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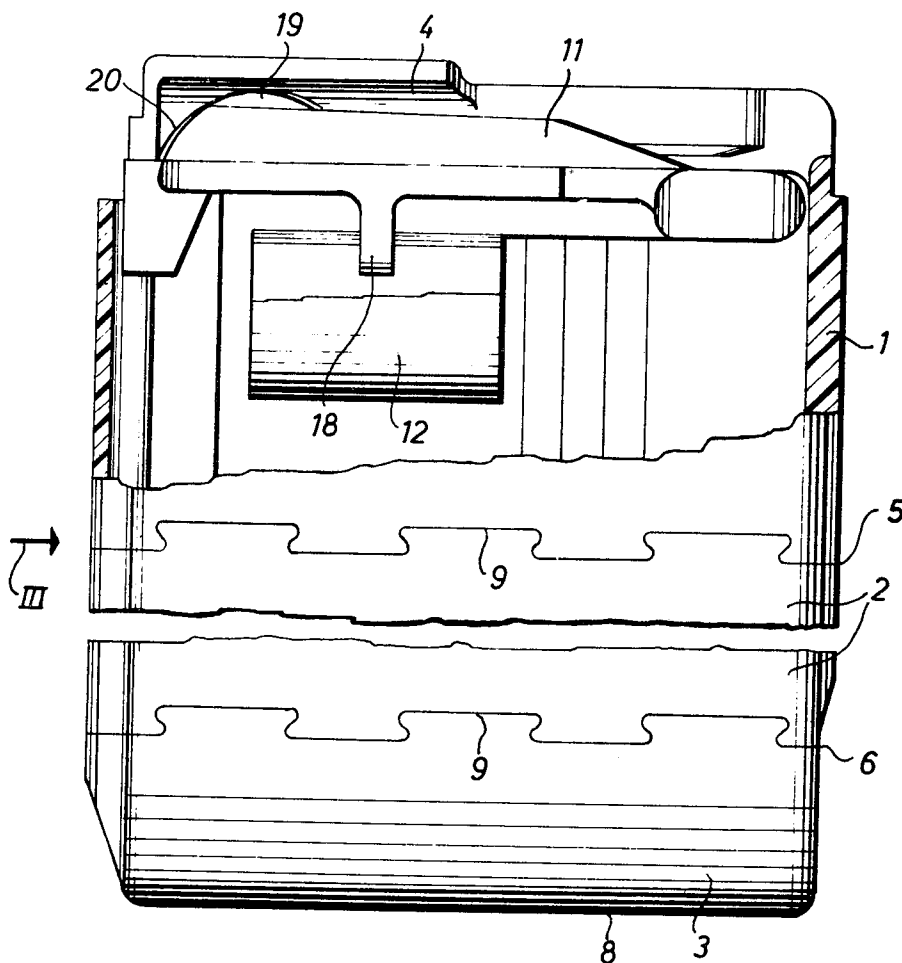
[54] **MAGAZINE FOR FIREARMS**
8 Claims, 4 Drawing Figs.

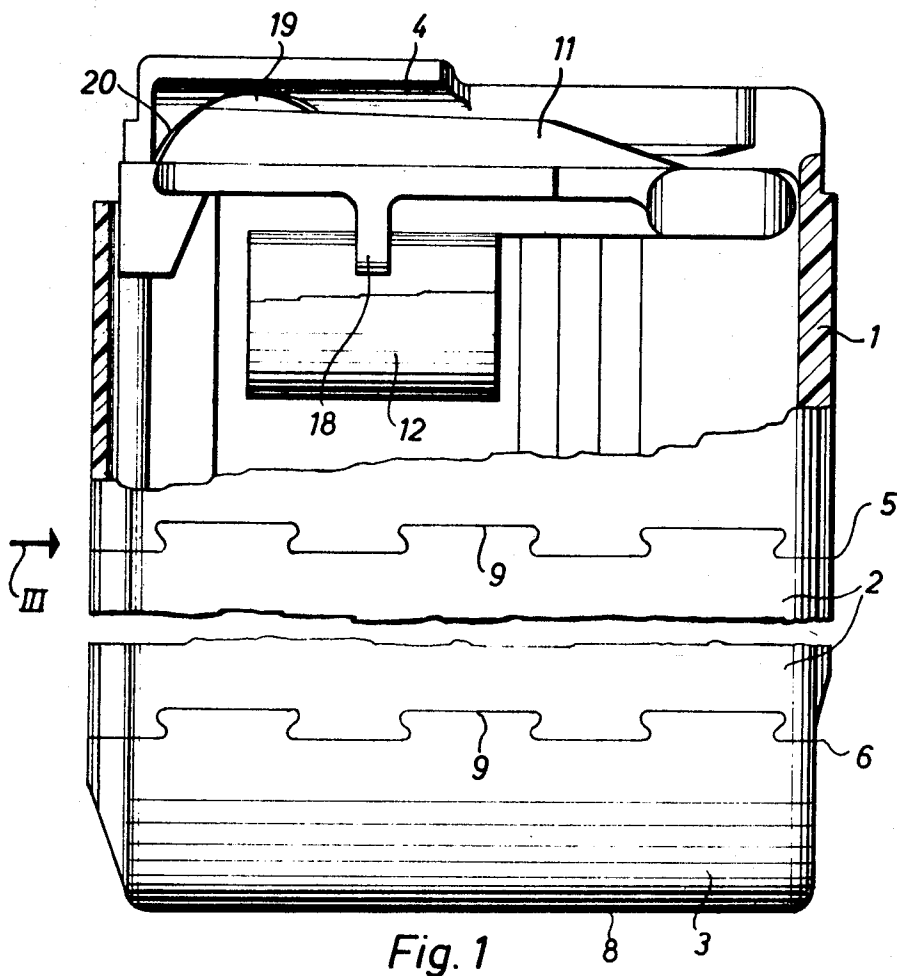
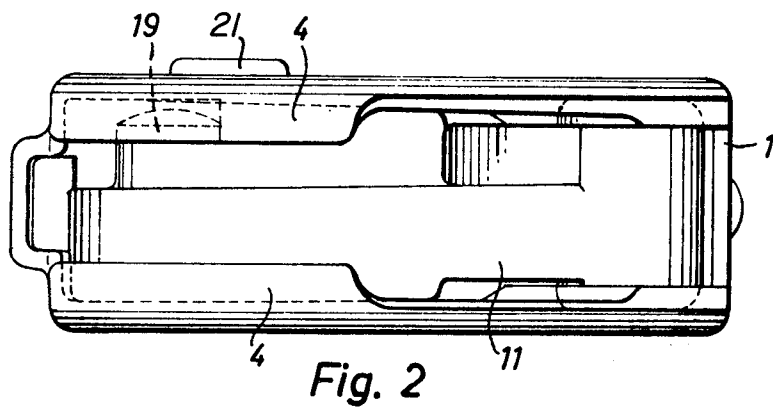
[52] U.S. Cl. 42/50
 [51] Int. Cl. F41c 25/02
 [50] Field of Search 42/50-
 -50.2

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ABSTRACT: A magazine consisting of plastic upper and lower components transversely split in the area of the sidewalls. The upper component comprises the magazine lips and the lower component comprises the magazine bottom. The follower spring is a rolled spring having a wound portion which engages the underside of the follower and the free end of which is secured to the inside of the upper magazine component. The magazine components are provided with relieved teeth for positive engagement at their adjoining ends; the magazine components may be provided with reinforcements at their adjoining ends, which serve simultaneously as stops by means of the magazine bearing against the end of the magazine chamber.





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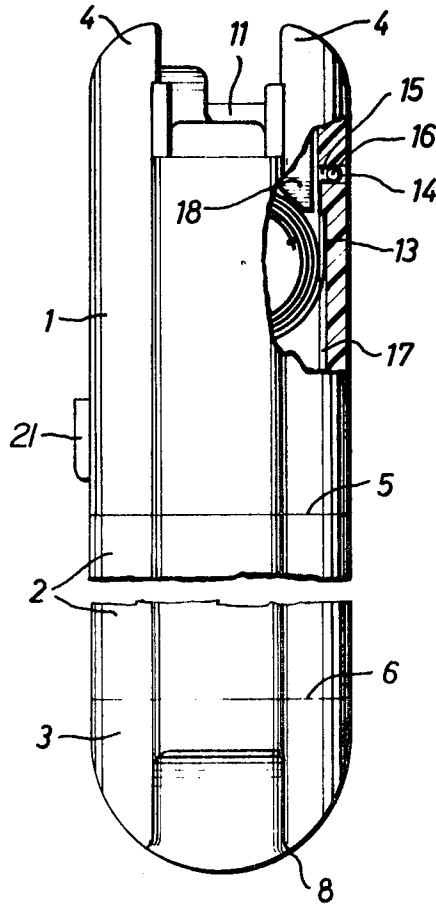


Fig. 3

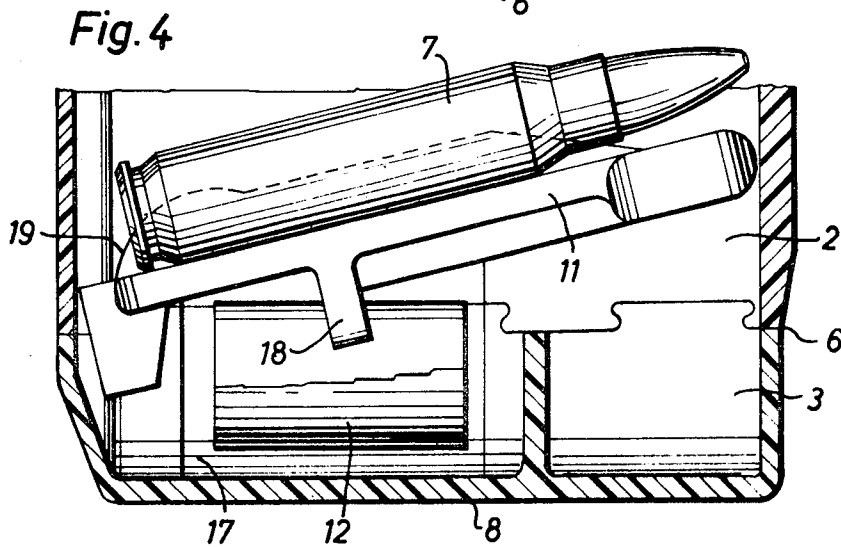


Fig. 4

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MAGAZINE FOR FIREARMS

The present invention relates to a magazine for firearms which is composed of two plastic components.

A magazine made of plastic, which consists of two half shells, each providing one sidewall and one lip of the magazine, is known from the German application No. 1,080,002. Adjacent to the sidewalls of the shells, webs are disposed which butt against each other and jointly form the narrow side and the bottom of the magazine. Although the half shells of these magazines may be produced with relative ease by casting or molding, assembling these components undoubtedly presents considerable difficulties since the follower and the follower spring must be installed in the half shells before the latter are joined. It is by no means obvious how the devices would have to be designed which would enable the follower and the follower spring to be inserted, in a preloaded condition, into one half shell and then the second half shell to be joined to the first one. As a matter of fact, plastic magazines have not as yet found widespread acceptance in practice.

Furthermore, a method is known by which the magazine casing is formed in a single piece and provided with a bottom plate. It is obvious that this method is restricted to the production of relatively short magazines because of the difficulties that would appear to be involved in molding or casting relatively long magazine casings in a single piece. In addition, fitting a bottom to such a casing would appear to involve considerably greater difficulties than fitting a similar bottom to a sheet metal casing and, above all, call for quite bulky strips or other members providing positive engagement for retaining the covering plate. Such members are not only expensive to provide but also very inconvenient in handling the magazine and especially for storing and keeping it in pouches or the like.

It is the object of this invention to avoid these disadvantages of the known plastic magazines and to provide a magazine which is both easy to produce and convenient to handle.

According to the invention this objective is accomplished by providing a magazine which is transversely split in the area of its sidewalls, featuring an upper component and a lower component connected to said upper component, said upper component comprising the magazine lips and said lower component comprising the magazine bottom, and in which the follower spring takes the form of a rolled spring the wound portion of which engages the underside of the follower and the free end of which is secured to the inside of the upper magazine component near the magazine lips.

Dividing the magazine along a transverse plane between the bottom and the magazine lips enables the components which are to be made of plastic to be kept comparatively short even for magazines of larger sizes so that these components may be manufactured in a simple manner. Furthermore, the individual components are easily combined since the follower and the follower spring, which takes the form of a rolled spring, may be installed in the upper component of the magazine before the lower magazine component is fastened and because said follower and said spring will be entirely accommodated in the upper component after the magazine has been assembled so that the lower magazine component may be fitted without any interference from the follower and the follower spring and entirely free from any forces. Furthermore, there is no need of providing the magazine with any projections extending beyond its walls, so that it may be stacked with ease and conveniently inserted into pouches or the like.

The fact that the lower magazine component may be fitted without giving any consideration to the follower and the follower spring enables the magazine components, in a further embodiment of the invention, to be provided with relieved teeth for positive engagement at their adjoining ends, preferably in the area of their sidewalls. Since the magazine components may be freely displaced in relation to each other, including in a direction perpendicular to the sidewalls, said relieved teeth may be readily brought into engagement with each other. The use of such teeth offers the particular ad-

vantage that no fixtures of any kind are required for keeping the magazine components together during manufacture, for example when said components are to be joined by an adhesive bond. Instead of an adhesive bond pins or the like may be used alternatively in order to provide a safe connection.

If the magazine is intended for firearms with a magazine chamber which is shorter than the magazine, the magazine components may be provided with reinforcements at their adjoining ends, said reinforcements simultaneously serving as stops by means of which the magazine bears against the end of the magazine chamber. These reinforcements simultaneously provide a particularly stable connection so that the walls of the magazine components may be kept particularly thin. In addition, one or more magazine components open at both ends may be inserted between the upper and lower components in order to obtain magazines of great length.

In a preferred embodiment of the invention the free end of the rolled spring is provided with at least one tab, bent off at an angle in an outward direction and folded back onto itself in a U-shaped loop, which is engaged by a slot on the inside of the upper part of the casing and retained in said slot by means of a pin. This ensures a particularly simple and, at the same time, very safe attachment of the end of the rolled spring. Furthermore, the follower may be provided with a transverse web disposed approximately at the center of its underside, with which it rests on the wound portion of the rolled spring, so that it will be uniformly loaded at all times, irrespective of the angular position which it assumes owing to the shape of the cartridges in the magazine. In addition, the follower may be provided with a projection at one of its edges with which the follower, in its uppermost position, strikes against a shoulder of the upper part of the casing before making contact with the magazine lips, so that the magazine lips, which are made of plastic, are relieved from the resulting load and thus cannot be deformed or forced outward by the impact of the follower at the end of its upward movement. The projection also prevents the follower from interfering with the breech mechanism and from being damaged by the latter.

Further details and embodiments of the invention will become apparent from the following specification, in which the invention will be described and explained in greater detail, reference being made to the embodiment shown by way of example in the accompanying drawing. In other embodiments of the invention, the features apparent from the specification and the drawing may be applied separately or in any desired combination. In the accompanying drawing

FIG. 1 is partially a side elevation and partially a section of a magazine according to the invention,

FIG. 2 is a top view of the magazine according to FIG. 1,

FIG. 3 is a view of the magazine according to FIG. 1 in the direction of the arrow III, and

FIG. 4 is a section through the lower component of the magazine according to FIG. 1 completely filled with cartridges.

The magazine shown in the drawing consists of three components 1, 2, and 3, which contact each other in planes 5 and 6 extending in transverse relation to the longitudinal direction of the magazine i.e. parallel to the magazine lips 4. The upper component 1 is part of the chamber accommodating the cartridges 7, and is provided with the magazine lips 4 at its outer end. The lower component 3 essentially constitutes the bottom part with a semicircular cross-sectional contour 8 (see FIG. 3) provided with sections forming a transition to the walls of the magazine. Between the upper component 1 and the lower component 3 there is a central component 2, which is open at both ends. It is obvious that such a central component 2 may be omitted and that the height of the bottom component 3 and/or the upper magazine component may be increased, if necessary, and that, on the other hand, more than one magazine component with two open ends may be inserted between the upper and the lower magazine components.

In order to provide a safe connection between the magazine components, the magazine components 1 to 3 are provided

with relieved teeth 9 of approximately dovetail shape at their adjoining ends in the area of the sidewalls. In the area of the narrow sides between the sidewalls, on the other hand, the separations extend along a straight, continuous line as clearly shown in FIG. 3, so that the magazine components may be easily assembled by sliding them in the direction of the separating planes 5 and 6. Connection between the magazine components 1 to 3 may be effected, for example, by means of an adhesive bond or by welding or by some mechanical arrangement, for example with the aid of pins. Especially where the location of the magazine components with relation to each other is fixed by means of pins, it is advisable to provide only one separation and to dispose this separation in the area of the magazine chamber, unless the magazine chamber of the firearm accommodates the magazine on its entire length. On the other hand, the separation may also be disposed outside the magazine chamber in close proximity to its edge and provide it with reinforcements serving as stops to limit the length on which the magazine may be inserted into the magazine chamber. This embodiment offers the advantage that there is no need of providing separate stops and that, at the same time, the magazine may be constructed with very thin walls, since the reinforcements ensure a stable connection.

The drawing shows that in the magazine according to the invention the spring loading the follower 11 takes the form of a rolled spring 12, the wound portion of which engages the underside of the follower 11 and the free end 13 of which is secured to the inside of the upper magazine component 1 near the magazine lips 4, as is clearly shown in FIG. 3. It will be noted that at its free end the rolled spring is provided with a tab 14, bent off at an angle in an outward direction and folded back onto itself in a U-shaped loop, which is engaged by a transverse slot 15 on the inside of the upper component 1 of the casing and retained in said slot by means of a pin 16 inserted into corresponding holes in the casing wall from one of the narrow sides. Furthermore, the sidewall of the magazine components with which the unwound end 13 of the rolled spring is in contact is provided with a longitudinal slot 17 for receiving said end. With the magazine completely filled the wound portion of the rolled spring 12 is situated within the bottom component 3 as shown in FIG. 4.

As may be noted from FIG. 4, the follower 11, in its lowermost position, is disposed at a substantial angle owing to the slight taper of the cartridges 7. This angle decreases as the follower approaches the magazine lips 4. The follower 11 thus goes through a tilting motion on its way from the lowermost to the uppermost position. To ensure a proper transmission of forces from the rolled spring 12 to the follower irrespective of its inclination, the underside of the follower is provided with a transverse web 18, with which the follower rests on the wound portion of the rolled spring. The height of the web 18 is such that the follower 11 may perform the necessary tilting motion with relation to the wound portion of the rolled spring 12 without any hindrance. In addition, one edge of the follower is provided with an upward curved projection 19, which strikes against a shoulder 20 of the upper component 1 of the casing before the follower makes contact with the magazine lips 4. The shoulder 20 is formed by a curved projection at the sidewall of the upper magazine component 1 adjacent to the projection 19 on the follower 11. This arrangement prevents the follower from striking against, and damaging, the magazine lips after the final cartridge has been fired, and furthermore prevents the follower itself from interfering with the breech mechanism of the firearm and from being damaged by the breech. It is, therefore, possible to use a plastic follower produced by casting or molding.

If the magazine is intended for firearms with a magazine chamber that is shorter than the magazine, the magazine components 1, 2, 3 may be provided with reinforcements 21 at their adjoining ends, which reinforcements simultaneously

serve as stops by means of which the magazine bears against the end of the magazine chamber. In addition, these reinforcements provide a particularly stable connection so that the walls of the magazine components 1, 2, 3 may be kept particularly thin.

From the above, it is apparent that the invention provides a plastic magazine which combines great simplicity of design with particular ease of production, not only because the various components are easy to manufacture, but also because the magazine may be assembled in a particularly simple manner. It is a special advantage that the components of the magazine may be combined together without any interference from the load applied by the follower spring.

It shall be understood that the invention is not restricted to the embodiment shown by way of example and that deviations therefrom are possible without exceeding the scope of the invention. As explained above, any desired number of magazine components may be combined into a unit, and the wall sections of the upper as well as the lower magazine components may have any desired length. In particular, magazines of different capacities may be produced for the most varied applications with the aid of one upper and one lower standard component by inserting intermediate components.

I claim:

1. A magazine for firearms composed of at least two plastic components, characterized in that said magazine is transversely split in the area of the sidewalls thereof, featuring an upper component and a lower component connected to said upper component, said upper component comprising magazine lips and said lower component comprising the magazine bottom, and in that a follower spring is formed by a rolled spring, the wound portion of which engages the underside of a follower and the free end of which is secured to the inside of said upper magazine component near said magazine lips.

2. A magazine according to claim 1, characterized in that the magazine components are provided with relieved teeth at the abutting ends thereof on two mutually opposed sidewalls, said teeth extending in the plane of said opposed sidewalls beyond the ends thereof for positive engagement between the teeth of the adjoining magazine components.

3. A magazine according to claim 2 for firearms with a magazine chamber which is shorter than the magazine, characterized in that the magazine components are provided with reinforcements at their adjoining ends, said reinforcements simultaneously serving as stops with which the magazine bears against the end of the magazine chamber.

4. A magazine according to claim 1, characterized in that one or more magazine components which are open at both ends are inserted between the upper and lower magazine components.

5. A magazine according to claim 1, characterized in that the free end of the roller spring is provided with at least one tab which is bent off at an angle in an outward direction and folded back onto itself in a U-shaped loop, said tab being engaged by a slot at the inside of the upper component of the magazine and retained in said slot by means of a pin.

6. A magazine according to claim 1, characterized in that the underside of the follower, approximately at the center of said follower, is provided with a transverse web extending substantially at a right angle to the axis of the rolled spring, with which said follower rests on the wound portion of the rolled spring.

7. A magazine according to claim 1, characterized in that the follower, at one of its edges, is provided with a projection, with which said follower, in its uppermost position, strikes against a shoulder of the upper component of the magazine before making contact with the magazine lips.

8. A magazine according to claim 2, characterized in that the bottom of the lower magazine component has a semicircular cross-sectional contour.