No. 616,598. Patented Dec. 27, 1898.

L. H. BROOME.

BOTTLE STOPPER.

(Application filed Mar. 25, 1898.)

(No Model.)

Fig. 1.

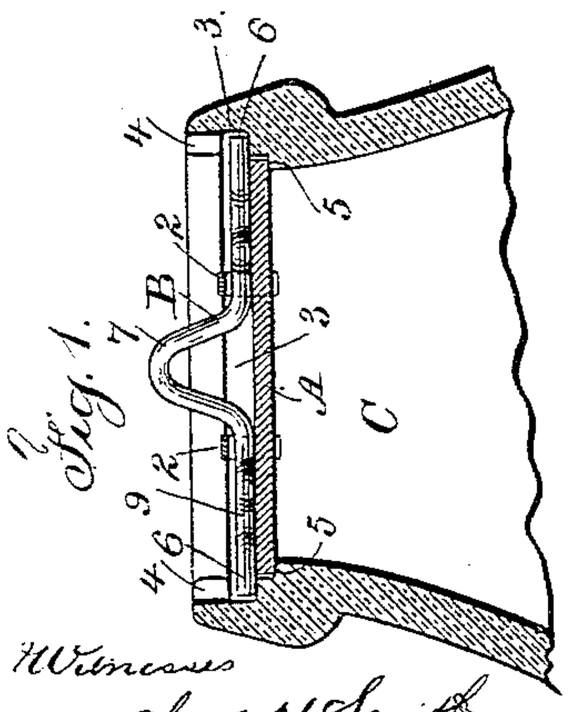


Fig. 2.

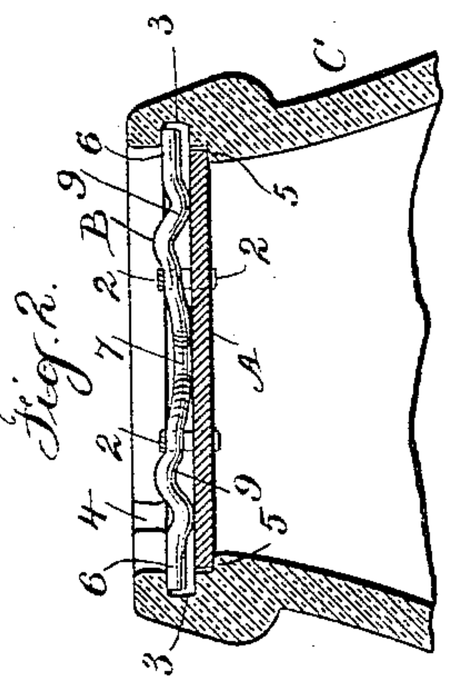


Fig. 3.

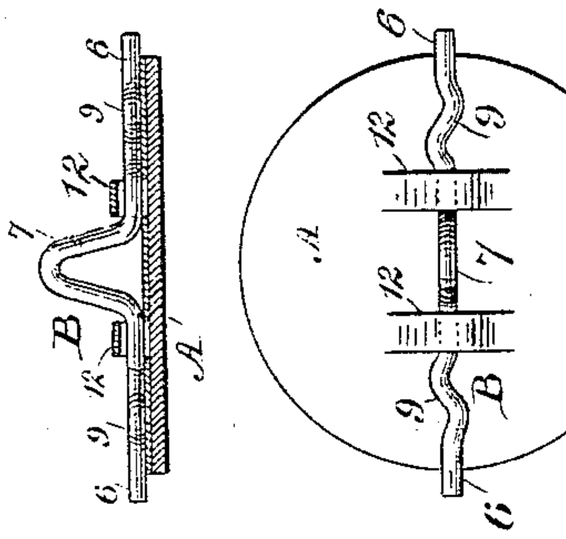


Fig. 4.

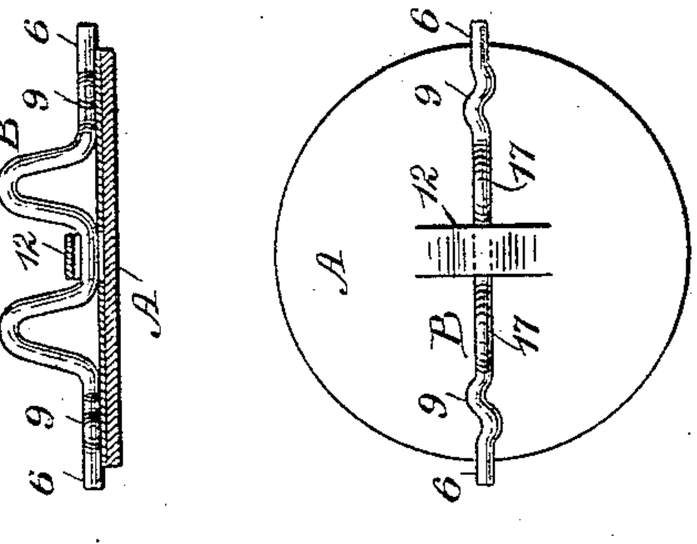


Fig. 5.

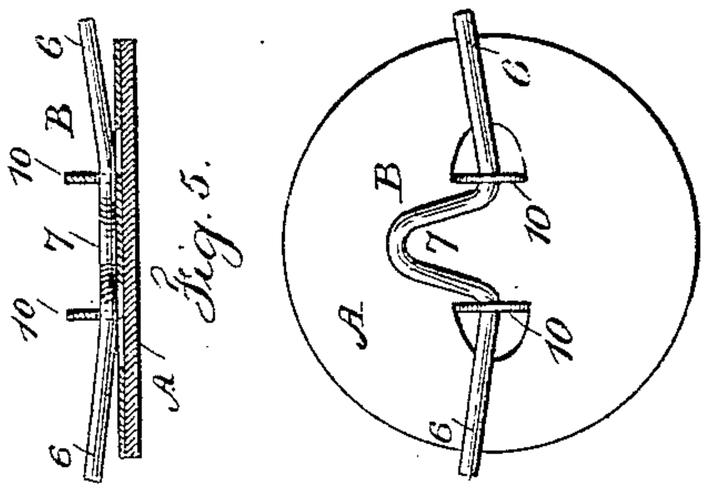
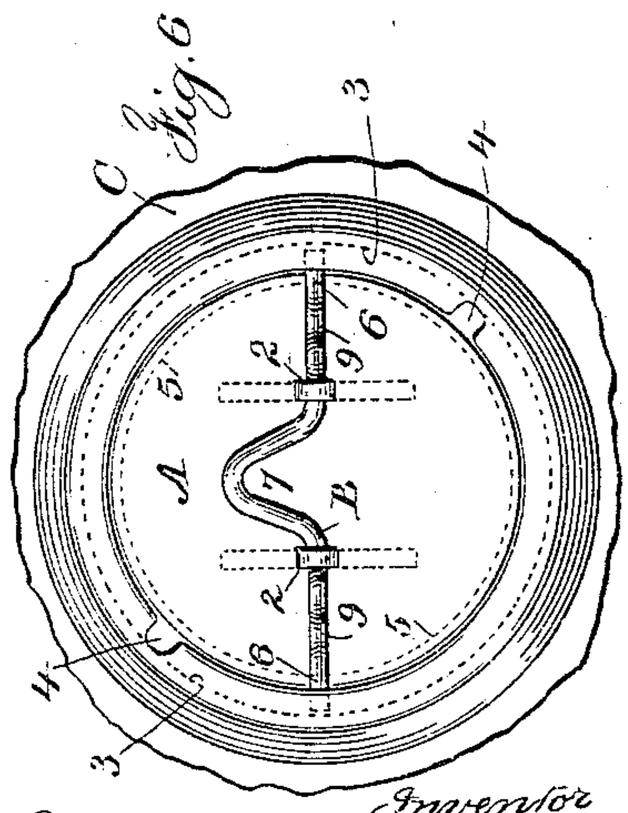


Fig. 6



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UNITED STATES PATENT OFFICE.

LEWIS H. BROOME, OF JERSEY CITY, NEW JERSEY.

BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 616,598, dated December 27, 1898.

Application filed March 25, 1898. Serial No. 675,062. (No model.)

To all whom it may concern:

Be it known that I, LEWIS H. BROOME, a citizen of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented an Improvement in Bottle-Stoppers, of which the following is a specification.

This bottle-stopper is especially intended for holding down the disks of thick paper or similar material that are extensively used for closing wide-mouth bottles containing milk and similar materials. Under ordinary circumstances the disks of paper or similar material have been sprung into a groove around inside the neck of the bottle and a knife or other implement has been made use of in removing these disks, the intention being to simply close the neck of the bottle and prevent the agitation consequent upon transportation causing the contents to escape past the stopper of paper or similar material.

The object of the present invention is twofold—first, to facilitate the insertion or removal of the stopper or disk, and, second, to apply to the same a slight pressure that aids in keeping the disk in position. With this object in view the disk or stopper rests upon a shoulder in the neck of the bottle, and the fastener is provided with a wire having ends that project beyond the edges of the stopper, and these ends pass into a groove around within the bottle-neck and above the shoulder, and the wire fastener is constructed in such a manner that upon swinging the fastener down adjacent to the surface of the stopper a pressure is applied to such stopper, and when the fastener is swung up in the opposite direction the pressure is relieved and the fastener becomes a handle for easily manipulating the stopper in either removing the same or in reapplying it.

In the drawings, Figure 1 is a vertical section representing the stopper as introduced within the neck of the bottle. Fig. 2 is a similar view with the fastener swung down to tighten the stopper. Figs. 3, 4, and 5 represent modifications in the shapes or configurations of the wire fastener by sections and plan views, and Fig. 6 is a plan of the parts shown in Fig. 2.

The bottle C is of any desired size or character, and it has around within the neck a shoulder at 5 of a size adapted to receive upon it the stopper A, of thick paper or other suitable material, and there is also around within the neck the groove 3 of greater diameter than the stopper A, and there are one or more vertical notches 4 opening from the top of the bottle down into the groove 3.

The fastener B is of wire, and the ends 6 of the wire project beyond the edges of the stopper A, and there is a loop at 7, forming a handle, and in order to connect the fastener-wire B to the stopper A loops of any desired character are provided. The loops 2 (shown in Figs. 1 and 2) are in the form of staples, of wire or sheet metal, passing through the stopper and clenched on the under side, and the wire of the fastener between the loops 2 and the ends 6 is so shaped that when the handle portion 7 of the fastener stands vertical, or nearly so, the end portions of the wire lie close upon the upper surface of the stopper A; but when the handle portion 7 of the fastener B is swung down the ends 6 of the wire are raised above the surface of the stopper A and, acting within the groove 3, tend to force the stopper A down upon the shoulders 5.

I prefer to make the loops or staples 2 sufficiently long to allow the fastener-wire B to rise inside the loops or staples 2 slightly as the handle portion 7 of the fastener is turned down against the top surface of the stopper and to make in the wire of the fastener double compound-curved bends, as shown at 9, and these are in a plane approximately at right angles to the handle portion 7 of the fastening, so that when such handle portion 7 is turned down at either side and into contact with the upper surface of the stopper, two of the compound-curved bends, acting upon the surface of the stopper A, raise the ends of such stopper-wire until they come into contact with the upper surface of the groove 3, and the further movement causes a pressure to be applied to the stopper to hold it into place.

It is to be understood that in applying this stopper to the bottle, if there are two notches 4, the ends of the fastening B pass down these notches as the stopper is introduced into position; but if there is but one notch 4 one end of the wire fastening B is to be intro-

duced into the groove 3 and the other end passed down the notch 4, and then a partial turn is given to the fastener and stopper to bring the end 6 of the wire fastener into its proper position in the groove 3, and then the handle portion 7 of the fastener is depressed to tighten the stopper in the manner before mentioned. By a reverse motion the stopper can be removed with facility.

It will be apparent that the handle portion of the fastening may be double (see Fig. 4) and that the wire may receive bends in any desired direction, so that the ends of the wire fastening are eccentric to the portions of the fastening that pass through the loop or loops 2 or to the compound-curved projections of the wire, so that the eccentricity of the ends of the wire fastening effects the pressure upon the stopper when the fastening is swung upon its connecting-loops.

I have shown in Fig. 3 the loops 12 as made in the sheet material of the stopper, and in Fig. 4 I have shown one central loop 12 and two handle portions 17, by which the parts are manipulated, and in Fig. 5 I have represented the fastening-wire as passing through two ears 10 cut and bent up from the sheet material of the stopper. If these ears are sufficiently large, they may be used as handles for the stopper.

I do not limit myself to any particular material of which the stopper may be composed, as it may be thick paper rendered waterproof by paraffin or other similar substance, or the stopper may have an upper surface of sheet metal and an under surface of paper or similar material caused to adhere to the metal plate of the stopper.

I do not claim the annular groove around within the neck of the bottle nor the notches or recesses communicating with the same; neither do I claim applying pressure to the stopper by a turning device acting within the groove and pressing upon the stopper.

I claim as my invention—

1. The combination with the removable stopper of a fastening formed of a wire passing across the stopper and connected therewith by loops, the wire being bent to form a handle portion, and the ends of the wire projecting beyond the edges of the stopper and eccentric, and a bottle having a groove within the neck and a shoulder upon which the stopper rests, whereby pressure is applied to the stopper by the eccentric ends of the fastening when such fastening is turned down toward the stopper, substantially as set forth.

2. The combination with the bottle having a groove around the neck and a shoulder, of a stopper to rest on the shoulder, a wire fastening passing across the stopper and having projecting ends to engage the groove, bends in the wire whereby the ends of such wire are rendered eccentric, a handle portion upon the wire and loops for connecting the wire fastening to the stopper, whereby the stopper can be handled by the fastening and pressure is applied to the stopper by the eccentricity of the projecting ends when the fastening is swung within the loop or loops connecting the same to the stopper, substantially as set forth.

Signed by me this 23d day of March, 1898.

L. H. BROOME.

Witnesses:
GEO. T. PINCKNEY,
S. T. HAVILAND.