

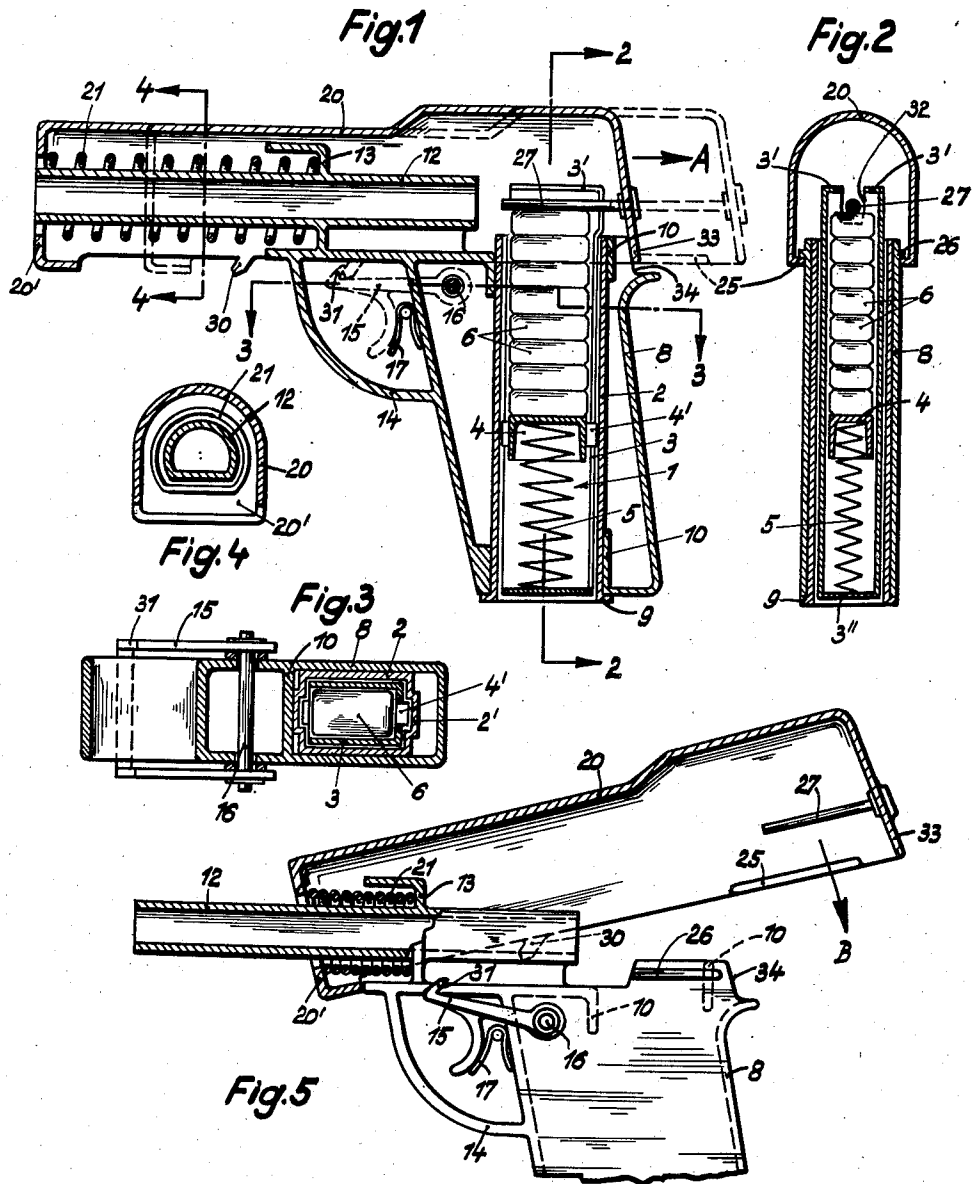
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TABLET DISPENSING TOY GUN

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TABLET DISPENSING TOY GUN

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1 Claim. (Cl. 124—27)

This invention relates to a tablet-dispensing gun for ejecting or "shooting" candies, tablets or the like, which will be referred to hereinafter in general as tablets, from the gun barrel with moderate force by releasing a spring which has been previously stressed. This toy is constructed so as to enable its inexpensive mass production because neither the accuracy of manufacture nor the material used must fulfill particularly high requirements. The present toy gun may be made of metal, preferably of parts pressed from sheet metal, or of plastics, preferably of thermoplastics such as polystyrene. In the latter case it is convenient to make the parts by injection molding.

It is an object of the invention to provide a toy gun which is composed of few components of simple shape, which can be assembled in a simple manner without requiring additional parts to prevent the components from falling apart. It is another object of the invention to provide a toy gun having a magazine which can be removed from the gun for refilling and can be pushed into the handle of the gun to charge the same. Finally it is an object of the invention to provide a gun of the type described in which the ejection of the tablet is effected by a slide which is movable against the action of a spring and can be releasably locked in an end position, whereas it jumps forward to eject the tablet when the trigger or release of the gun is pressed.

Further features will be explained hereinafter with reference to the drawing, in which an illustrative embodiment of the invention is shown.

Fig. 1 is a cross-sectional view taken on the vertical plane of symmetry of the gun. Figs. 2, 3, and 4 are sectional views taken on lines 2—2, 3—3, 4—4, respectively, of Fig. 1. Fig. 5 is a partly sectional view of the gun showing the components thereof during assembly.

In Fig. 1 the magazine is generally designated by 1. It comprises an outer casing 2 of rectangular cross-sectional shape and an inner casing 3 which is longitudinally slidable in the outer casing 2. The inner casing 3 is of channel section and has two inwardly extending stops 3' (Fig. 2). A compression spring 5 is arranged between the bottom surface 3'' of the inner casing 3 and a bottom part 4 movable in the inner casing 3 in the axial direction of the casings 2, 3. The bottom part 4 has projections 4' whereby it is guided in apertures or grooves 2' of the outer casing 2. The pile of tablets 6, which are of substantially prismatic shape in the example shown is disposed between the movable bottom part 4 and the stops 3' as long as the magazine is not pushed into the gun. The magazine 1 can be pushed from below into the handle part 8 of the gun and carries stops 9 to limit its upward movement. Guide faces 10 formed on the handle provide for a guidance of the magazine in the handle part 8 while the magazine is being pushed into the gun.

The handle part carries the barrel 12, an abutment 13, and a trigger guard 14. These parts may form a single component of the gun or may constitute separate parts. A forked trigger 15 is pivotally movable on the

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pin 16 and is acted upon by a spring 17 which is supported on the handle part 8 and tends to urge the trigger 13 into an upper position shown by solid lines in Fig. 5.

A slide 20 is movable against the action of a spring 21 on the handle part 8 and the barrel 12. The spring 21 bears at one end against the abutment 13, at the other end against a flange 20' of the slide 20. The slide 20 has substantially the form of a downwardly open trough whereas its front end, constituting the part 20'', is suitably formed as a ring. This trough is carried by the compressed spring 21 and is guided by projections 25 along guide ribs 26 formed on the handle part 8, as is more clearly apparent from Fig. 2. The slide 20 carries also an ejection bolt 27 which extends in the axial direction of the barrel 12 or parallel thereto at a small distance from the axis in the assembled gun.

From the previous description it is apparent that the slide 20 is slidable relative to the handle part 8 parallel to the barrel 12 and against the action of the spring 21 along the barrel 12 and along the guides 26. The slide can be locked in a rear position by means which will be described hereinafter. When the trigger 15 is pressed the slide 20 will be released from this position in a manner also to be described hereinafter and will jump forward to eject a tablet.

The mode of operation of the gun described so far is as follows: It may be assumed that the gun is empty and the slide is in its front position, shown in Fig. 1. When the filled magazine 1 is inserted into the handle 8 of the gun to charge the latter, the uppermost tablet of the pile 6 will come to lie below the ejection finger 27. It may be assumed that the magazine is held sufficiently securely in the handle by friction though interengaging locking means may be provided. If the slide 20 is retracted in the direction of arrow A the ejection finger 27 will move to the right. The travel of the slide 20 and the length of the finger 27 are selected so that the uppermost tablet of the pile is released and travels upwardly under the action of the spring 5 until it engages the stops 3' and is held thereby. In this retracted position of the slide 20 the spring 21 is compressed and the slide is locked by the following means:

The slide has firmly connected thereto fingers or catch hooks 30 arranged and dimensioned to move over the release hook 31 of the trigger 15 while the spring 21 is being compressed by the movement of the slide to the right. Thus the members 30 move the trigger 15 in the counter clockwise sense and come to lie behind the hook 31, as is shown with dash lines in Fig. 1. The several parts are matched to render a further movement of the slide to the right difficult because the spring 21 would have to be too highly compressed or its turns engage each other already. In this position of slide 20 the ejection finger 27 stands behind the topmost tablet and when the trigger 15 is actuated to release the finger 30 and permit the spring 21 to throw the slide forwardly the finger 27 can enter the interior of the magazine 1, more particularly through an aperture 32, Fig. 2, in the rear wall of the magazine outer casing 2, and throw the uppermost tablet out of the magazine into the barrel 12, out of which it is either shot or only discharged at moderate speed, depending on the stress given to the spring 21. To avoid damage to or destruction of the generally fragile tablets the effective end face of the ejection finger 27 must be of sufficient size and care must be taken to prevent the uppermost tablet from being clamped with excessive force between the magazine bottom 4 and the stops 3' when the spring 5 is most highly stressed.

Thus the gun is cocked by retracting the slide 20 in the direction of arrow A. The uppermost tablet of the pile pressing against the ejection bolt 27 when the slide 20 is in front will then be moved upwardly against the

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stops 3' and come in front of the ejection bolt 27 on account of the action of spring 5.

Fig. 5 shows the assembly of the components without the magazine.

It may be assumed as stated hereinbefore that the handle part 8 is integral with the barrel 12, the trigger guard 14, and the spring abutment 13, or has been assembled therewith to form a unit. In the case of plastic parts they may be glued together. After a spring 21 has been pushed on the barrel 12 the slide 20 is moved into a position as shown in Fig. 5, whereby the spring 21 is compressed. While the spring 21 is in a highly compressed condition the slide 20 is then swung out of this position in the sense of arrow B. During that movement the guide extensions 25 come to lie below the guide extensions 26 of the handle part 8. After the guides 25, 26 have been moved to a position preparing their inter-engagement the slide 20 can be moved into the position shown in Fig. 1, whereby the spring 21 is relaxed. In this position a further movement of the slide to the left is prevented by the engagement of the rear wall 33 of the slide with a part 34 of the handle, e. g. the rear upper part thereof. After a magazine is inserted in the manner described hereinbefore the gun is ready for use.

It is apparent that the components used are very simple in form and that the special design and mutual arrangement of the components enable the assembly of the gun without requiring any additional parts.

To refill the magazine it is removed from the handle. Then the spring 5 is compressed and the inner casing 3 is pulled out of the outer casing 2. Since the inner casing 3 is substantially of channel section and entirely open on the front side a pile of superimposed tablets can be introduced into the groove thus formed.

It is readily apparent that the illustrative embodiment shown in the drawing and described hereinbefore permits of numerous modifications within the scope of the present invention, e. g. as regards the form and material of the

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components, and it is intended to cover also such modifications by the following claim.

What is claimed is:

A toy gun comprising, in combination, a handle part, a rearwardly open barrel rigid with said handle part, a slide carried by said handle part and movable relative thereto along the barrel between front and rear positions, said slide being formed with a front end portion, a stationary abutment carried by said barrel inside said slide behind said front end portion, a slide spring in the form of a compressible coil spring surrounding said barrel and held inside said slide between said front end portion and said abutment, a magazine removably held in said handle part and adapted to accommodate a pile of tablets, means for urging said pile upwardly in said magazine, stop means engageable by the uppermost tablet of said pile from below to locate it substantially in the axis of said barrel, an ejector member carried by said slide substantially in the axis of said barrel and lying behind said uppermost tablet in the rear position of said slide, and a trigger carried by said handle part and arranged normally to hold said slide in said rear position against the action of said slide spring yet actuatable to release said slide to permit it to be thrown forward by said slide spring, whereby the ejector member is caused to drive the uppermost tablet through and out of said barrel.

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