Our invention relates to a recoil- operated, revolver-type automatic gun and more particularly to an extractor for removing discharged cartridge shells therefrom.

In such a gun, a unit including a drum support with a barrel is biased to a battery position on a receiver, and a drum including cartridge chambers and corresponding index rollers is rotatably disposed on the drum support. The unit is slidable in recoil and counterrecoil strokes on the receiver, and the receiver is provided with a cam for engagement with the index rollers to sequentially convey the chambers to a firing station and an extraction station, respectively, for discharge of the chambers and for removal of the cases of the discharged cartridges from the drum responsive to the discharge.

The cam includes a portion for engagement with the rollers to maintain the drum at rotational rest during the latter portion of the counterrecoil stroke of the recoil unit, and it is an object of our invention to provide a device for extracting the case of the discharged cartridge from the drum during this latter portion.

Another object of our invention is to provide a positive action extractor for removing the cases from the drum. A further object of our invention is to provide an extraction device for ejecting discharged cartridge cases from the gun.

A still further object of our invention is to provide such a gun for ejection of discharged cartridge cases by means of the feed wheel of the gun.

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

In carrying out our invention a pawl including a pivot tip is transversely disposed on the drum support for projection of the tip into the extraction groove of a cartridge case chambered in the extraction station. A bell crank lever pivot disposed on the recoil unit is linked to the pawl, and disposed for engagement with a receiver cam for rearward axial operation of the pawl, to remove the case from the drum responsive to the counterrecoil stroke of the recoil unit.

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

Fig. 1 is an elevational section of a revolver-type automatic gun incorporating our invention with the recoil unit at the end of the rearward stroke thereof;

Fig. 2 is an elevational section similar to Fig. 1 with the recoil unit in battery position thereof;

Fig. 3 is a view along line 3—3 of Fig. 1 with the recoil unit at the end of the rearward stroke;

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

Fig. 5 is a view along line 5—5 of Fig. 2.

Accordingly a revolver-type automatic gun 12 includes a receiver 14 with a unit 16 slidable disposed thereon. The unit includes a barrel (not shown), a support 17, and a rotatable drum 18 with cartridge chambers 28 and corresponding index rollers 29 disposed in the receiver with an indexing cam 23 disposed in the receiver. The drum is disposed on the support for rotation of the chambers to stations including a station in axial alignment with the barrel for discharge of projectiles therethrough and the unit recoils and counterrecoils to successively index the chambers to the firing station and to a station immediately subsequent thereto, for removal of the cases of the discharged cartridges from the drum, responsive to the discharge. The extraction station is shown in Fig. 1 with a cartridge 24 chambered therein. Cartridge 24 includes an extraction groove 25. Fig. 1 also depicts a feed wheel 26 coaxial with drum 18, and disposed rearwardly thereof. Feed wheel 26 includes sprockets 28 with tooth spaces 29 corresponding to chambers 28.

A pawl 30 axially slidably on recoil unit 16 includes a pivot tip 32, and a crank 34 rotatably disposed on recoil unit 16, is connected to pawl 30 by a link 36. A cam follower 38 projecting from crank 34 engages an extraction cam 40 of receiver 14.

Pawl 30 is disposed forwardly in the first portion of the counterrecoil stroke of recoil unit 16, and tip 32 is spring-biased to a normal position to engage extraction groove 25 as cartridge 24 is rotated to the extraction station. The pawl is displaced rearwardly when discharged cartridge case 24 is in the extraction station, to project the case from drum 18, responsive to extraction cam 40. Tip 32 pivots at the end of rearward motion of pawl 30 to permit discharged cartridge case 24 to continue rearwardly.

A case buffer 42 is provided at the rear of the feed wheel tooth space corresponding to the extraction station, and a detent 44 is pivoted in the receiver, and spring-biased to a normal position to permit passage of the cases to corresponding tooth spaces and to retain the cases therein. An ejection chute 46 is disposed adjacent feed wheel 26 and the cartridge cases are progressively propelled into the ejection chute by the feed wheel.

The most effective embodiment of buffer 42 was found to be a solid block of aluminum.

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. An automatic gun including a receiver, a unit axially slidable therein, a drum with chambers for cartridges rotatably disposed in the unit and provided with stations therein for the chambers including a firing station for discharge of the cartridges and an adjacent extraction station for removal of the cases of the cartridges from the drum, and a feed wheel secured to the drum for rotation therewith and provided with tooth spaces corresponding to the chambers, the unit being disposed for axial reciprocation in recoil and counterrecoil strokes responsive to the discharge, an ejection device comprising an extraction mechanism with a pawl disposed for axially sliding operation in the recoil unit to engage the extraction station cases for projection thereof to the corresponding tooth spaces responsive to the reciprocation, and means adjacent the feed wheel to axially restrain the cases in the corresponding tooth spaces and guide the cases from the gun responsive to the rotation.

2. An extraction device as in claim 1 including an extraction cam disposed in the receiver, and a lever pivoted on the recoil unit for engagement with said extraction cam and linked to said pawl for the axially sliding operation.

3. An extraction device as in claim 2 with a tip pivoted on said pawl and spring-biased to a normal position to engage the cases in the extraction station for the projection responsive to the counterrecoil strokes.

4. An extraction device as in claim 1 with said adjacent means including a buffer and a detent disposed in the receiver adjacent the extraction station tooth spaces to re-
tain the cases therein, said detent being pivoted to permit passage of the cases to the extraction station tooth spaces and spring-biased to a normal position to retain the cases therein.

5. An extraction device as in claim 1 with said adjacent means including an ejection chute adjacent the feed wheel at the extraction station to guide the cases from the gun responsive to the rotation.