

Patents Issued to William Beach Fenn

Part 2 of 2

By Barry L. Bernas

In Part 1 of 2, fourteen patents, issued to William Beach Fenn, were reviewed. Along with a discussion of the item granted letters patent, a drawing of the concept was appended. In the same box beside this illustration was a picture of the manufactured article, if one has been identified. In the event one hadn't been reported, a sketch or electrotype, extracted from a product catalog or glass company advertisement, was substituted. Also included was any advertising information about the article. The same format will be continued in Part 2 of 2.

Closures - Patents Twenty-Three through Twenty-Six

After leaving Washington, Pennsylvania, tracking data showed William Beach Fenn settled in his old haunt, New York City. A few days before April 2nd, 1904, he sent off patent request number twenty-three. Eight months later, three others followed in direct succession from nearby Sheepshead Bay, New York. Each of these ideas dealt with a closing or closure device for glass jars, cans and like or other vessels.

William B. Fenn described his twenty-third concept as follows.

"...This invention relates to closure devices for glass jars and similar vessels used for canning, preserving, or holding fruits and other substances or articles; and the object thereof is to provide an improved closure device or devices for jars or cans of this class whereby said jars or cans may be quickly, easily, and conveniently sealed whenever necessary and also easily opened whenever desired, a further object being to provide a closure device for jars or cans of the class specified composed of any desired material..."

Figure 14 is an extract from his submission. The top drawing shows Mr. Fenn's idea for a closing device in place on a threaded finish atop a jar. The middle sketch is a profile of the glass cap which meets the specifications of his patent request. The last depiction on the bottom represents the sealing ring for this concept.

William B. Fenn provided detailed

comments about how each of these parts worked together to seal the container. Here are his words on this matter from the application.

"...In the drawings forming part of this specification I have shown...the top portion of an ordinary glass jar, which is provided with a neck...and the outer wall of the neck is slightly conical or inclined and provided with a thread or threads. It will be observed that the threads increase in diameter from the top to the bottom of the neck, this increase being slight and resulting from the fact that the outer wall or walls of the neck are slightly conical, and this results in what I call a 'differential' thread on the neck of the jar. I also provide a cap, which is composed of glass and which is provided with a depending flange or rim, the inner wall of which is vertical or at right angles to the bottom of the top portion of the cap, and the flange or rim of the cap is provided at intervals with vertically-arranged ribs, which are preferably shorter than the transverse depth or thickness of the flange or rim and which extend downwardly from the top portion of the cap in the form of construction shown. Within the cap or the flange or rim thereof is placed a packing band or annulus, the inner wall of which is slightly tapered or conical

to correspond with the taper or form of the outer wall of the neck, and the inner wall of the band or annulus is provided with a thread or threads...The packing band or annulus is composed of paper-pulp or other fibrous material saturated with or boiled in paraffin or other preservative material, and in practice the said band or annulus after it has been properly prepared is inserted into the cap and is pressed thereinto, so that the ribs or teeth will cut into or press into said band or annulus, and whenever it is desired to close the jar the cap, with the band or annulus therein, is screwed onto the neck. This forms a perfectly water and air tight closure device, and the jar is hermetically sealed. A packing device formed as herein described and composed of fibrous material saturated with paraffin or other preservative material constitutes one of the chief features of this invention and is superior to rubber or any preparations of rubber or similar material that can be employed. By soaking or boiling a packing device of this class composed of fibrous material in paraffin or other preservative substance the said packing device is rendered impervious to all kinds of liquids or acids and cannot be affected thereby and will not give an objectionable taste to any liquids or substances which come in contact therewith..."¹

You'll note that aside from the composition of the sealing ring and the lack of threading on the inner skirt of the glass cover, this innovation is nothing more than a slight modification to patent nineteen.²

I've not been able to find an example of this sealer or an advertisement for it. Nonetheless, the notion of embossed projections on the inner skirt of the cap to hold in place a vertical fibrous packing ring will be employed by Mr. Fenn on a future all glass cover that will be outline later in this article.

Closures - Patents Twenty-Four through Twenty-Six

Two days before Christmas in 1904, employees at the United States Patent Office

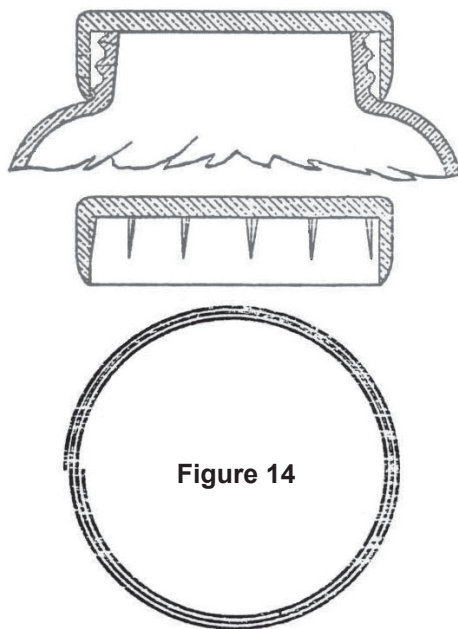


Figure 14

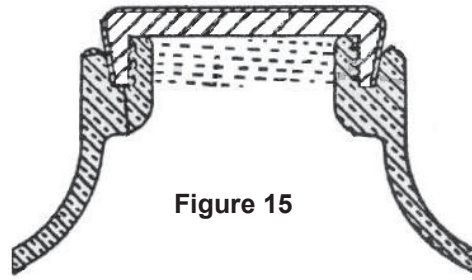
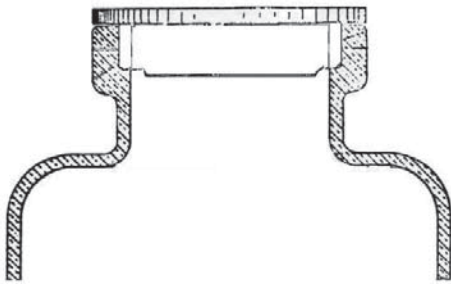
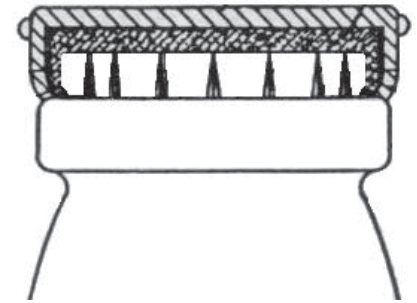


Figure 15



filed three more requests for letters patent from William Beach Fenn. Once again, each one was for a closure device. Seen in Figure 15, all three innovations used a composition sealing gasket or cap and embossed projections on the exterior or interior side wall of the container's finish to achieve air tightness.

The left illustration in **Figure 15**, is a closure device

"...for glass jars, cans, bottles, and similar vessels used for preserving or holding fruits and other articles and for similar purposes..."

Here is how Mr. Fenn described his idea for this style of sealing device.

"...In the top portion of the neck or in the enlarged portion of said neck is an annular groove of considerable depth and the walls of which are inclined inwardly slightly at the top portion thereof, and said walls are provided with inwardly-directed teeth, any desired number of which may be employed, and said teeth in the form of construction shown are arranged vertically and are wedge-shaped and V-shaped in cross-section; but said teeth may be of any desired form. I also provide a cap, having a central depending screw-threaded portion, which is of less diameter than the greatest diameter of the annular groove, and in practice I insert into said annular groove a packing-ring or gasket, composed of fibrous material and saturated with a preservative substance, compound, or solution, preferably composed of paraffin or a portion of paraffin and other preservative oils or liquids, which will render said ring or gasket impervious to water, acid, or liquid of any kind or class, while at the same time making it slightly flexible and also slightly elastic. The inner walls of the ring or gasket in the manufacture thereof are threaded to correspond with the threads on the part of the cap, and said ring or gasket is preferably of greater transverse thickness at the bottom than

at the top thereof, and when the said ring or gasket has been forced into the groove in the operation of sealing the jar the cap is screwed into position, and this operation forces the ring or gasket into close contact with the outer walls of the groove and makes a perfectly secure and tight closure of the jar, and the teeth prevent the turning of the ring or gasket in the groove in the operation of screwing the cap into position..."³

The middle model in Figure 15 has two side walls as part of the finish. The outer one is shorter in height than the inner segment. In the center of both is a groove. There is a continuous thread on the exterior of the inwardly inclined inner side wall.

A cap was specified. It was to be composed of

"...fibrous material saturated with a preservative material consisting of paraffin or other material or a composition which will preserve the cap against the action of liquids, acids, or other substances..."

This cover has a downward projecting skirt which is adapted to fit in the groove between the two side walls. On the sealer's inner skirt is a thread which fits over and screws down on the outer surface of the inner side wall of the jar's finish.⁴

Patent twenty-six on the right-side in Figure 15 was meant for a beer or mineral water bottle but could be used on any other bottle in this class of containers. According to William B. Fenn, his invention worked as follows.

"...The neck is preferably provided at the top with an annular enlargement, above which is an upwardly-directed neck portion, which is of less diameter than the annular enlargement... The outer wall of the neck portion above the annular enlargement is provided with teeth, any desired number of which may be employed, and these teeth in the form of construction shown are vertically arranged and wedge-shaped and triangular in cross-section, and in

practice I employ a closing-cap, provided with a flange or rim, and said cap in sealing the bottle is forced downwardly onto the neck portion, so that the flange or rim of the cap will securely fit the same, and the walls of the neck portion are inclined inwardly and downwardly, and the inner wall or walls of the flange or rim of the cap are similarly inclined downwardly and inwardly. The cap is composed of flexible fibrous material saturated with preservative material, preferably composed of paraffin, or a solution consisting of paraffin or similar substance, or of any substance which will preserve the said cap and render it impervious to the action of liquids or acids, and said cap is also provided with a supplemental cap or cover, which incloses {sic - encloses} the cap completely and is provided with a flange or rim, which incloses {sic - encloses} the flange or rim of the cap, and the bottom edge of which is preferably curved inwardly... The outer wall of the flange or rim of the inner cap is provided with teeth, the outer walls of which are curved outwardly in horizontal section, and the inner wall of the flange or rim of the supplemental or outer cap is provided with corresponding teeth, the inner walls of which are also curved outwardly, and any desired number of these teeth may be employed, and the said teeth may be of any desired length in horizontal section, and in practice the inner flexible or fibrous cap is placed in or secured in the outer cap, and in the operation of sealing the bottle the combined closure device thus formed is forced downwardly into the neck portion and the outer cap is turned to the right, and this operation forces the flange or rim of the cap into close contact with the neck portion and the teeth and forms a perfectly tight and secure closure device for the bottle..."⁵

I've not been able to find an actual production example or advertisement for

any container affixed with one of the three patents shown in Figure 15. If you have seen one, please don't hesitate to contact me to discuss your data.

Closure Device - Patent Twenty-Nine

On June 19th, 1905, federal government employees at the United States Patent Office filed a subsequent request from William B. Fenn. His application stated:

"...This invention relates to closure devices for bottles, jars, jugs, cans, and similar vessels: and the object thereof is to provide an improved device of this class which is particularly designed for use in connection with beer-bottles, mineral-water bottles, and other bottles of this class and in connection with glass fruit jars or cans and other jars or cans of this class, but which may be used for closing many kinds of bottles, jugs, jars, and other vessels..."

Later in the same document, Mr. Fenn described this new concept, shown in **Figure 16**, in the following manner.

"...I have shown a neck of an ordinary bottle of any kind or class, and the neck is preferably provided at the top thereof with an annular enlargement or bead, above which the neck is projected to form a top member, which is preferably about one-half inch or from three-eighths of an inch to one-half of an inch in vertical height, and around the top portion...of the neck is preferably formed an annular groove, and the outer walls of the bottom part of the top portion of the neck below the annular groove...is provided with a plurality of vertical teeth, four of which are preferably employed...and these teeth increase in horizontal thickness from the groove downwardly to the enlargement or bead, and the outer wall...which extends from one of said teeth to the other, is curved and spiral in form...and these walls are inclined inwardly and downwardly...I also provide a cap,

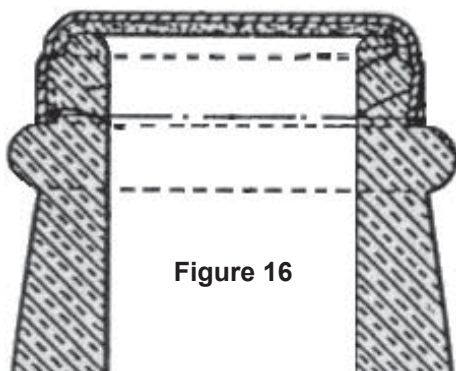


Figure 16

preferably composed of metal, but which may be composed of any desired material and which is provided with a depending flange or rim, the vertical depth of which is about equal to the vertical depth of the neck, and the top portion of the flange is preferably slightly contracted annularly...and the bottom portion of said flange below the contracted portion is provided with inwardly-directed vertical teeth, which correspond with the vertical teeth on the top portion of the neck and which increase in horizontal thickness from the top thereof downwardly, and the teeth are formed by crimping or compressing the flange of the cap or that part of said flange below the annularly-contracted portion, and the grooved walls of the flange of the cap between the teeth are curved or spiral in form and are contracted inwardly and downwardly to correspond with the shape of the walls of the part of the neck between the teeth...Within the top portion of the cap is placed a packing-disk, preferably composed of fibrous material saturated with preservative material, such as paraffin or any other suitable liquid substance which would protect the packing-disk against the operation of liquids and acids...The packing-disk is also provided with a depending flange or rim, which fits in the annular groove in the top portion of the neck when said cap is secured in position. In securing the cap in position the said cap is held so that the rim of the cap will pass downwardly over the part of the neck, in which position the teeth of the rim pass downwardly in front of the teeth of the neck and the cap is then turned to the right. This operation of turning the cap to the right securely locks said cap on the part of the neck and also draws the cap downwardly and compresses it firmly on the packing-disk and on the flange or rim thereof and forces said flange or rim into close contact with the top portion of the neck, and this makes a perfectly secure and tight closure device. In opening the vessel all that is necessary is to turn the cap to the left..."⁶

After reading the write-up closely, it seems William B. Fenn was at the first stage of pioneering the twist-on and off metal cap on a long neck bottle. Whether his idea caught on is unknown. Presumably, it didn't because I haven't been able to find a bottle

with the finish characteristics of this patent.

Closure Device - Patent Thirty-Two

Filed on December 15th, 1905 by personnel at the United States Patent Office, the eventual thirty-second patent issued to William Beach Fenn was for another style of closure device for jars, bottles, and similar vessels. The extract in **Figure 17** was taken from his request.

Mr. Fenn used the below words to outline the purpose for his new concept.

"...This innovation relates to closure devices for jars, bottles, and similar vessels, and particularly for vessels of this class made of glass or other earthenware; and the object of the invention is to provide a closure device for vessels of this class by means of which the said vessels may be securely closed and opened by hand whenever desired without the use of any instrument of any kind, a further object being to provide a closure device of the class specified which is particularly adapted for use in connection with fruit jars and other jars designed for holding food products, but which may be employed in connection with vessels of the class specified designed for any purpose..."

The cap on the jar in Figure 17 is made of thin metal. It covers a finish consisting of an unthread region which slants outward from the lip to the top of the neck. It is followed by an

"...enlarged and thickened..."

neck. On the outer side wall on this part of the finish are three recessed and slightly angled downward grooves with beveled edges at the top right. The rectangle which slants downward to the left in the center of the cover between the rows of grippers is one of three stamped indentations on the lower outer skirt of the sealer. As you will see shortly, these inwardly directed projections will be used in conjunction with the recessed grooves to close the vessel.

William B. Fenn explained how his apparatus sealed the contents of the container in the below quotations from his submission.

"...Within the rim portion of the cap is placed an annular packing band or gasket, composed of fiber or similar

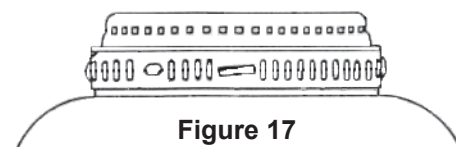


Figure 17

material saturated with paraffin or a suitable composition which will preserve said band or gasket and render it impervious to all kinds of liquids and gases, and the vertical width or depth of said band or gasket is slightly greater than the vertical width or depth of the outer wall of the top neck portion of the jar, and the top edge of said band or gasket is...beveled outwardly, and place in the top portion of the cap and resting on the top wall...of the neck of the jar is a packing-disk, composed of the same material as the packing band or gasket, and the outer edge of which is beveled to fit the bevel at...the band or gasket, and the perimeter of the central portion of the cap or outer edge thereof is provided with a raised annular portion, which forms a corresponding groove within said cap and around the central depressed portion...In closing a jar made in the manner described with my improved closure device the cap is grasped in one hand and is forced down onto the neck of the jar, and in this operation the cap is held so that the inwardly-directed spring projections of the supplemental rim member will pass downwardly over the beveled portions of the ledge into the annularly-arranged grooves or recesses, and the cap is then turned to the right, and in this operation the said inwardly-directed projections operate on the top inclined walls of the recesses or grooves so as to securely lock the cap to the jar, and in this operation the packing band or gasket and the packing-disk are securely pressed into their proper position on the neck of the jar. In opening the jar one end of the supplemental rim member is grasped at the vertical division of said rim and said rim is pulled off or detached from the rest of the cap. The aperture or hole in the rim member is intended to permit of the insertion of a suitable device in order to raise the end of the rim and permit it to be grasped by the fingers..."⁷⁷

Mr. Fenn's explanation of his closing mechanism was quite complex. In my opinion, his side and top sealing cap was too cumbersome to gain any favor with either food packers or the consuming public. Although, he was on the right track for what later would become a lugged finish on the jar closed by a quarter-turn Amerseal metal cap.

In addition, this sealer was clearly

intended to be a one use cover because the reseal capability was lost once the lower skirt of the metal cap was torn off. Perhaps because of these obvious reasons, I've not been able to locate any sales promotion or example of a jar and/or metal cap manufactured to William B. Fenn's thirty-second patent.

Closing Device - Patent Thirty-Four

At some point between December 15th, 1905 and late March 1906, William B. Fenn relocated from Sheepshead Bay, New York to Columbus, Ohio. It was from the latter locale that his penultimate patent application for the 1896-1906 timeframe was filed. That event occurred at the United States Patent Office on March 28th, 1906. Once again, his idea dealt with a closing device for vessels.

The top specimen in **Figure 18** is a sketch of William Beach Fenn's new concept. It was extracted from his patent submission. Verbiage accompanying the drawing detailed its purpose as follows.

"...The object of this invention is to provide more effective means than have heretofore been proposed for sealing fruits, meats, or other edibles in jars or like vessels to secure the same from the deleterious effects of exposure to the atmosphere; but my invention can be used for other purposes where effective sealing is desirable or advantageous..."

Although the March 28th, 1906 patent request doesn't mention that this notion was an improvement to an earlier patent granted to William B. Fenn, I believe it was an enhancement to patent twenty-three displayed in Figure 14. After reading how this innovation worked, see if you agree.

Mr. Fenn outlined his idea in the subsequent way.

"...At a point somewhat below the top of the jar is an annular shoulder, and the portion of the neck from this shoulder upward is slightly tapered toward the axis of the jar. This tapered portion is

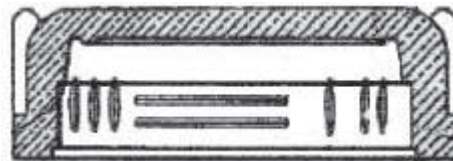


Figure 18



provided with a thread or threads which are preferably sharpened to provide a penetrating edge. The upper end of the neck of the jar is made with an outwardly-projecting shoulder, having its outer face slightly tapered inward. (The top model in Figure 18) designates a cap or cover, having a flange and lugs or projections to permit a firm gripping with the hand in operating it. The lower part of the flange is provided internally with an annular shoulder, and extending from this shoulder vertically is an annular surface, terminating in a second shoulder. From the shoulder the inner side of the flange is tapered inwardly in a slight degree to the top of the cap, forming an inclined annular surface. The vertical (inner) surface is provided with a series of vertically-arranged elongated projection or lugs, preferably arranged in groups, and between the several groups of projections is a series of horizontally-arranged elongated ridges. (The sealing) ring is preferably formed of a material or materials adapted to be softened when warmed by a little artificial heat, as of a gas-flame. For example, a ring composed of asbestos fiber and paraffin or of wax can be used...The ring can advantageously be formed of one or more layers coiled one upon another...In practice the sealing-ring is first placed within the cover next the flange. The ring is then heated sufficiently to slightly soften it, when by turning the cap and ring down onto the threaded neck of the jar, as in turning a threaded nut onto a bolt, the threads of the jar penetrate the inner side of the sealing-ring and the sealing is also pressed under and around the projection, while the ring at its outer side is pressed about the projection...in the cover. In forcing the cover downward the inclined surface thereon cooperates with the tapered or inclined surface and the shoulder on the neck of the vessel to compress the fibrous ring about the projections and effect {sic - affect} a close tight joint between the vessel and cover. As a result of the foregoing operations the ring becomes attached to the cover and the cover and ring together may be turned off the neck of the jar in a manner somewhat like that in which a threaded nut is turned off a bolt. It will be noted that the vertical projections tend to prevent horizontal movement of the ring and cover with respect to each

other and that the horizontal projections tend to prevent direct vertical separation of the cover from the ring...⁸

The principal seen in patent twenty-three, the use of a vertically manufactured fibrous and paraffin soaked packing band between the threads on the outer finish of the jar and the vertical projections on the cover's inner skirt to achieve an airtight seal, was redefined or upgraded in William B. Fenn's thirty-fourth patent. This revision likely made his concept attractive to at least one glass maker.⁹

The bottom picture in Figure 18 is an all glass cover made to conform to the specifics of the twenty-third and this patent request. I'm confident of this statement for several reasons. For one, the phrase - PAT'D OCT 24 1905 (on three separate lines) - is embossed on the cover's top surface. This was the date a patent for Figure 14 was granted to William B. Fenn. Another confirmation is the phrase - WARM CAP SLIGHTLY TO SEAL OR UNSEAL - which is also inscribed on the top surface of the lower cap around its outer edge. This recommendation comes directly from Mr. Fenn's description of his innovation contained in the request filed by the United States Patent Office on March 28th, 1906. And finally, the design, profile and inner skirt characteristics of the top specimen in Figure 18 all were transferred to the production model on the bottom of the same box.

In addition to the relationships between patents twenty-three and thirty-four, both are close cousins of nineteen as well. The sealing technique is the key factor in making this associative determination.

It is open to personal interpretation, but I maintain the caps in Figure 18 appeared in at least one advertisement. This 1907 promotion was sponsored by the Federal Glass Company of Columbus, Ohio.¹⁰

Closing Device - Patent Thirty-Five

The final patent for the 1896-1906 eras was entered into the processing system at the United States Patent Office on March 31st, 1906. Shown in **Figure 19**, William B. Fenn's concept was for a tumbler sealed by a metal cap. Here is how he introduced the innovation in his request for a positive Patent Office adjudication.

"...The special object of this invention is to provide means whereby jars, cans, or other receptacles to contain fruit, vegetables, meats, or other edibles may be kept air-tight, and thus preserved

from decay, although the invention can be used for other purposes where airtightness in a receptacle is necessary or advantageous..."

Per his own words, here is how Mr. Fenn's inspiration was to have worked.

"... (The) jar is expanded around the top, so as to provide near its upper edge an annular shoulder that faces downward. An extremely small shoulder will suffice. Preferably the rim of the jar from the shoulder upward is made with a slight inward taper. (On the top of the jar is) a cap or cover, preferably of metal, the annular flange or rim of which has a flare of about the same degree as the taper of the rim of the jar. (The) ring is preferably formed of a material or materials adapted to be softened when warmed by a little artificial heat, as of a gas-flame. For instance, a ring composed of asbestos fiber and paraffin or of wax or of any material adapted to be compressed or molded by pneumatic pressure can be used; but I do not, of course, confine myself to the use of any particular material or compound so long as it is capable of cooperating in the invention substantially as hereinafter described. This ring also has a flare or taper...and is preferably originally plain and of a form and size adapted to fit within the rim of the cover, so that it and the cover can be fitted neatly and closely down on the rim of the jar. In sealing jars of the kind herein described I propose to place them, with the cover loosely set thereon, in a closed chamber, from which the air is afterward exhausted, thus also exhausting the air from the jar. While in said exhausting-chamber pressure will be applied to the cover to closely seat it, and afterward, upon admitting air the pressure will press the material of the ring upward under the shoulder...and at the same time tend to

condense it in the space between the tapering surface and the cover. The pressure applied to the cover while in the air-exhausting chamber will also press a portion of the sealing-ring inward over the upper edge of the jar, thus augmenting the sealing effect. The sealing material is thus pressed around two corners and over the tapering surface. So long as the air is exhausted from the jar the pressure of the atmospheric air upon the ring is continuous and the cover and sealing held with great firmness in place, even where the inner side of the rim of the cover is smooth..."¹¹

I believe this notion by William B. Fenn was conceived to be part of another idea of his. This associative concept was a machine for exhausting air from preserving vessels. The United States Patent Office initially filed his application to patent it on March 21st, 1906.¹²

I've yet to run across an actual example of the tumbler or advertisement showing it. Thus, I can't say with any certainty whether patent thirty-five was ever manufactured.

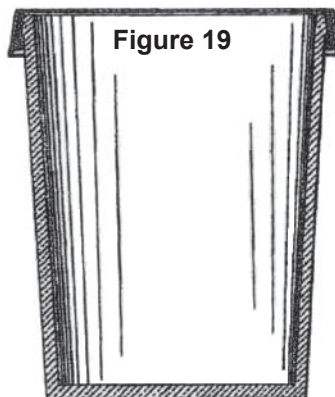
Postscript

In the ten year period I've chosen, William Beach Fenn requested a minimum of thirty-two patents. Of these, eleven were focused on closing devices for containers, nine were related to separating tableware and one was for a glass pressing and blowing machine. As you saw; a number of his ideas were actually produced and marketed. On the other hand, others likely didn't make it past the conceptual stage for obvious reasons. Nevertheless, Mr. Fenn's novel innovations added more information to our knowledge base about the glass manufactured from 1896 to 1906.

In an acclaimed six volume series entitled - *Our Times* - author Mark Sullivan identified several men as the personification of the "American spirit" for the early twentieth century. He used the following quotation to define this accolade.

"... (The) American spirit at its best, (is) a feverish ferment of intellectual curiosity, mechanical ingenuity, and cleverness of adaptations."¹³

While Mr. Sullivan used this description in a discussion about the Wright Brothers, I think it could be aptly applied to the work of William B. Fenn as well. The three criterion listed in the excerpt from Mr. Sullivan's book were assuredly met when the elements of each of the previous twenty-



one patents are applied against it.

In my opinion, William B. Fenn had a small but somewhat significant impact on the glass packing container and tableware trades. And in his own way exemplified the "American spirit" of his time.

If you would like more information on the previously discussed patents or the actual pieces of ware that were made to their specifications, please don't hesitate to contact me directly. BLB

Endnotes:

¹ *Fruit Jar Patents Volume III 1900-1942*, compiled by Dick Roller, Acorn Press, Paris, Illinois, December 1996, pgs. 180-182. UNITED STATES PATENT OFFICE. WILLIAM B. FENN, OF NEW YORK, N. Y. CLOSING DEVICE FOR GLASS JARS, CANS, AND THE LIKE. Specification of Letters Patent. No. 802,381. Patented Oct. 24, 1905. Application filed April 2, 1904. Serial No. 201,238.

² *Perfection Glass Company, One of Many Glass Houses in Washington, Pennsylvania*, Barry L. Bernas, 239 Ridge Avenue, Gettysburg, PA 17325, 2005, pgs. 16-17. This reference talks about the situation that probably caused William B. Fenn to shun a rubber packing ring in favor of a fibrous one.

³ *Fruit Jar Patents Volume III 1900-1942*, compiled by Dick Roller, Acorn Press, Paris, Illinois, December 1996, pgs. 184-186. UNITED STATES PATENT OFFICE. WILLIAM B. FENN, OF SHEEPSHEAD BAY, NEW YORK. CLOSURE DEVICE FOR JARS AND LIKE VESSELS. Specification of Letters Patent. No. 802,382. Patented Oct. 24, 1905. Application filed December 23, 1904. Serial No. 238,050.

⁴ *Fruit Jar Patents Volume III 1900-1942*, compiled by Dick Roller, Acorn Press, Paris, Illinois, December 1996, pgs.

188-190. UNITED STATES PATENT OFFICE. WILLIAM B. FENN, OF SHEEPSHEAD BAY, NEW YORK. CLOSURE DEVICE FOR GLASS JARS AND OTHER VESSELS. Specification of Letters Patent. No. 802,383. Patented Oct. 24, 1905. Application filed December 23, 1904. Serial No. 238,051.

⁵ UNITED STATES PATENT OFFICE. WILLIAM B. FENN, OF SHEEPSHEAD BAY, NEW YORK. CLOSURE DEVICE FOR GLASS JARS AND OTHER VESSELS. Specification of Letters Patent. No. 810,736. Patented Jan. 23, 1906. Application filed December 23, 1904. Serial No. 238,052.

⁶ UNITED STATES PATENT OFFICE. WILLIAM B. FENN, OF SHEEPSHEAD BAY, NEW YORK. CLOSURE DEVICE FOR BOTTLES, JARS, AND OTHER VESSELS. Specification of Letters Patent. No. 816,720. Patented April 3, 1906. Application filed June 19, 1905. Serial No. 265,946.

⁷ UNITED STATES PATENT OFFICE. WILLIAM B. FENN, OF SHEEPSHEAD BAY, NEW YORK. CLOSURE DEVICE FOR JARS, BOTTLES, AND SIMILAR VESSELS. Specification of Letters Patent. No. 831,271. Patented Sept. 18, 1906. Application filed December 15, 1905. Serial No. 291,861.

⁸ UNITED STATES PATENT OFFICE. WILLIAM B. FENN, OF COLUMBUS, OHIO. CLOSING DEVICE FOR VESSELS. Specification of Letter Patent. No. 843,670. Patented Feb. 12, 1907. Application filed March 28, 1906. Serial No. 308,383.

⁹ *An Unlikely Find!*, Barry L. Bernas, *Bottles and Extras*, Fall 2006. See this article for more information on this glass cover and the jar it sealed.

¹⁰ *More On The Federal Jar*, Dick Roller, *Fruit Jar Newsletter*, January 1998, pg. 905 and *Fruit Jar Rambles*, Tom Caniff,

Antique Bottle and Glass Collector, June 2004, pgs. 6-7. The first reference introduced a picture of an unidentified jar and cap from the Federal Glass Company. However, the write-up didn't mention where the ad appeared. In the second reference, Tom Caniff indicated the unidentified jar and cap from the first source was from the 1907 document - *Thomas' Wholesale Grocery and Kindred Trades Register*. While Mr. Caniff hinted that the vessel sketched in the *Thomas* publication could have lineage to the Figure 18 covers, he didn't directly attribute one with the other. *An Unlikely Find!*, Barry L. Bernas, *Bottles and Extras*, Fall 2006. In this article, I took the next logical step and suggested that the Figure 18 caps were indeed examples of the container advertised by the Federal Glass Company in the 1907 edition of *Thomas' Wholesale Grocery and Kindred Trades Register*.

¹¹ UNITED STATES PATENT OFFICE. WILLIAM B. FENN, OF COLUMBUS, OHIO. CLOSING DEVICE FOR VESSELS. Specification of Letters Patent. No. 843,802. Patented Feb. 12, 1907. Application filed March 31, 1906. Serial No. 309,030.

¹² UNITED STATES PATENT OFFICE. WILLIAM B. FENN, OF COLUMBUS, OHIO, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE WEDDIT CO., OF COLUMBUS, OHIO. MACHINE FOR EXHAUSTING AIR FROM PRESERVING VESSELS. Specification of Letters Patent. 1,209,954, Patented Dec. 26, 1916. Application filed March 21, 1906, Serial No. 307,280. Renewed May 18, 1916. Serial No. 98,442.

¹³ *Our Times, The United States 1900-1925, Volume I, The Turn of the Century*, Mark Sullivan, Charles Scribner's Sons, New York, 1926, pg. 481.

Barry L. Bernas
239 Ridge Ave.
Gettysburg, PA 17325
barryb6110@aol.com