

N. H. Shipley,

Sealing Can.

No. 112,642.

Patented Mar. 14, 1871.

Fig. 1

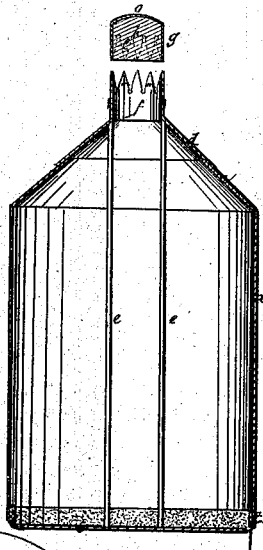


Fig. 2

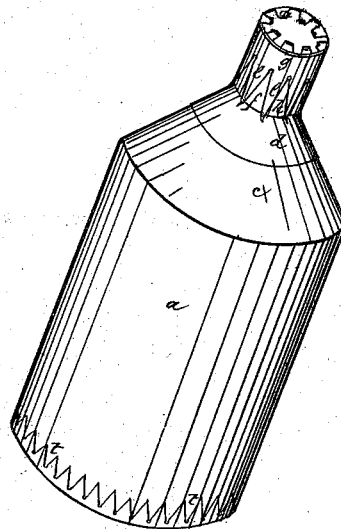


Fig. 5



Fig. 4

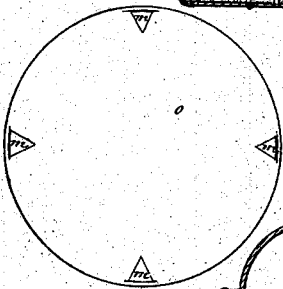


Fig. 3

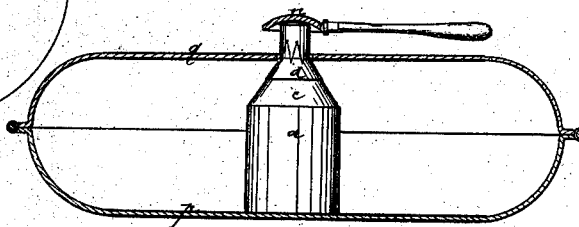


Fig. 6

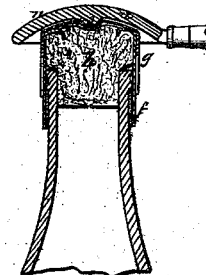
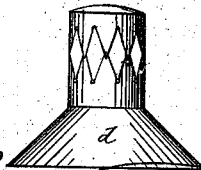


Fig. 7



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UNITED STATES PATENT OFFICE.

NICHOLAS H. SHIPLEY, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN SEALING CANS AND OTHER VESSELS FOR PRESERVING FRUITS, MEATS, &c.

Specification forming part of Letters Patent No. **112,642**, dated March 14, 1871.

To all whom it may concern:

Be it known that I, NICHOLAS H. SHIPLEY, of Baltimore, in the county of Baltimore and State of Maryland, have invented a new and Improved Can and Ventilating Stopper for Preserving Purposes; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, making a part of this specification, in which—

Figure 1 is a sectional elevation of a can and stopper, showing also the vertical braces. Fig. 2 is a perspective view of the can and stopper. Fig. 3 is a sectional elevation of the vessel for heating cans, together with a side elevation of a can and of the clinching device. Fig. 4 is a top view of the stopper, showing the four prongs passed through slits and clinched. Fig. 5 is a perspective view of the grooved rubber or cork part of the stopper. Fig. 6 is a sectional elevation of the top of a glass bottle with my improved stopper applied to it; and Fig. 7 is a perspective view of the stopper and hood.

This invention has for its object to provide a sufficient means for the escape of air or vapor from a vessel from which it may be desirable to expel it for the preservation of its contents, and for closing and hermetically sealing the same while in process of exhaustion, whether the same is effected by heat or the action of the air-pump.

Referring to the drawing, *a* is a cylindrical can, of sheet metal, having a conical top, *c*, truncated above, to receive the tubular neck of the vessel *L*.

Metallic rods *e e* are set up within the can, as well on account of the support they afford as for the galvanic action which shall be established between them and the inner surface of the can.

The stopper, to which I will now direct attention, consists of three distinct parts: First, a conical hood, *d*, of such width as may be desired, and affare to fit the top of the can, upon which hood is erected and cemented the tubular neck *f*, the upper edge of which is indented in the most desirable manner with reference to the size of the tube, and perforated by small holes at the base of the teeth *i*, so as to give them a shape approaching that of an arrow-point; secondly, a covered ring of sheet metal,

with its top slightly convex, made to fit closely upon the first, the lower edge of which is similarly indented; thirdly, a plug, of cork or rubber, *h*, rounded at top, and fitting closely within the second ring or cap, and grooved diagonally toward the center of its bases in notches *j*, corresponding with the teeth of the cap *g*.

The hood *d* having been cemented to the top of the can, and the plug *h* placed within the ring *g* in such position that the grooves *j* of the plug coincide with the indentations *k* of the ring, the apparatus is ready for use.

The can having been filled, the cap *g* is adjusted to the neck *f*, so that the teeth of the latter shall pass between the teeth of the former, point to point, and the plug. The cap is pressed down by the hand so as to give it a firm position upon the neck, and to form the lozenge-shaped openings at Fig. 7 for ventilation, and is now also in position to be driven home either by a blow or any ordinary mechanical means of depression.

The vessel with its stopper so adjusted may be now placed under the action of an air-pump, or subjected to the operation of heat, and stopped at any stage of exhaustion desired. But in driving the cap and plug home, the following mechanical effects are produced: The teeth of the neck, being forced to cut their way between the sides of the cap, and the plug meeting with the resistance of the curved top of the cap, are bent inward upon the plug, and their points clinched therein so securely that it will be found impossible to detach them without destroying them, while for greater security the cap still covers the whole so closely that it would be found difficult to remove it. But to secure this cap also still further, its top is perforated at its junction with its ring by slits of the length of the base of the teeth opposite to the same, with corresponding slits parallel to and a short distance from the others, at as many points on the circumference of the ring as may be desired.

Now, when the stopper is driven home, the teeth *m*, meeting with no resistance from the top, pass up above the cover of the cap, where they may be conveniently bent over and their points clinched through the lateral slits made for that purpose. The vessel is thus hermetically sealed, as it were, by a single blow; but

in effecting this by a single blow, and when one vessel is closed at a time, the uncertainty of the direction of the blow, as well as the flat surface of the face of the ordinary hammer, renders the interposition of another implement necessary. I therefore construct and employ a spoon-shaped guide, *n*, of metal, Fig. 6, of sufficient strength, the bowl of which is made to fit the rounded top of the cap *g*, and which is provided with a handle of convenient length, which, being held in the left hand, the spoon is readily placed upon the cap to receive and direct the blow and clinch the teeth within.

When a number of vessels are to be operated upon at once this may be effected, after arranging them in order, by depressing upon them, by any of the ordinary mechanical powers, either a bar or plate of sufficient strength, concaves having been cut in its face to fit the rounded tops of the caps, and arranged to suit the position of the vessels.

It is clear the tube and cap for closing may be of any size, suitable machinery being furnished for closing them; and it follows, therefore, that the bottom as well as the top of an ordinary can may be attached to its cylinder in the same manner as the cap and tube, which manner of attaching the bottom may prove useful when it is desirable to introduce within the can any article which would not pass the ordinary opening.

It is plain also that when ventilation is not desired the teeth in the cap *g* and the notches in the plug *h* may be dispensed with, in which case, as an equivalent to facilitate the adjustment of the cap on the indented neck, the edge of the cap *h* is slightly rucked up, thereby adding also to its strength.

When it is desirable to manipulate a large number of vessels at the same time the requisite machinery for closing them will readily occur to any one upon the hint of the bar and plate above suggested. For family use I make the following contrivance:

I construct a pan or basin of sheet metal, of any desirable size and depth, fitted with a concave cover divided through the center, and hinged to either side of the basin, with openings cut in its edges to correspond to each other, and to fit closely when closed against the sides or tops of the vessels or cans to be placed therein, so as to retain such steam as may be generated from the water which is put in the basin when heat is to be applied, and distribute it equally over the outer surface of the cans. A peculiarity of this application of steam is, that it is saved from the basin in which water has been placed for other

obvious useful purposes. The cans being thus placed in the basin or steamer, their stoppers adjusted, and subjected to the heat of a stove or furnace after the ordinary manner of similar implements, it is apparent that they are literally converted into preserving-kettles, which, while in the exercise of their function, may at any stage of the process be hermetically sealed by a single blow.

As an alternative, the concave cover may, of course, be constructed to let down over the cans placed in the steamer.

The design of the hood *d* serves not only to strengthen the top of the can when attached, but as a means also of unsoldering and opening the same with facility; and it is readily conceived how the neck *f*, either with or without the hood, may be cemented to the necks of bottles, or of vessels of any shape or material, and all the usefulness of the invention thereby secured.

It is also understood that ears may be attached to the cans to receive hooks, to facilitate the handling of them.

It is clear also that the cork *h* may be used alone for ventilating and closing a vessel.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A can provided with stay-rods *e*, as and for the purpose specified.

2. The combination of the notched rings *f* and *g* and the plug *h*, as and for the purpose described.

3. The method of closing a can by forcing a plug, inclosed within a ring, downward upon a notched ring secured to the top of the can in such manner that the notches of said lower ring pass between the plug and the upper ring, and are clinched by the latter upon the plug, as set forth.

4. The method of hermetically sealing a can during the process of ventilation, as set forth.

5. The method of connecting the rings *f* and *g* by passing the prongs *m* of the former through slits in the cover of the latter, and then turning the prongs down upon the cover, as explained.

6. The steamer consisting of the basin *p* and adjustable cover *q*, for utilizing the steam generated in the process, as substantially set forth.

To the above specification of my invention I have signed my hand this 13th day of January, A. D. 1871.

NICH S. H. SHIPLEY.

Witnesses:

THOS. D. D. OURAND,
CHAS. A. PETTIT.