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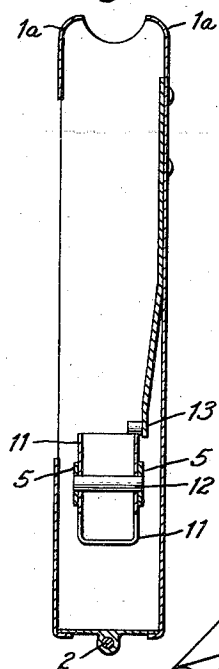
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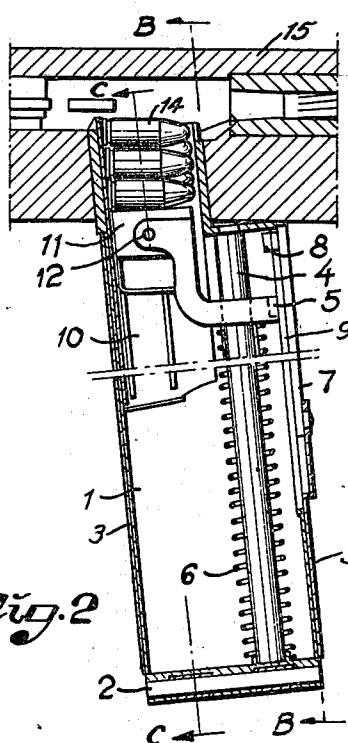
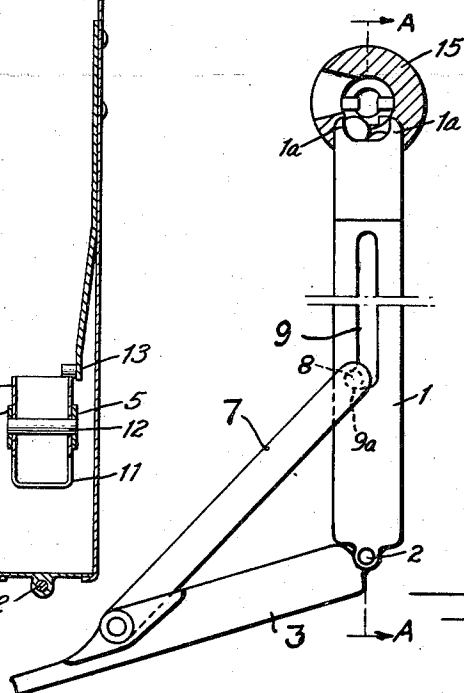
CARTRIDGE MAGAZINE WITH PIVOTED COVER

Filed May 29, 1947

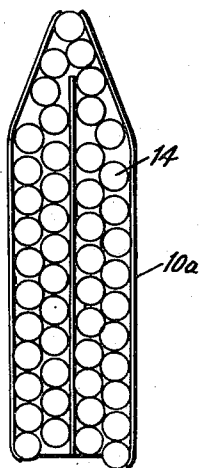
*Fig. 5*



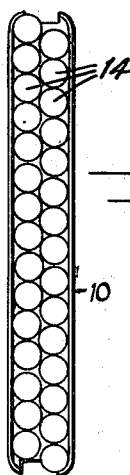
*Fig. 1*



*Fig. 3*



*Fig. 4*



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## UNITED STATES PATENT OFFICE

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## CARTRIDGE MAGAZINE WITH PIVOTED COVER

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In Sweden February 22, 1946Section 1, Public Law 690, August 8, 1946  
Patent expires February 22, 1966

2 Claims. (Cl. 42—50)

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The present invention relates to a cartridge magazine for automatic or semi-automatic firearms, in which the magazine constitutes a permanent part of the firearm and in which the cartridges are placed in a case which during the firing remains in the magazine. The object of the invention is to provide a construction which highly facilitates the insertion into the magazine of the case and in which the cartridges are reliably moved out of the case into firing position.

The invention is hereinbelow more fully explained with reference to an embodiment thereof illustrated in the annexed drawing, said embodiment representing, by way of example, a machine-pistol.

Fig. 1 is a front view, partly in section along the line B—B in Fig. 2, of part of the pistol with the lid of the magazine in open position. Fig. 2 shows part of the pistol and the magazine in a section along the line A—A of Fig. 1 with the lid of the magazine in closed position. Fig. 3 shows a cartridge case having two sections in which the cartridges are placed in four rows. Fig. 4 shows a cartridge case for two rows of cartridges. Fig. 5 is an enlarged section of the magazine on the line C—C in Fig. 2, with the magazine uncharged and the lid in open position.

Since the cartridge magazine according to the invention can be applied to various types of automatic or semi-automatic firearms of known constructions, the following description only deals with the magazine proper.

Referring to the drawing, the cartridge magazine 1 consists of a sheet metal box the upper end of which is suitably secured to the pistol 15. Two upper edges of the magazine are slightly bent inwardly as shown at 1a in order to retain the cartridge case. The lower portion is provided with a hinge 2 about which the magazine lid 3 can be swung. A guide member 4 is secured, at its upper and lower end, in the fore part of the magazine parallel to the walls thereof. This guide member 4 is formed as a rectilinear bar and serves the purpose of guiding a follower arm 5 which is movable up and down along said bar. The follower arm 5 is connected with the follower 11. Between the lower face of the follower arm 5 and the bottom of the magazine, there is provided a helical spring 6 which surrounds the guide member 4 and acts upon the follower arm 5 and thus constitutes the magazine spring or feeding spring. The fore edge of the lid 3 is pivotally connected with one end of a draw-link 7. At the other end of the draw-link 7, there is provided a stud 8 which extends through a slot

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9 in the fore wall of the magazine. When the lid is opened, the stud 8 comes into contact with the fore end of the follower arm 5 and moves said arm and the follower 11 downwards towards the bottom of the magazine under compression of the magazine spring 6. The slot 9 is at its lower end laterally bent like a hook 9a into which the stud 8 enters for locking the follower in its lower end position. In order to prevent unintentional upward movement of the follower and closing of the lid, a locking spring 13 connected with the wall of the magazine engages the follower when the magazine is empty and the lid is opened as shown in Fig. 5. In the position shown in Figs. 1 and 3, a case 10 filled with cartridges 14 can easily and rapidly be inserted laterally into the open magazine. When the lid 3 has been swung back so as to close the magazine, the draw-link 7 is in a position parallel to the lid and covers the slot 9 of the magazine wall so as to prevent dirt from entering the magazine. When the cartridge case 10 is inserted into the magazine and the lid has been closed, the cartridge case pushes away the spring 13, out of engagement with the follower 11. As a result thereof, the follower is moved upwardly against the lowermost cartridge in the case under the action of the spring 6, whereupon firing can begin at once.

The follower may be of any suitable type, but it must obviously be devised such as to fit the number of cartridge rows in the cartridge case. For instance, the cartridge case may contain but a single row of cartridges. It is, however, more advantageous to use a case for a plurality of cartridge rows, such as illustrated in Figs. 3 and 4 which show different types of cartridge cases 10a and 10, respectively, the case 10 being shaped so as to fit the magazine illustrated in Figs. 1, 2 and 5.

When a filled cartridge case is inserted into the magazine and the magazine lid 3 has been closed, the uppermost cartridge in the case is located tightly between the adjacent cartridge and the inwardly bent upper edge 1a of the cartridge case, which edge also serves the purpose of guiding the cartridge during its entrance into the barrel. The follower arm 5, which is actuated by the helical spring 6, carries the follower 11 which by means of a pivot 12 is rockably connected with said arm. By means of the spring 6, the follower 11 is forced directly against the lowermost cartridge in the case 10. On account of the usual conical shape of the cartridges, they cannot be placed parallel to each other in

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the case, but will take certain inclined positions, the angle of inclination increasing with the number of cartridges in the case. If the uppermost cartridge is located at right angles to the case, the lowermost cartridge will have a more or less oblique position as compared with the uppermost one. If both ends of the cartridge case are devised symmetrically, that is under the same angles, and if the magazine is located obliquely such that the uppermost cartridge is parallel to the axis of the barrel, the cartridge case can be inserted into the magazine with either of its ends upwards.

During firing, the bolt of the firearm pushes the uppermost cartridge out of the case into the barrel. At the same time, the follower lifts the remaining cartridges in the case, and the next cartridge will be forced against the upper inwardly bent edge of the case, and so on until the case is empty. Since the angular positions of the cartridges with respect to the case are varied gradually during the firing, the follower 11 should be automatically adjusted in accordance therewith. This is attained in the construction shown in which the follower is rockably mounted on the pivot 12 in such a manner that during the feeding of the cartridges the follower always is in entire contact with the lowermost cartridge or cartridges.

What I claim is:

1. A cartridge magazine for firearms comprising a magazine box having a cartridge discharge end, a cover hinged to said magazine box, a follower, a follower arm connected to said follower,

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a rectilinear guide member for said follower arm, a helical magazine spring surrounding said guide member and constructed and arranged to force said follower arm towards said discharge end, and a link pivoted to said cover, said link being constructed and arranged upon opening of said cover to move said follower arm in a direction away from said discharge end whereby to compress said magazine spring.

2. A cartridge magazine for firearms comprising a magazine box having a cartridge discharge end, a cover hinged to said magazine box, a follower, a follower arm, said follower being rockably connected with said follower arm, a rectilinear guide member for said follower arm, a helical magazine spring surrounding said guide member and constructed and arranged to force said follower arm towards said discharge end, and a link pivoted to said cover, said link being constructed and arranged upon opening of said cover to move said follower arm in a direction away from said discharge end whereby to compress said magazine spring.

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