Sept. 6, 1938. E. POMMER 2,129,359

CAPPING DEVICE

Filed Aug. 18, 1936

Fig. 1.

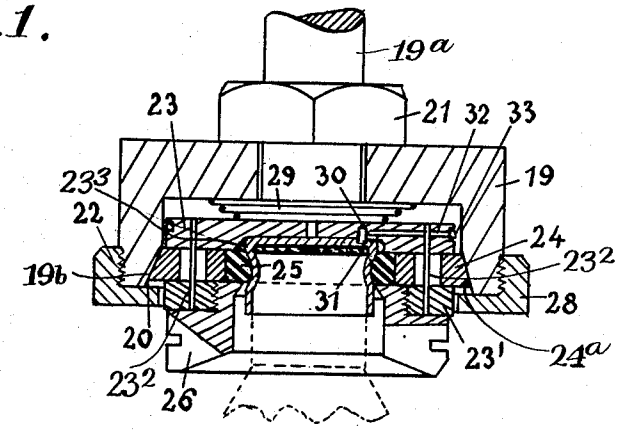
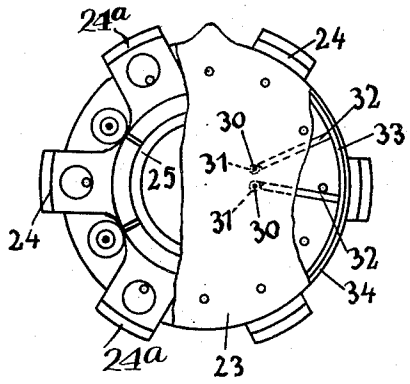


Fig. 2.



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CAPPING DEVICE

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2 Claims. (Cl. 226—85)

This invention relates to capping machines and the like and more particularly to a sealing mechanism used in connection therewith, for sealing caps on bottle and the like.

The main object of the invention is to provide a sealing or capping device of convenient, dependable and efficient construction for automatically sealing caps of metal and the like on bottles.

Another object is to provide a sealing head for use in connection with capping machines for sealing comparatively fragile caps on bottles without tearing or otherwise injuring the foil.

Still another object is to provide a capping device which may be employed for the additional purpose of printing or impressing the desired indicia on the bottle caps, and

A further object is to provide a capping head from which the printing dies may be easily removed.

Although the novel features which are believed to be characteristic of this invention will be particularly pointed out in the claims appended hereto, the invention itself as to its objects and advantages and the manner in which it may be carried out, may be better understood by referring to the following description taken in connection with the accompanying drawing forming a part thereof.

In the drawing:

Figure 1 is a sectional view of a capping head according to the invention and

Figure 2 is a plan view of the lower part of the capping head illustrated in Figure 1 showing portions broken away.

In the embodiments of the invention illustrated in the drawing the capping mechanism comprises a sealing head 19 connected to the supporting member 19*a* by means of a nut 21 engaging the latter. The supporting member 19*a* is carried by the capping machine (not shown).

The sealing head 19 is recessed to receive the pressure plate 23 which is connected to the collar 23' by means of pins 23^2. This pressure plate is in turn provided with a recess 23^3 for receiving the bottle cap.

The pressure plate 23 and the collar 23' are spaced from one another by a segmental ring having a plurality of segments 24. The lower portion of the sealing head 19 has an annular bevelled surface 19*b* engaging the bevelled surface 24*a* of the segment 24.

The rubber side-pressure or sealing ring 25 is also retained between the pressure plate 23 and the collar 23'.

The screw-threaded retaining ring 28 for holding the various parts together is connected to the screw threaded part 22 of the lower portion of the sealing head 19 and the collar 23', is screw-threaded to receive the insertion piece 26 which is bored to approximately the circumference of the neck of the bottle and flared conically at the lower end.

The spiral spring 29 forms a resilient connection between the pressure head 23 and the sealing head 19.

The pressure plate 23 is perforated to provide sockets for dies or type carrying the desired indicia for impression on the caps. The lower portions of the perforations 30 have a progressively decreasing diameter as they approach the upper surface of the pressure plate 23 where they become very fine holes.

The printing dies 31 received in the lower portion of the perforations are held in position by means of pins 32 which are inserted sidewise in radial bores provided in the pressure plate 23. These clamping pins 32 are pressed against the dies 31 by means of a leaf spring or rubber ring 33 arranged in the same plane with the peripheral groove 34 in the mantle face of the pressure plate 23.

The printing may easily be changed by ejecting the printing dies by means of a needle or similar means introduced into the perforations on the upper face of the plate 23. After the exchanged printing dies have been inserted into the perforations 30 on the bottom surface of the plate 23, the ring 33 may be replaced in the peripheral groove 34 whereby the clamping pin 32 will again press against the dies and hold the same in position.

In operation, as the bottle carrying the bottle cap is pressed upward into the sealing head, the pressure plate 23 engages the cap and presses it firmly down on the top of the bottle. This upward movement will also cause the bevelled surface 24*a* of the segments 24 to ride along the bevelled surface 19*b* of the sealing head and force the segmental pressure ring to contract inwardly and force the rubber side-pressure or sealing ring 25 also to contract inwardly to press firmly against the sides of the cap and seal the same onto the bottle top.

As the particular member holding the bottle and forcing it upward into the sealing head is not part of the invention, it is not believed necessary to describe and illustrate the same. It is obvious that this mechanism may be power or hand operated in the conventional manner and

may form a part of the complete capping machine. It is equally obvious that instead of forcing the bottle neck upward into the sealing head, the sealing head may be reciprocably mounted in the machine so that it may be pressed downward on the bottle neck.

It is also to be understood that the embodiment of the invention as shown is for the purpose of illustration only and the invention is to be limited only in accordance with the following claims interpreted in view of the prior art.

What is claimed is:

1. A bottle cap sealing device comprising a sealing head, a cap engaging member and an interconnected collar member spaced from said cap engaging member in said sealing head and adapted to be reciprocated within said sealing head by an inserting movement of the bottle neck, a sealing ring, pressing means positioned between said members and means operable in response to said relative reciprocating movement to contract the first-mentioned means and cause them to exert radial pressure on said ring whereby the sides of the cap will be pressed firmly against the bottle top and sealed securely thereon, said cap engaging member being perforated to form sockets for printing dies whereby the cap may be imprinted with the desired indicia during the cap sealing movement, a peripheral groove in said cap engaging member, a resilient member in said groove and a plurality of members extending radially from said sockets to said resilient member for holding the dies firmly in position during the cap sealing movement.

2. A cap sealing device according to claim 1 in which said sockets have a progressively decreasing diameter towards the upper surface of said cap engaging member whereby the printing dies may be easily ejected by the insertion of a needle.

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