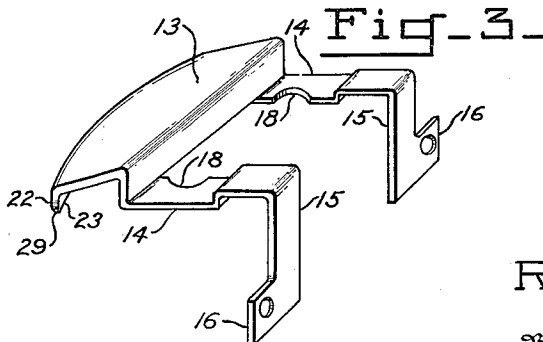
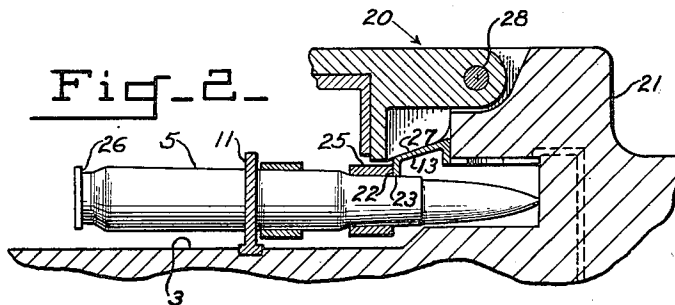
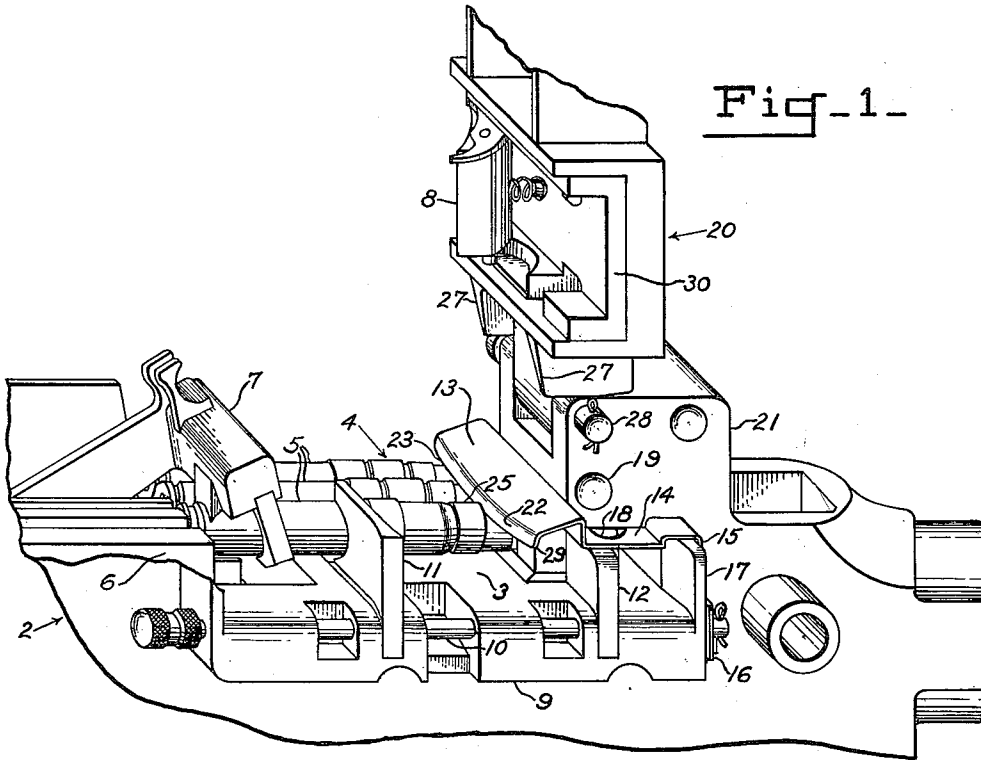


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R. C. HEENAN
SHORT ROUND DEVICE
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SHORT ROUND DEVICE

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The invention described herein may be manufactured and used by or for the Government for governmental purposes, without the payment to me of any royalty thereon.

This invention relates to improvements in firearms and is directed more particularly to an improved device for association with a machine gun of the belt-fed type whereby feeding of cartridges therethrough will be rendered more positive.

It is not unusual in the manufacture of cartridges and in the loading of the same into belts to find that occasionally a bullet is forced into its cartridge case beyond the proper seating depth resulting in an overall cartridge length shorter than the minimum prescribed for such cartridge. Cartridges of this nature are commonly referred to as "short rounds" and will invariably cause a failure to feed when loaded into a Browning type machine gun because the extractor will merely strike the base of the short round and push such forward until the bullet thereof strikes the conventional bunter plug at the front of the feedway.

To put it in another way, in Browning type machine guns, each round of ammunition in the belt is normally positioned in the feedway by the nose or point of the bullet striking the aforesaid bunter plug. When a short round is thus located, it would obviously be pushed too far forward to permit the extractor to engage the rear shoulder formed by the extractor groove in the cartridge case thereby invariably causing a failure to feed. It should be noted that the nose of the bullet, being usually of soft lead, is quite likely to be injured when the cartridge is driven forward to strike the bunter plate. In the case of frangible bullets used for training purposes, complete shattering will undoubtedly occur.

When ammunition is loaded into metallic links to form a belt, the metallic links, of course, surround the cartridge cases and are by the nature of their loading quite uniformly positioned each time on the cartridge cases with respect to the longitudinal axes thereof. It is apparent then that the forward edge of the links could provide a suitable locating point to stop the cartridge, and short rounds in particular, from being pushed forward too far to a point where the extractor is unable to engage the cartridge case. This locating feature of linked cartridges has been recognized in the construction of the device of this invention as will later be explained.

It is desirable in machine gun constructions adapted to use linked cartridges that it be possible to feed the cartridge belt into the gun from either the left or right hand side. As will later appear,

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the novel features of this invention are such that they in no way interfere with this interchange of feeding direction, but function equally well in both cases.

Accordingly it is an object of this invention to provide an improved method of aligning cartridges in the feedway of a machine gun with respect to the extractor thereof.

It is a further object of this invention to provide an improved short round device to positively eliminate stoppages in machine guns due to the inclusion of short rounds in a belt of cartridges by utilizing the front edge of the foremost case-holding link of the belt as a locating point.

Another object of this invention is to provide a short round device which functions equally well in a machine gun regardless of the direction in which the belt is fed therethrough.

It is a particular purpose of this invention to provide a short round device for a machine gun such as disclosed in U. S. Patent No. 1,293,021 to John M. Browning.

The specific nature of the invention as well as other objects and advantages thereof will clearly appear from a description of the preferred embodiment as shown in the accompanying drawings in which:

Fig. 1 is an oblique view of a portion of a machine gun illustrating the short round device applied thereto;

Fig. 2 is a partial longitudinal sectional view illustrating the manner in which the device abuts the foremost link of the linked belt; and

Fig. 3 is a perspective view of the short round device of this invention.

Shown in Fig. 1 is a portion of a machine gun of the Browning type which includes a receiver casing 2 having a transversely disposed feedway 3 for passage of a belt 4 carrying cartridges 5. A cover 20 is pivoted to casing 2 by a pin 28 and is illustrated in the open position in Fig. 1 and in the closed position in Fig. 2. An axially movable bolt 6 is provided with an extractor 7 for withdrawing cartridges 5 from belt 4. Bolt 6 serves in the well-known manner to cause actuation of a belt-feed slide 30 and pawl 8 thereby progressively moving belt 4 through feedway 3. Slide 30 is located in cover 20 as shown.

On each side of the gun is provided a bracket 9 for mounting a longitudinal pin 10. A conventional rear cartridge stop 11 and a front cartridge stop 12 are mounted on the right hand bracket 9 of casing 2 by longitudinal pin 10. On the left hand side of the gun is a similar longitudinal pin (not shown) but having mounted

thereon a belt-holding pawl (also not shown). It will be understood that while stops 11 and 12 are in the relationship shown when the gun is intended for left hand feeding, these same conventional parts are interchangeable to opposite sides of the gun from those shown in the drawing when it is desired to feed the belt from the right hand side of the gun.

The short round stop of this invention is preferably fabricated as by stamping or pressing from metal having spring-like characteristics. It consists essentially of a main body portion 13, connecting portions or resilient arms 14 extending forwardly from opposite ends of main body portion 13, and downwardly-depending portions 15 extending from the forward ends of connecting portions 14. Portions 15 have outwardly extending lugs or ears 16 which are slotted or apertured as shown in Fig. 3. Body portion 13 is slightly rearwardly and downwardly slanted from the point where such body portion joins with connecting portions 14.

When the short-round stop is properly mounted in the gun feedway as shown in Fig. 1, portions 15 lie adjacent the upwardly extending forward ends 17 of brackets 9 and are releasably secured thereto by the longitudinal pins 10, the forward end portions of which extend through the previously mentioned slots or apertures in ears 16. Connecting portions 14 overlie the top surfaces of bracket ends 17 and front cartridge stop 12. The main body portion 13 therefore extends transversely across feedway 3 in position to abut the forward edges of links 25 as will later be shown. There are clearance cuts 18 in connecting portions 14 so that trunnion rivets 19, one on each side of the cover-receiving portion 21 of gun casing 2, will offer no obstacle in mounting the short-round stop on the gun.

The rear edge of body portion 13 is curved convexly, substantially from end to end as shown, so that the center thereof projects rearwardly of the opposite end portions. What may be called a lip portion 22, projects both rearwardly and downwardly from the rear convex edge of body portion 13. Simultaneously the bottom free edge 23 of this lip portion 22 is curved convexly in a vertical direction so that the substantially central point thereof is in a horizontal plane below the opposite end portions as shown in Fig. 1. Thus there is provided a bearing point which extends both rearwardly and downwardly beyond any other part of the main body portion 13. It is at this point that lip portion 22 abuts the forward edge of the foremost link 25 of cartridge belt 4.

When cartridge belt 4 is placed in feedway 3 and gun cover 20 is closed, rearwardly and downwardly inclined lug surfaces 27 on either side of cover 20 mate with and slightly depress main body portion 13, as shown in Fig. 2, to insure that lip portion 22 lies in front of the forward edges of links 25. The belt feed slide 30 is actuated in the manner typical of the Browning type machine gun to bring a cartridge 5 into chambering position. As this is accomplished, lip portion 22 abuts the forward edge of the foremost link 25 in cartridge belt 4 and free edge 23 of lip portion 22 abuts the top of the neck of cartridge 5. As a result, cartridge 5 is correctly positioned longitudinally in feedway 3 so that extractor 7 will engage the rear shoulder 26 formed by the annular cartridge groove to extract cartridge 5 from belt 4.

When a short round is included in cartridge 5

belt 4, the device of this invention will keep such short round in the same relative position as any normal cartridge by lip 22 preventing any forward movement of the short round when bolt 6 with extractor 7 returns to the closed or "battery position" within the gun. Thus extractor 7 will positively extract cartridge 5 from belt 4 and prevent misfeeds in the gun.

It is preferred that the corners of lip portion 22 be rounded as shown at 29 to prevent any catching or "hanging up" of the links. Another preferred feature is the elevation of the body portion 13 relative to connecting portions 14 and the subsequent angle of depression of body portion 13 from the horizontal. This permits lip 22 to have more "spring" thereby increasing the positiveness of the effect of this short round device. It should also be noted that the structure described for this short round device produces a very stiff lip portion 22 which admirably resists deformations from repeated contact with the cartridges.

As the gun is fired and the cartridge belt advances in the feedway, the cartridges readily slide under this short round device and the empty link slides out equally well due to the convexly curved shape of main body portion 13.

Thus there is here provided an improved short round device for a machine gun which positively eliminates any gun stoppages by utilizing the forward edge of the foremost link as a bearing point by which the cartridge can be properly positioned for extraction regardless of the overall length of such cartridge. Moreover this device functions equally well in left or right hand feeding of the gun due to its symmetrical construction and its location in the gun. It is also simple in construction and economical to manufacture.

I claim:

1. In a belt fed machine gun having a transverse feedway adapted to receive a linked belt of cartridges from either side of the gun, means for progressively feeding the link belt across the feedway to an extraction position, a bolt longitudinally movable therein, and an extractor pivotally mounted on the bolt arranged to extract cartridges from the link belt, the improvement comprising, a resilient unitary device removably mounted on the gun adjacent the forward side of the feedway and including a main body portion extending across the feedway above the linked belt and forwardly inclined with respect to the feedway, connecting arms extending forwardly from opposite ends of said main body portion, said arms adjacent the outer sides of the gun and terminating in downwardly depending portions by means of which said device is removably mounted on the gun, and a downwardly depending rear lip portion extending transversely across the feedway, said rear lip portion being curved convexly in two planes so that the central portion thereof is both rearward and downward from the opposite ends of said rear lip portion, all adapted and arranged whereby the said central portion lies in abutment with the forward edge of the foremost link in the belt of cartridges and resiliently bears upon the neck of the cartridge contained in said link to properly position such cartridge in the feedway for extraction from the belt.

2. A short-round corrector for a machine gun having a transverse ammunition feed passage through which an ammunition belt may operatively pass from one side of the gun to the other, said corrector comprising a generally flat body portion terminating rearwardly in a downturned

lip uniformly curved convexly in two planes so that the central portion of said lip is positioned downwardly and rearwardly with respect to the ends thereof, a pair of resilient arms integral with and extending forwardly from, the respective forward corners of said body portion, each said arm terminating forwardly in a downward extension having an aperture in its end, said corrector when assembled in a gun having its lip positioned to engage and accurately position the forward upper edges of the ammunition belt as it traverses the feed passage of the gun.

ROBERT C. HEENAN.

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