

## **The Bodine Glass Companies**

Beginning with Joel Bodine's involvement in 1839, the Bodine family operated a series of glass companies at two locations in New Jersey. The ownership of the second factory, coupled with the retirement of the senior Bodine in 1855, separated the remaining family and set the two factories into different lines of ownership and operation. The twists and turns of their histories help explain the marked bottles some of the firms left behind.

### **Williamstown, New Jersey**

The original glass factory was located at Williamstown, New Jersey. With the separation in 1855, this branch went to one side of the family. It is clear that most of the jars and bottles made by *all* of the Bodine family enterprises were unmarked with any glass-house identification.

### **Histories**

#### **Joel F. Bodine, Washington Glass Works (1839-1846)**

By fall of 1835, the Freewill Glass Works had been built at Squankum, New Jersey. Management changed frequently, and the factory was called the Washington Glass Works by at least 1836. Joel F. Bodine, a former stage line owner, arrived at Squankum in 1839 and joined Gabriel Izard, the owner at that time. By 1842, Bodine was the sole proprietor. That same year, the town applied for a post office. Another town of Squankum already existed, so the community changed the name to Williamstown. It is probable that the factory, itself, was called the Williamstown Glass Works beginning ca. 1842 (Pepper 1971:149-150).

#### **Bodine & Sons (1846-1855)**

Bodine brought his three sons, John F., William H., and Joel A. Bodine (also known as J. Alfred), into the firm in 1846, the same year the family purchased the Bridgeton factory. Under the operating name of Bodine & Sons, they built a second furnace that year. This firm lasted until 1855 (Pepper 1971:150).

## Containers and Marks

### WILLIAMSTOWN

Von Mechow (2013) listed three soda bottles that were embossed “WILLIAMSTOWN (arch) / N.J. (horizontal)” on the back body (Figure 1). These were similar in style to the bottles embossed “J. BODINE / & / SONS” and “BRIDGETON (arch) / N.J. (horizontal).” All were probably made Bodine & Sons during the 1846-1855 period. See Table 1 for a list of marks for each company.

### Bodine & Brothers (1855-1864)

In 1855, the senior Bodine retired, and his sons operated as Bodine & Brothers until 1864 (Pepper 1971:151).

## Containers and Marks

### BODINE &

### BROTHERS (1855-1864)

Roller (1983:69) discussed a jar with a stopper that was stamped “BODINE & BROTHERS PATENTED MARCH 26, 1861.” The closure was a “cast-iron stopper with three arc-shaped internal sections and wing-nut to compress gasket against jar mouth” (Figures 2 & 3). A variation included “M. HARBSTER MAKER READING, PA.” after the patent date. Roller noted that Harbster was the “agent for the Reading . . .



Figure 2 – Jar for Bodine & Brothers stopper (North American Glass)



Figure 3 – Bodine & Brothers stopper (North American Glass)



Figure 1 – Williamstown soda bottles (von Mechow 2013)

Hardware Works, small castings made to order.” He identified Bodine & Brothers as the manufacturer of the jars and dated them ca. 1861-1864.

Creswick (1987:19) illustrated the unmarked jar and an exploded diagram of the lid (Figure 4). She only noted the Harbster variation on the lid. Neither mentioned any pontil marks on the bases. Leybourne (2008:84) included both lids. Reading, only 35-40 miles southeast of Williamstown, the closest city, was the logical location for the manufacture of the lids. Because Joseph B. Wilson, the inventor of the lid, assigned the patent to John F. Bodine, it is almost certain that Bodine & Brothers made the unmarked jars that used the lids.

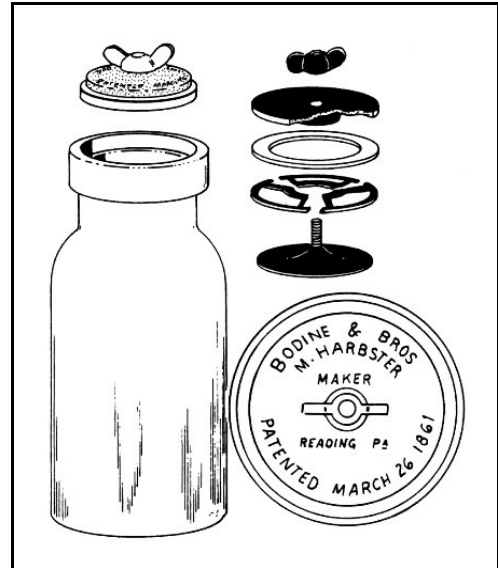


Figure 4 – Bodine & Brothers stopper (Creswick 1987:19)

Another fruit jar made by the company has what Toulouse (1969:225) called “the longest lettering found on any fruit jar”: “NE PLUS ULTRA AIR TIGHT FRUIT JAR / MADE BY BODINE & BROS. W’MSTOWN, N.J. / FOR THEIR PATENT GLASS LID” (Figure 5). Toulouse (1969:225) noted that the lid was embossed “in circle: ‘LUDLOW’S PATENT’ and ‘AUGUST 6 1861’ with ‘JUNE 28, 1859’ in an inside arc.” He placed the manufacture ca. 1861.<sup>1</sup>

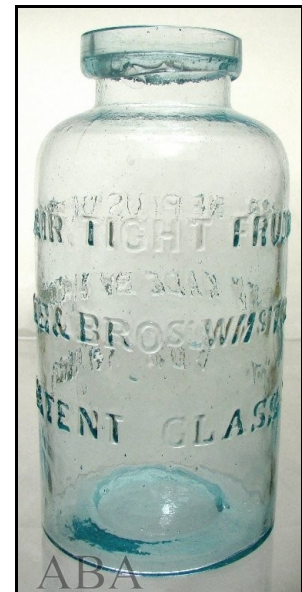


Figure 5 – Airtight Fruit Jar – Bodine & Bros. (American Bottle Auction)

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<sup>1</sup> It is worth noting that different researchers approach things in different ways. Toulouse (1969:225) placed these jars in the “N” section because the lettering began with “NE” – as did

The type of stopper invented by Ludlow was not associated with the Ne Plus Air Tight jars by later researchers. It may be that one of the collectors reporting to Toulouse sent a false statement; or Toulouse may have confused the reports; or an incorrect lid may have accompanied a single example of the jar. The Ludlow 1859 patent is for a tin preserve can; his 1861 patent was very awkward looking; and it is difficult to imagine the lid fitting onto the finish of one of the Air Tight Fruit Jars.

**Table 1 – Plants and Jars**

Bridgeton, New Jersey	Williamstown, Pennsylvania
Bodine & Sons (1846-1855)	Bodine & Sons (1846-1855)
J. BODINE & SONS (sodas)	
BRIDGETON or BRIDGETOWN (flasks)	WILLIAMSTOWN (sodas)
Potter & Bodine (1855-1863)	Bodine & Brothers (1855-1864)
POTTER & BODINE'S / AIRTIGHT FRUIT JAR	NE PLUS ULTRA AIR TIGHT FRUIT JAR
Potter & Bodine [script] (jar)	BODINE & BROTHERS PAT MARCH 26, 1861 (jar)
F. & J. Bodine (1863-1869)	Bodine, Thomas & Co. (1864- ca. 1866)
F&J BODINE PAT FEB 12 1867 (jar)	no marked containers known
PROTECTOR (ca. 1869-1872) (jar)	
THE VALVE JAR Co. (ca. 1868-1871) (jar)	

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Roller (1983:69). Creswick (1987:20) located the jars under the “B” section for Bodine & Bros.

Roller (1983:262-263) described and illustrated three variations of the Ne Plus jars. Creswick (1987:20) also illustrated the jars, including details that added two more slight variations because of the presence or absence of pontil marks (Figure 6). Leybourne (2008:84) added no variations to this style. See Table 2.

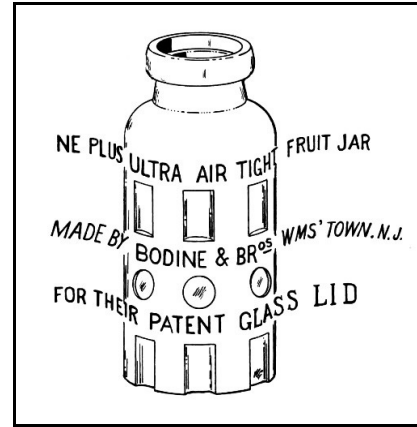


Figure 6 – Airtight Fruit Jar – Bodine & Bros. (Creswick 1987:20)

**Table 2 – Bodine & Bros. Air-Tight Fruit Jar Variations (after Creswick 1987:20)**

Line 1*	Line 2**	Line 3†	Style	Base
no THE	BR <sup>OS</sup> ; WMS' TOWN.N.J.	PATENT; LID	indent††	push-up; pontil
no THE	BR <sup>OS</sup> ; WMS' TOWN.N.J.	PATENT; LID	indent	push-up
no THE	BRO, <sup>S</sup> ; WM <sup>S</sup> TOWN NJ	PATENT; LID.	no indent	push-up; pontil
no THE	BRO, <sup>S</sup> ; WM <sup>S</sup> TOWN NJ	PATENT; LID.	no indent	push-up
THE	BRO. <sup>S</sup> ; WM <sup>S</sup> TOWN NJ	PATENTED; LID	no indent	push-up

\* Line 1 was typically embossed [THE] NE PLUS ULTRA AIR-TIGHT FRUIT JAR

\*\* Line 2 was typically embossed MADE BY BODINE & BROS WMS TOWN, NJ

† Line 3 was typically embossed FOR THEIR PATENT GLASS LID

†† The first line of lettering was just below the shoulder. This was followed by a series of upright (vertical), debossed rectangles that encircled the body of the jar. The second set of lettering was below these indentations, followed by a series of circular indentations around the jar. These were followed by the last line of text, then another series of upright rectangles that extended into the jar's heel and base.

### **Bodine, Thomas & Co. (1864-1891)**

John Bodine and Walker R. Thomas took over the business in 1864, and the firm became Bodine, Thomas & Co. until ca. 1866 (Pepper 1971:151). McKearin and McKearin (1941:603),

Pepper (1971:151), and McKearin and Wilson (1978:132) all noted that the company incorporated in 1866 as the Williamstown Glass Mfg. Co. and remained in business under that name until 1917; however, all of these sources trace their information back to Knittle. The information from Roller (1997), on the other hand, is heavily cited with advertisements and glass journal entries, so we have followed his chronology. Van Renselaer (1969:153), however, included an 1867 ad for the “Williamstown Glass Works, Bodine, Thomas & Co., Manufacturers and Dealers in Green and White glassware, Druggists’ Vials and Bottles, Pickles & Preserve Jars, Wine, Porter and Mineral Water Bottles.” By at least 1876, Bodine used Kelly & Samuel’s Keystone Grinding Machine for Grinding Fruit Jars, Flasks, etc. (Roller 1997). Bodine, Thomas & Co. almost certainly operated the plant until 1891 – regardless of the name of the factory.

## **Containers and Marks**

### **B.T.&Co**

Leybourne (2008:275) listed two jars embossed “MASON’S (arch) / PATENT / NOV 30<sup>TH</sup> / 1858 (all horizontal)” on their sides and “BT&Co” (with or without punctuation) on their bases. One variation had no letter or number embossed between “MASON’S” and “PATENT”; another had an “I” between the words; and a listing for “ghosted letters/numbers between Mason’s & Patent.” This indicates that a variety of these jars were made.

Roller (2011:357) listed a jar similarly embossed “MASON’S / 1 / PATENT / NOV. 30<sup>TH</sup> / 1858” on the side, with “B.T.&CO” on the base. The authors noted that the “maker is uncertain but possibly made in 1866-67 by the Williamstown Glass Works of Williamstown, New Jersey . . . Bodine, Thomas & Company was the proprietor of the Williamstown Glass Works.” The timing of the firm is certainly consistent with the jar style.

### **Bodine-Thomas Glass Mfg. Co. (1891-1895)**

In 1891, the firm reorganized as the Bodine-Thomas Glass Mfg. Co., Inc., but it was placed in receivership in 1895.

### **Bodine Glass Mfg. Co. (ca. 1897-1898)**

The firm apparently again reorganized as the Bodine Glass Mfg. Co. by 1897. At that time, the plant operated two day tanks with 21 rings, making bottles, vials, flasks, fruit jars, prescription bottles, and druggists ware (Roller 1997).

### **Bodine Glass Works (1898-ca. 1904)**

The firm reorganized again in 1898 as the Bodine Glass Works. By 1899, the plant ran three continuous tanks with 27 rings and one day tank with nine rings. The factory made prescription and druggists' ware; packers and preservers' ware; beer, soda, and mineral water bottles; vials, flasks, and patent medicine bottles in 1900, and that remained the same the next year (Roller 1997).

### **Williamstown Glass Co. (1904-1917)**

By 1904, the name had become the Williamstown Glass Co. The plant made at least milk and fruit jars until 1910 (Roller 1997). Although the Thomas Register incorrectly placed the plant at Williamstown, New York,<sup>2</sup> in 1907, it listed the factory as making "Prescription; Beer; Soda; Wine; Brandy; [and] Packers'" bottles, along with milk bottles and fruit jars and continued that listing in 1909. The list was shortened to "prescription; wine; preservers', etc." in 1912, but the firm was still listed under the beer heading along with fruit and milk jars (Thomas Publishing Co. 1907:159; 1909:201, 1100; 1912:480, 483, 2727).

In 1913, Williamstown used five continuous tanks with a total of 46 rings to produce a general line of bottles using both machine and hand methods (*Journal of Industrial and Engineering Chemistry* 1913:953). From 1914 to 1918, the Williamstown Glass Co. continued to be listed as it was in 1912 (Thomas Publishing Co. 1914:531, 533, 3010-3011; 1918:810, 812, 4429, 4431).

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<sup>2</sup> The Thomas Register first recorded the Williamstown Glass Co. in Williamstown, *New York*. By 1912, the Register authors had corrected their mistake and listed the glass house in Williamstown, New Jersey. Although they occasionally backslid, they mostly continued to list the town as being in New Jersey.

The plant was listed as making bottles by both hand and machine from 1916 to 1919 (Roller 1997). The company was still listed as operating in 1918 (*Glassworker* 1918:13). Pepper (1971:153), however, claimed that the factory had almost exclusively limited its production to liquor and beer bottles by 1915, and Prohibition forced it to close its doors in November 1917. It was not unusual for directories to list factories that had been closed for two or more years.

### **Bridgeton, New Jersey**

#### **Bodine & Sons (1846-1855)**

Located along Cohansey Creek between South Pearl and Glass Streets, the Bridgeton Glass Mfg. Co. began taking stock subscriptions in 1836 and probably constructed their factory shortly thereafter. By March 15, 1841, the plant was owned by Stratton, Buck & Co. (Nathan L. Stratton being one of the original officers), when it burned to the ground. John G. Rosenbaum rebuilt the factory and operated it until 1846. Joel Bodine and his three sons, John F., William

H., and Joel A. Bodine, operated the works (along with their Williamstown plant) as Bodine & Sons from 1846 to 1855 (McKearin & Wilson 1978:132; Roller 1998).

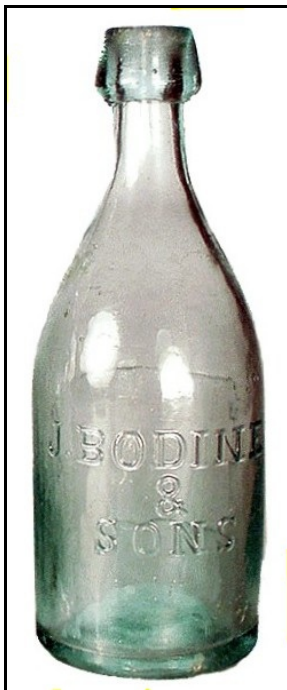


Figure 7 – J. Bodine & Sons soda bottle (von Mechow 2013)

#### **Containers and Marks**

##### **J. BODINE & SONS**

J. Bodine & Sons made deep blue and aqua soda bottles embossed “J. BODINE / & / SONS” – all horizontal across the back body (Figure 7). These could have been made at any point during the tenure of Bodine & Sons – 1846-1855. Von Mechow (2013) attributed the mark to the Bridgeton factory, probably because of similar bottles embossed with the Bridgeton name (Figure 8) – although, they could also



Figure 8 – Bridgeton, N.J. soda bottle (von Mechow 2013)



have been made at the Williamstown plant. Similar bottles were embossed “WILLIAMSTOWN GLASS WORKS.” All three bottle types (Bodine & Sons, Bridgeton, and Williamstown) were very similar in manufacturing technique and were probably all made during the same time period.

**BRIDGETON or BRIDGETOWN (1846-1855)**



Figure 9 – Flasks – Bridgeton (McKearin and Wilson 1978:529, 551, 629)

Four flasks were embossed either on the front or the reverse with “BRIDGETON” or “BRIDGETOWN” and “NEW JERSEY” (Figures 9-11).

McKearin and Wilson (1978:132) noted that two of these flasks (GI-24 and GI-25 in their numbering system) were

produced during 1836-1841, although they may have also been made by Bodine & Sons, 1846-1855. The other two (GI-111

and GX-7) were made during the Bodine & Sons tenure. McKearin and Wilson also suggested that three other flasks were made by the Bodines during the same period. Although these bore no markings to identify them, McKearin & Wilson (1978:132) stated that they were “attributed by shape and design” as being made by the Bodines.

Von Mechow (2013) listed three soda bottles that were embossed “BRIDGETON (arch) / N.J. (horizontal)” on the back body (see Figure 8). These were similar in style to the bottles embossed “J. BODINE / & / SONS” (see entry above) and were probably also made during the 1846-1855 period.



Figure 10 – Bridgeton Flask (Glass Works Auction)

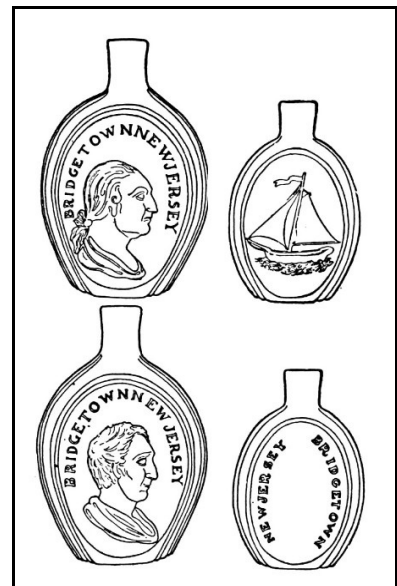


Figure 11 – Flasks – Bridgetown (McKearin and Wilson 1978:529)

## Potter & Bodine (ca. 1856-1863)

The firm of Maul, Hebrew & Co. bought the plant from the Bodines in 1855 and “broke up” in 1857. At that point, “the Bridgeton, N.J. Glassworks was taken over by David Potter and Francis I. Bodine” (Caniff 2013:17). Knittle (1927:355) stated that Maul, Hebrew & Co. was comprised of “William Maul, Joseph Borden, and a man named Hebrew.” She further claimed that the “undertaking failed at once, for the works were offered at public sale by the sheriff the same year” – i.e., 1855. McKearin & Wilson (1978:132), possibly following Knittle, noted that General David Potter and Francis I. Bodine purchased the factory at a sheriff’s sale in late 1855 or early 1856 and continued as Potter & Bodine until 1863. Note that 1855 marks the separation of the two Bodine factories and the creation of different operating histories.



Figure 12 – J.C. Baker’s Patent jar (North American Glass)

## Containers and Marks

### J.C. BAKER’S PATENT (ca. 1860-1862)

Roller (1983:24) discussed a jar embossed “J.C. BAKER’S PATENT AUG 14 1860” with similar embossing on a glass lid and the same punched into a metal lid (Figures 12 & 13). He noted that the jar was patented by John C. Baker at Mechanicsburg, Ohio, and made by Potter & Bodine ca. 1860-1862 and by F.L. & J.N. Bodine ca. 1863. Roller



Figure 13 – Baker’s Patent lid & finish (North American Glass)

illustrated ads for the jar from both Bodine companies (Figure 14).

**BAKER’S  
PATENT  
FRUIT JARS.**

**SIMPLE, RELIABLE, AND CHEAP.**  
They combine the advantages and yet avoid the defects of other jars.

**Potter & Bodine,**  
MANUFACTURERS.  
No. 48 Vesey-st., New-York. & No. 106 Chestnut-st., Philadelphia, Pa.

From July 1862 American Agriculturist.

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**BAKER’S  
PATENT  
FRUIT JARS.**

**WITH EITHER  
GLASS OR TIN COVERS.**

They are SIMPLE, RELIABLE, and CHEAP, and the ONLY Jar of which there are NO COMPLAINTS. From the great number of testimonials we might give, we only quote from the “AMERICAN AGRICULTURIST,” which says: “They are the best of the TWENTY ODD KINDS WE HAVE TRIED.”  
Housekeepers try for yourselves. Do not be persuaded to try others, for it will be to your cost.  
For sale by all respectable dealers.  
The trade supplied by the  
MANUFACTURERS AND PROPRIETORS.  
**F. L. & J. N. BODINE & CO.,**  
Successors to POTTER & BODINE,  
106 Chestnut-st., Philadelphia, Pa.

From July 1863 American Agriculturist.

Figure 14 – Ads for Baker’s Patent jars (Roller 1983:24)

## POTTER & BODINE (1858-1863)



Figure 15 – Potter & Bodine’s Airtight Fruit Jar (Cowan’s Auctions)

Roller (1983:290) discussed the jars embossed “POTTER & BODINE’S / AIRTIGHT FRUIT JAR / PHILAD<sup>A</sup> (block letters)” (Figure 15). He noted that “much variation may be found in the arrangement of embossing on these jars” and suggested a use period of ca. 1858-1863. These jars may be found with or without pontil marks (Figure 16); the jars spanned the transition from pontil rods to snap cases.<sup>3</sup> At least one of these jars was made for a different type of finish, where the top of the neck became the rim (Figure 17).

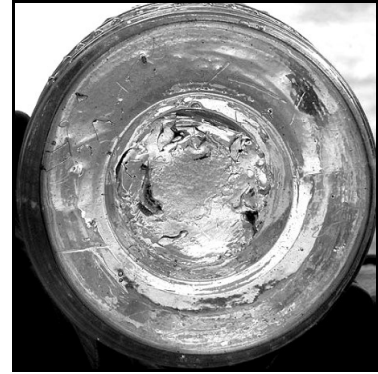


Figure 16 – Pontil scar on fruit jar base (North American Glass)

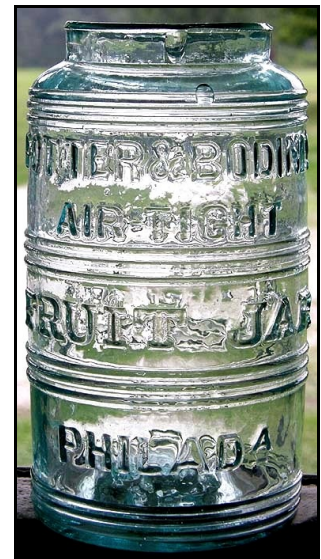


Figure 17 – Airtight Fruit Jar with simple finish (North American Glass)



Figure 18 – Finish of Airtight Fruit Jar (North American Glass)

Roller was concerned with the relationship between the style of the barrel-shaped variations (see below) and the April 13, 1858, patent embossed on the reverse body. He noted that the patent was for a forming

tool that created the groove on the finish of this grooved-ring wax-sealer jar – not for the barrel design (Figure 18). He stated that a barrel-shaped jar design was not patented by Francis L.

Bodine until 1877 (see Cohansey Glass Mfg. Co. section). There

does not seem to have been a patent taken for the barrel-shaped jar made by Potter & Bodine (at least, not one that we could find). The jar was shaped like a barrel with four evenly spaced

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<sup>3</sup> For a discussion of different types of pontil marks on these jars, see Roller (2013:427-428).



“hoops.” Each set of “hoops” consisted of four embossed ribs together, encircling the jar. One was at the heel, one at the shoulder, and two evenly spaced between (Figure 19). The later (Cohansey) design, patented by Francis L. Bodine, included the rings (now in sets of three) but also included staves (upright).



Figure 19 – Barrel-shaped Airtight Fruit Jar (American Bottle Auction)

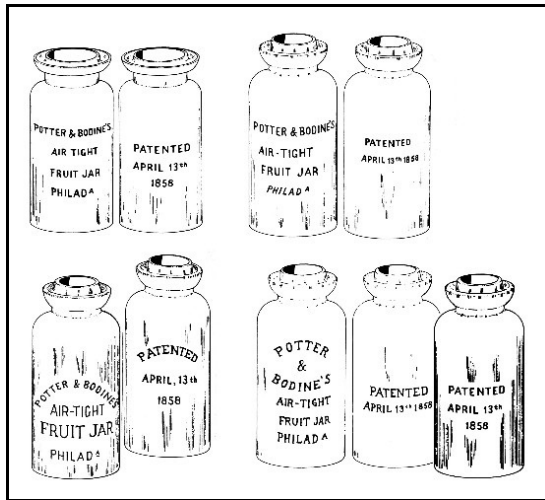


Figure 20 – Potter & Bodine’s Airtight Fruit Jars (Creswick 1987:178)

Creswick (1987:178-179) illustrated several jars, all grooved-ring wax-sealers, embossed with Potter & Bodine in block form – always on the front in the non-barrel styles (Figure 20). She described six variations in cylindrical form and four others that were barrel shaped (Figure 21). Creswick

(1987:179) suggested only a ca. 1858 date for the block-letter variation. In view of the total of ten variations of these jars, Creswick’s ca. 1858 date is patently ridiculous. The jars were certainly made during most, if not all, of the period between 1858-1863, when Potter & Bodine operated the factory.

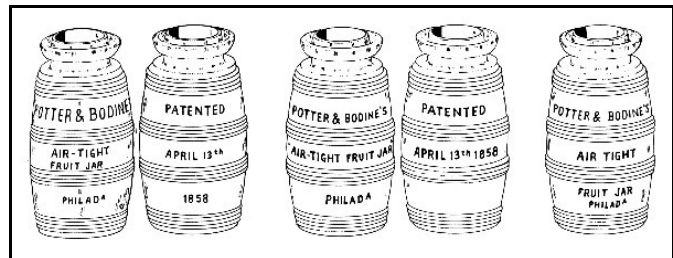


Figure 21 – Potter & Bodine’s barrel-shaped jars (Creswick 1987:179)

Toulouse (1969:17) noted two variations – that do not appear in other references – on the barrel-shaped jars:

1. POTTER & BODINE / AIR TIGHT FRUIT JAR without PHILAD<sup>A</sup>
2. AIR TIGHT FRUIT JAR on the reverse

These are probably mis-recordings or were intended to refer to other jars that were listed by the later researchers. Leybourne (2008:356-357), however, included four variations unknown to Creswick that are likely correct.



Figure 22 – Airtight Fruit Jar (American Bottle Auction)

Roller (1983:7) also showed a variation of this barrel-shaped jar that lacked any mention of Potter & Bodine (Figure 22). The jars were only embossed “AIR TIGHT FRUIT JAR” across the middle band of the jar body (possibly the second variation noted by Toulouse). Creswick (1987:4) illustrated two variations of the jar, both only marked as noted by Roller (Figure 23). Creswick stated that the “groove was formed by collapsing (*sic*) the bulbous neck while hot and worked upward to form the groove” (certainly referring to

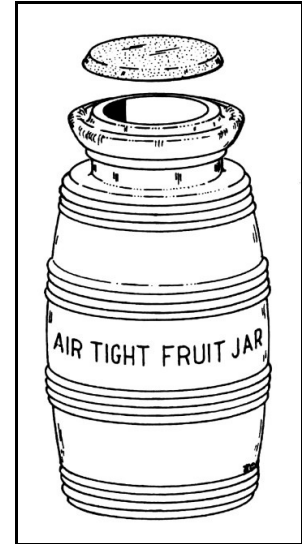


Figure 23 – Airtight Fruit Jar (Creswick 1987:4)

the 1858 patent). She dated one jar (with a high kick-up) ca. 1855-1863 and noted Potter & Bodine as the makers. See Table 3 for POTTER & BODINE variations.

Creswick (1987:4) dated the other “AIR TIGHT FRUIT JAR” (with no noted kick-up) ca. 1855-1867, with the Ravenna Glass Works, Ravenna, Ohio, as the manufacturer. She gave no explanation for her choice; however, she illustrated similar jars made by Ravenna that were also marked “AIR TIGHT FRUIT JAR” (Creswick 1987:183). The Ravenna jars are more cylindrical, while those made by Potter & Bodine tend to be more barrel shaped (i.e., curved in at shoulder and heel, wider at the center of the body). See the Other R section for more on Ravenna.

Leybourne (2008:356) added two other jars with “POTTER & BODINE” in an arched format. These jars were embossed in block capital letters, as shown in Figure 24. One was a “ribbed & paneled Wide mouth butter jar”; the other had a “lip finish for cork closure”; and was a “straight sided, wide mouth butter jar.” There seems little question that these were product jars, whether for butter or some other food. According to Caniff (2001):

The six-inch-tall aqua jar has a ground lip and is embossed only POTTER & BODINE in an arch, with 20 flat vertical panels around the lower part of the jar . . . . They have recessed necks between their collars and shoulders that could well have accommodated tying paper or cloth over the top or even closing with a wide cork disk.

According to Caniff (2013:18), Joseph Borden’s Patent No. 19,964, used to make these jars, was assigned to Potter & Bodine on April 13, 1858. The earliest ad Caniff could find for the jars was July 23, 1859, but the run of the jars was over when Potter & Bodine sold out in 1863. It is obvious that Borden remained with Potter & Bodine when Maul, Hebrew & Co. ceased operations in either 1855 or 1857.



Figure 24 – Potter & Bodine in arch (North American Glass)

**Table 3 – Potter & Bodine Wax Sealer Variations\*** (after Creswick 19874, 178-179; Leybourne 2001:6, 315-316)

Front	Reverse	Shape	Pontil	Finish
4 lines, all horizontal; no hyphen in AIR TIGHT	1858 in 3 <sup>rd</sup> line	cylinder	yes	hand
same as above	1858 in 3 <sup>rd</sup> line	cylinder	no	hand
same as above**	2 lines; APRIL 13 <sup>th</sup> 1858 all 2 <sup>nd</sup> line	cylinder	no	hand
4 lines; POTTER & BODINE (arch); AIR-TIGHT and FRUIT JAR (larger letters); last 3 lines horizontal	PATENTED (arch); 1858 in 3 <sup>rd</sup> line	cylinder	no	1858 process
4 lines, all horizontal; hyphen in AIR-TIGHT	2 lines; APRIL 13 <sup>th</sup> 1858 all 2 <sup>nd</sup> line	cylinder	no	1858 process
6 lines; POTTER (arch) / & / BODINE’S (inverted arch); last 3	2 lines; APRIL 13 <sup>th</sup> 1858 all 2 <sup>nd</sup> line	cylinder	no	1858 process

Front	Reverse	Shape	Pontil	Finish
lines horizontal				
same as above	1858 in 3 <sup>rd</sup> line	cylinder	no	1858 process
1. bare; 2. AIR-TIGHT FRUIT JAR; 3. bare	bare	barrel; kick-up	yes	1858 process
1. POTTER & BODINE (large letters); 2. AIR-TIGHT / FRUIT JAR; 3. PHILAD <sup>A</sup>	1. PATENTED; 2. APRIL 13 <sup>th</sup> ; 3. 1858	barrel	yes	1858 process
same as above but BODINE'S	same as above	barrel	yes	1858 process
1. POTTER & BODINE'S AIR-TIGHT; 2. FRUIT JAR; 3. PHILAD <sup>A</sup> (all medium letters)	same as above	barrel	yes	1858 process
1. POTTER & BODINE's (medium letters); 2. AIR-TIGHT FRUIT JAR; 3. PHILAD <sup>A</sup>	1. PATENTED; 2. APRIL 13 <sup>th</sup> 1858; 3. bare	barrel	yes	1858 process
same as above	1. PATENTED; 2. APRIL 13 <sup>th</sup> ; 3. 1858	barrel	yes	1858 process
1. POTTER & BODINE's (medium letters); 2. AIR-TIGHT; 3. FRUIT JAR / PHILAD <sup>A</sup>	1. PATENTED; 2. APRIL 13 <sup>th</sup> ; 3. 1858	barrel	yes	1858 process
format unknown	format unknown	barrel	yes	hand †

\* All of these jar were embossed "POTTER & BODINE'S AIR TIGHT FRUIT JAR PHILAD<sup>A</sup>". Primary differences lie in details (e.g., presence or absence of "s"; arched or horizontal lettering; number of lines; and/or placement within hoops). The barrel-shaped jars had three labeling areas between the four groups of "hoops."

\*\* Leybourne (2001:315) included this variation. The description included a hyphen in "AIR-TIGHT," probably a typo. The main difference in this jar (aside from the 2-line reverse embossing) is "same shape as the POGUE jar[;] incomplete neck [-] wax seal groove missing."

† Leybourne (2001:316) noted this as a separate style but offered virtually no information or a drawing. He did not include the "wax seal groove as in #2384" as in all the other barrel jars, so this may indicate that the finish was made by hand instead of the 1858 tooled process.

### Potter & Bodine [cursive] (ca. 1867)

According to Toulouse (1969:245) there were three variations of fruit jars embossed on the sides with “Potter & Bodine” in cursive (Figure 25). One had two helical lugs on the jar neck; another had three. His final variation had a two-lug finish, but the lid was embossed “PAT OCT 19, 1858.” In his later book (Toulouse 1971:423-424), he added that the mark was also found on “other ware” (probably packers’ jars). Toulouse (1969:245) could not find any information about this patent; however, no later researcher mentioned this patent date.



Figure 25 – Potter & Bodine in cursive (Fruit Jar Hall of Fame)



Figure 26 – Potter & Bodine in cursive (Creswick 1987:177)

Roller (1983:290) noted that the lid for the “Potter & Bodine / Philadelphia (all script)” jar was stamped “F&J BODINE PAT FEB 12 1867, the company that followed Potter & Bodine. Since Potter & Bodine had been replaced by F.&J. Bodine for almost four years prior to the issue of the patent, the jar/lid combination presents a bit of a quandary. Roller suggested that “perhaps Potter & Bodine used the closure invention before it was patented.” Creswick (1987:177) illustrated the jar and noted a variation on the lid stamped “J.F. Bodine” (Figure 26). Leybourne (2008:356) added a variation that was unembossed but had the same closure.

The only logical explanation for this phenomenon is that Potter & Bodine created the mold for this jar without the inclined ramps. F.&J. Bodine found the molds and added the ramps (a simple operation, involving cutting grooves into the neck of the existing molds) to test their 1867-patented lid – even though the older company’s name was still embossed on the jar. The jar was used for a short time (or until the mold wore out), but the test was successful, and the lids were used on subsequent jars.



## F.&J. Bodine (1863-1869)

Francis L. and J. Nixon Bodine (sons of Samuel Bodine – one of the second-generation brothers) purchased the works in 1863, and Francis J. Bodine (a cousin of Francis L.) joined Nixon in 1869 to incorporate the firm as the Cohansey Glass Mfg. Co. (McKearin & Wilson 1978:132; Pepper 1971:214; Roller 1998). The various authors noted that the plant was called the Bridgeton Glass Works, although McKearin and Wilson (1978:132) stated that the plant was only known by that name between 1856 and 1863. See the Cohansey section for the history of that company.

### Containers and Marks

#### F.&J. BODINE (1863-1869)

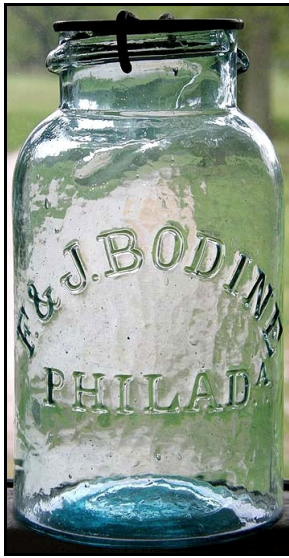


Figure 27 – F.&J. Bodine jar (North American Glass)

Roller (1983:69) listed two jars made by F.&J.

Bodine. The first was embossed “F.&J. BODINE (arch) / MANUFACTURERS / PHILADELPHIA, PA<sup>A</sup> (both horizontal)” on the side (Figures 27 & 28). The lid was attached by a wire clamp to two “inclined ramps” on the finish. The lid was stamped “F&J BODINE PAT FEB 12 1867.” Roller dated the jars ca. 1867-1869 and noted that F.&J. Bodine began advertising their Protector jars during the latter year. The second variation was identical in all aspects but was embossed “F.&J. BODINE (arch) / PHILAD<sup>A</sup> (horizontal)” on the side. Creswick (1987:20) illustrated both jars and

agreed with the basic markings (Figure 29). However, she noted that the lid was embossed “Bodines” (plural), where Roller had the name in singular form.



Figure 28 – Finish and lid (North American Glass)

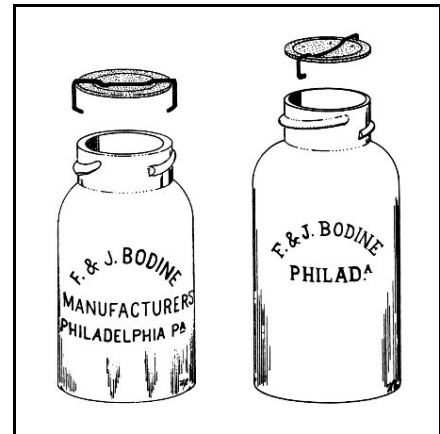


Figure 29 – F.&J. Bodine jar (Creswick 1987:20)

**PROTECTOR** (ca. 1869-1872)



Figure 30 – Protector – 6-sided (North American Glass)

Toulouse (1969:248-249) described two variations of jars with this marking. One was embossed “PROTECTOR” vertically on one of six vertical panels (Figures 30 & 31). The other was round in cross-section with “PROTECTOR” in a horizontal arch on the side (Figure 32). He dated the jars ca. 1867 (based on a partially legible stamp on one lid) but had no idea who made them. Each jar was sealed by a metal lid with a wire permanently attached to the top. The wire extended to attach to two helical lugs on the finish.



Figure 31 – Lid & finish of Protector (North American Glass)

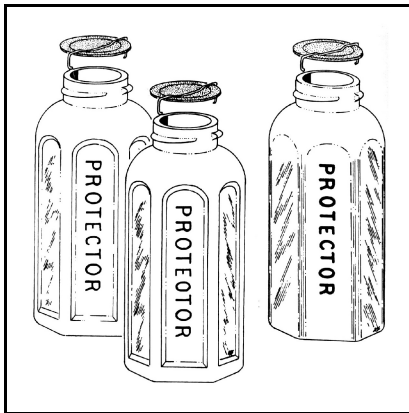


Figure 33 – Protector variations (Creswick 1987:20)

Roller (1983:296) added that the vertically embossed jars were made by F.&J. Bodine during ca. 1869-1870 and by the Cohansey Glass Mfg. Co. from ca. 1871 to 1872. He further noted that they were made in both round and six-sided configurations. He illustrated an ad for the six-sided variation by Cohansey, dated May 8, 1872. He also illustrated another Cohansey ad from September 16, 1875, that showed a round jar with the arched “PROTECTOR” on the front. Roller dated the arched variation ca. 1875-1881, made by Cohansey.

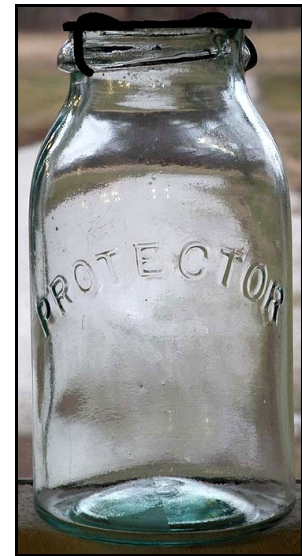


Figure 32 – Protector – round (North American Glass)

Creswick illustrated the arched Protector, and she described and/or illustrated four variations of the six-sided style (Figure 33). She dated all styles ca. 1867. See Table 4.

**Table 4 – Protector Jar Variations (after Creswick 1987:80, 179; Leybourne 2001:180, 319)**

Front	Panels	Finish	Dates
PROTECTOR (vertical)	not recessed	ramped	ca. 1868-1872
PROTECTOR (vertical)	embossed panel recessed (only)	ramped	ca. 1868-1872
PROTECTOR (vertical)	recessed	ramped	ca. 1868-1872
PROTEOTOR (vertical) [error]	recessed	ramped	ca. 1868-1872
no embossing	recessed	ramped	ca. 1868-1872
PROTECTOR (arch)	none	tapered	ca. 1875-1882

**THE VALVE JAR Co. (ca. 1868-ca. 1871)**

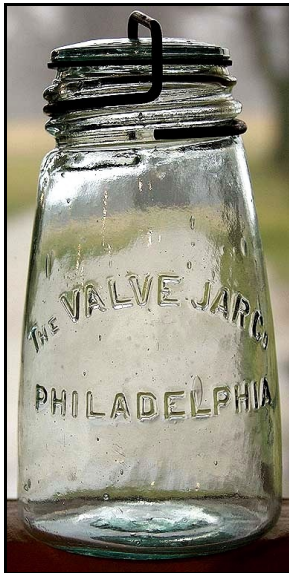


Figure 34 – The Valve Jar (North American Glass)

Toulouse (1969:315) described three variations of the Valve Jar (Figure 34 & 35). These are virtually identical with the last three variations shown by Creswick, except that he had the horseshoe design turned into a circle (see below). Roller (1983:369) noted that the jars were made with two types of lids:

1. Tinned-iron lid
2. Glass lid with square depression in center of top

Creswick (1987:212-213) and Leybourne (2008:421-422) both listed four variations of this jar (Table 5 & Figure 36).



Figure 35 – Valve Jar lid (North American Glass)

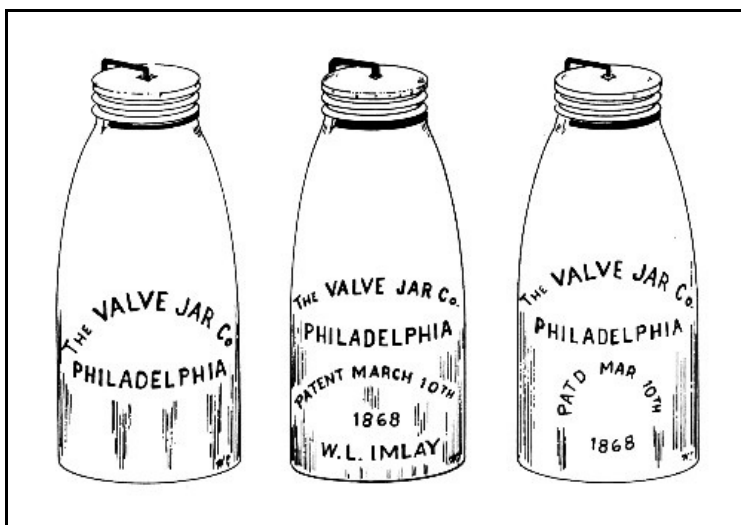


Figure 36 – Valve Jar variations (Creswick 1987:212-213)

**Table 5 – Valve Jar Co. Variations\* (after Creswick 1987:212; Leybourne 2001:372)**

Line 2	Line 3	Line 4
PHILADELPHIA (horizontal)	none	none
PHILADELPHIA (slight inverted arch)	PATENT MARCH 10 (slight arch)	1868
PHILADELPHIA (slight inverted arch)	PATENT MARCH 10 (slight arch)	1868**
PHILADELPHIA (slight inverted arch)	PATENT MARCH 10 (strong arch or horseshoe)	1868

\* All variations begin with THE VALVE JAR Co (slight arch) on Line 1.

\*\* This variation has a fifth line embossed W.L. IMLAY (horizontal)

The Valve Jar Co. was apparently only listed in Philadelphia during 1870 and 1871 (Creswick 1987:212; Roller 1983:369). According to Creswick, the original jars may have been made by F.&J. Bodine in 1868, and they continued in production until ca. 1871. The later jars were possibly made by the Cohansey Glass Mfg. Co. Roller, however, stated that the jars were made by an “unknown glasshouse.”

An undated map of the Valve Jar Co. (Hexamer General Surveys, Volume 6), however, questions Creswick’s assumptions. The illustrations on the map clearly show a glass house with

two furnaces. This suggests that the Valve Jar Co. – rather than the Bodine firms – actually made its own jars – or at the very least, its own lids. Unfortunately, we can find little else about the company.

We have not discovered the relationship between William L. Imlay and the Bodines, but there certainly was one. Imlay did not assign his 1868 patent for the Valve Jar to any of the Bodines or the firm. Similarly, Imlay never assigned his 1872 patent (see section on Cohansey) to Cohansey, even though it was to become *the* closure used on Cohansey jars (other than the wax sealers). The Imlay patent was used in competition with the typical screw lid on the myriad of Mason jars.

### Patents Associated With Bodine Companies

#### Bodine & Brothers

**August 3, 1858**

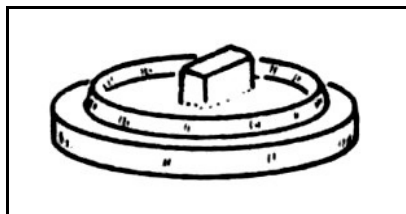


Figure 37 – Bodine’s 1858 patent stopper (Creswick 1987:20)

On August 3, 1858, John L. Bodine received Design Patent No. 1,030 for a jar lid design. Bodine assigned the patent to “Self W<sup>m</sup> H & J. Alfred Bodine.” Unfortunately, the drawing is missing from the patent records, although Creswick (1987:20) illustrated the stopper (Figure 37). The lids were used on the Ne Plus Ultra Air Tight series of fruit jars made by Bodine & Brothers at the Williamstown, New Jersey, plant.

**April 12, 1859**

On April 12, 1859, John F. Bodine received Patent No. 23,640 for a “Revolving Plug for Manufacturing Bottles and Jars” (Figure 38). The device was one of several contrived about that time to form finishes on jars and bottles. He assigned the patent to himself, William H. Bodine, and Joel A. Bodine.

**March 26, 1861**

Joseph B. Wilson received Patent No. 31,856 for an “Improvement in Stoppers for Sealing Cans and Jars” on March 26, 1861. He assigned the patent to John F. Bodine. Wilson’s patent used a wing-screw to expand the sides of a complex plug so that they expanded out to form a seal on the inside of a jar neck. The stopper was used on jars made by Bodine & Brothers between 1855 and 1864 (see Figures 2-4).

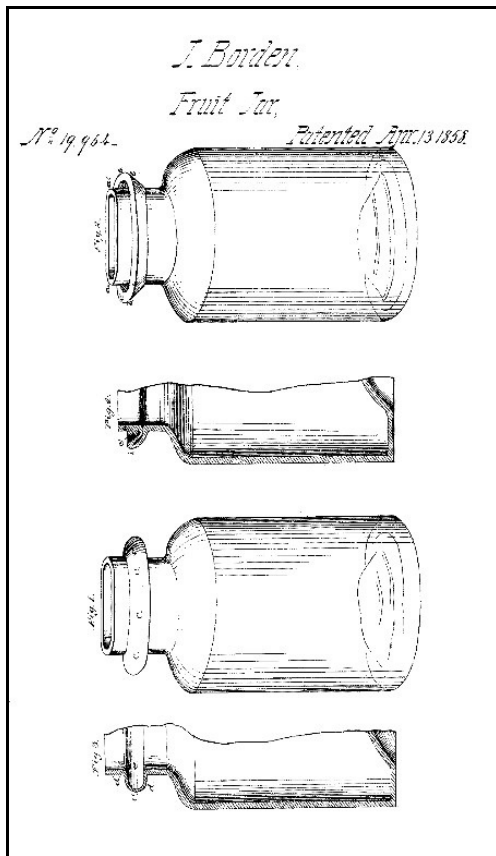


Figure 39 – Joseph Borden’s 1858 patent

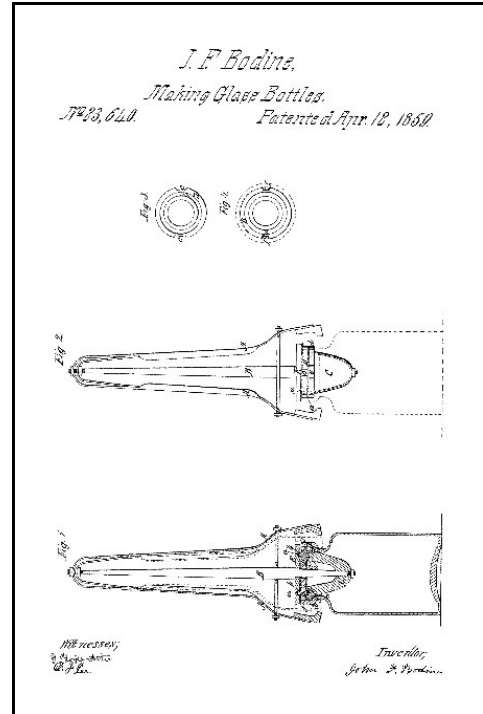


Figure 38 – John Bodine’s 1859 patent

**Potter & Bodine**

**April 13, 1858**

Joseph J. Borden received Patent No. 19,964 for an “Improvement in Preserving-Jars” on April 13, 1858. He assigned the patent to David Potter and Francis L. Bodine (Figure 39). The main idea of the improvement was to create a process to form the wax (cement) groove on wax-sealer fruit jars. This method was used by both Potter & Bodine and the Cohansey Glass Mfg. Co. to make finishes for their wax-sealer fruit jars – notably the “Air-Tight” series.

Roller (1983:290) described the method as a

process to force the wax (cement) groove by pushing down with a forming tool on the jar top while the glass was still workable. Before the advent of the snap case holder, the lipping-tool operation would have required the application of a pontil rod to the jar base in order to hold the jar. The older ones have pontil marks, while the later ones do not. See Figure 18 for an example of the finish.

The actual patent document supports Roller's explanation, although the patent description is much more complex:

The glass jar is blown in a mold in which there is an annular groove near its top, by which an annular rounded and hollow projection. . . is formed around the neck of the jar. While the jar is in the mold, or, as soon as it is removed therefrom, and while it is in a hot and plastic condition, pressure is applied to the top a of the jar and the ring . . . by means of a former [i.e., a forming tool], which embraces the neck of the jar and enters the mouth, and as the ring is thinner than the walls of the jar it yields under the pressure, the top of the jar above the ring sinks, and the interior edges of the groove are brought in contact and united, leaving the interior of the neck smooth, so as to allow for escape to the air. The upper wall . . . is also depressed, brought in contact, and unites to the lower wall . . . thus forming an annular groove . . . around the neck of the jar, and at the same time the mouth of the jar is rounded and finished smooth by the pressure of the former.

## **F.&J. Bodine**

### **December 18, 1866**

On December 18, 1866, Joseph Borden received Patent No. 60,468 for an "Improved Fruit Jar." He assigned the patent to T. (*sic*) &J. Bodine. The important idea was two inclined indentations on the inside of the jar mouth into which was inserted an internal stopper with two projections that fit into the indentations. At this point, we have not found any actual jars with this stopper.



**February 12, 1867**

Three months after he received his patent for the internal closure, Joseph Borden was granted Patent No. 61,921 for an “Improved Cap for Preserving-Jars” (Figure 40). Like his fruit jar groove process, he assigned this cap to F.&J. Bodine. The outside of this patent had a similar appearance to his 1866 finish, but this time, the inclined “ribs or projections” were solid and external. This cap was “made of any suitable material” with “two or more arms projecting from the sides.” These “arms” were screwed onto the “ribs” to form a seal similar to the way a screw cap fits into threads.

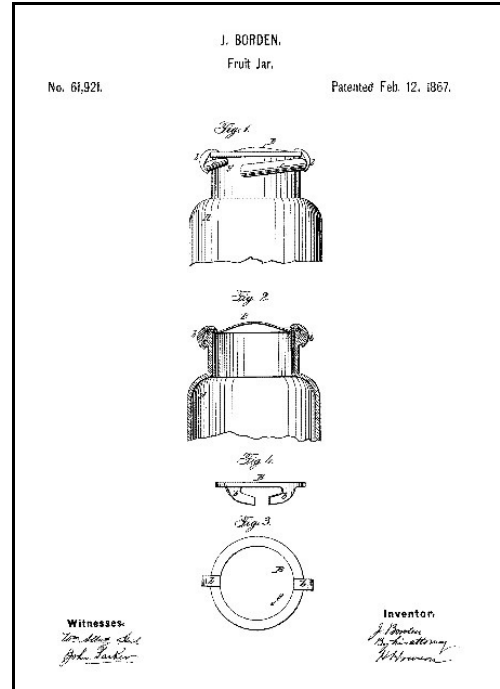


Figure 40 – Joseph Borden’s 1867 patent

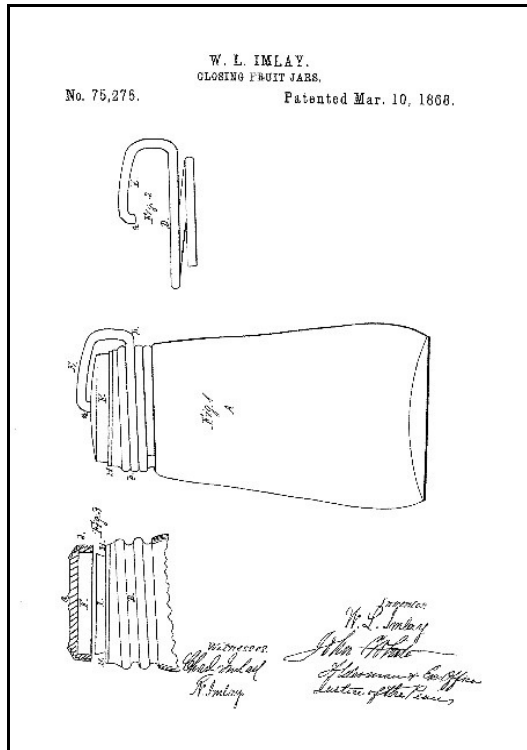


Figure 41 – William Imlay’s 1868 patent

These were the finishes used on the Protector jars, made by both the Bodines and the Cohansey Glass Mfg. Co. Roller (1983:90) called this the “Protector-style” lid and noted that “the tinned iron lid [used by Cohansey] was apparently a carry-over from the PROTECTOR jars (#1091), and was probably used for a short time, c. 1874.”

**March 10, 1868**

On March 10, 1868, William L. Imlay received Patent No. 75,275 for an “Improvement in Closing Fruit Jars” (Figure 41). The device required a “deep and large screw-thread cavity about the neck of the jar, fitted to receive and hold a spiral wire coil.” The coil attached to the top center of a cover that seated on a rubber ring that surrounded the rim at the mouth of the jar.



This closure was only used on jars embossed “THE VALVE JAR Co.” Although both Roller and Creswick (see below) stated that these jars were made *for* the Valve Jar Co. by F.&J. Bodine and then Cohansey, there is some evidence that the Valve Jar Co. made its own jars.

### Ludlow Patents<sup>4</sup>

#### June 28, 1859

William D. Ludlow was issued Patent No. 24,566 on June 28, 1859, for a “Preserve-Can” (Figure 42). The patent was reissued (No. 1,656) on April 19, 1864. The device was a tin can that sealed with a system of “Lugs and keys” that may have been the inspiration for the Borden patent of 1866 (see above). The device was adapted to both cans and jars and was apparently used fairly extensively as there were several variations (Creswick 1987:107-108). However, there is no evidence to link the device to the Bodines.

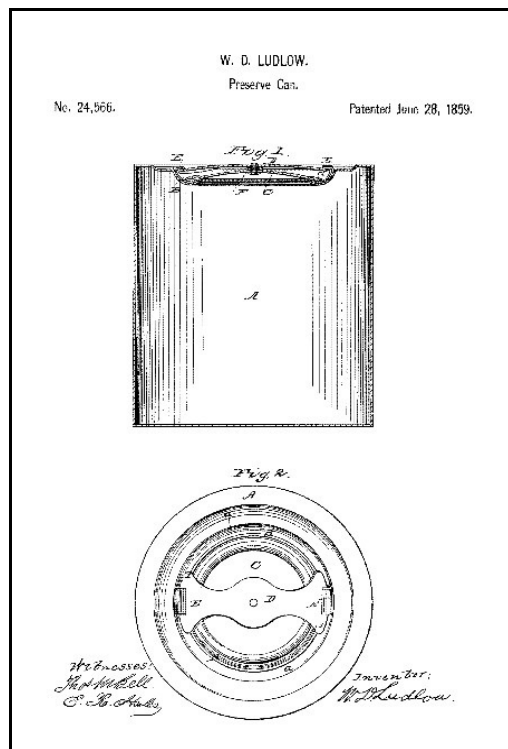


Figure 42 – William Ludlow’s 1859 patent

#### August 6, 1861

On August 6, 1861, William D. Ludlow received Patent No. 33,002 for an “Improvement in Stopping Jars, &c.” His sealing device consisted of “two curved inclined arms” attached to a bar that sat atop the lid (Figure 43). The inclines engaged stationary lugs in the jar finish to affect a screwing action to seal the jar. This awkward device may have given Borden his inspiration to create the inclines on the outside and the lugs as part of the lid in 1867 (see above). Although Roller (1983:196) noted that jars with this lid were manufactured by Whitall Tatum & Co. and advertised by the firm in 1861 and 1862,

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<sup>4</sup> These Ludlow patents were almost certainly *not* used by either the Bodines or the Cohansey Glass Mfg. Co. (successors to F.&J. Bodine). They are only included here because they were incorrectly referenced by Toulouse (see above) and may have been the inspiration for patents that *were* used by the Bodines.

there is no evidence to link the jars to the Bodines. Creswick (1987:107) provided a good drawing.

### Discussion and Conclusions

Even though Joel Bodine and his sons originally operated both the Bridgeton and Williamstown plants, there was a major split in 1855, with Joel Bodine's sons continuing to run the Williamstown factory, while David Potter and Francis I. Bodine took over the Bridgeton operation. The only known containers to be marked from the early Bodine & Sons era were a few soda bottles embossed with the company name and a limited number of flasks embossed "BRIDGETON," "BRIDGETOWN," or "WILLIAMSTOWN."

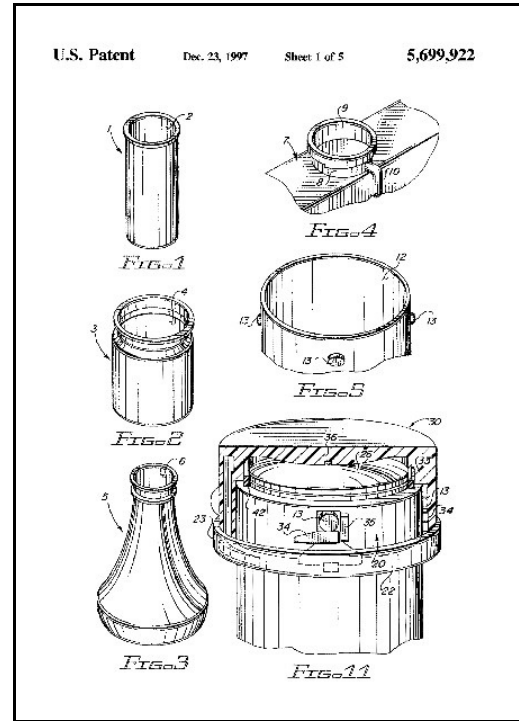


Figure 43 – William Ludlow's 1861 patent

The second generation of Bodine products – marked by each plant – were distinctly separate, but the Bodines involved must have maintained some connection or must have been bitter rivals. Both used the term "Air-Tight Fruit Jar" on their jars. Potter & Bodine (Bridgeton) made two main series of grooved-ring, wax-sealer fruit jars – one in cylindrical shape, the other resembling a barrel. The patent date, April 13, 1858, found on the jars, was for the process that created the grooved finish. Bodine & Brothers (Williamstown), however, used a lid patented by John L. Bodine that also used a wax seal but was very different. The jars, too, were quite dissimilar with three lines of embossing that wrapped all the way around the bodies.

Each of these second-generation companies also made one additional jar type that was marked with a firm logo. The Bodine & Brothers jar used a lid with a very complex sealing mechanism. Patented on March 26, 1861, the jars apparently only went through a single incarnation and vanished from production. The other Potter & Bodine jar, however, was either the harbinger of things to come or was actually made by the later F.&J. Bodine firm (see discussion above). This jar used a lid with two wire projections that screwed into two inclined ramps on the finish. Patented in 1867, this was a style that, although modified, would carry on into the next two incarnations of the company.

Bodine, Thomas & Co., the third-generation firm at Williamstown, did not make any known *distinctly* marked wares, although it may have used the “BT&Co” initials on Mason jars. F.&J. Bodine continued the 1867 jar lid tradition with jars very similar to the ones made by Potter & Bodine. F.&J. Bodine also began to manufacture the Protector line, still using the 1867 patent on six-sided jars. Toward the end of their cycle, the Bodines also made a cylindrical variation with “PROTECTOR” in a slight arch on the front.

A final jar, marked “THE VALVE JAR Co.,” is in contention. At least one researcher claims the Bodines as the manufacturer (followed by Cohansey). Others did not suggest a manufacturer. Further, the map of the Valve Jar Co., showing furnaces, suggests that the firm made its own glass, although that may just indicate the manufacture of lids.

### **Acknowledgments**

Our gratitude to Tom Caniff for his comments about these jars. Thanks also to Doug Leybourn for granting us the use of the Alice Creswick drawings. We are also grateful to Greg Spurgeon for allowing us to use the North American Glass photos.

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