No. 862,530. PATENTED AUG. 6, 1907.

R. ZASTROW.

BOTTLE CAPPING MACHINE.

APPLICATION FILED DEC. 11, 1905.

Fig. 1

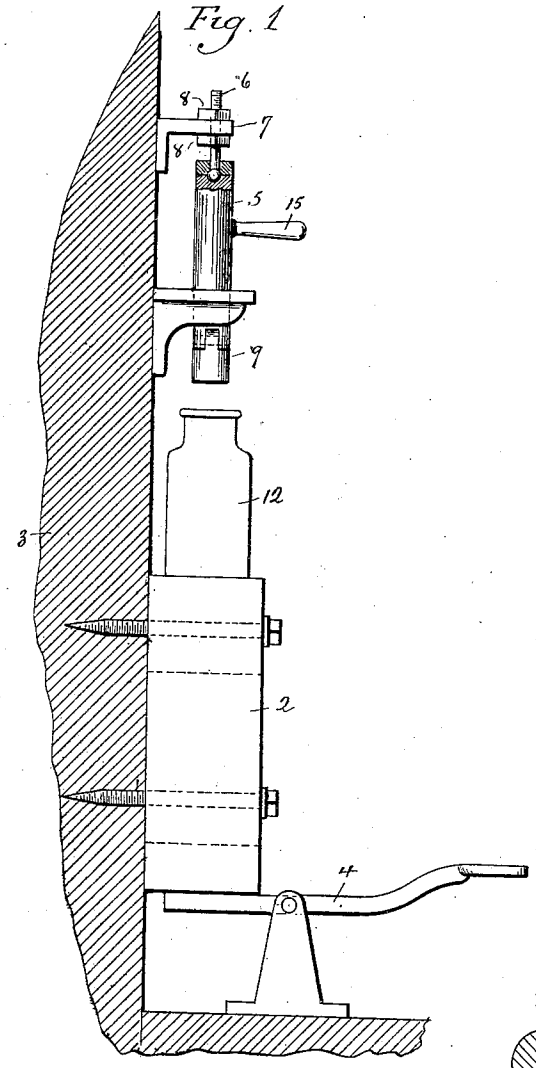


Fig. 2

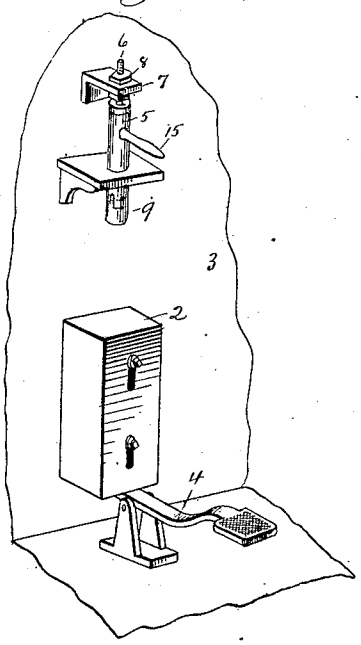


Fig. 3

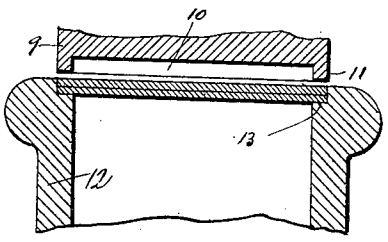
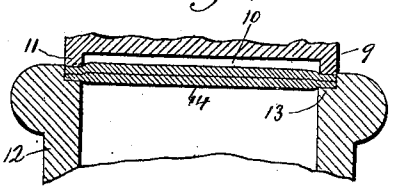


Fig. 4



Witnesses.
J. W. Shumway
C. L. Reed.

Richard Zastrow.
Inventor.
Bates Seymour & Carey

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

RICHARD ZASTROW, OF NEW HAVEN, CONNECTICUT.

BOTTLE-CAPPING MACHINE.

No. 862,530. Specification of Letters Patent. Patented Aug. 6, 1907.

Application filed December 11, 1905. Serial No. 291,189.

To all whom it may concern:

Be it known that I, RICHARD ZASTROW, a citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Bottle-Capping Machines; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1 a side view of a bottle capping machine constructed in accordance with my invention. Fig. 2 a perspective view of the same on a smaller scale, with the bottle or jar removed. Fig. 3 an enlarged broken sectional view of the mouth of a bottle or jar, with the disks therein, showing the lower end of the die in position to enter the same. Fig. 4 a similar view showing the die bearing against the disks which have been compressed and expanded thereby, the extent of compression being exaggerated to illustrate the invention.

This invention relates to an improvement in bottle capping machines, and particularly to machines for inserting paper disks in the tops of bottles.

A common form of caps for bottles, and particularly milk bottles, is a paper disk which is crowded into the mouth of the bottle, and for all practical purposes such caps form a tight closure, but for bottles which are boxed and shipped such caps as usually inserted would not be ample to prevent leakage.

The object of this invention is the construction of a device by which paper disks may be inserted into the mouths of bottles in such a way as to perfectly close the same, and secure the contents against leakage; and the invention consists in the construction hereinafter described and particularly recited in the claim.

As herein shown, the device consists of a vertically movable table or anvil 2 secured to a suitable upright 3 and adapted to be raised by a treadle 4. Above the anvil is a die holder 5 which, as herein shown, is a round shaft swiveled to a pin 6 which is fixed in a bracket 7, the pin being threaded to receive nuts 8 above and below the bracket whereby the pin may be raised or lowered to raise or lower the shaft 5. The lower end of the shaft is recessed to receive a die 9, this die corresponding in diameter to the diameter of the mouth of the bottle to be capped. The under face of this die has a central recess 10 forming a narrow, annular rib 11. Bottles or jars 12 are formed with the usual recess 13 in their upper ends to receive the paper disks or caps 14. A cap is placed in the recess 13 by hand and the jar then placed upon the table 2. The treadle is then moved by the foot to raise the table, forcing the bottle or jar against the die 9, the die forcing the disk into the recess 13. While the bottle is held with some pressure against the die, the die is rotated by a handle 15 which so compresses the edge of the disk as to force the edges thereof into close engagement with the edge of the recess 13. In other words, the edge of the disk is expanded to fill any irregularities in the mouth of the bottle. Preferably two disks will be employed, one inserted after the other and each expanded in the manner above described. A bottle thus capped is absolutely tight and can be shipped in the same manner as bottles or jars closed with cork or other substances; and as the disks are much cheaper than corks, it follows that a great saving in the cost of closing bottles is secured. The dies 9 are readily removed from the ends of the shaft 5, and dies of various sizes may be substituted according to the size of the disks to be expanded. The extent to which the edges of the disks are compressed and expanded is very slight, but is sufficient to make a perfect closure which cannot be obtained by simply forcing the caps in by hand; nor can sufficient pressure be placed upon the caps to expand them without turning either the jar or the die, and preferably the die will be turned while the bottle is held stationary.

I claim:

The herein described bottle capping machine comprising a vertically movable table, a bracket above said table, a pin mounted in said bracket and vertically adjustable therein, a shaft swiveled to the lower end of said pin, a handle secured to said shaft whereby the same may be rotated, and a round metal die secured to the lower end of said shaft the under face of the die formed with a circular central recess forming a narrow, downwardly extending annular rib around the edge of said die, substantially as described.

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

RICHARD ZASTROW.

Witnesses:
FREDERIC C. EARLE,
CLARA L. WEED.