(No Model.) 2 Sheets—Sheet 1.

C. SCHERER.

APPARATUS FOR FIXING CAPSULES ON BOTTLES.

No. 483,019. Patented Sept. 20, 1892.

Fig. 2.

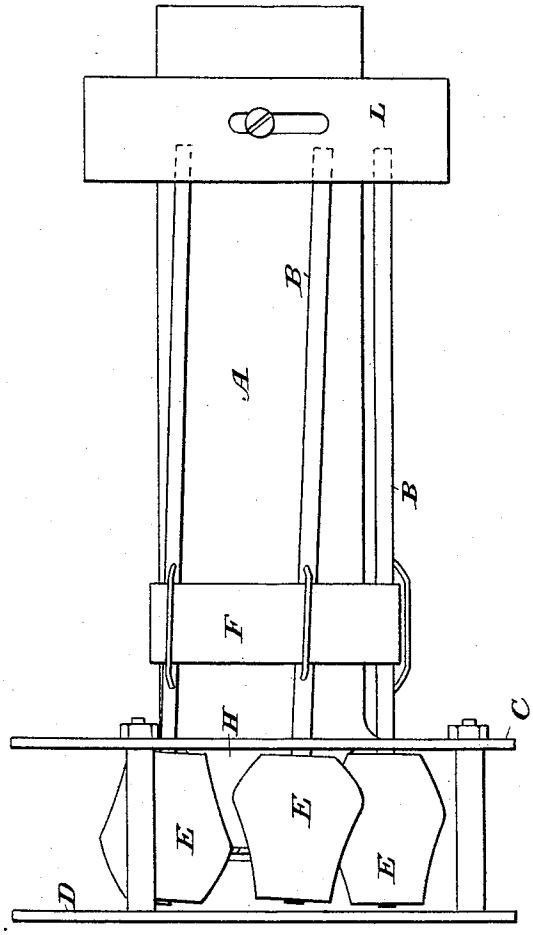


Fig. 8.

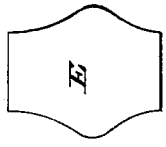
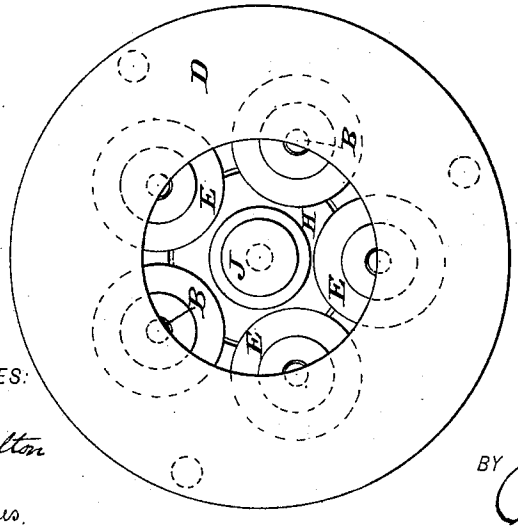


Fig. 1.



WITNESSES:

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S. F. Jones.

INVENTOR

Carl Scherer

BY Richardson & Co

ATTORNEYS

(No Model.) 2 Sheets—Sheet 2.

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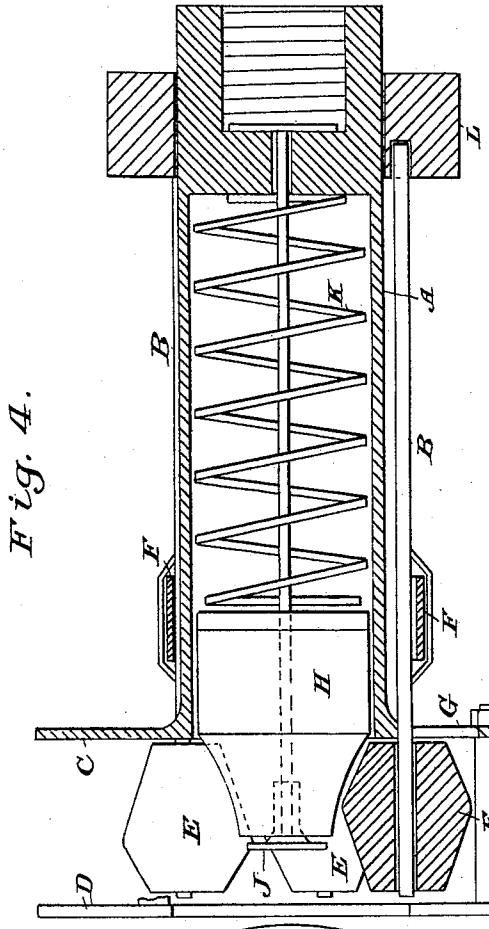

Fig. 4.

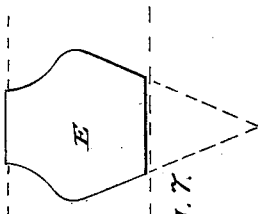

Fig. 7.

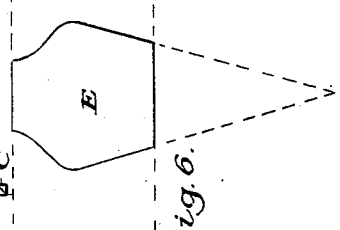

Fig. 6.

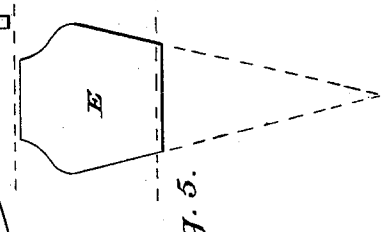

Fig. 5.

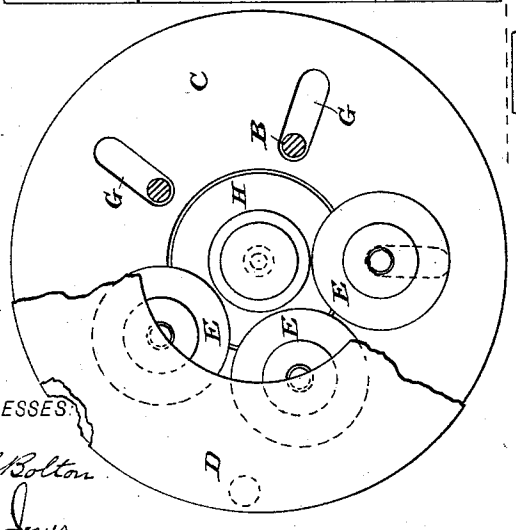

Fig. 3.

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CARL SCHERER, OF LANGEN, GERMANY.

APPARATUS FOR FIXING CAPSULES ON BOTTLES.

SPECIFICATION forming part of Letters Patent No. 483,019, dated September 20, 1892.

Application filed September 1, 1891. Serial No. 404,412. (No model.) Patented in England February 17, 1890, No. 2,550; in Belgium February 28, 1890, No. 89,547; in France May 9, 1890, No. 203,726; in Austria-Hungary June 20, 1890, No. 8,249 and No. 21,970, and in Germany March 6, 1891, No. 55,122.

To all whom it may concern:

Be it known that I, CARL SCHERER, manufacturer, a subject of the Emperor of Germany, residing at Langen, Hesse, in the Empire of Germany, have invented new and useful Improvements in Apparatus for Fixing Capsules on Bottles, (for which I have received Letters Patent in Germany, No. 55,122, dated March 6, 1891; in France, No. 203,726, dated May 9, 1890; in Belgium, No. 89,547, dated February 28, 1890; in Austria-Hungary, No. 8,249 and No. 21,970, dated June 20, 1890, and in England, No. 2,550, dated February 17, 1890,) of which the following is a specification.

My invention relates to capsuling-machines; and it consists in certain parts and combinations thereof hereinafter more particularly described and claimed.

The working parts of the new apparatus are a number of pressing parts, which are pressed separately on the neck of the bottle and glide downward on the same, describing a screw-line. Through the axial component of the screw movement the capsule is drawn over and considerably stretched. Through the tangential component its smoothness and close application is secured.

Figures 1 to 4 are views of a device embodying my improvement. Figs. 5 to 8 illustrate the peculiar forms of the pressing-rollers.

As is seen in Figs. 1 to 4, inclusive, the pressing parts (rollers E) which press the capsule to the neck of the bottle can also rotate on spindles B, which are prolonged on one side and are springy. The front ends of these spindles B are movable outwardly from the middle line of sleeve A in the slots G of the plate C, fastened to the sleeve A. The rear ends of the spindles B are in a stationary or movable ring L, by the turning of which the position of the spindles B, and therewith also the position of the acting surfaces of the rollers E, rotating around the spindles B, can be changed. A rubber ring F is laid over the spindles B, which constantly presses the same against the sleeve A. In the hollow space of the sleeve A a stamp H is arranged, which is provided with a sliding upper part J. A spiral spring K steadily presses the stamp H forward against the rolls E. The rolls E are constructed in a peculiar manner. (See Figs. 5 to 8.) The first three, Figs. 5 to 8, are similarly formed. These rollers E have their shoulders arranged at different relative positions, so that when the bottle is inserted between them they will form a spiral groove on the capsule and so press the same firmly to the neck. The same can also be used in a smaller or larger number, as can be seen, for example, in Figs. 1 to 4, where four or more are present. Of the kind shown in Fig. 10 only one roller is used in the apparatus.

The rollers of Figs. 5 to 7 cause only a gradusl pressing of the capsule against the bottle in that they act only gradually on the capsules and in that their rear ends are formed in truncated cones of equal height or, as seen in Figs. 5, 6, and 7, in different heights and shapes. This is especially the case after the swelling of the bottle-neck, when the capsule is only pressed gradually to the neck of the bottle at first by the differently-formed truncated cones and then by the pressing-cushion. The successive action of the pressing-cushion of the similarly-shaped rolls, Figs. 5 to 7, on the capsule is obtained in that the pressing-cushion of the rolls through lengthening of the latter come to lie farther forward (in the drawings upward) and through corresponding shortening of the rolls lie gradually farther rearward, (downward in the drawings,) Figs. 1 to 4, and thereby can act successively on the capsules. The roll shown in Fig. 8 acts last on the capsule and presses the same, in consequence of its most narrow pressing-cushion, perfectly tight into all the grooves and asperities of the bottle-neck.

The mode of operation of the capsule apparatus is as follows: After the capsule has been set on the bottle-neck the latter is introduced between the rolls E, and before the rolls E act on the capsule the bottom of the capsule comes into contact with the sliding stop part J of the stamp H. Hereby the bottom of the capsule is pressed tightly onto the cork, and thus the capsule is held fast to the bottle-neck. Then the bottle-neck is shoved farther into the roller system E and the capsule begins to be pressed, whereby the rollers E, and with them also the spindles B, move outwardly

from the sleeve A, corresponding to the thickness and shape of the bottle-neck. When drawing back the bottle out from the rollers E, they, as well as the stamp H, with its gliding top piece J, return to their original position under the action of the rubber ring F or the spiral spring K.

The introduction of the bottle to be provided with a capsule into the roller system can be done as well as by hand by any desirable mechanical means.

I claim—

In an apparatus for putting capsules on bottles, the combination, with a rotating holder, of the springy bodily-movable pressing parts or rollers having shoulders spirally arranged on their peripheries and the movable part J, having body H, provided with slanting surfaces, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CARL SCHERER.

Witnesses:

JOSEPH PATRICK,

FRIEDRICH CORRELL.