

Feb. 11, 1930.

C. T. SMALL

1,746,802

ROLLER PLUNGER SUPPORT

Filed Jan. 25, 1928

Fig. 1.

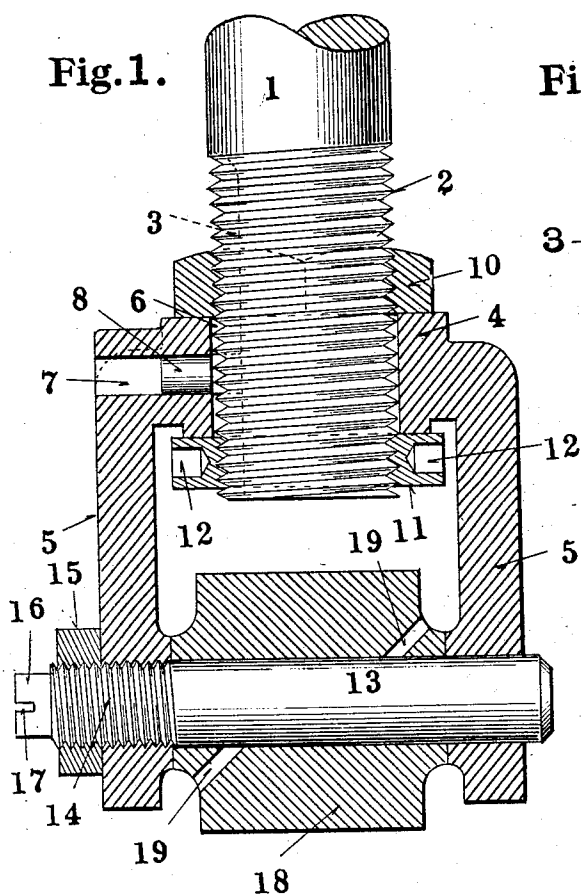


Fig. 2.

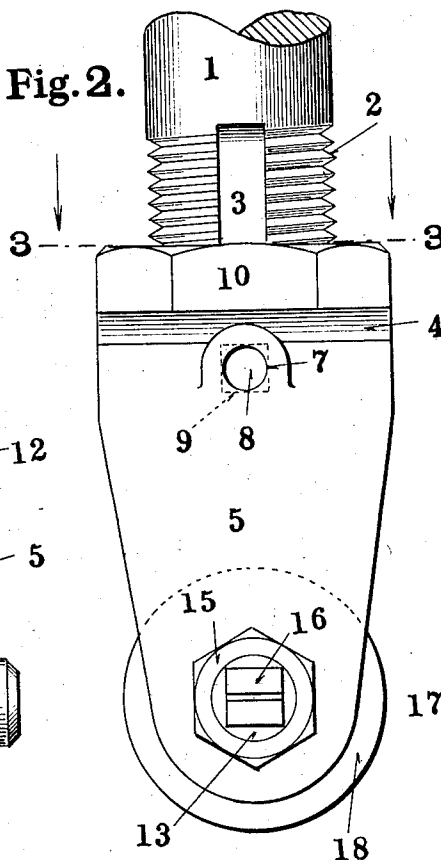


Fig. 3.

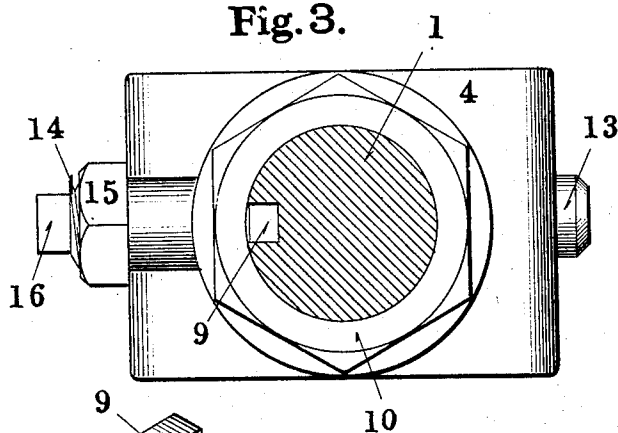


Fig. 4.

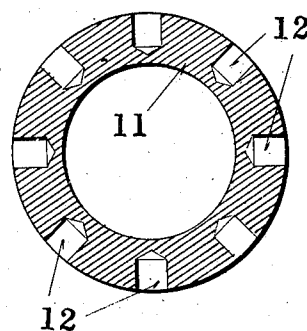
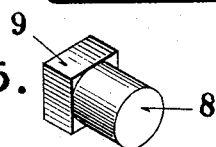


Fig. 5.



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## UNITED STATES PATENT OFFICE

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## ROLLER PLUNGER SUPPORT

Application filed January 25, 1928. Serial No. 249,385.

My invention relates to a roller plunger support and is specifically adapted for use with the plungers of a can filling or capping machine in which the plunger runs on a track by means of which it is raised to present the can supported on it to the operating mechanism of the machine. One form of machine with which it is adapted to be used is that shown in application Serial No. 88,765 filed by me on February 17, 1926.

In the accompanying drawings, which illustrate one form of plunger support made in accordance with my invention, Figure 1 is a vertical section; Figure 2 is a side elevation; Figure 3 is a section taken on the line 3-3 of Figure 2; Figure 4 is a sectional view of the lower lock nut; and Figure 5 is a perspective view of the key.

The stem 1 of the plunger, the lower part only of which is shown, is provided with threads 2 and a key way 3. A U-shaped bracket composed of a cross bar 4 and a pair of arms 5 has formed in the cross bar an unthreaded aperture 6 of such diameter as to allow the stem 1 to slide longitudinally therein. Formed in the bracket is a cylindrical opening 7 to receive the cylindrical part 8 of a key having a square head 9 engaging the key way 3 to prevent rotation of the stem relative to the bracket.

Surrounding the stem above the cross bar is a nut 10 of hexagonal or other form suitable for engagement with a wrench. Below the cross bar is a second nut 11 having formed in its periphery a number of openings 12 which may be engaged by an adjusting rod thrust between the arms 5 and so rotated. This construction permits of exact adjustment of the bracket longitudinally of the stem and hence the exact positioning of the can carried by the plunger.

Formed in the lower ends of the arms 5 are openings to receive a roller pin 13. One of these openings is threaded and the pin is provided with corresponding threads 14, a portion of which project beyond the arms to receive a lock nut 15. The pin is provided preferably on the threaded end 14 with a square head 16 having therein a slot 17 so that the pin may be engaged either by a

wrench or screw driver to thread it into position and to hold it while the lock nut is tightened. Mounted on the pin is the supporting roller 18 preferably having formed therein oil holes 19.

My combination not only provides a simple and easily manufactured device of the necessary rigidity but also provides a facile and extremely accurate adjusting means for determining the vertical position of the roller relative to the plunger. The use of the pivotal key for preventing rotation of the bracket relative to the plunger contributes to the ease of manufacture and prevents binding between the bracket and plunger due to unevenness of the key way as the pivotal movement of the key will compensate for any such unevenness.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. In a device of the class described, the combination with a threaded stem, of a bracket slidably but non-rotatably mounted on said stem, upper and lower adjusting nuts on said stem for raising and lowering the bracket in relation to the stem, and a supporting roller carried by the bracket.

2. In a device of the class described, the combination with a treaded stem, of a U-shaped pocket having an unthreaded aperture in its cross bar for the passage of the stem, adjusting nuts on the stem above and below the cross bar, means for preventing rotation of the bracket on the stem, and a supporting roller journaled between the arms of the bracket.

3. In a device of the class described, the combination with a threaded stem, of a U-shaped bracket having an unthreaded aperture in its cross bar for the passage of the stem, an adjusting nut on said stem above the cross bar of said bracket and adapted to be engaged by a wrench, a second adjusting nut on the stem below said cross bar, said second nut having in its periphery a plurality of openings for the engagement of an adjusting rod, means for preventing the rotation of the stem in the bracket, and a supporting roller journaled between the arms of said bracket.

4. In a device of the class described, the combination with a threaded stem provided with a key way, of a U-shaped bracket having an unthreaded aperture in its cross bar for the passage of said stem, said bracket being  
5 provided with a cylindrical opening, a key having a cylindrical part entering said opening and an angular part engaging said key way, adjusting nuts on said stem above and  
10 below said cross bar, and a supporting roller journaled between the arms of said bracket.

5. In a device of the class described, the combination with a threaded stem, of a U-shaped bracket adjustably but non-rotatably  
15 mounted on said stem, a roller pin carried by the arms of the bracket and having threaded engagement with one of said arms, tool engaging means on said pin, a lock nut on said pin, and a supporting roller mounted on the  
20 pin between said arms.

6. In a device of the class described, the combination with a threaded stem provided with a key way, of a U-shaped bracket having an unthreaded aperture in its cross bar for  
25 the passage of said stem, said bracket being provided with a cylindrical opening, a key having a cylindrical part entering said opening and an angular part engaging said key way, adjusting nuts on said stem above and  
30 below said cross bar, a roller pin carried by the arms of the bracket and having threaded engagement with one of said arms, tool engaging means on said pin, a lock nut on said pin, and a supporting roller mounted on the  
35 pin between said arms.

In testimony whereof, I hereunto affix my signature, this 21st day of January, 1928.

CHESLEY T. SMALL.

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