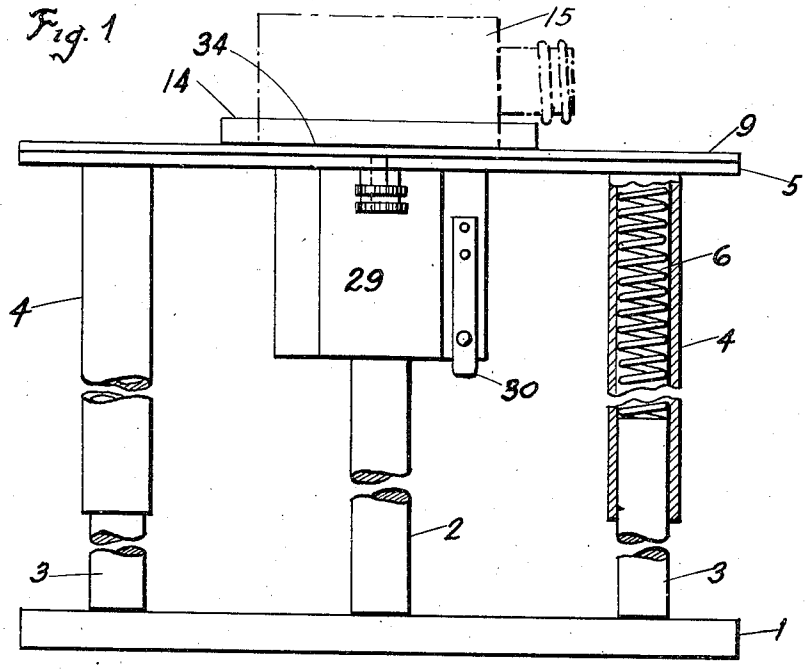
Jan. 27, 1948. M. CASTEL 2,435,129

HAND DEVICE FOR ATTACHING GUMMED LABELS

Filed July 2, 1946 2 Sheets-Sheet 1

Fig. 1



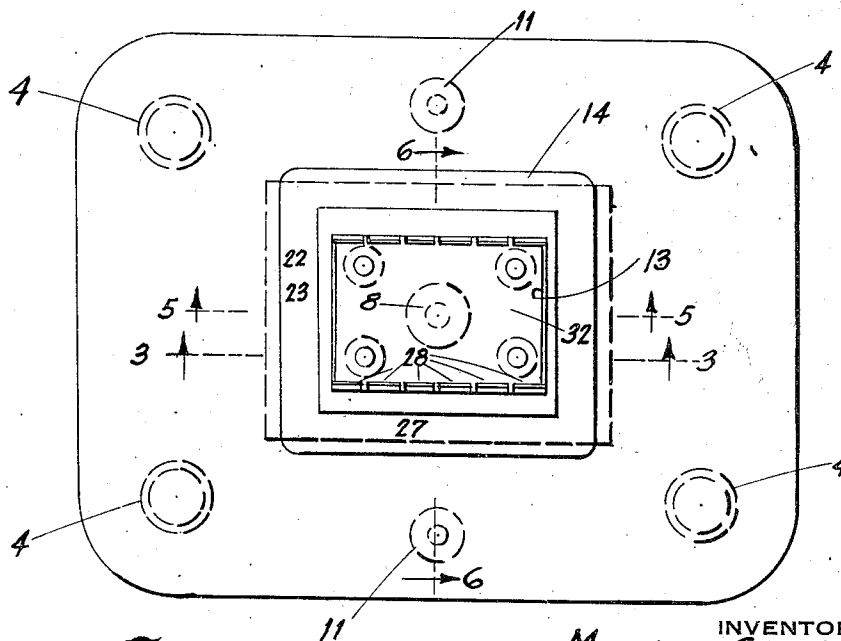


Fig. 2

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HAND DEVICE FOR ATTACHING GUMMED LABELS

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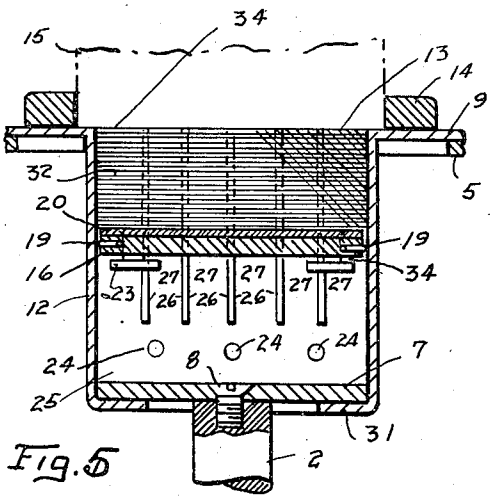


Fig. 5

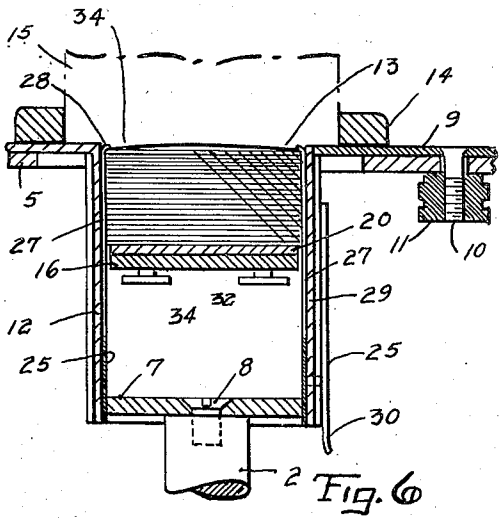


Fig. 6

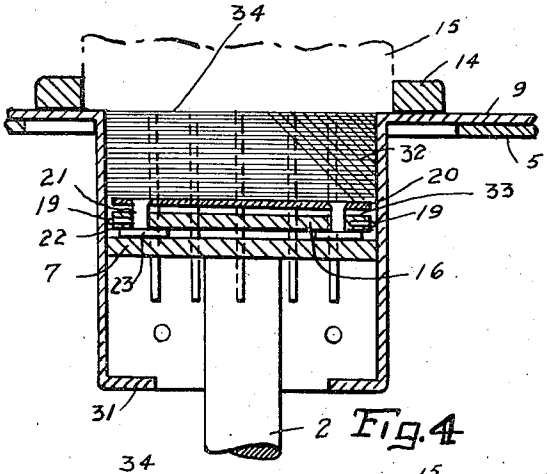


Fig. 4

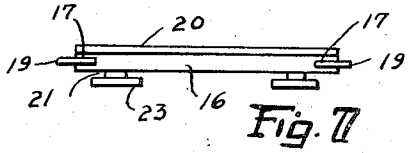


Fig. 7

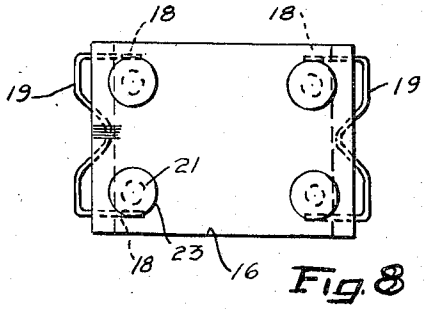


Fig. 8

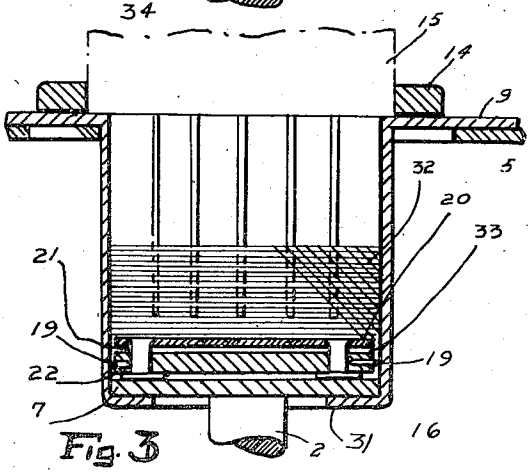


Fig. 3

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UNITED STATES PATENT OFFICE

2,435,129

HAND DEVICE FOR ATTACHING GUMMED LABELS

Maurice Castel, Freeport, N. Y.

Application July 2, 1946, Serial No. 681,038

12 Claims. (Cl. 216—42)

1

The object of my invention is an applier for attaching gummed labels, from a stack of labels contained in a magazine, to moistened flat surfaces of containers such as perfume bottles and the like.

Most devices of this kind now in use are formed and operated substantially like a rubber stamp i. e. the magazine has a handle and a plunger adapted to press said stack of labels, facing with their gummed sides downward, upon a bottle placed on a work table underneath. Upon return of the plunger and/or removal of the applier from the bottle the lowermost label sticks to the bottle. Adequate pressure upon the stack is maintained usually by a heavy follower plate laid on top of the stack.

Because of the necessity of applying and removing each time the whole applier the output of these devices is rather small and, besides, very often the labels are not applied exactly in the desired position.

It has already been suggested to reverse the just described arrangement i. e. to put the bottle on top of the magazine and to press the stack of labels by the plunger from below against the bottle. In devices of this kind, however, the stack, of gradually dimishing height, is continuously moved up and down, relatively, in the magazine, and is not held under uniform pressure. The consequence is that often more than one label or no label is withdrawn at a time from the magazine, and not infrequently the labels are badly disarranged, crumpled, etc.

The object of my invention eliminates all these disadvantages by providing a device of the type last mentioned with a follower having friction means making itself locking in each position in said magazine whereby the stack of labels is always held against the exit opening of the magazine.

I have found, however, that for best results an auxiliary device should be provided adapted, upon the magazine starting its return stroke, to relieve the pressure in said stack with said follower remaining in the end position into which it has been lifted by said plunger.

Further features and advantages of my invention will become apparent from the following description in combination with the accompanying drawings showing a preferred embodiment of my said invention by way of example.

In these drawings is:

Figure 1 a front elevation of an applier, partly in section;

Figure 2 a plan view of Figure 1;

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Figure 3 on a larger scale a vertical section on the line 3—3 of Figure 2 with the parts in position before work is started;

Figure 4 a section similar to Figure 3 with the plunger in its highest position in a working stroke relative to the magazine;

Figure 5 a vertical section on the line 5—5 of Figure 2 after return of the plunger to the position of Figure 3;

Figure 6 a vertical section on the line 6—6 of Figure 2;

Figure 7 a detail front elevation of the folllower and pressure release device;

Figure 8 a bottom view of Figure 7.

It should not be lost sight of that in the new applier the plunger is the stationary and the magazine the movable member. Since, however, only the relative motion of these parts counts, sometimes hereinafter "motion" of the plunger is mentioned for purposes of simplification.

A base plate 1 supports a central stationary vertical plunger post 2 and four widely spaced outer stationary vertical guide posts 3. On the posts 3 are vertically guided four tubes 4 rigidly attached to a top plate 5. Helical springs 6 encased in the tubes tend to hold the plate 5 in elevated position.

On top of the post 2 is secured a plate 7 or plunger proper by a screw 8.

The top plate 5 is covered by a cover plate or table 9, held in place by screws 10 and nuts 11.

The table 9 is rigidly connected to or integral with the rectangular boxlike magazine 12 into which fits the plunger 7.

The magazine 12 has on top an exit opening 13 surrounded by a frame 14. This frame is conformed to a bottle 15 and acts as an abutment holding the bottle exactly in the necessary position above the magazine. The frame is rigidly secured to or integral with the table 9. It may be replaced by a number of separate abutments.

In the magazine 12 is loosely fitted a follower 16 in the form of a plate provided on two opposite sides with grooves 17 and recesses 18 receiving wire springs 19 having substantially the form of the letter "M" flattened at the top. These springs act as friction members or brake shoes holding the follower 16 in any position to which it may be shifted in the magazine 12 by the plunger 7.

Above the plunger 7 is located the blind bottom 20 loosely fitted in the magazine 12.

The blind bottom 20 has four pins or pegs 21 of a length slightly greater than the thickness

of the follower 16. These pins are freely slidable in holes 22 of the follower and have underneath the latter enlarged heads 23 limiting the relative movements of the blind bottom 20 and the follower 16.

To two opposite walls of the magazine 12 are attached e. g. by rivets 24 spring plates 25 the upper part of each of which is subdivided by vertical slots 26 into a plurality of leaf springs 27 provided at their upper ends with fine prongs 28. These spring plates and springs form an elastic inner lining for the magazine 12. One wall 29 of these two opposite walls is easily detachable together with its spring lining 25, 27 as a unit being secured in place by a leaf spring catch 30. This feature facilitates the charging of the magazine and inspecting the follower and pressure release device.

The magazine has a bottom 31.

The new device functions as follows:

The detachable magazine wall 29 is removed, and a stack 32 of labels, facing with the gummed sides upwards, is charged into the magazine 12 through the thus produced opening. Thereupon the wall 29 is attached again to the magazine.

The parts have now the positions shown in Figure 3. The heads 23 of the pegs 21 rest on the magazine bottom 31. Therefore the blind bottom 20 supporting the stack 32 of labels is held by said pegs slightly above the follower 16 separated therefrom by a gap 33.

The operator now moists the corresponding surface 34 of a bottle e. g. by rubbing it on a moistened cushion or the like and puts said bottle into the frame with said surface 34 facing downward.

The operator then exerts downward pressure upon the bottle lowering it together with the plates 5 and 9, magazine 12 and tubes 4 against the pressure of the springs 6.

Because of the wide spacing of the four guide posts 3 this movement and also the later return movement are very accurately guided as distinguished from the old devices having a single central guide and being, therefore, subject to frequent binding and jamming.

During the described lowering of the magazine the stationary plunger 7 holds the follower 16, blind bottom 20 and stack 32 stationary until the uppermost label of the stack contacts the bottom surface 34 of the bottle 15 whereupon the stack 32 is compressed by the impact.

The follower 16 is automatically locked by the friction springs 19 in the highest position reached (Figure 4). The gap 33 still exists in this position.

As soon as the operator ceases to press downward the bottle the springs 6 start lifting the parts which had been lowered.

Thereby the heads 23 of the pegs 21 loose their support by the plunger 7 and sink down with the pegs and the blind bottom 20 until the latter comes to rest upon the self-locked follower 16. The heads 23 are now separated from the bottom surface of the follower 16 by a gap 34 (Figures 5 and 6).

By this lowering of the blind bottom the pressure built up in the stack 32 by the just described working stroke is relieved automatically so that when now the bottle 15 is being moved from the frame 14 the uppermost label, and only this, sticks to the bottle and is removed from the stack which always remains at the exit opening 13 thereby avoiding undesirable idle movements,

rubbing and deformation of the stack and damage to the labels.

By each succeeding working stroke the follower 16 is lifted only an amount equal to the thickness of one label.

The easy and reliable removal of the uppermost label is facilitated by the springs 27 supporting the prongs 28 elastically and also serving as yielding guides for the stack.

The table 9 forms a detachable unit with the magazine 12, frame 14, follower 16 and blind bottom 20. After unscrewing the nuts 11 this unit can be exchanged with another unit conformed to another size of bottle.

By means of the screw 8 another plunger conformed to said other unit can be substituted for the plunger 7.

I have found in practice that with the old "rubber-stamp" device a worker can apply 400 labels per day, but with my new device 8000 labels per day in a much more precise manner.

What I claim is:

1. An applier for attaching gummed labels to moistened flat surfaces of containers, said applier comprising, in combination, a magazine adapted to fittingly hold a stack of gummed labels and having an exit opening on top, a stationary plunger adapted to push said stack upward toward said opening upon relative vertical motion between said plunger and magazine, a follower in said magazine adapted to underly said stack and to be lifted with said stack upon said relative motion, and friction means adapted to make said follower selflocking in each position into which it may be lifted by said plunger in said magazine.

2. An applier as claimed in claim 1 in which said friction means consist of springs protruding from at least two opposite sides of said follower and adapted to frictionally engage said magazine.

3. An applier as claimed in claim 1 further comprising an auxiliary device adapted, upon said magazine starting its return stroke, to relieve the pressure in said stack with said follower remaining in the end position into which it has been lifted by said plunger.

4. An applier as claimed in claim 1 further comprising a blind bottom freely movable in said magazine and means for having lifted said blind bottom by said plunger a short distance relative to said follower.

5. An applier as claimed in claim 1 further comprising a blind bottom freely movable in said magazine and at least one projection on said bottom slightly protruding beneath and freely slidable through said follower.

6. An applier as claimed in claim 1 further comprising a blind bottom freely movable in said magazine, four pins on said blind bottom freely slidable through corresponding holes of said follower, and heads on said pins adapted to limit the free mobility of said blind bottom relative to said follower and to transmit the relative motion of said plunger to said follower after a short lift of said blind bottom, relative to said follower, by said plunger.

7. An applier as claimed in claim 1 comprising further leaf springs on two opposite walls of said magazine and prongs at the upper ends of said leaf springs adapted to overlap slightly said stack.

8. An applier as claimed in claim 1 comprising further a table on top of said magazine and abutments on said table adapted to fix definitely the position of a correspondingly shaped container above said exit opening.

9. An applier as claimed in claim 1 comprising

further a table on top of said magazine and abutments on said table adapted to fix definitely the position of a correspondingly shaped container above said exit opening, said table, frame and magazine forming an interchangeable unit.

10. An applier for attaching gummed labels to moistened flat surfaces of containers, said applier comprising, in combination, a magazine adapted to fittingly hold a stack of gummed labels and having an exit opening on top, a stationary plunger adapted to push said stack upward toward said opening upon relative vertical motion between said plunger and magazine, a follower in said magazine adapted to underly said stack and to be lifted with said stack upon said relative motion, friction means adapted to make said follower selflocking in each position into which it may be lifted by said plunger in said magazine, an auxiliary device adapted, upon said magazine starting its return stroke, to relieve the pressure in said stack with said follower remaining in the end position into which it has been lifted by said plunger, and a quickly detachable side wall of said magazine.

11. An applier for attaching gummed labels to moistened flat surfaces of containers, said applier comprising, in combination, a magazine adapted to fittingly hold a stack of gummed labels and having an exit opening on top, a stationary plunger adapted to push said stack toward said opening upon relative vertical motion between said plunger and magazine, a follower in said magazine adapted to underly said stack and to be lifted with said stack upon said relative motion, friction means adapted to make said follower self-locking in each position into which it may be lifted by said plunger, and a quickly detachable side wall of said magazine forming a unit with pronged leaf springs lining said side wall.

12. An applier as claimed in claim 1 comprising further a top plate and four widely spaced magazine guide legs attached to said top plate and housing return springs.

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The following references are of record in the file of this patent:

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