

No. 646,792.

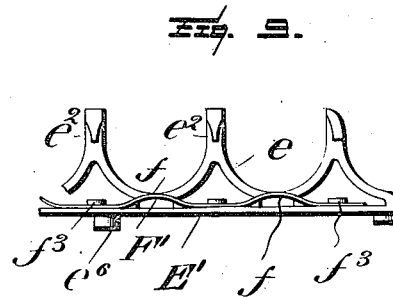
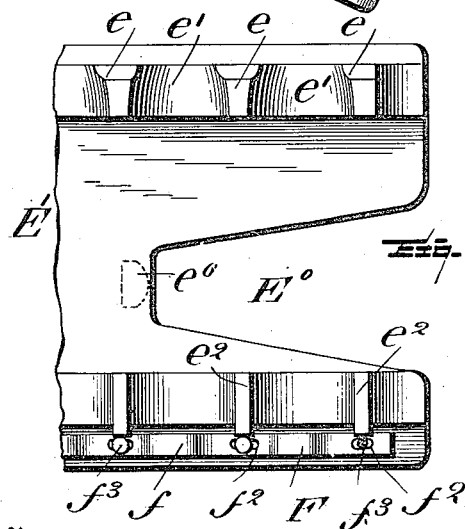
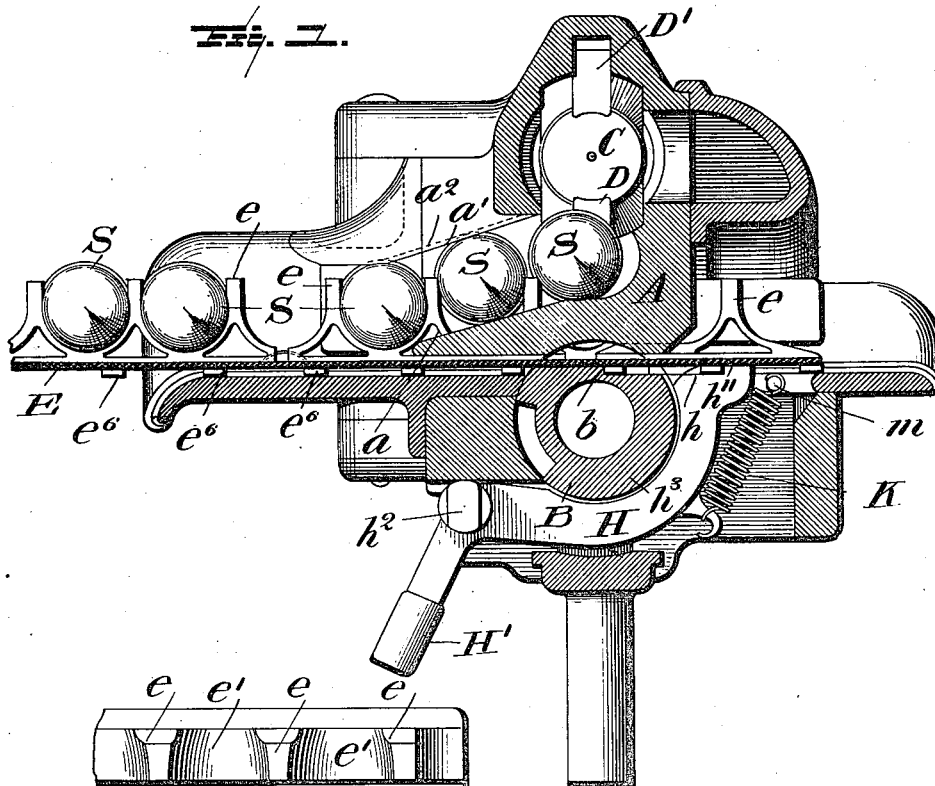
Patented Apr. 3, 1900.

L. V. BENÉT & H. A. MERCIÉ.
FEED STRIP FOR FIXED AMMUNITION.

(Application filed Aug. 28, 1899.)

(No Model.)

2 Sheets—Sheet 1.



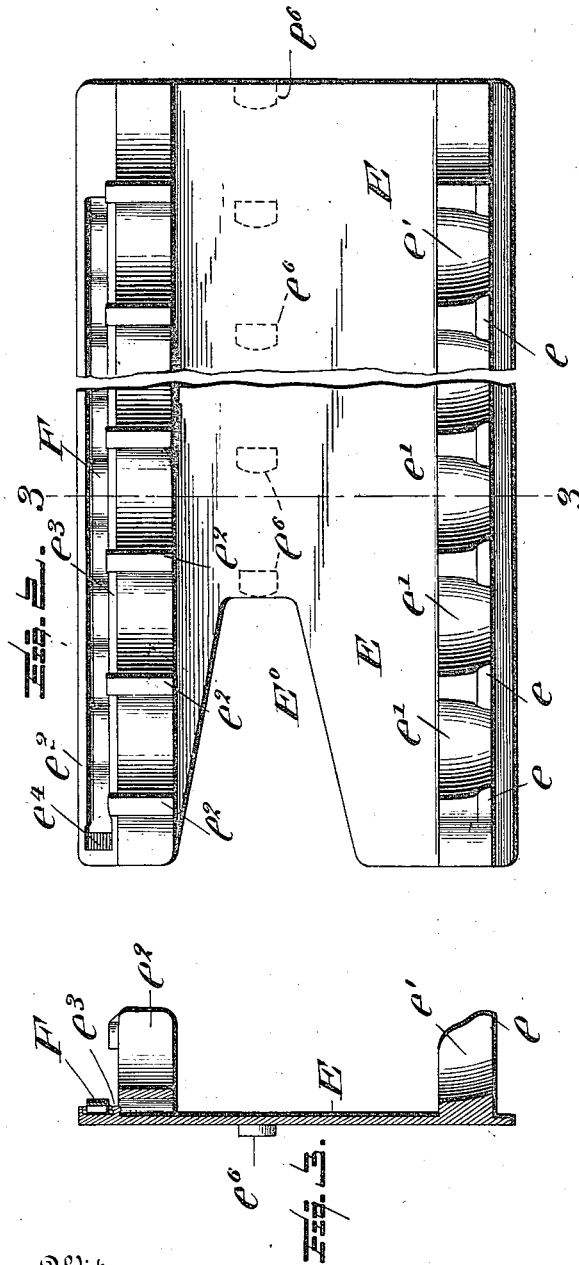
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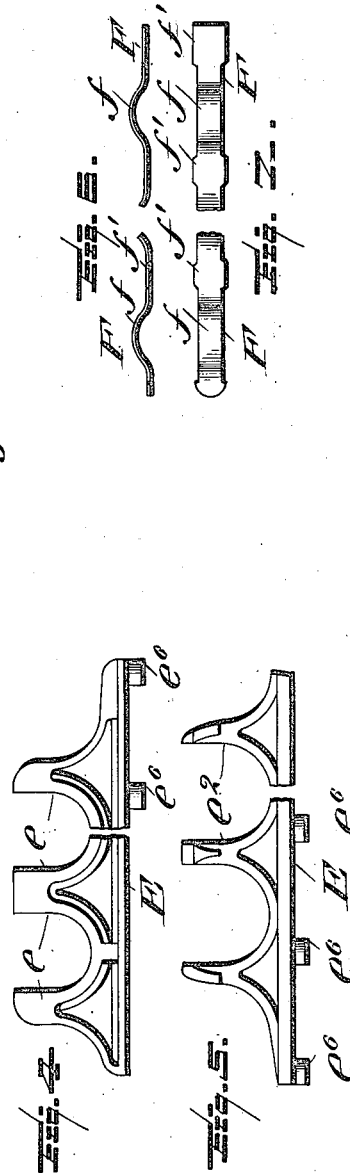
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2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

LAWRENCE V. BENÉT AND HENRI A. MERCIÉ, OF PARIS, FRANCE.

FEED-STRIP FOR FIXED AMMUNITION.

SPECIFICATION forming part of Letters Patent No. 646,792, dated April 3, 1900.

Original application filed May 2, 1899, Serial No. 715,342. Divided and this application filed August 28, 1899. Serial No. 728,771. (No model.)

To all whom it may concern:

Be it known that we, LAWRENCE V. BENÉT, a citizen of the United States, and HENRI A. MERCIÉ, a citizen of the Republic of France, both residing at Paris, Republic of France, have invented certain new and useful Improvements in Feed-Strips for Fixed Ammunition; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to improvements in feed-strips for use in automatic guns, and more especially intended for use in those automatic guns which are provided with a reciprocating piston, although the same might be applicable with or without changes to other guns.

The preferred form of gun in which we propose to use the feed-strip is shown and described in our pending application entitled "Improvements in automatic guns," filed May 2, 1899, Serial No. 715,342, in which the hereinbefore-described feed-strip is shown and of which application this is a division.

Referring to the drawings, Figure 1 represents a section across the gun, showing the feed-strip in position and looking toward the breech of the gun. Fig. 2 is a plan view of the feed-strip with the fixed ammunition removed therefrom, parts being broken away. Fig. 3 is a section of a device shown in Fig. 2 along the line 3 3 of said figure. Fig. 4 is a front elevation, partly broken away, of the feed-strip. Fig. 5 is a rear elevation, partly broken away, of the feed-strip. Figs. 6 and 7 are detail views of the resilient strip used for holding the cartridges in the feed-strip until it is desired to release the same, and Figs. 8 and 9 are views showing modified forms of the resilient strip.

A represents a part of the housing and rear of the powder-chamber of the gun; B represents the reciprocating piston, having cam-faces *b*; C represents the reciprocating breech-block, and D D' the extractors, all of which parts are fully described and shown in our application aforesaid and, not forming a part of our present invention, will not be further described herein.

The feed-strip consists, preferably, of a single casting E, of bronze or other metal, and holds ten or such other number of cartridges as will not exceed a suitable weight for quick handling. To the front of the strip are attached a series of clips *e*, which embrace the ogival heads of the projectiles. They are provided with a small overhanging loop so formed that the ogival head is held therein; but when the cartridge is slightly withdrawn to the rear the projectile is free from the clips and may be lifted bodily upward. To the rear of the strip are formed a series of clips *e*², which grasp the cartridge-case just in front of the rim thereof. The rim of the cartridge-case is pressed up against the rear face of these clips *e*² by means of an undulating strip, which is preferably formed as shown in Figs. 2 to 7, but which may be applied as shown in Figs. 8 and 9, if preferred. This resilient strip F, as shown in Figs. 2 to 7, is made of a single piece of thin metal with loops *f* and ears *f*'. These ears pass through an opening *e*⁴ of the feed-strip (see Fig. 2) and pass under the ribs *e*³ in the guideway at the rear edge of the feed-strip, as shown in Figs. 2 and 3. The loops *f* are so arranged as to project above the lower edge of the rim of the cartridge-case and to hold the cartridge in a forward position, with the ogival head engaging the clips *e*, until these loops are pressed down, when this cartridge may be moved rearward in its clips until the ogival head is disengaged, when the cartridge may be removed, either by hand or automatically, from the gun, as will be hereinafter described.

Instead of the form of undulating resilient strip shown in Figs. 2 to 7 we may use the strip F' with elongated eyes *f*², through which project the pins *f*³, by means of which the said strip is secured to the feed-strip E'. In either case the undulations of the holding-strip should register with the center of each pair of holding-clips *e*², as shown in Figs. 2 and 9. In either case if pressure be brought to bear upon an undulation from above it will be flattened down and the cartridge may be withdrawn to the rear.

On the under side of the feed-strip, when it is to be used with the guns of the character described, lugs or tenons *e*⁶ are provided,

which engage with the feed-eam *b* on the reciprocating piston B, which has been fully described in our application aforesaid. These lugs or tenons furthermore serve as locks against backward motion of the feed-strip by means of the teeth *h* and *h'* on the stop H, which stop is pressed upward by the spring K and is turned about the pivot *h*² by means of the handle H' when it is desired to withdraw the feed-strip from the gun before the cartridges therefrom have been fired; but the operations of the stop, of the piston, and of the other parts of the mechanism have been fully described in our application aforesaid and, not forming any part of our present invention, will not be further described herein.

The rear end of the feed-strip is recessed, as at E⁰, so that when the last cartridge has been fired the stop H may spring up and lock the piston, as has been described in the application aforesaid.

The operation of the feed-strip in the preferred type of gun has been explained at length in the application aforesaid, but will be briefly recapitulated.

The feed-strip is shoved into the guideway therefor in the housing A from the left of Fig. 1. The loops of the resilient strip will engage beneath and be pressed down by the tongue *a* of the housing, while at the same time the rim of the cartridge-case will engage in the cam-groove *a*², (shown in dotted lines in Fig. 1,) drawing the cartridge S far enough to the rear to disengage the front clip *e*, when the cartridge is free to move up the incline on the upper side of the tongue *a*, up which it is pushed by the clips until it reaches a position nearly in line with the axis of the bore. Then the lower extractor D on the forward stroke of the breech-block C pushes the cartridge home to the powder-chamber of the gun.

The feed-strip after once being inserted is fed automatically by means of the cams *b* on the reciprocating piston B (only one of said cams is shown) and the strip is normally prevented from being drawn backward by the tooth *h* on the stop H, while it is checked in its forward motion by the tooth *h'*.

By turning the stop down about its pivot *h*² by hand against the action of the spring K both of the teeth *h* and *h'* may be brought clear of the tenons and the feed-strip may be backed out of its seat.

Having thus described our invention, what we claim, and desire to secure by Letters Patent of the United States, is—

1. A feed-strip provided with cartridge-holding clips, and a continuous resilient abutment for holding the cartridges in place, substantially as described.

2. In a feed-strip, the combination with the front clip adapted to engage the ogival head of the projectile and to retain the same against radial movement when in place on said strip, of a rear clip to hold the rear portion of the cartridge, and a resilient loop normally press-

ing upward in rear of the rim of the cartridge-case and normally holding the same against longitudinal movement in said clip, substantially as described.

3. In a feed-strip, the combination with a plurality of front clips engaging the ogival heads of the projectiles and retaining the same against radial movement when in place on said strip, of a plurality of rear clips holding the rear portion of the cartridge, and a resilient strip having loops projecting upward in rear of the rims of the cartridges and holding the same against longitudinal movement in said clips, substantially as described.

4. In a feed-strip, the combination with a plurality of front clips to hold the ogival heads of the projectiles and to retain the same against radial movement when in place on said strip, of a plurality of rear clips to hold the rear portion of the cartridges, a guideway in rear of said rear clips, and a resilient strip having ears projecting into said guideway, loops projecting upward in rear of the rims of the cartridges, substantially as described.

5. A cartridge-holding feed-strip provided with the cartridge-holding clips, the resilient abutment, and a series of tenons for engaging with a reciprocating part of the breech mechanism, substantially as described.

6. A feed-strip provided with cartridge-holding clips, a continuous resilient abutment for holding the cartridges in place, and a series of tenons on the lower portion of said feed-strip for engaging with a reciprocating part of the breech mechanism, substantially as described.

7. In a feed-strip, the combination with the front clip adapted to engage the ogival head of the projectile and to retain the same against radial movement when in place on said strip, of a rear clip to hold the rear portion of the cartridge, a resilient loop normally pressing upward in rear of the rim of the cartridge and normally holding the same against longitudinal movement in said clip, and a series of tenons on the lower portion of said feed-strip for engaging with a reciprocating part of the breech mechanism, substantially as described.

8. In a feed-strip, the combination with a plurality of front clips engaging the ogival heads of the projectiles and retaining the same against radial movement when in place on said strip, of a plurality of rear clips holding the rear portion of the cartridge, a resilient strip having loops projecting upward in rear of the rims of the cartridges and holding the same against longitudinal movement in said clips, and a series of tenons on the lower portion of said feed-strip for engaging with a reciprocating part of the breech mechanism, substantially as described.

9. In a feed-strip, the combination with a plurality of front clips to hold the ogival

heads of the projectiles and to retain the same against radial movement when in place on said strip, of a plurality of rear clips to hold the rear portion of the cartridges, guideways
5 in rear of said rear clips, a resilient strip having ears projecting into said guideways, loops projecting upward in rear of the rims of the cartridges, and a series of tenons on the lower portion of said feed-strip for engaging with a

reciprocating part of the breech mechanism, so substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

LAWRENCE V. BENÉT.
HENRI A. MERCIÉ.

Witnesses:

S. HERYNGFET,
A. C. KOERNER.