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OSCILLATING FEED TRAY IN A RAMMING DEVICE FOR A GUN

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Fig. 1.

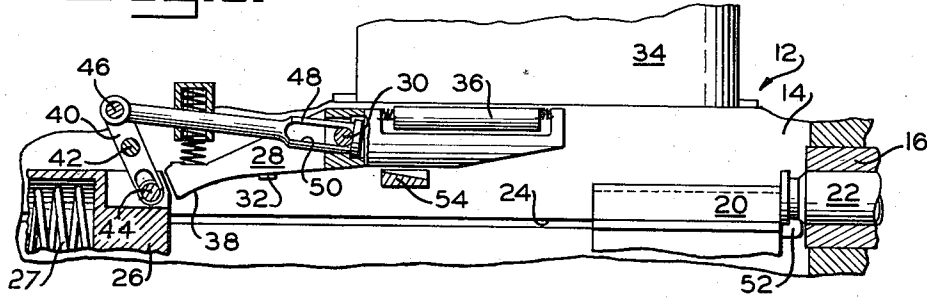


Fig. 2.

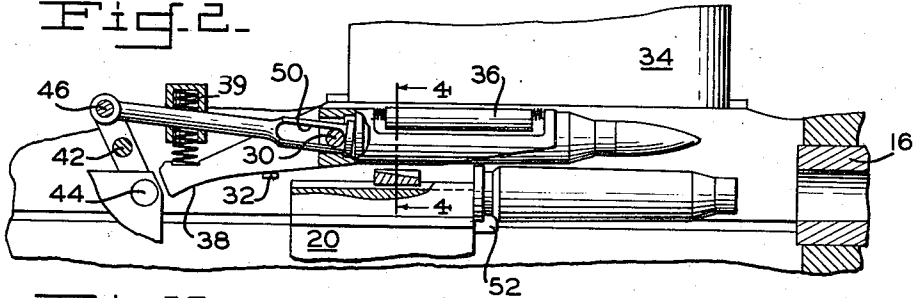


Fig. 3.

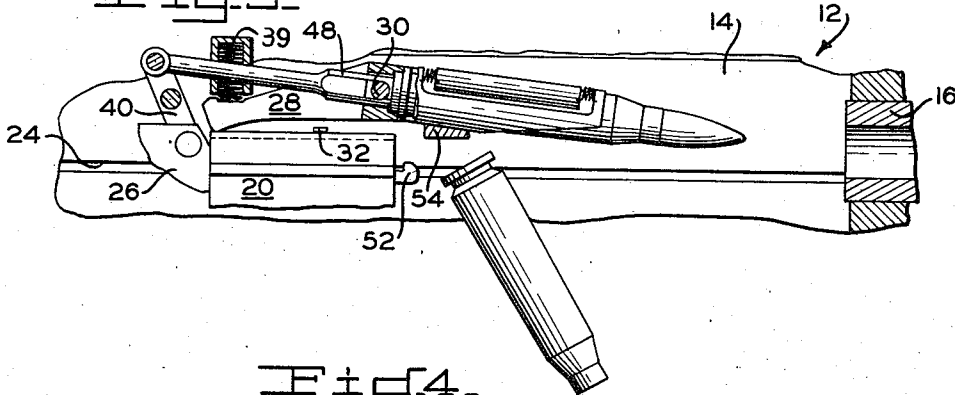
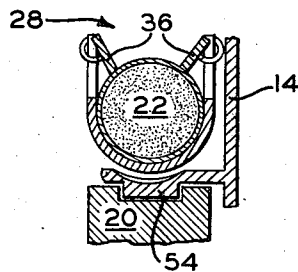


Fig. 4.



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## OSCILLATING FEED TRAY IN A RAMMING DEVICE FOR A GUN

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4 Claims. (Cl. 89—33)

Our invention relates to a bolt operated gun and more particularly to a ram device therefor.

The gun is provided with a barrel, a receiver with an adjacent feed throat, a bolt biased to a closed position therein to retain the cartridges in the barrel for discharge and a spring-biased buffer for engagement with the bolt. The bolt is disposed for reciprocal operation and a feeder on the receiver supplies successive cartridges to a ramming position in the throat adjacent the path of the bolt responsive to the discharge.

It is an object of our invention to provide the gun with a device for conducting the cartridges to the barrel from the ramming position.

Another object of our invention is to provide a ramming device having a pivotable member for directing the cartridges into the barrel.

Other aims and objects of our invention will appear from the following explanation thereof.

In carrying out our invention, a tray pivoted in the throat is spring-biased to a normal position for receiving the cartridges from the feeder. The tray includes a pair of spring-biased detents for retaining cartridges therein and a cam for engagement with the bolt to pivot the cartridges into alignment with the breech end of the barrel responsive to the reciprocal operation. A lever pivoted in the throat is coupled at respective ends thereof to a buffer and a rammer for propelling the cartridges into the barrel responsive to engagement of the bolt with the buffer.

For a more complete understanding of our invention reference is directed to the following description and the accompanying drawing in which:

Fig. 1 is a partial elevational cross-sectioned view of a gun incorporating our invention with the bolt in the closed position thereof;

Fig. 2 is a similar view with a cartridge enclosed in the trough;

Fig. 3 is a similar view of the point of ramming; and

Fig. 4 is a view along line 4—4 of Fig. 2.

Accordingly, a gun 12 with a receiver 14 includes a barrel 16 for chambering cartridges. A bolt 20 is conventionally biased to a closed position to retain cartridges 22 in barrel 16 for discharge and disposed for slidable reciprocation in tracks 24 of receiver 14 responsive to the discharge. Buffer 26 is mounted for longitudinal reciprocation in receiver 14 and is biased by a spring 27 to a forward position for engagement by bolt 20 to absorb the recoil energy therein. The engagement of bolt 20 with buffer 26 causes rearward movement thereof.

A tray 28 is pivotally mounted at 30 in receiver 14 and is biased by a spring 39 into engagement with an ejector stop 32. Tray 28 is provided with longitudinal sides which receive therebetween successive ones of the cartridges 22 moved by a feeder 34 to a feed position paral-

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lel to the axis of barrel 16 responsive to the discharge of the gun. A detent 36 is pivotally mounted on each of the sides of tray 28, and such detents are spring-biased against the upper sides of the cartridge 22 in such tray to prevent displacement of such cartridge when the tray is pivoted. A cam 38 is disposed on tray 28 for engagement by bolt 20 during the rearward strokes thereof to pivot the tray so as to align the cartridge 22 therein into alignment with the breech opening in barrel 16, and spring 39 biases the tray to a longitudinal position for receiving the cartridges from the feeder.

A lever 40 pivoted at 42 is pivotally connected at the opposite ends 44 and 46 thereof to buffer 26 and a rammer 48 respectively. A slot 50 is provided in rammer 48 to receive pivot 30 and rammer 48 is disposed to propel cartridges 22 from tray 28 into barrel 16 responsive to engagement of bolt 20 with buffer 26.

A spring-biased claw 52 is provided on bolt 20 for extraction of cases of cartridges 22 from barrel 16 and the cases engage an ejector stop 54 in the receiver for rotation thereof from the claw responsive to the reciprocal operation. Stop 54 also limits rotation of tray 28.

Although a particular embodiment of the invention has been described in detail herein, it is evident that many variations may be devised within the spirit and scope thereof and the following claims are intended to include such variations.

We claim:

1. In a gun including a receiver, a barrel secured thereto disposed to chamber cartridges and provided with a breech opening, a bolt biased to a battery position to retain the cartridges in the barrel for discharge and disposed for axial reciprocation in rearward and forward strokes responsive to the discharge, a buffer disposed to slide axially in the receiver and spring-biased for engagement with the bolt in the rearward strokes to transmit energy thereof to the receiver, and a feeder to successively supply the cartridges to a feed position responsive to the discharge, a ramming device comprising a tray mounted on the receiver for pivotal movement between a receiving position corresponding to the feed position for receiving cartridges successively supplied by the feeder thereto and a ramming position wherein the cartridges received by said tray are axially aligned with the breech opening, means for biasing said tray to said cartridge receiving position, cam means on said tray engageable by the bolt during the rearward strokes thereof for pivoting said tray to the ramming position, a ram movable against the bases of the cartridges received by said tray for propelling the cartridges into the barrel breech, and lever means disposed between said ram and the buffer for transferring the rearward movement of the buffer when engaged by the bolt during recoil strokes thereof to said ram.

2. A ramming device as in claim 1 with said tray provided with parallel sides and detents respectively pivoted thereon for enclosure of the cartridges, said detents being spring-biased to retain the cartridges in said tray for the displacement between the cartridge receiving and ramming positions.

3. A ramming device as in claim 1 with a pin for pivotally mounting said tray to the receiver, and said lever means being provided with a lever pivoted on the receiver and pivotally secured to the buffer, and said ram being pivotally secured to said lever and provided with a slot having slidable engagement with said pin during actuation of said ram.

4. A ramming device as in claim 1 with an ejector

stop engaged by said tray when in the cartridge receiving position and by the cartridge cases carried by the bolt during the rearward strokes thereof; and a hook disposed on the bolt for engagement with the extraction grooves of the cartridges chambered in the barrel, said hook being disposed for extraction of the cases of the cartridges from the barrel and said ejector stop being disposed for rotation of the cartridge cases from said hook when engaged with said ejector stop during the rearward strokes of the bolt.

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