

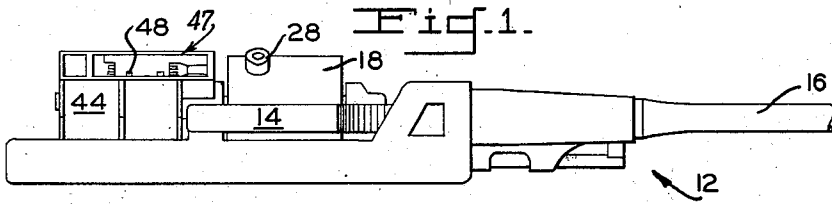
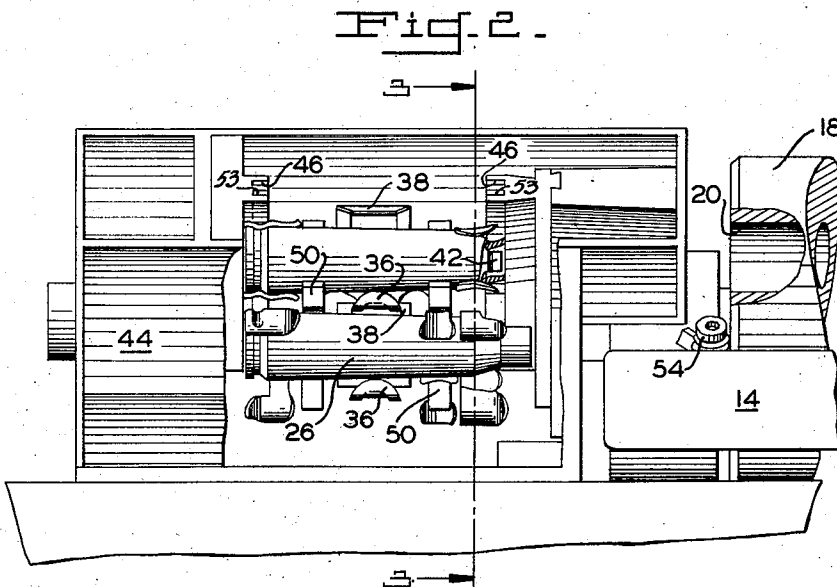
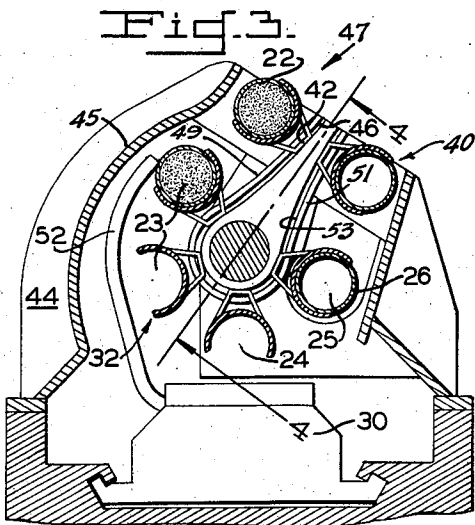
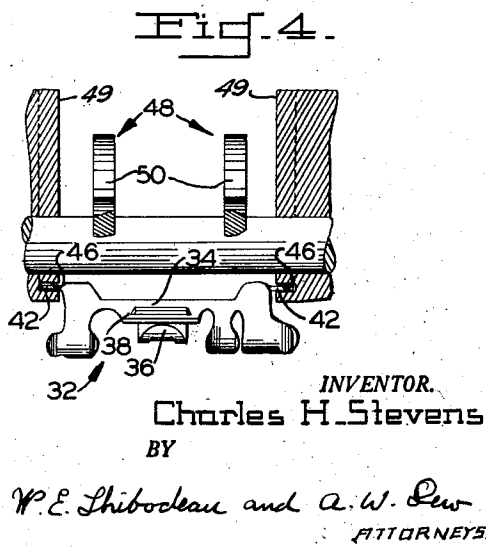
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2,845,005

RELINKING FEEDER

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2,845,005

RELINKING FEEDER

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1 Claim. (Cl. 89—33)

(Granted under Title 35, U. S. Code (1952), sec. 266)

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

My invention relates to automatic revolver-type guns and more particularly to a relinking feeder therefor.

The conventional revolver-type gun includes a drum having chambers disposed for rotation thereof to successive corresponding stations, for charging cartridges into the chambers, for discharge of the cartridges and for removal of the cases of the cartridges from the chambers.

The cartridges are inclosed in the links of an ammunition belt and a feeder of the gun includes a pair of sprockets rotated by the drum and engaged with the belt to successively propel the links to the charging station and place the cartridges into the chamber at the charging station. The links include oppositely projecting axial tabs which are slidably received by grooves in the feeder to guide the links while being moved by the sprockets.

The links are disengaged from the belt when the cartridges are removed therefrom and expelled from the gun and an extractor removes the cases of the cartridges from the chambers in the extraction station so that the links and the cases leave the gun separately in conventional revolver-type guns.

This weapon is principally employed in aircraft where storage space is limited whereby the cases of the discharged cartridges and the links are separately ejected from the aircraft. Such disposition particularly in formation flying is hazardous but the problem of storage space for the discharged cases and the links separately in the aircraft is acute. However, the space required for storage would be materially reduced if the links and cases could be reassembled after discharge.

It is an object of my invention, therefore, to retain the links in the belts and to provide a feeder for returning the cases of the cartridges to the belt links after discharge of the cartridges in the gun.

A further object of my invention is to provide a feeder with a pair of guides having grooves for guiding the links to the firing and extraction stations of the gun.

Additional aims and objects of my invention will appear from the following description and accompanying drawing in which:

Fig. 1 is an elevation of a gun incorporating one embodiment of my invention;

Fig. 2 is an enlarged view similar to Fig. 1 partly cut away;

Fig. 3 is a view along line 3—3 of Fig. 2; and

Fig. 4 is a view along line 4—4 of Fig. 3.

Accordingly, a gun 12 is provided with a recoil unit 14 having a barrel 16 and a drum 18 having chambers 20 for cartridges 22. The drum is provided with stations corresponding to chambers 20 including a charging station 23, a firing station 24 in axial alignment with the barrel for discharge of cartridges 22, and an extraction station 25 adjacent the firing station for removal of cases 26 of cartridges 22 from drum 18.

Drum 18 includes peripheral rollers 28 and an actuator

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30 is provided for engagement therewith and for reciprocal operation with respect to recoil unit 14 to successively rotate the chambers to the stations responsive to the discharge of the cartridges 22 in barrel 16.

Cartridges 22 are inclosed in links 32 having body portions 34 with hooks 36 and loops 38 respectively engageable to form an ammunition belt 40. Links 32 also include pairs of oppositely projecting axial tabs 42.

A feeder 44 is disposed in gun 12 rearwardly of drum 18 and includes a housing 45 having a port 47 to permit entrance and return of ammunition belt 40. Disposed inside of housing 45 is a guide 49 provided with a pair of grooves 46 each of which engages one of the pairs of tabs 42 for slidably guiding the links 32 from port 47 to the charging station so that the cartridges inclosed in the links at such charging station are longitudinally aligned with the one of the chambers 20 in such charging station. Guide 49 continues in an extension portion 51 to form a loop therewith and terminates at port 47. Provided in portions 51 are grooves 53 which extend respectively from grooves 46 to guide the links 32 to extractor station 25 in position to receive the cases 26 when extracted from drum 18, as hereinafter described, and carry them out port 47. Belt 40 is moved to selectively align the links 32 with the chambers 20 in the charging and extracting stations by a pair of sprockets 48 provided with teeth 50 for engaging the body portion 34 of the cartridges 22. Sprockets 48 are splined to drum 18 for rotation therewith.

Actuator 30 is provided with an arm 52 for ramming the cartridges into the chambers 20 at the charging station and an extractor 54 is disposed on recoil unit 14 for removal of cases 26 from the chambers at the extraction station and for projection into the link positioned by the sprockets 48 at such extraction station responsive to the reciprocal operation. Thereby, links 32 and cases 26 leave gun 12 in a continuous belt for compact storage.

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 claim is intended to include such variations.

I claim:

In a gun supplied with cartridges by an ammunition belt comprised of a plurality of links for slidably receiving the cases of the cartridges and provided with tabs extending from the front and rear ends, the combination of a rotatable drum, a plurality of chambers in said drum, actuator means for rotating said drum to sequentially align said chambers to a charging, a firing and an extraction station, sprocket means joined to said drum for rotation therewith and engaged with the ammunition belt for actuation thereof, a guide having a pair of grooves for respectively receiving the tabs to slidably guide said links into alignment with the ramming station, a rammer actuated by said actuator means for ramming the cartridges from the ones of the links aligned with the ramming station into the corresponding ones of said chambers, a loop portion of said guide extending from the ramming station to the extraction station and out of the gun, groove means in said loop portion continuing from said pair of grooves to slidably receive the tabs and guide the links to the extraction station and subsequently from the gun, and extractor means for removing the fired cases from said drum into the ones of the links aligned with the extraction station.

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