(No Model.)

J. C. MITCHELL.

BOTTLE STOPPER.

No. 533,310. Patented Jan. 29, 1895.

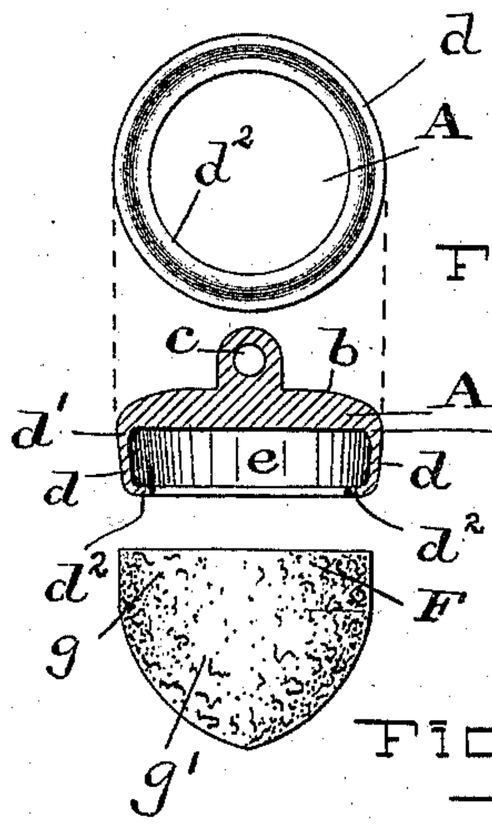

Fig. 1.

Fig. 2.

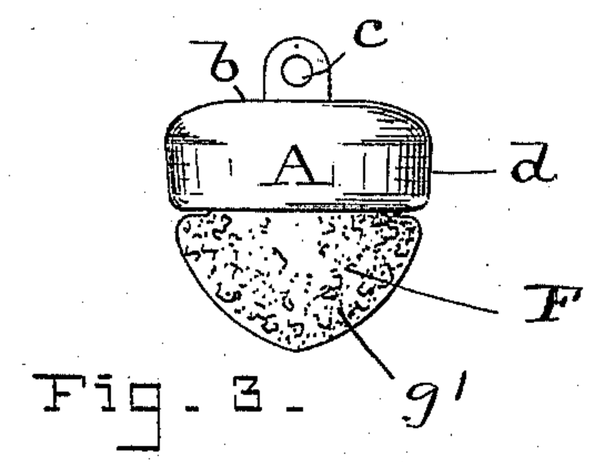

Fig. 3.

Fig. 4.

WITNESSES:

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JOSEPH C. MITCHELL, OF BALTIMORE, MARYLAND.

BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 533,310, dated January 29, 1895.

Application filed October 4, 1894. Serial No. 524,867. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH C. MITCHELL, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Bottle-Stoppers, of which the following is a specification.

This invention relates to certain new and useful improvements in bottle-sealing devices of that type wherein a metal head or cap is employed to hold an elastic or compressible material which seals the mouth of the bottle and combined with a wire bail.

The object of the invention is to provide a metal cap of improved construction and an improved elastic seal therefor, as will be hereinafter described and claimed.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 shows two views, a bottom and a sectional view of the improved metal cap. Fig. 2 is a side view showing the cork-seal as it appears before being expanded within the metal cap. Fig. 3 is a vertical side view of the metal cap and cork-seal attached, and Fig. 4 is a section of a bottle-neck, cap and cork-seal in section and bail in position and the bottle-mouth sealed.

In the accompanying drawings, A, designates a metal cap or shell made of some suitable hard metal. It has a crown or top, *b*, provided with a head or loop-eye, *c*, whereby the cap is attached to a bail wire, and also has a pendent flange, *d*.

d', is the point where the crown or top and the pendent flange join. From this point the said pendent flange converges or tapers to its lower inturned end, d^2, which forms a contracted entrance, to the socket, *e*, of the cap. From this contracted entrance the socket expands inward toward the top of the cap. By this construction it will be seen that the internal diameter of the socket exceeds that of the said contracted entrance or opening.

It is an essential requisite of my invention that the normal diameter of the upper part of the cork-seal, F, shall exceed the internal diametrical measurement of the socket and of the contracted entrance or opening thereof. I prefer to make the seal of cork, as gum or rubber has the effect to taint the beer or other contents of the bottle sealed.

Fig. 2 of the drawings shows the cork-seal as it appears before being inserted into the metal cap. The cork-seal has a circular upper part, *g*, having a diameter exceeding that of the socket or its contracted opening and the lower end, *g'*, of the seal, which is to fit down into the mouth of the bottle, is of convex form.

The cork-seal is attached to the metal-cap, A, by first compressing the circular upper portion, *g*, of the seal so as to allow it to enter the contracted entrance of the socket, and then forcing it into the socket through said entrance. The upper part, *g*, will then expand and entirely fill the socket, and the contracted part, d^2, compresses the cork and below the said contracted part the cork expands or bulges out. This bulged part is then "upset" or spread and forms an annular flange, g^2. By this method of securing the seal-cork within the cap, I entirely dispense with the necessity of mechanical means to secure same, and thus an old cork-seal may be removed from the metal-cap and a new cork substituted therefor without trouble or annoyance, there being no mechanical fastenings to undo.

In Fig. 4 the metal-cap and cork-seal are shown in position within the mouth of a bottle, H, which has a seal fastening device consisting of a neck-wire, *i*, bail, *i'*, and lever, i^2. The bail passes through the loop-eye, *c*, of the metal-cap, A. By pressing down on the lever, i^2, the bail forces the cap down and the cork flange, g^2, is compressed between the lower inturned edge, d^2, of the cap and the rim-edge, *k*, of the bottle-mouth so as to seal the bottle securely. The concaved lower end, *g'*, of the cork-seal fits down in said bottle-mouth.

It will be seen that as the center part of the cork-seal which fits within the contracted entrance to the socket of the metal-cap and the annular flange, g^2, below the said contracted entrance, are in a state of compression, the pores or holes therein are closed and there can be no escape through the cork of gases from the contents of the sealed bottle.

I am aware of the patent to Crawford, No. 262,008, which shows a stopper fitting loosely within a metal-cap and the two secured by a bail wire passing through holes in the stopper and cap, but this differs essentially from my invention, as I entirely dispense with me-

chanical fastening means to secure the seal within the cap.

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

A sealing device comprising a metal cap-socket or shell, A, having a loop-eye, *c*, on its top or crown and a pendent flange, *d*, provided with a contracted entrance to the cap-socket which latter expands inwardly from said entrance; and a cork-seal, F, having its upper end, *g*, fitted into the said cap-socket and expanded therein, and a lower end, *g'*, to fit down into the mouth of a bottle; in combination with a bottle having a wire-bail which passes through the said loop-eye of the cap, and a lever acting on the bail to compress the sealing device onto the bottle-mouth.

In testimony whereof I affix my signature in the presence of two witnesses.

JOSEPH C. MITCHELL.

Witnesses:

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