M. G. FARQUHAR AND A. H. HILL.

CARTRIDGE MAGAZINE FOR RIFLES AND MACHINE GUNS.

APPLICATION FILED DEC. 30, 1918.

1,337,893. Patented Apr. 20, 1920.

2 SHEETS—SHEET 1.

Fig. 1.

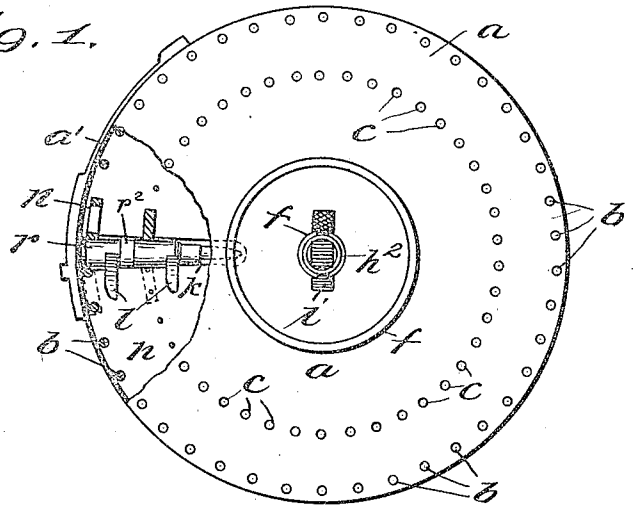
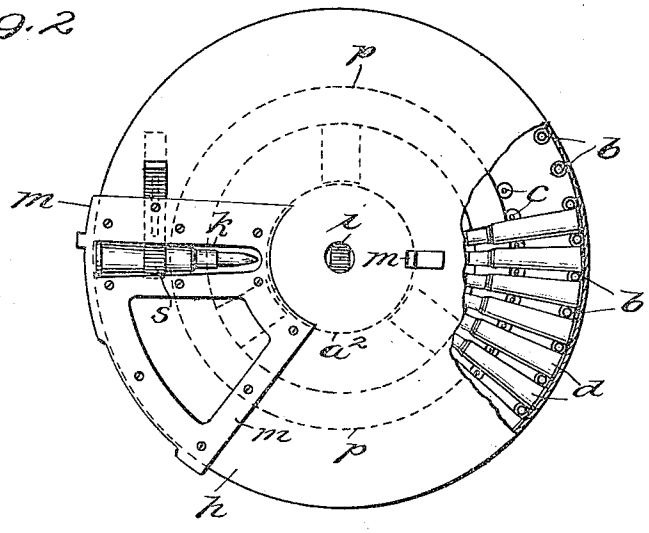


Fig. 2



Witness

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Fig. 3.

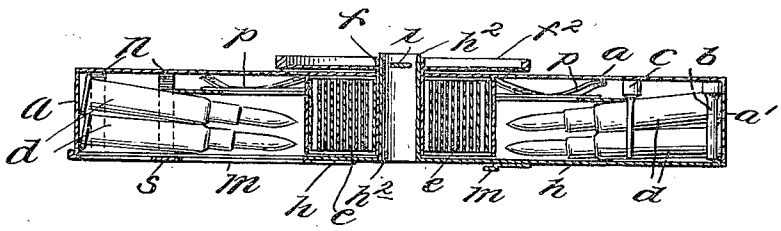


Fig. 4.

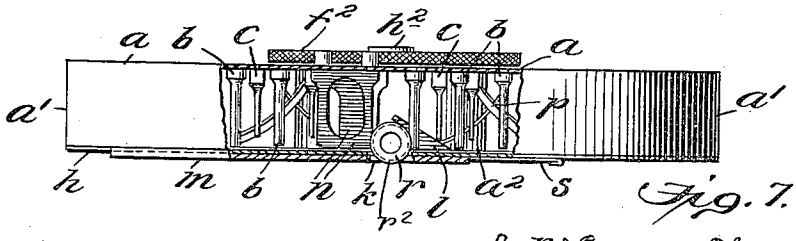


Fig. 7.

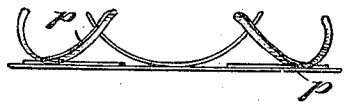


Fig. 5

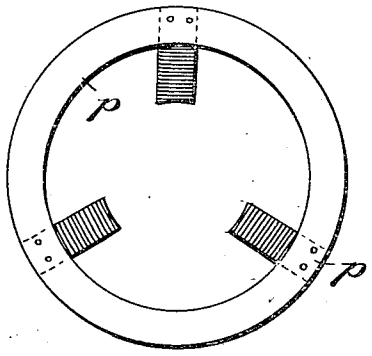
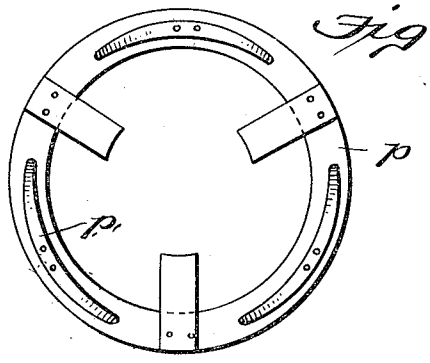


Fig. 6.



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UNITED STATES PATENT OFFICE.

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CARTRIDGE-MAGAZINE FOR RIFLES AND MACHINE-GUNS.

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Application filed December 30, 1918. Serial No. 268,968.

To all whom it may concern:

Be it known that we, MOUBRAY GORE FARQUHAR and ARTHUR HENRY HILL, subjects of the King of Great Britain, residing, respectively, at No. 46 Calthorpe road, Edgbaston, Birmingham, England, and No. 16 Loveday street, Birmingham, aforesaid, have invented a new and useful Cartridge-Magazine for Rifles and Machine-Guns, of which the following is a specification.

Our invention consists of the new or improved cartridge magazine hereinafter described for fire arms and machine guns, the said new or improved cartridge magazine being simple in construction, efficient in action and light in weight having regard to the capacity of the same.

The new or improved cartridge magazine constituting our invention comprises a shallow box, tray or drum having two annular or ring-like series of projecting pins or studs so shaped and spaced apart that they constitute separators for a series of cartridges arranged radially in the box or drum with the pointed ends of the bullets presented inward. An annular rim concentric with the outer rim or flange of the box, tray or drum may be arranged to support the contracted ends of the metallic cartridge cases.

Centrally arranged in the box, tray or drum is a spiral spring, which is capable of being wound up when the cartridge magazine is filled or partially filled so as to insure the automatic rotation of the said box, tray or drum when applied to the fire arm.

A cover plate which may have a rim or flange to fit over the rim or flange of the box, tray or drum has in it a radial slot of a size and shape proper to permit a cartridge to pass freely therethrough. On one edge of the slot in the said cover are two or more horns which on the motion of the box, tray or drum, which constitutes the cartridge carrier, remove the cartridges one at a time and feed them through the radial slot in the cover plate to the gun.

The cover plate has a preferably tubular axis which passes through a tubular bush to which one end of the spring of the magazine is fixed. The tubular axis and tubular bush referred to have cross notches therein with which a key or cross bar can be engaged the said key or cross bar engaging under undercut parts of the notches in the axis of the cover plate and thereby locking the cover plate in position. Or other locking or fastening means may be employed.

A slide or other cut off may be provided to prevent the feeding of the cartridges when the magazine is not required.

If thought necessary or desirable the magazine may be made of such a depth that more than one layer or series of cartridges can be arranged therein in which case a spring or springs may be provided for preserving the cartridges in position to be fed by the horns of the cover plate when the drum or carrier is being rotated by the spring.

We will further describe our invention in connection with the accompanying drawing.

Figure 1 represents in plan, partly in horizontal section the new or improved magazine before the same is charged or filled with cartridges.

Fig. 2 is a plan of underside partly in section of the said magazine partially filled with cartridges.

Fig. 3 is a vertical section showing two layers of cartridges for which the magazine is preferably constructed, the said magazine being shown in the position which it will occupy when applied to a fire arm which is to have an over feed.

Fig. 4 is a side elevation with a portion of the rim or flange of the box, tray or drum broken away.

Figs. 5, 6 and 7 are plans of opposite sides and an edge view of the spring-like platform which preserves the cartridges in their proper position with respect to the cover plate of the magazine.

Figs. 3 and 4 are drawn to a larger scale than the other figures of the drawing.

The same letters of reference indicate the same parts in the several figures of the drawing.

a is the shallow box, tray or drum shown inverted in Figs. 3 and 4 which position it occupies when the magazine is to be arranged for a downward feed of the cartridges. The said box, tray or drum *a* has affixed to its closed side the two ring-like series of projecting pins or studs marked respectively *b*, *c* which double row of pins or studs serve to separate the cartridges one from another. The bullets of the radially arranged cartridges *d* (Figs. 2 and 3) are presented inward and may touch the

central spring containing case a^2 in which the spiral propelling spring e for the drum a of the magazine is accommodated. One end of the said spring e is fixed to the flange a^2 constituting the outer wall of the spring containing case and the other end is fixed to the tubular spindle or hub f on which the magazine rotates when free to turn, the said spindle or hub f being on the disk f^2 by which the spring e is wound up when required.

The cover plate h of the drum which has a tubular axial projection h^2 on its inner side is fixed to the disk f^2 after the spring e is wound up to the requisite extent by a cross cotter or key i which is passed through the wider parts of notches in the spindle or hub f and through coincident holes in the tubular axial projection h^2 of the cover plate h, but other locking or fastening means may be employed.

The cover plate h has at one side a radial slot k which is provided with a slide or cut off s to be put into operation when the magazine is detached from the fire arm. The said cover plate also has a pair or other number of feed horns l on one edge of the slot k.

m, m are parts attached to the cover plate h to facilitate the positioning of the magazine with respect to the fire arm and to permit the ready attachment of the magazine to the fire arm and its detachment therefrom for re-charging.

n, n are projections in the drum which determine the starting position of the magazine.

p is a spring platform (shown detached in Figs. 5, 6 and 7) for preserving the cartridges in their proper position with respect to the cover plate h.

r (Figs. 1 and 4) is a dummy cartridge which is prevented from passing through the slot in the cover plate h by the band or enlargement r^2 on the body thereof.

To effect the charging of the empty magazine the cartridges are passed through the slot k in the cover plate h one by one the drum being rotated in a direction the reverse of that by which the feeding of the cartridges into the gun is effected. The radial slot k in the cover plate h being closed by its cut off s the spring e is wound up by the rotation of the disk f^2 and spindle or hub f and when wound up to the requisite extent the key i is passed through the notches in the hub f and through the coincident holes or slots in the axial projection h^2 on the cover plate h.

Or the empty magazine may be charged by removing the cover plate h from the box, tray or drum a and placing the cartridges, two in each space provided by each set of four radial pins or studs b, c, excepting the space provided by the pair of radial pins or studs b, c adjacent the projections n, n which is partially occupied by the dummy cartridge r and which space can in consequence only accommodate a single live cartridge until the magazine is filled. The magazine illustrated in the drawing is constructed for the accommodation of eighty-one live cartridges but we wish it to be understood that it may be constructed for the accommodation of a less or greater number than eighty-one as may be desired.

The drum a having been fully charged the cover plate h is replaced and the projections n, n occupy the positions indicated in dotted lines in Fig. 1 with respect to the feed horns l.

When the magazine is applied to the fire arm it is only necessary to withdraw the cut off s so as to remove the obstruction from the slot k when the feed of the cartridges is insured by the propelling spring e and by the horns l, l on the cover plate h against which the cartridges are forced by the rotation of the drum a.

When the box or drum a is made for the reception of one layer of cartridges only the spring platform p may be dispensed with in which case an annular rim or rib concentric with the outer rim or flange of the drum is provided to support the contracted ends of the metallic cartridge cases and preserve the cartridges in proper position with respect to the cover plate h.

A cartridge magazine constructed as hereinbefore described and illustrated being spring propelled and without external control other than is provided by the cover plate which is stationary when the magazine is applied to the fire arm will continue to feed cartridges with perfect regularity even should through carelessness, accident or other cause in charging the magazine some of the spaces be left unfilled or quite empty.

We claim:—

1. In a cartridge container, means for rotating said container, means for maintaining the cartridges in spaced relation therein, a cover member having formed therein a radial slot and cartridge feeding abutments positioned adjacent said slot and means including a spring-pressed plate positioned in said container for forcing cartridges through said aperture.

2. In a cartridge container adapted to be positioned on a fire-arm, means comprising a spiral spring for rotating said container, means for winding said spring, means comprising circular series of pins formed in said container for maintaining cartridges in spaced relation therein, a cover member having formed therein a radial slot through which cartridges are ejected, a spring platform mounted in said container, said platform being adapted to press the cartridges

toward said cover member, and means to guide cartridges into registry with said slot.

3. In a cartridge container adapted to be positioned on a fire-arm, means comprising a spiral spring for rotating said container, means for winding said spring, means comprising circular series of pins formed in said container for maintaining cartridges in spaced relation therein, a cover member having formed therein a radial slot through which cartridges are ejected, a spring platform mounted in said container, said platform being adapted to press the cartridges toward said cover member, means to guide cartridges into registry with said slot, and means to secure said cover member to said container.

4. In a cartridge container adapted to be positioned on a fire-arm, means comprising a spiral spring for rotating said container, means for winding said spring, means comprising circular series of pins formed in said container for maintaining cartridges in spaced relation therein, a cover member having formed therein a radial slot through which cartridges are ejected, a spring platform mounted in said container, said platform being adapted to press the cartridges toward said cover member, means to guide cartridges into registry with said slot, means to secure said cover member to said container, and means to prevent cartridges from being ejected from said container.

5. In a cartridge container adapted to be positioned on a fire-arm, a body portion adapted to hold the cartridges, spring means for rotating said body portion, means comprising circular series of pins attached to said container for maintaining the cartridges in spaced relation therein, a cover member provided with a radial slot through which cartridges are ejected, said cover member being provided with a plurality of fixed guide arms adjacent said slot, a spring-pressed plate positioned in said container and adapted to bear upon the forward end of the cartridges, and means to secure said cover member to said container.

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