. included a 4-piece table set in their 1914 catalogue (1914:110) which describes the pattern as "a combination of Colonial and Grecian border pattern with small floral design." Except for the flowers, the back to back 4s resemble Arts and Crafts motifs. The plain panels are decorated by gold iridescence. (Photo by Rock Chan, private collection.)

nappy. They seem to have been associated with hot beverage service and probably smaller meals such as breakfast or tea.

Although both sugar bowls and creamers were being made in the 18th and early 19th centuries, they were generally not paired, even though they were both used in hot beverage service. For example, in Apsley Pellatt's 1840 catalogue, neither the cream jugs nor sugars matched each other nor were they even presented next to each other (Wakefield 1968:50, 52). By the mid-19th century, however, particularly in pressed glass, they were available in the same patterns and, by the 1870s, were offered regularly with a butter dish and spooner. By the early 20th century, sugars and creamers were presented together, usually without the other pieces, although the 1930 Butler Brothers catalogue still includes a "set" (Figure 73). The 20th-century sugar bowls and cream pitchers were smaller than early-19th-century examples. During the first half of the 19th century, the covers for sugar bowls sat inside a galleried rim (Figure 11); later examples had ledges on the main body or a flange on the cover. Handles seem to have been optional.

Butter dishes underwent some changes during the 1800 to 1940 period. The dominant form during the first half of the 19th century was the butter tub, which had a cylindrical body and flat base, and often a cover and an under-plate (Figure 42). Later in the century, the low bowl or dish form with cover predominated (Figures 30, 73).

Spooners, used to hold tea spoons, may have a stem, may rest directly on the foot, or may have no foot and often have a scalloped rim. They were introduced in pressed glass about the middle of the 19th century and seem to have continued in production until at least 1930 (Figures 24, 62, 73). Spoon trays, introduced around 1900, were alternates to the spooner.

Stemmed Drinking Glasses

Although a clumsy term, "stemmed drinking glasses" is the most accurate term to use for stemware forms used for drinking, including wine glasses of different shapes and sizes (cordial, claret, hock, and champagne), ales, and larger drinking glasses called rummers or goblets. "Stemware" technically describes any glass

vessel with a stem, including drinking glasses, celery vases, dessert glasses, egg glasses, and serving bowls. The term "wine glasses" was used frequently in the documents although it included stemware styles suitable for beverages other than wine. It is a useful term, however, to describe stemmed drinking glasses that were not rummers or goblets, as long as one remembers that they were not used exclusively for wines.

Based on archaeological and documentary evidence, English factories were making only two styles of wine glasses at the beginning of the 19th century (Figures 74-75). In the Gardiner's Island pattern book of the late 18th century, only two Bohemian stemware styles are shown, a plain drawn stem and a thin inverted baluster style (Pattern Book n.d.). By 1840, the numbers of stemware styles had begun to increase, with emphasis on the top and bottom of the stem, rather than the center (Figures 76-77) (Wakefield 1968:52). In general, they also tended to be proportionally taller than the short forms of the first half of the century, a trend which continued into the 20th century. By the late 1920s, stemware bowls were large, with tall stems and feet which had a diameter smaller than the bowl rim. As with other tableware forms, there was a strong conservative element in wine glasses wherein styles stayed in production for decades, but, at the same time, there were fashionable styles made (Figures 77-82).

Goblets are stemmed drinking glasses with large bowls (Figures 83-84). From their introduction in the late 18th century, they tended to have short, almost vestigial stems. Before the mid-19th century, however, a new style of goblet had begun to appear, still with a large bowl but more closely resembling wine glasses. By the 1870s, one gets the impression, particularly in pressed glass, that goblets were more widely used than wine glasses, probably for the same reasons that pitchers and jugs were replacing decanters.

The series of illustrations offers a guide to dating stemmed drinking glasses although the same styles were often used on other stemware.

Tumblers

Tumblers (Figures 85-95) are the commonest tableglass form found on archaeological sites and

are the most difficult to date. The dominant decorative motif was the panel which seems to have been made in an astonishing array of variations in both cut and pressed glass and was offered throughout the 140 years covered by this guide. Other styles were offered, however, following the dominant decorative motifs of different periods as illustrations scattered throughout this guide demonstrate. A hint of the quantities and variety available is provided by an 1875 advertisement of the Rochester Tumbler Company which boasted that they produced more than 175 different patterns and 200,000 tumblers every 6 days (Innes 1976:59). This company specialized in tumblers and even sold its products to other glass companies (Innes 1976:58). Tumbler shapes were generally conical although cylindrical, waisted, and barrel-shaped ones were also made. Descriptions of tumblers in the catalogues included details such as capacity, weight (particularly in England), thickness, what was to be put in them (ale, whiskey, soda water, iced tea, lemonade), the appropriate setting (bar or table), the method of manufacture, and decoration. Blown tumblers were among the first tablewares to be manufactured by machine (see Blown Glass).

For the first half of the 19th century, lead, glass tumblers, whether made in England or the United States, dominated the North American market. They were plain or decorated by contact molding (Figure 12), cutting, and, after the late 1830s, by pressing. After the American Revolution, importation of Bohemian glassware into the United States increased and certain tumbler styles began appearing in quantity in the American marketplace (Lanman 1968, 1969; Bonasera 1998). Made of potash-lime glass, these tumblers have plain bodies or pattern-molded ribs partway up the body, sketchily engraved motifs either around the rim or in the center of the body, and often a roughly ground pontil mark (Figure 85). Rim motifs include crude squiggles, swags, small horizontal ovals filled with crosshatching, and larger motifs on the body including tulips or roses, birds and heart, or a two-handled basket with floral bouquet. These styles are much rarer in Canada around 1800, although similar examples dating to the middle of the 18th century have been found on French colonial sites in North America.

Pressed paneled tumblers (Figure 86) were introduced in the mid to late 1830s. In 1837, two glass companies exhibited fluted tumblers in Boston at the first exhibition held by the Massachusetts Charitable Mechanic Association (Watkins 1970:61). In England, the first production of a paneled tumbler is attributed to a talented machinist in 1836, who had figured out how to press a thin-topped vessel like a tumbler (*Pottery Gazette* 1885:903). Two pressed designs registered in England in 1840 showed different types of panels and mitered grooves suitable for goblets, tumblers, and other forms (Morris 1978:190-193). The immediate success of pressed tumblers is reflected in a comment about the New England Glass Company in 1838: "the only thing we press now is Tumblers . . . our men make 400 in six hours" (Spillman 1992:4). Pressed tumblers may have mold lines hidden in the pattern, but most do not have obvious lines on the body or base. Smooth surfaces on the undecorated rim portion of the tumbler were achieved by using an undecorated part in the mold and by fire-polishing. Pressed paneled tumblers often have a ground and polished resting surface, a feature which lasted well into the 1930s (Figure 95). The popularity of the pressed-panel tumbler is attested to by the host of variations shown in catalogues and by the frequency of their occurrence on archaeological sites.

Thin, light tumblers were being made as early as the 1870s. The Boston & Sandwich Glass Company (1992:Plate 4) illustrates examples decorated with acid-etched designs executed by the recently introduced needle-etching machine (see Acid-etched Glass). In 1877, a rival firm described wares from the Rochester Tumbler Company: "They were as thin as a sheet of paper and as clear as crystal, also destitute of any mold mark" (Innes 1976:60). Although Innes assumes these were pressed tumblers, the absence of mold lines suggests that they were blown in turn-paste molds. Thinly blown tumblers with acid-etched designs continued to be manufactured into the 1930s (Figure 94).

Conclusions

During the 140 years covered in this guide, a strong core of conservatism ran through the glass

industry and its customer base while at the same time unprecedented technological developments in both manufacturing and decorative techniques increased the range of glass available at all levels of society in Canada, the United States, and elsewhere. Technical accomplishments went hand in hand with a willingness on the part of everyone to look to the past for design ideas and to capitalize on someone else's ideas and products. By the last quarter of the 19th century, consumers were faced with an astonishing array of choices, from traditional styles to the latest trends, from cheap to expensive, from colorless to extraordinary colors, from plain to highly decorated. Dating glassware from this mix ranges from precise beginning dates to decades-long time spans. End dates for technical processes, such as the use of the pontil, are impossible to determine because the tableware industry continued to use hand production methods even after the introduction of mechanized production. Decorative themes are possible to identify in certain time periods but many themes never went out of style and others were repeated several times during the 140-year period. Tableware forms, through changing shapes and through the introduction of specialized shapes, sometimes provide additional dating information.

Dating artifacts is a tool to help us understand the contexts in which objects were originally used. Certainly glass tableware can only be understood in comparison with other tableware forms in ceramic and metal. Archaeological collections should offer us something that the innumerable books on glass and ceramic antiques do not offer—an opportunity to understand how objects were used during their active life. By using tableware of all types from archaeological collections, it may be possible to identify assemblages associated with different groups of people; their domestic, work, and commercial lives; whether they lived in a rural or urban context, whether they favored traditional, up-to-date, or practical tableware; and how choices changed or remained the same through time.

REFERENCES

ALBERT PICK COMPANY
[1932] Untitled catalogue. Albert Pick Co., Chicago, IL.

ARMY AND NAVY STORES

- 1969 *Yesterday's Shopping: The Army and Navy Stores Catalogue 1907*, introduction by Alison Adburgham, David and Charles, Newton Abbot, Devon, England.

THE ART-JOURNAL

- 1851 *The Crystal Palace Exhibition, Illustrated Catalogue London 1851*. Reprinted 1970, Dover Publications, New York, NY.
1862 *The Art-Journal Illustrated Catalogue of the International Exhibition 1862*. Reprinted 1973, Ep Publishing, Wakefield, Yorkshire, England.

AUSTIN, JANE G.

- 1991 "Cullet": An Article reprinted from *The Atlantic Monthly*, September 1864. *The Acorn, Journal of The Sandwich Glass Museum* 2:75-91.

BAKER, GARY EVERETT

- 1986 The Flint Glass Industry in Wheeling, West Virginia: 1829-1865. Master's thesis, University of Delaware, Newark.

BAKEWELL, PEARS & CO.

- [1875] *Glass Catalogue*, introduction by Lowell Innes. Reprinted 1977, Thomas C. Pears III, Pittsburgh, PA. [Dated ca. 1875 by Lowell Innes.]

BENDER, NATHAN E.

- 1986 Early 20th Century Commercial Closures. Paper presented at the Annual Conference on Historical and Underwater Archaeology, Sacramento, CA.

BLASZCZYK, REGINA LEE

- 1993 The Wright Way for Glass: Russel Wright and the Business of Industrial Design. *The Acorn, Journal of The Sandwich Glass Museum* 4:2-22.
1995 *Imagining Consumers: Manufacturers and Markets in Ceramics and Glass, 1865-1965*. Ph.D. dissertation, University of Delaware, Newark. University Microfilms International, Ann Arbor, MI.

BONASERA, MICHAEL C.

- 1998 The Bohemian Tradition in New York City: Glassware from Two Turn of the Nineteenth Century Deposits. Paper presented at the Annual Meeting of the Council for Northeast Historical Archaeology, Montreal, Quebec.

BONTEMPS, GEORGES

- 1868 *Guide du Verrier, Traité historique et pratique de la fabrication des verres, cristaux, vitraux*. Librairie du Dictionnaire des arts et manufactures, Paris, France.

BOSTON & SANDWICH GLASS CO.

- 1992 Reprint of the "c. 1874" Boston & Sandwich Glass Company Trade Catalog and Price List. *The Acorn, Journal of The Sandwich Glass Museum* 3:21-end.

JOE R. JONES: A Guide to Dating Glass Tableware: 1800 to 1940

- BOOKS, JOHN A.
1987 *Glass Tumblers 1700-1900*. John A. Brooks, Rothley, Leicester, England.

BRYCE BROTHERS COMPANY

- 1916 *Catalogue of Lead Blown Glassware*. Bryce Brothers Company, Mount Pleasant, PA.

CHWALD, GUNNAR, AND MOGENS SCHLÜTER (EDITORS)

- 1975 *Kastrup and Holmegaard's Glassworks Denmark 1825-1975*. Kastrup and Holmegaard's Glassworks, Copenhagen, Denmark.

BUDDE & WESTERMANN

- 1913 *Budde & Westermann Catalogue No. 101: Department of Glassware and Supplies in General for Cafes, Clubs, Hotels, Restaurants, etc.* Budde & Westermann, New York, NY.

BUTLER BROTHERS

- 1902 Spring 1902 "MISSIONARY" Edition of "Our Drummer." Butler Brothers, New York, NY.
1905 *Glassware 1905*, Catalog No. 536, Glassware Department. Reprint, Antiques Research Publications, Mentone, AL.
1910 *Glassware 1910*, Fall 1910 catalog, Glass section. Reprint, Antiques Research Publications, Mentone, AL.
1914 "Our Drummer." Spring. Butler Brothers, New York, NY.
1925 *China & Glassware 1925*, Midwinter catalog, No. 2233. Reprinted 1968, Antiques Research Publications, Mentone, AL.
1929 "Our Drummer" is Our Salesman, August. Butler Brothers, Chicago, IL.
1930 *China & Glassware 1930*, Catalog No. 2749, October. Reprinted 1968, Antiques Research Publications, Mentone, AL.

CHARLESTON, ROBERT J.

- 1965 A Glass Pattern-Book of the Biedermeier Period. *VII Congrès International du Verre*, Paper 261. Brussels, Belgium.

THE CORNING MUSEUM OF GLASS

- 1987 *Guide To Trade Catalogs From The Corning Museum Of Glass*. Clearwater Publishing Company, New York, NY.

COUWE, KATE

- 1989 The French Connection: The Decorative Glass of James A. Jobling and Co. of Sunderland during the 1930s. *The Glass Circle* 6:32-45.

DAVIS, PEARCE

- 1949 *The Development of the American Glass Industry*. Harvard University Press, Cambridge, MA.

DIAMOND FLINT GLASS COMPANY LIMITED

- 1904 *Catalogue of Blown Tumblers, Plain and Decorated*. Diamond Flint Glass Company Limited, Montreal, Quebec.

DODSWORTH, ROGER (EDITOR)

- 1987 *British Glass Between the Wars*, exhibition catalogue. Dudley Leisure Services, Dudley, England.

DOMINION GLASS COMPANY

- [1915] *Packers' Glassware Catalogue No. 11*. Dominion Glass Company Limited, Montreal, Quebec.

DRAHOTTOVA, OLGA

- 1983 *European Glass*. Excalibur Books, New York, NY.

EDGLEY, JIM D. (COMPILER)

- 1996 *Registration Numbers 1908-1945*. The Glass Association, Kingswinford, West Midlands, England.

EVANS, WENDY, CATHERINE ROSS, AND ALEX WERNER

- 1995 *Whitefriars Glass: James Powell and Sons of London*. Museum of London, London, England.

FARRAR, ESTELLE SINCLAIRE, AND JANE SHADEL SPILLMAN

- 1979 *The Complete Cut & Engraved Glass of Corning*. Crown Publishers, New York, NY.

FAUSTER, CARL U.

- 1979 *Libbey Glass Since 1818: Pictorial History & Collector's Guide*. Len Beach Press, Toledo, OH.

FENWICK, MILLICENT

- 1948 *Vogue's Book of Etiquette: A Complete Guide to Traditional Forms and Modern Usage*. Simon and Schuster, New York, NY.

FLORENCE, GENE

- 1992 *Collectible Glassware from the 40's, 50's, 60's: An Illustrated Value Guide*. Collector Books, Paducah, KY.

- 1995a *Elegant Glassware of the Depression Era*, 6th edition. Collector Books, Paducah, KY.

- 1995b *Kitchen Glassware of the Depression Years*, 5th edition. Collector Books, Paducah, KY.

- 1996 *The Collector's Encyclopedia of Depression Glass*, 12th edition. Collector Books, Paducah, KY.

GOLLEDGE, CHRISTINE

- 1987 Stuart and Sons Limited (1918-1939). In *British Glass Between the Wars*, Roger Dodsworth, editor, pp. 28-31. Dudley Leisure Services, Dudley, England.

GRAY, CHERRY, AND RICHARD GRAY

- 1987 The Prince's Glasses, Some Warrington Cut Glass 1806-1811. *The Journal of the Glass Association* 2:11-18.

GREAT BRITAIN

- 1835 Commission of Inquiry into the Excise Establishment and into the Management and Collection of the Excise Revenue. Report No. 13: Glass. H.M.S.O., London, England.

- 1865 Parliament. Sessional Papers. Children's Employment Commission. Vol. 20. H.M.S.O., London, England. *Report of the Tariff Commission. Volume 6, The Glass Industry*. Reprinted 1972, Johnson Reprint Corporation, New York, NY.

STUDIES IN MATERIAL CULTURE RESEARCH

- HAJDAMACH, CHARLES R.
1991 *British Glass 1800-1914*. Antique Collectors' Club, Woodbridge, England.
- HEACOCK, WILLIAM, AND FRED BICKENHEUSER
1978 *Encyclopædia of Victorian Colored Pattern Glass: Book 5 U.S. Glass From A to Z*. Antique Publications, Marietta, OH.
- HENRY BIRKS & SONS
1903 *Catalogue No. 12*. Henry Birks & Sons, Montreal, Quebec.
1906 *Catalogue No. 17*. Henry Birks & Sons, Montreal, Quebec.
- HIGGINS & SEITER
1899 *China and Cut Glass, Higgins & Seiter 1899*. Reprinted 1971, The Pyne Press, Princeton, NJ.
- HILL-OUSTON CO. LTD.
[1936] *Hillston Crystal Gifts, Catalogue No. 10*. Hill-Ouston Co. Ltd., Birmingham, England. [3 April 1936 stamped on catalog.]
- HOBBS GLASS COMPANY
n.d. Catalogue. The Winterthur Library, Printed Book and Periodical Collection, Winterthur, DE.
- HOLMES, JANET
1974 Glass and the Glass Industry. In *The Book of Canadian Antiques*, Donald Blake Webster, editor, pp. 268-281. McGraw-Hill, Ryerson, Toronto, Ontario.
1987 *Patterns in Light. The John and Mary Yaremko Glass Collection*. Royal Ontario Museum, Toronto, Ontario.
- HOLMES, JANET, AND OLIVE JONES
1978 Glass in Canada: An Annotated Bibliography. *Material History Bulletin* 6:115-148.
- HUGHES, G. BERNARD
1958 *English Glass for the Collector 1660-1860*. Lutterworth Press, London, England.
- HUSFLOEN, KYLE
1992 *Collector's Guide to American Pressed Glass, 1825-1915*. Wallace-Homestead Book Company, Radnor, PA.
- INNES, LOWELL
1976 *Pittsburgh Glass 1797-1891: A History and Guide for Collectors*. Houghton Mifflin, Boston, MA.
- JACKSON, LESLEY
1997 Automated Table Glass Production in Britain Since World War II. *The Journal of the Glass Association* 5:68-80.
- JARVES, DEMING
1865 *Reminiscences of Glass-Making*. Reprinted 1968, Beatrice C. Weinstock, Great Neck, NY.

- JENKS, BILL, AND JERRY LUNA
1990 *Early American Pattern Glass, 1850-1910*. Wallace-Homestead Book Company, Radnor, PA.
- JONES, OLIVE
1986a Glass Tablewares 1850-1870. Source Book. Manuscript, Parks Canada, Ottawa, Ontario.
1986b Glass Tablewares 1870-1890. Source Book. Manuscript, Parks Canada, Ottawa, Ontario.
1986c Glass Tablewares 1890-1914. Source Book. Manuscript, Parks Canada, Ottawa, Ontario.
1986d Glass Tablewares 1890-1914. Source Book. Manuscript, Parks Canada, Ottawa, Ontario.
1992 Early American Glass in Canada, ca. 1820-1860. *The Glass Club Bulletin of The National Early American Glass Club* 168(Fall):3-16.
- JONES, OLIVE R., AND E. ANN SMITH
1985 Glass of the British Military, 1755-1820. Parks Canada, *Studies in Archaeology, Architecture and History*. Ottawa, Ontario.
- JONES, OLIVE R., AND CATHERINE SULLIVAN, WITH CONTRIBUTIONS BY GEORGE L. MILLER, E. ANN SMITH, JANE E. HARRIS, AND KEVIN LUNN
1989 The Parks Canada Glass Glossary for the Description of Containers, Tableware, Flat Glass, and Closures, revised edition. Parks Canada, *Studies in Archaeology, Architecture and History*. Ottawa, Ontario.
- KAELLGREN, PETER
1993 Birmingham Cut Glass and the American Market: Examining an 1811 Account and its Context. In *Reflections on Glass: Articles from the Glass Club Bulletin*, Jane Shadel Spillman, Olive R. Jones, and Kirk J. Nelson, compilers, pp. 45-52. National Early American Glass Club, Silver Spring, MD.
- KILGO, GARRY, DALE KILGO, JERRY WILKINS, AND GAIL WILKINS
1991 *A Collector's Guide to Anchor Hocking's "Fire-King" Glassware*. K&W Collectibles, Addison, AL.
- KING, THOMAS B.
1987 *Glass in Canada*. Boston Mills Press, Erin, Ontario.
- KNITTLE, RHEA MANSFIELD
1927 *Early American Glass*. The Century Company, New York, NY.
- LANGBRIDGE, R. H. (COMPILER)
1975 *Edwardian Shopping: A Selection from the Army & Navy Stores Catalogues 1898-1913*, introduction by R. H. Langbridge. David & Charles, London, England.
- LANMAN, DWIGHT P.
1968 Glass in Baltimore: The Trade in Hollow Tablewares, 1780-1820. Master's thesis, University of Delaware, Newark.
1969 The Baltimore Glass Trade, 1780 to 1820. *Winterthur Portfolio* 5:15-48. Winterthur, DE.
- M'KEE AND BROTHERS
1981 *Victorian Glass: Five Complete Glass Catalogs from 1859/60 to 1871*, introduction and text by Lowell Innes and Jane Shadel Spillman. Dover Publications, New York, NY.
- MCNALLY, PAUL
1982 Table Glass in Canada, 1700-1850. Parks Canada, *History and Archaeology* 60. Ottawa, Ontario.
- MEASELL, JAMES S.
1994a H. Northwood & Company 1902-1925. In *Wheeling Glass 1829-1939: Collection of the Oglebay Institute*
- JATTIMORE, COLIN R.
1979 *English 19th-Century Press-Moulded Glass*. Barrie & Jenkins, London, England.
1994b *New Martinsville Glass 1900-1944*. Antique Publications, Marietta, OH.
- JAUERT, FREDERIKA
1997 The Survival of Traditional Design in Post-War Stourbridge Glass. *The Journal of the Glass Association* 5:61-67.
- LEE, RUTH WEBB
1944 *Victorian Glass: Specialties of the Nineteenth Century*, 12th edition. Lee Publications, Wellesley Hills, MA.
1958 *Early American Pressed Glass: A Classification of Patterns Collectible in Sets Together with Individual Pieces for Table Decorations*, 34th edition. Lee Publications, Wellesley, MA.
- LEINICKE, KRIS GAYMAN
1986 Production of the Boston and Sandwich Glass Company in the Year 1827. Master's thesis, State University of New York College at Oneonta.
- LOLE, F. PETER
1993 The Royal Finger Bowls and Coolers Mystery. *Glass Circle News* 56(June):2-4.
- Lyon, KENNETH W.
1994 Re-Thinking Blown Three Mold (A Sub-category of Mold Blown Glass). *The Acorn, Journal of The Sandwich Glass Museum* 5:70-80.
- MACLAREN, GEORGE
1968 Nova Scotia Glass, revised edition. *Nova Scotia Museum, Occasional Paper 4, Historical Series* 1. Halifax.
- McFARLAN, GORDON
1992 Early Nineteenth Century Patterns from the Ford Ranken Archive. *The Journal of the Glass Association* 4:1-12.
- McKEARIN, GEORGE S., AND HELEN McKEARIN
1948 *American Glass*. Crown Publishers, New York, NY.
- MCKINSTRY, E. RICHARD
1984 *Trade Catalogues at Winterthur: A Guide to the Literature of Merchandising 1750 to 1980*. Garland Publishing, New York, NY.
- M'KEE AND BROTHERS
1981 *Victorian Glass: Five Complete Glass Catalogs from 1859/60 to 1871*, introduction and text by Lowell Innes and Jane Shadel Spillman. Dover Publications, New York, NY.
- PALMER, ARLENE
1993a *Glass in Early America, Selections from the Henry Francis du Pont Winterthur Museum*. Henry Francis du Pont Winterthur Museum, Winterthur, DE.
1993b Joseph Baggott, New York Glasscutter. In *Reflections on Glass: Articles from the Glass Club Bulletin*, Jane Shadel Spillman, Olive R. Jones, and Kirk J. Nelson, compilers, pp. 57-62. National Early American Glass Club, Silver Spring, MD.
1993c Some Notes on Cutters and Engravers of Glass in Early America. In *Reflections on Glass: Articles from the Glass Club Bulletin*, Jane Shadel Spillman,
- Glass Museum, Gerald I. Reilly, editor, pp. 23-168. Oglebay Institute, Wheeling, WV.
New Martinsville Glass 1900-1944. Antique Publications, Marietta, OH.
- MONTGOMERY WARD & CO.
1901 *Catalogue and Buyers' Guide, No. 69*. undated reprint. Antiques Research Publications, Mentone, AL.
- MONTREAL GAZETTE
1852 American Pressed Glass. *Montreal Gazette*, 1 September:3. Montreal, Quebec.
1867 *Montreal Gazette*, 7 November:3. Montreal, Quebec.
- MONTREAL TRANSCRIPT
1842 China, Glass, and Earthenware. *Montreal Transcript*, 22 September:3. Montreal, Quebec.
- MORRIS, BARBARA
1978 *Victorian Tableglass & Ornaments*. Barrie & Jenkins, London, England.
- MUCHA, MIRIAM E.
1979 Mechanization, French Style Cristaux, Moule en Plein. *The Glass Club Bulletin* 126(September):3-8.
- NATIONAL GLASS BUDGET
1897 Owens' Blowing Machine, Punch Tumbler Manufacture Revolutionized. *National Glass Budget*, 13 (23):1; 23 October.
- NELSON, KIRK J.
1988 Progress Under Pressure: The Mechanization of the American Flint Glass Industry, 1820-1840. Master's thesis, University of Delaware, Newark.
1990 Early Glass Pressing Technology in Sandwich. *The Acorn, Journal of the Sandwich Glass Museum* 1:38-50.
1992 Introductory Note to the "c.1874" Catalog and Price List. *The Acorn, Journal of The Sandwich Glass Museum* 3:11-20.
- NEWMAN, HAROLD
1977 *An Illustrated Dictionary of Glass*. Thames and Hudson, London, England.
- O'HARA FLINT GLASS WORKS
1861 *Illustrated Catalogue and Prices of Flint Glassware, Manufactured by James B. Lyon & Co.* James B. Lyon & Co., Pittsburgh, PA.

- Olive R. Jones, and Kirk J. Nelson, compilers, 35-40. National Early American Glass Club, Silver Spring, MD.
- PATTERN BOOK**
- n.d. Pattern Book for Glass Decanters, Tumblers, etc., late 18th century, which belonged to the Gardiner Family of Gardiner's Island. Property of Henry Francis du Pont Winterthur Museum Libraries, Winterthur, DE.
- PEABODY ESSEX MUSEUM**
- 1794-1819 Sample Books (candlesticks, tea-pots and other tableware of Sheffield plate and Britannia ware, Sheffield, England, 1794-1819?), 8 volumes. Peabody Essex Museum, Philips Library, Salem, MA.
- PELLATT, APSLEY**
- 1849 *Curiosities of Glass Making: With Details of the Processes and Productions of Ancient and Modern Ornamental Glass Manufacture*. Reprinted 1968, Ceramic Book Company, Newport, England.
- PENNSYLVANIA GLASSWARE, 1870-1904**
- 1972 *Pennsylvania Glassware, 1870-1904*. The Pyne Press, Princeton, NJ.
- PETERSON, ARTHUR G.**
- 1968 *400 Trademarks on Glass*. Washington College Press, Takoma Park, MD.
- 1970 *Glass Salt Shakers*. Wallace-Homestead Book Company, Des Moines, IA.
- 1973 *Glass Patents and Patterns*. Arthur G. Peterson, DeBary, FL.
- PHILIPPE, JOSEPH**
- [1975] *Le Val-Saint-Lambert, ses cristalleries et l'art du verre en Belgique*. Librairie Halbart, Liège, Belgium.
- POTTERY GAZETTE AND CHINA AND GLASS TRADES REVIEW**
- 1881 M. Davis & Co. Supplement to *Pottery Gazette and China and Glass Trades Review*, 5(51):between 816 and 817, 1 October.
- 1884 M. Davis & Co. Supplement to *Pottery Gazette and China and Glass Trades Review*, 8(89):after 1292, 1 November.
- 1885 Trade Reminiscences. The First Pressed Tumbler. *Pottery Gazette and China and Glass Trades Review*, 1 August:903.
- 1893 Notes on Fancy Goods. *Pottery Gazette and China and Glass Trades Review*, 2 January:4.
- 1894 The "New Louis XV" Suite of Crystal Glass. Fancy Trades Supplement to *Pottery Gazette and China and Glass Trades Review*, 19(199):before 49, 1 January.
- PULLIN, ANNE GEFFKEN**
- 1986 *Glass Signatures, Trademarks and Trade Names from the Seventeenth to the Twentieth Century*. Wallace-Homestead Book Company, Radnor, PA.
- RAINWATER, DOROTHY T. (EDITOR)**
- 1973 *Sterling Silver Holloware*. The Pyne Press, Princeton, NJ.

- REVI, ALBERT CHRISTIAN**
- 1959 *Nineteenth Century Glass: Its Genesis and Development*. Thomas Nelson & Sons, New York, NY.
- 1964 *American Pressed Glass and Figure Bottles*. Thomas Nelson & Sons, New York, NY.
- 1965 *American Cut and Engraved Glass*. Thomas Nelson & Sons, New York, NY.
- ROGOVE, SUSAN TOBIER, AND MARCIA BUAN STEINHAUER**
- 1993 *Pyrex by Corning: A Collector's Guide*. Antique Publications, Marietta, OH.
- ROSENHAIN, WALTER**
- 1908 *Glass Manufacture*. Archibald Constable, London, England.
- ROTTENBERG, BARBARA LANG, AND JUDITH TOMLIN**
- 1982 Glass Manufacturing in Canada: a Survey of Pressed Glass Patterns. *National Museum of Man Mercury Series, History Division, Paper 33*. Ottawa, Ontario.
- S. MAW & SON**
- 1866 *A Catalogue of Surgeons' Instruments & Appliances*. S. Maw & Son, London, England.
- SCOVILLE, WARREN C.**
- 1948 *Revolution in Glassmaking: Entrepreneurship and Technological Change in the American Industry*. Harvard University Press, Cambridge, MA.
- SHEELER, JOHN**
- 1978 Factors Affecting Attribution: The Burlington Glass Works. *Material History Bulletin* 6:31-51.
- SILBER AND FLEMING**
- 1990 *The Silber and Fleming Glass & China Book*. Wordsworth Editions, Ware, Hertfordshire, England.
- SLACK, RAYMOND**
- 1987 *English Pressed Glass 1830-1900*. Barrie & Jenkins, London, England.
- SMART BROTHERS**
- [1885] Smart Brothers, in presenting to the Trade an entirely new edition of their Price List. Round Oak Glassworks, near Brierly Hill, Staffordshire, England. D. F. Taylor & Co., Birmingham, England. Fiche 93, Corning Museum of Glass, Corning, NY.
- SPILLMAN, JANE SHADEL**
- 1971 Documented Use of Cup Plates in the Nineteenth Century. *Journal of Glass Studies* 13:128-133.
- 1981 *American and European Pressed Glass in The Corning Museum of Glass*. The Corning Museum of Glass, Corning, NY.
- 1982 *Glass Tableware, Bowls & Vases*. Knopf, New York, NY.
- 1983 Pressed-glass Designs in the United States and Europe. *The Magazine Antiques* 124(1 July):130-139.
- 1989 *White House Glassware: Two Centuries of Presidential Entertaining*. White House Historical Association, Washington, DC.
- UNITED STATES GLASS COMPANY**
- [1894] *United States Glass Co.'s Catalogue of Pressed Tumblers & Beer Mugs*. Pittsburgh, PA.
- UNITED STATES SENATE**
- 1911 Report on Condition of Woman and Child Wage-Earners in the United States in 19 Volumes, Vol. 3: Glass Industry. 61st Congress, 2nd Session, *Senate Executive Document No. 645*. Washington, DC.
- UNITITT, DORIS, AND PETER UNITT**
- 1969 *Treasury of Canadian Glass*. Clock House Publications, Peterborough, Ontario.
- THE VICTORIAN CATALOGUE OF HOUSEHOLD GOODS**
- 1991 *The Victorian Catalogue of Household Goods*. Studio Editions, London, England.
- VICTORIAN SILVERPLATED HOLLOWARE**
- 1972 *Victorian Silverplated Holloware*. Wallace-Homestead Book Company, Des Moines, IA.
- WAKEFIELD, HUGH**
- 1961 *Nineteenth Century British Glass*. Faber and Faber, London, England.
- 1968 Early Victorian Styles in Glassware. In *Studies in Glass History and Design. Papers read to Committee B Session of the VIIIth International Congress on Glass, held in London 1st-6th July 1968*, R. J. Charleston, W. Evans, and A. E. Werner, editors, pp. 50-54. Gresham Press, Old Woking, Surrey, England.
- 1982 *Nineteenth Century British Glass*, revised edition. Faber and Faber, London, England.
- WARREN, PHELPS**
- 1981 *Irish Glass: Waterford-Cork-Belfast in the Age of Exuberance*, revised edition. Faber and Faber, London, England.
- 1984 Apsley Pellatt's Table Glass, 1840-1864. *Journal of Glass Studies* 26:120-135.
- WATKINS, LURA WOODSIDE**
- 1970 Pressed Glass of the New England Glass Company: An Early Catalogue at the Corning Museum. *Journal of Glass Studies* 12:149-164.
- WEATHERMAN, HAZEL MARIE**
- 1974 *Colored Glassware of the Depression Era*, volume 2. Weatherman Glassbooks, Springfield, MO.
- 1978 *The Decorated Tumbler*. Glassbooks, Springfield, MO.
- WEEKS, JOSEPH D.**
- 1886 *Report on the Manufacture of Glass*. United States, Department of the Interior, Census Office, Washington, DC.
- WELKER, JOHN, AND ELIZABETH WELKER**
- 1985 *Pressed Glass in America: Encyclopedia of the First Hundred Years, 1825-1925*. Antique Acres Press, Ivyland, PA.
- WESTROPP, MICHAEL S. D.**
- 1978 *Irish Glass: A History of Glass-making in Ireland from the Sixteenth Century*, revised edition, Mary Boydell, editor. Allen Figgis, Dublin, Ireland.
- WHITE, HARRY HALL**
- 1974 The Story of the Mantua Glass Works, parts 1-4. In *American Glass From the Pages of Antiques: I. Blown and Molded*, Marvin D. Schwartz, editor, pp. 195-213. The Pyne Press, Princeton, NJ.

WILLIAMS, SUSAN

1985 *Savory Suppers & Fashionable Feasts: Dining in Victorian America*. Pantheon Books, New York, NY.

WILSON, KENNETH M.

1972 *New England Glass and Glassmaking*. Thomas Y. Crowell Company, New York, NY.

1994 *The Toledo Museum of Art: American Glass 1760-1930*, 2 volumes. Hudson Hills Press, New York, NY.

WOLFENDEN, IAN

1987 The 'WHR' Drawings for Cut Glass and the Origins of the Broad Flute Style of Cutting. *The Journal of the Glass Association* 2:19-28.

1992 Cut Glass in the Pattern Books of Matthew Boulton's Soho Manufactory. *The Journal of the Glass Association* 4:47-50.

YATES, BARBARA

1987 The Glasswares of Percival Vickers & Co. Ltd., Jersey Street, Manchester, 1844-1914. *The Journal of the Glass Association* 2:29-40.

ZEMBALA, DENNIS MICHAEL

1984 *Machines in the Glasshouse: The Transformation of Work in the Glass Industry, 1820-1915*. Ph.D. dissertation, George Washington University, Washington, DC. University Microfilms International, Ann Arbor, MI.

OLIVE R. JONES

MATERIAL CULTURE RESEARCH
ONTARIO SERVICE CENTRE
PARKS CANADA
1600 LIVERPOOL COURT
OTTAWA, ONTARIO K1A 0M5
CANADA

JANE E. HARRIS

Eighteenth-Century French Blue-Green Bottles from the Fortress of Louisbourg, Nova Scotia

Introduction

The work reported is primarily a descriptive analysis of 18th-century French blue-green glass containers found in the extensive Fortress of Louisbourg archaeological collection. Artifacts from the excavations are only partially mended or restored, but on the evidence of necks, bases, and complete bottles (in this report the word "bottle" is used generically to refer to a glass container and "jar," more specifically, to a wide-mouthed glass container), four distinctive container forms, one of which occurs in nine distinct types, could be isolated. The forms vary in size, ranging from a few milliliters to several liters. Many of the types share identical features such as neck, body, or base shapes, implying a relationship at the manufacturing level. By isolating the various forms and types and then using available literature, inventories, contemporary art, and the evidence from blue-green bottles found on other French historic sites in North America, it became possible to discuss the physical relationships between the groups, the closures used, their possible functions, their social significance, and their cultural origins.

The bottles occurred in contexts from both French occupation periods (1713-1745 and 1749-1758) with no apparent stylistic differences pertaining to date of manufacture. This lack of variation is consistent with observations made by both Scoville (1950:20) and Barrelet (1953:110), who stated that there were essentially no technological changes in the common glass industry nor did its products give any indications of regional distinctions during these periods.

Blue-Green Glass

A mixture of sand, calcium, and an alkali flux (potash or soda) to which no decolorizer has been added results in a greenish and sometimes

yellow or brownish glass due to iron impurities in the sand. Such glass produced in wood-fired furnaces has been called *waldglas*, forest glass, *verre fougère*, or *verre commun*, depending on its country of origin. The two latter French terms usually refer to lightly tinted tablewares which were produced in the *petites verreries* or *verreries communes* of France. These were generally small glasshouses which often produced a wide variety of products including more utilitarian items such as bottles (Barrelet 1953:71). Besides the glass used for the clearer tablewares, a "common green" glass or *verre vert* was produced in the *petites verreries* for bottles (Scoville 1950), its blue tint being more noticeable according to Barrelet (1953:103) among the bottles produced in the forest areas of Grésigne in Languedoc.

The *petites verreries* used wood-burning furnaces and were located throughout the forests of France. They usually had only one furnace and four to six pots in which to melt glass (*Diderot-d'Alembert Encyclopédie* 1751-1765 [17]:113; Scoville 1950:72). They commonly employed no more than 20 people including part-time workers such as basket weavers and packers (Scoville 1950:72). Some *petites verreries* made only bottles while others specialized in tablewares or window glass and made bottles as a sideline (Scoville 1950:14n., 150-151). Bottle production was separate from that of tablewares or other items on two levels. First, there would have been a separate pot for bottle glass, usually one of green and sometimes one of brown glass (*Diderot-d'Alembert Encyclopédie* 1772a:Plate 3). Second, there were workers who specialized in bottle blowing, for goblet and drinking-glass blowers apparently rarely made bottles (Scoville 1950:71).

The *petite verrerie* industry neither flourished nor declined throughout the 18th century for the number of factories, employment rates, and output increased in some areas, decreased in others, and stayed the same in still others (Scoville 1950:13, 21, 72, 147). The demand for wine bottles had increased greatly with the new practice of storing wine in bottles and with the growing export trade in bottled wines (Scoville 1950:11, 111; Barrelet 1953:100). This demand