

Jan. 27, 1953

W. C. MILLER

2,626,476

TWO-PART RELEASE TRIGGER FOR GUNS

Filed Aug. 14, 1951

Fig. 1

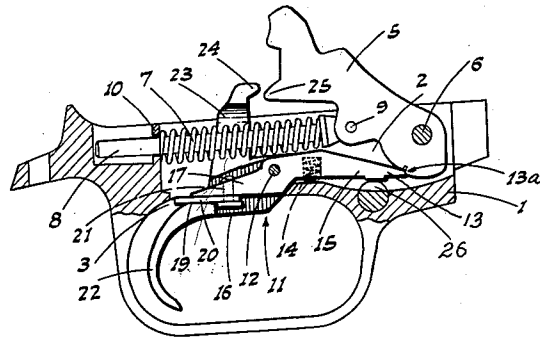


Fig. 2

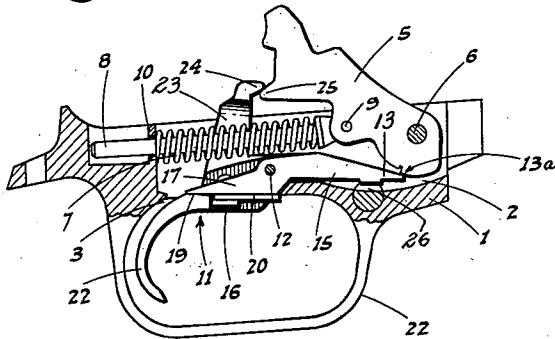


Fig. 3

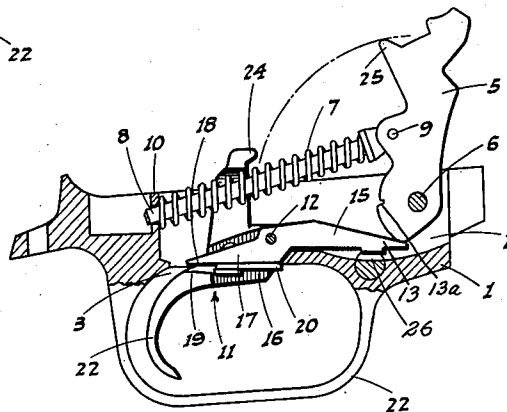
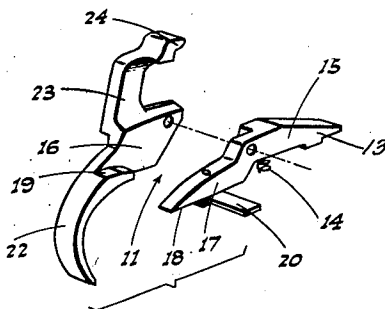


Fig. 4



INVENTOR

Willis C. Miller

BY

W. C. Miller & Co.  
ATTORNEYS

## UNITED STATES PATENT OFFICE

2,626,476

## TWO-PART RELEASE TRIGGER FOR GUNS

Willis C. Miller, Sacramento, Calif.

Application August 14, 1951, Serial No. 241,831

3 Claims. (Cl. 42-69)

1

This invention is directed to, and it is the major object to provide, an improved trigger for guns; the trigger being especially designed, but not limited, for use on shot guns.

Another important object of the invention is to provide a novel trigger which can be set, selectively, for use as a conventional rear-pull trigger preferred for hunting, or as a released trigger especially adapted for skeet or trap shooting.

A released trigger is one which trips the hammer, for firing, only after a rear pull followed by a forward release motion of the finger piece of the trigger. A released trigger is preferred by many for skeet or trap shooting, for the reason that the forward release of the finger-piece of the trigger is less likely to cause flinching.

An additional object of this invention is to provide a trigger, as above, which requires only a simple manual adjustment of a single element of the trigger to set it for either conventional rear pull, or released trigger use.

A further object of the invention is to provide a dual-adjustment type trigger, as described, which can be locked—against firing of the gun—by the conventional safety device, whether the trigger is in either setting thereof.

It is also an object of the invention to provide a dual-adjustment type trigger which is designed for ease and economy of manufacture and installation.

Still another object of the invention is to provide a practical and reliable trigger for guns, and one which will be exceedingly effective for the purpose for which it is designed.

These objects are accomplished by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claims.

In the drawings:

Fig. 1 is a side elevation of the trigger as set for conventional rear-pull use; the trigger block being partly in section, and the hammer being shown cocked.

Fig. 2 is a similar view, showing the trigger as adjusted for released trigger use; the hammer being cocked and the parts being in the positions occupied thereby after rear pull on the finger-piece, but before its forward release to fire the gun.

Fig. 3 shows the trigger as in Fig. 2, but after forward release of the finger-piece to fire the gun; the hammer being shown in its forward throw position.

Fig. 4 is a perspective exploded view of the sectional trigger assembly.

2

Referring now more particularly to the characters of reference on the drawings, the invention is embodied in a trigger structure which includes an elongated channeled trigger block 1, wherein the channel is indicated at 2; there being a bottom slot 3 in the rear portion of said channel to permit of the projection of certain of the trigger parts, as will hereinafter appear, into the confines of the trigger guard 4.

A hammer 5 is pivoted, at its forward end, in the corresponding portion of the channel 2 by a transverse pivot pin 6; such hammer being adapted to swing from a rearwardly inclined cocked position to an upstanding fired position, as shown in Figs. 1 and 3, respectively.

The hammer 5 is always under the load, from the rear, of a compression spring 7 carried on a spring guide rod 8. The spring guide rod 8 is pivoted, at its forward end, as at 9, to an intermediate point on the hammer 5, while said rod, at its rear portion, slides through an abutment 10 which also serves as a stop for the adjacent end of the spring 7.

Within the channel 2 of the trigger block 1, and below the hammer 5 and spring 7, there is a longitudinally extending trigger, indicated generally at 11, such trigger being pivotally mounted, intermediate its ends, on a transverse pivot pin 12.

A primary sear 13 at the forward end of the hammer 11 normally engages a seal notch 13a located at a point on the hammer 5 below the pivot pin 6 and maintains the hammer 5 in its rearward cocked position. The trigger 11 is urged upwardly, to releasably maintain the sear 13 in engagement, by a compression spring 14 engaged between the bottom of channel 2 and said trigger ahead of the transverse pivot pin 12.

The trigger 11 is two-part, being comprised of a forward section 15 on the front end of which sear 13 is located, and a rearward section 16 lapping at adjacent ends, and at said ends being carried on the transverse pivot pin 12.

The forward section 15 of the trigger 11 includes a rearward extension 17 having a downwardly facing abutment 18 in normally spaced but aligned relation with an upwardly facing abutment 19 on the rearward section 16.

The space between the abutments 18 and 19 is normally filled in matching relation by a small thin spacing finger 20 secured by a vertical pivot 21 to the rearward extension 17; such spacing finger being manually accessible from within the guard 4, and swingable from a rearwardly projecting position between the abutments 18 and 19 to a forwardly projecting position clear thereof.

3

When the spacing finger 20 is engaged between the abutments 18 and 19, the sections 15 and 16 of the trigger are maintained in rigid relation for rear-pull use of the finger-piece 22 of the trigger to release the sear 13 so that the hammer 5 swings forwardly to fire the gun.

The rearward section 16 of the trigger includes, in laterally offset relation to the rearward extension 17, a short rigid upstanding arm 23 which extends alongside the spring 7 and thence turns back at the upper end in overhanging relation to said spring.

In its upper end the arm 23 includes a secondary sear 24 arranged for cooperative engagement with a corresponding sear shoulder 25 on the hammer 5. As the elements 24 and 25 are normally adjacent but apart, the sear 24 is not engaged during conventional or rear-pull use of the trigger; the hammer 5 being free to swing forward immediately upon release of the primary normally engaged sear 13.

For use as a released type trigger, the spacing finger 20 is manually engaged and swung out from between the abutments 18 and 19 and set in a forwardly projecting position, as in Figs. 2 and 3.

With this adjustment, initial rearward pull on the finger-piece 22 swings the rearward section 16 of the trigger a distance to engage the secondary sear 24 before the abutments 18 and 19 engage. Thereafter, with slight further rearward pull on the finger-piece 22 the primary sear 13 releases, but the hammer 5 does not swing forward because of the prior engagement of the secondary sear 24.

Thereafter, as long as the finger-piece 22 is held in its rearwardly pulled position, the gun does not fire, but immediately upon the finger-piece 22 being released and swinging forward under the influence of the spring 14, the sear 24 releases, whereupon the hammer swings forward and the gun fires.

With the described trigger, and by the simple expedient of manipulating the spacing finger 20 between a rearwardly projecting and a forwardly projecting position, the trigger can be converted from a normally rear-pull type to a released-trigger type, making it possible for the same gun to be used for hunting, and skeet and trap shooting, respectively.

The numeral 26 indicates a transversely shiftable safety of conventional type, and as such safety cooperates with the forward section 15 of the trigger, such safety is effective when in an "on" position, irrespective of the setting of the spacing finger 20.

From the foregoing description it will be readily seen that there has been produced such a device as substantially fulfills the objects of the invention, as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

Having thus described the invention, the fol-

4

lowing is claimed as new and useful, and upon which Letters Patent are desired:

1. A trigger structure, for the hammer of a gun, comprising a trigger having a finger piece, the trigger including a longitudinal forward section and a longitudinal rearward section, means pivoting said sections at adjacent ends for swinging about a transverse axis, a finger piece depending from the rearward section, a primary sear between the forward section and the hammer engaged when the latter is cocked, a secondary sear between the rearward section and the hammer engaged only when said rearward section is initially swung by the finger piece separately from the forward section, and means between said sections arranged for adjustment whereby a rear-pull on the finger piece first swings the rearward section followed by swinging of the forward section, or swings said sections simultaneously, selectively; said last named means comprising spaced abutments on said sections, and a member manually movable between a position engaged between the abutments and a position clear thereof.

2. A trigger structure for the hammer of a gun comprising a two-section trigger including a forward section and a rear section disposed in side by side relation, a transverse pivot pin mounting the sections in the gun for separate rotation, a finger piece depending from the rear section, vertically spaced abutments on the sections rearwardly of the pin whereby upon a rear-pull on the finger piece the rear section is initially separately swingable a limited distance before the sections then swing in unison, a primary sear on the forward section to engage the hammer when the latter is cocked and releasing the same only upon swinging of said forward section, a secondary sear on the rear section to engage the hammer upon said initial limited-distance swinging of said rear section and released only upon forward motion of the finger piece subsequent to a rear-pull thereof, and a spacing element mounted on one trigger section arranged for selective manual projection between the abutments to hold the same apart.

3. A structure as in claim 2, in which said element is a flat finger substantially as thick as the normal spacing between the abutments, said finger being pivoted on the underside of the forward section parallel to and normally ahead of the corresponding abutment and adapted to be manually swung to a rearward position between said abutments.

WILLIS C. MILLER.

#### REFERENCES CITED

The following references are of record in the file of this patent:

#### UNITED STATES PATENTS

Number	Name	Date
1,245,889	Duflot	Nov. 6, 1917
2,027,950	Young	Jan. 14, 1936
2,233,504	Young	Mar. 4, 1941
2,406,980	Young	Sept. 3, 1946