

No. 666,911.

Patented Jan. 29, 1901.

J. STEINBERG.
BOTTLE STOPPER.

(Application filed Sept. 22, 1900.)

(No Model.)

Fig. I.

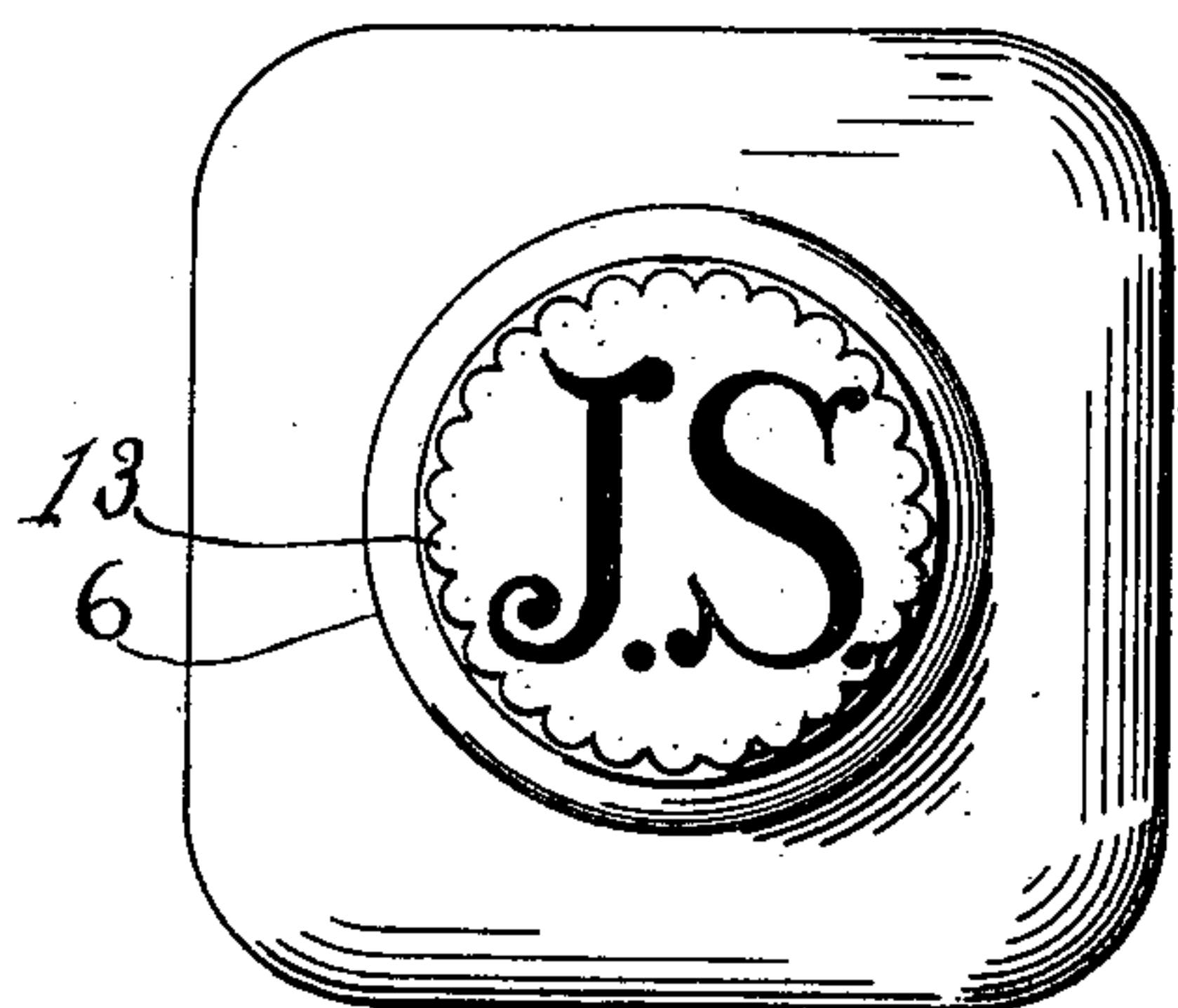


Fig. II.

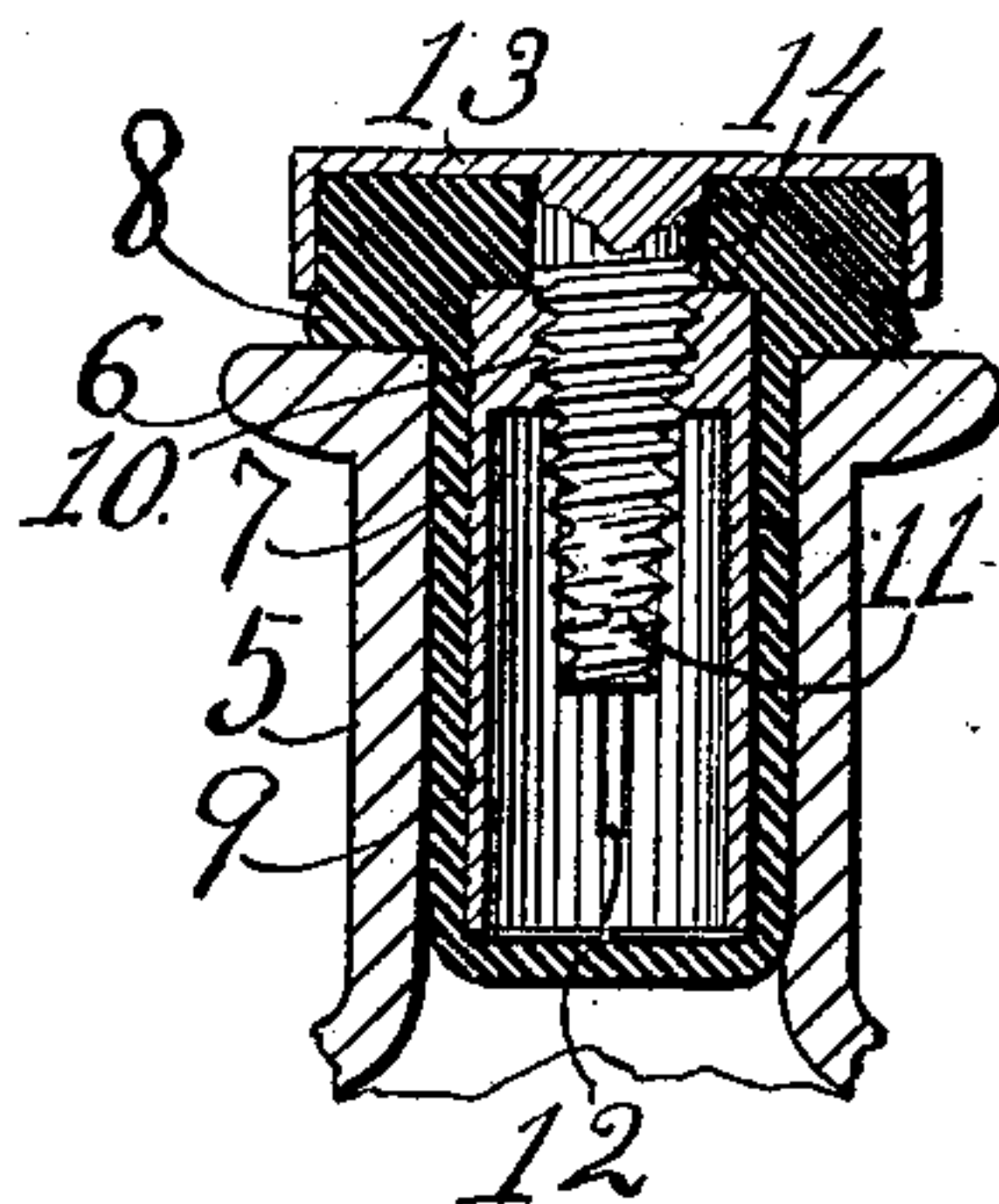


Fig. III.

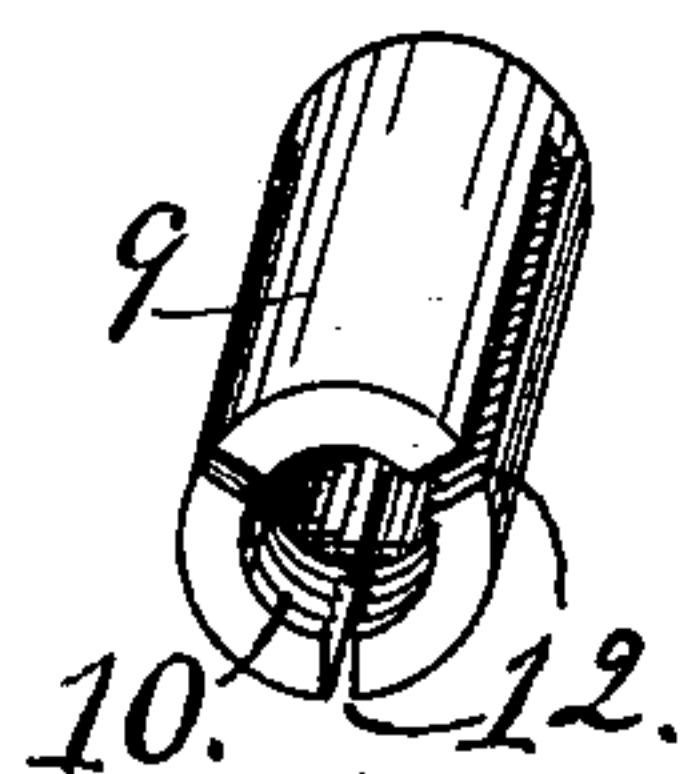
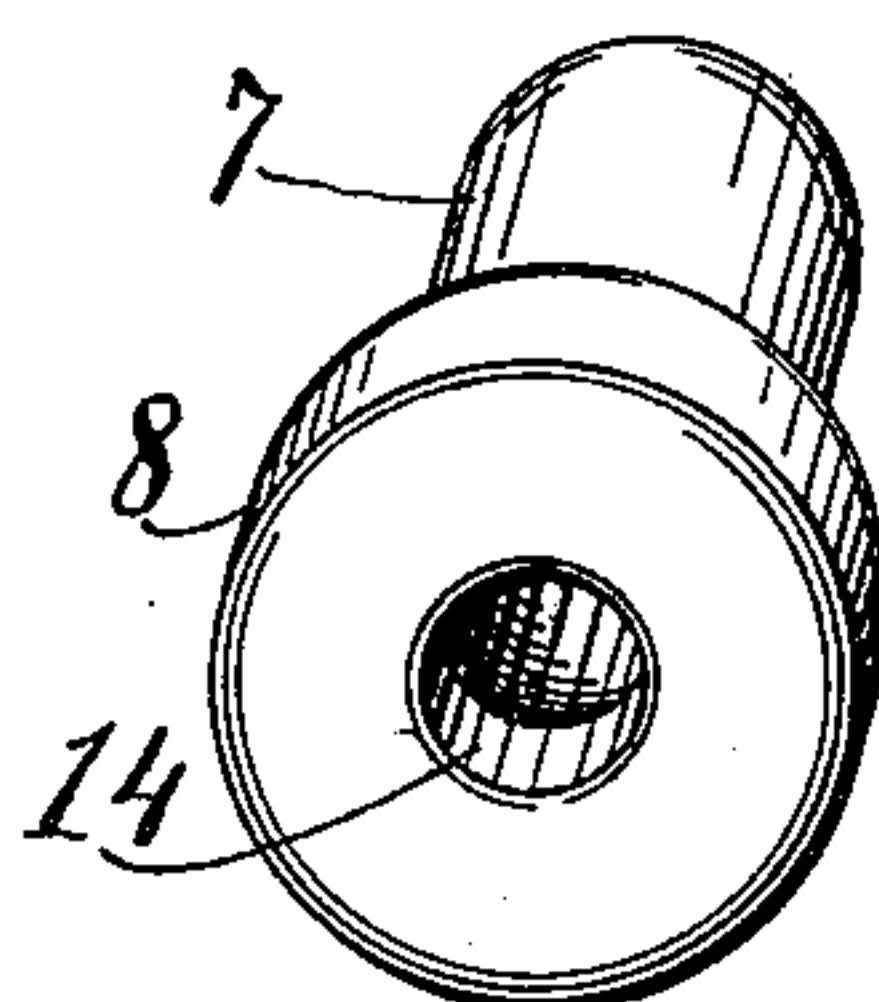


Fig. IV.



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UNITED STATES PATENT OFFICE.

JACOB STEINBERG, OF McKEESPORT, PENNSYLVANIA.

BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 666,911, dated January 29, 1901.

Application filed September 22, 1900. Serial No. 30,786. (No model.)

To all whom it may concern:

Be it known that I, JACOB STEINBERG, a citizen of the United States, residing at McKeesport, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Bottle-Stoppers; and I do hereby declare the following to be a full, clear, and exact description of the same.

This invention relates to expansible stoppers for bottles; and its object is to provide a stopper which will perfectly close the mouths of bottles which vary somewhat in size and yet be easily inserted into or removed therefrom.

To this end my invention consists in the construction and combination of parts forming a bottle-stopper hereinafter more fully described, and particularly pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure I is a top view of a bottle having one of my stoppers in service. Fig. II shows a central vertical section of a bottle-neck, illustrating my invention. Fig. III is a perspective view of the expanding-plug. Fig. IV is a perspective view of the rubber packing.

Numeral 5 represents the neck of a bottle, and 6 the usual lip at its mouth.

7 is a packing of soft rubber or other similarly-elastic cushion-like material of a size to easily enter the neck of the bottle, and 8 is a flange around the upper end of the packing to rest on top of the bottle when in service. This packing is shaped very much like a closed-ended thimble. 9 is the expander. It is usually made of stiff material—such as brass, iron, tin, celluloid, papier-mâché, rubber, &c.—having but little elasticity. This expander is hollow and is internally threaded at 10 to receive a tapering screw 11. It has also one or more slits 12 down its body to permit it to expand as the tapering screw 11 is screwed down into it.

13 represents the head of the screw. This head is much broader than the mouth of the bottle and is knurled around its edge to enable the operator to grasp it firmly with his thumb and finger in operating the screw. The under face of the screw-head is annularly recessed to receive the flanged head 8 of the packing.

The packing has an inward flange 14 to

rest on top of the expander 9 to insure the withdrawal of the packing with the rest of the stopper when it is removed from the bottle. The expander has to be pushed with some force to make it enter the small mouth and pass through the flange 14 of the packing to its normal position wholly inside of the packing, as shown in Fig. II, and it contracts forcibly upon the expander, so that even though the latter were made of non-elastic material it would be compressed firmly against the screw.

To operate this stopper, turn the screw outward until the stopper will enter the bottle-neck freely. Press it down with the flange 8 close on top of the bottle and then turn the screw inward until it is firm. This opens the expander 9 within the packing 7 and forces the latter into close contact with the neck of the bottle. If it should happen that the flange 8 rests firmly on top of the bottle before the packing is expanded to a close fit within the neck, the further turning of the screw will draw the expander and packing out until the expansion renders the stopper so tight that the screw will not turn farther. Thus the screw and the expander may both be metal, and yet, being cushioned by the intermediate packing of soft material, they do not endanger the glass bottle, and a close joint is doubly insured by expansive compression of the neck-packing in the throat and by direct compression of the flange-packing on top of the bottle. If the screw be turned outward until it is a little loose, the stopper will have contracted so that it may be easily withdrawn from the bottle.

The taper of the screw 11 may be sufficient to enable a small expander and packing to fill bottle-necks varying considerably in the sizes of their throats, and by using packings of different thicknesses the same screw and expander will answer for a still greater range of sizes in throats. The packing being closed at its inner end prevents contact between the contents of the bottle and the metallic portions of the stopper. Furthermore, the expander and the screw, with its cap, might all be made of hard rubber, papier-mâché, or other suitable material to avoid injury by or to the contents of the bottle.

The top of the cap may be stamped with

suitable designs or otherwise ornamented to suit the proprietor or purchaser.

Having thus fully described my invention, what I believe to be new, and desire to secure
5 by Letters Patent, is the following:

1. In bottle-stoppers, a hollow expander of stiff material slotted down a portion of its length and internally screw-threaded; a tapering screw to engage the screw-thread in the
10 expander, and a packing of cushion-like material surrounding the expander and closed at its lower end and having a flange at its upper end extending inward over the expander, substantially as described.

15 2. In bottle-stoppers, a hollow expander of stiff material slotted down a portion of its length and internally screw-threaded; a ta-

pering screw fitting the said thread, and a packing of soft cushion-like material surrounding the expander and closed at its lower 20 end and having an inward flange extending over the expander, and an outward flange spreading on top of the bottle; the said screw having a head annularly recessed in its under side, whereby both of the said flanges of the 25 cushion are confined to their work, substantially as described.

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

JACOB STEINBERG.

Witnesses:

R. HARRY JOHNSON,
MARY E. KELLY.