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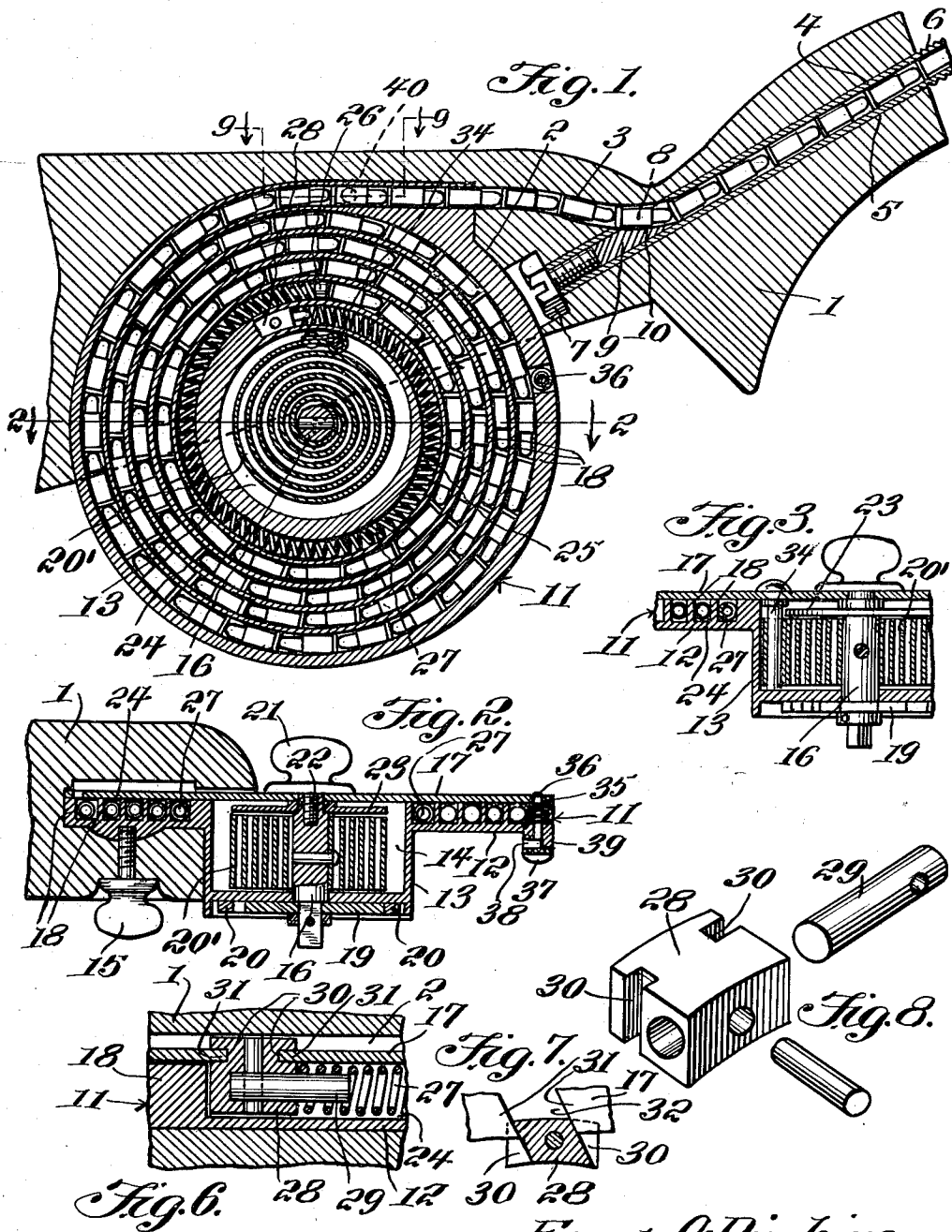
F. A. DICKINSON

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SPIRAL GROOVE RIFLE MAGAZINE

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Fred A. Dickinson

INVENTOR

BY Victor J. Enns & Co.

ATTORNEYS.

WITNESS: J. T. Wright

UNITED STATES PATENT OFFICE

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SPIRAL GROOVE RIFLE MAGAZINE

Fred A. Dickinson, St. Louis, Mo.

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1 Claim. (Cl. 42—6)

This invention relates to magazines for fire-arms and has for the primary object the provision of a device of this character which will accommodate a large number of cartridges and will efficiently feed the cartridges to the gun as used by the latter and is so constructed that it may be easily and quickly applied and removed from the stock of the gun and may be readily filled or replenished with cartridges when emptied of the preceding loading.

With these and other objects in view, this invention consists in certain novel features of construction, combination and arrangement of parts to be hereinafter more fully described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawings, in which

Figure 1 is a fragmentary vertical sectional view showing a magazine constructed in accordance with my invention and illustrating the same applied to a gun stock.

Figure 2 is a sectional view taken on the line 2—2 of Figure 1.

Figure 3 is a fragmentary sectional view showing the connection between the driving plate of the magazine and the clock type spring employed as the driving medium.

Figure 4 is a side elevation illustrating a ratchet mechanism employed for holding the spring against unwinding and which will permit easy and quick winding of the spring.

Figure 5 is a plan view, partly in section, showing the driving plate.

Figure 6 is a detail sectional view showing the connection between the driving plate and the follower.

Figure 7 is a detail sectional view showing a portion of a connecting block operating in a slot of the driving plate.

Figure 8 is a disrupted perspective view showing the connecting block.

Figure 9 is a fragmentary sectional view taken on the line 9—9 of Figure 1.

Figure 10 is a fragmentary sectional view showing the connecting block occupying a position in the slot of the driving plate when the magazine has been exhausted of cartridges.

Figure 11 is a fragmentary plan view illustrating a portion of the follower.

Figure 12 is a fragmentary sectional view showing a manually actuated latch for securing the driving plate against action by the driving spring.

Figure 13 is a fragmentary plan view, partly in section, showing a keeper operating in connection with the latch.

Figure 14 is a plan view, partly in section, showing an ammunition tube.

Figure 15 is a plan view illustrating a retaining stud bolt for the tube.

Figure 16 is an exploded view showing a guide block for the tube.

Referring in detail to the drawings, the numeral 1 indicates a gun stock in which is formed a chamber 2 for the reception of a magazine and leading from this chamber is a passage 3 connecting with a tube 4 removably mounted in a bore 5 formed in the gun stock and which bore opens outwardly through the end of the stock adapted for connection to the usual breech block of the gun (not shown). One end of the tube is externally screw threaded, as shown at 6, and projects beyond the end of the stock so that it may be threaded to the breech block for efficiently connecting the stock to the gun while the opposite end of the tube is internally screw threaded and communicates with the chamber 2. A stud bolt 7 is threaded into the last-named end of the tube for the purpose of supporting within said tube and adjacent to an entrance 8 thereof a guide block 9. The block 9 is provided with a tapered face 10 underlying the entrance 8 for the purpose of directing cartridges through the tube received from the passage 3. The chamber 2 opens outwardly through the lower or under side of the gun stock for the partial reception of a magazine housing 11.

The housing 11 includes a plate 12 offset, as shown at 13, to form a spring chamber 14. The plate 12 is provided with a screw threaded socket to receive a screw threaded set bolt 15 carried by the gun stock for releasably securing the housing 11 in the chamber 2. A spring shaft 16 is rotatably supported by the offset portion 13 of the plate 12 and has removably and rotatably mounted thereon a driving plate 17 adapted to abut flanges 18 on the plate 12. The other end of the shaft projects outwardly of the spring casing and is provided with angularly related faces on which is secured a ratchet gear 19 engaged by spring pressed dogs 20 pivotally mounted to the offset 13 of the plate 13. Said last-named end of the shaft projects beyond the ratchet gear to receive a key or like device for rotating the shaft in a direction for winding a clock type spring 20 located in the chamber 14 and has one end secured to said shaft. The other end of the spring

is connected to the driving plate by a medium which will be hereinafter more fully described. A finger piece 21 having a screw threaded shank 22 extends through the driving plate and threads 5 to the shaft for the purpose of rotatably and releasably mounting the driving plate to the shaft. A protecting plate 23 is mounted on the shaft between the driving plate and the spring 20.

The flanges 18 on the plate are of spiral formation forming on said plate a spiraled chamber 10 24, the outer end of which communicates with the passages 3. The spiral chamber accommodates a maximum number of cartridges, as shown in Figure 1, and which are arranged one after 15 another. Also said cartridges are arranged in the passage 3 and tube 5. Engaging the innermost cartridge is a follower 25 which includes an abutment member 26 engaging said last-named cartridge, a coil spring 27 having one end in engagement with the abutment 26 and the opposite 20 end engaging a connecting block 28, the latter having a pin 29 extending a short distance into the coil spring. The coil spring cooperating with the block and the abutment forms a follower of 25 a yieldable construction. The follower operates in the spiral chamber and the block 28 thereof is provided with grooves 30 to receive walls 31 of a slot 32 formed in the driving plate. The slot 32 is angularly disposed relative to the journal of 30 the driving plate and opens outwardly through the periphery of said driving plate at one end and its opposite end terminates in a laterally extending branch 33. The drive plate is connected 35 to the outer end of the clock type spring by a pin 34. The block operating in the slot 32 of the drive plate provides a drive between the clock type spring and the follower and as the follower travels in the spiral chamber, the block must 40 move outwardly towards the periphery of the driving plate during the unwinding of the spring, the slot 32 permitting the block to have this movement. The drive plate adjacent to the periphery thereof is provided with relatively spaced aper- 45 tures 35, any one of which is adapted to receive a spring pressed pin 36 slidably mounted to the plate 12 for the purpose of holding the driving plate against rotation under the action of the spring 20. The pin 36 is equipped with a finger piece 37 having an offset 38 and mounted to the

plate 12 is an offset 39. The offsets 38 and 39 when engaged will retain the pin 36 in a position disengaged from any one of the apertures of the driving plate, consequently freeing the driving 5 plate for rotation under the influence of the spring 20. By turning the finger piece the offset 38 may be disengaged from the offset 39 and when the pin is manually released it may enter one of the apertures 35 and lock the driving plate against 10 rotation.

A stop pin 40 is carried by the gun stock 1 for limiting the movement of the follower, that is, after said follower has ejected the last cartridge of the magazine into the gun proper or firing 15 chamber thereof.

In operation, after the magazine has been loaded and applied to the stock, the pin 36 is released from the driving plate and as the gun is fired, the cartridges are progressed into the gun 20 by the action of the spring 20. A device constructed in accordance with the foregoing will efficiently operate to supply the gun with ammunition as needed and is capable of holding a maximum amount of ammunition obviating the necessity of the user carrying additional ammunition 25 in the garment or the necessity of reloading the magazine at frequent intervals.

Having described the invention, I claim:

In combination with a gun stock having a 30 chamber and an ammunition passage communicating with said chamber, a plate projecting into the chamber and having an offset to provide a spring chamber, means detachably securing the plate to the gun stock, a spring shaft rotatably 35 supported in the spring chamber, a spring for rotating said shaft, a spiral flange formed on one face of the plate, a drive plate rotatably supported by the shaft and free to rotate relative thereto and contacting said spiral flange for co- 40 operating therewith and with the first plate to form a spiral passage to receive ammunition and having communication with the passage of the gun stock, a follower slidable in the spiral pas- 45 sage, said drive plate having a slot opening outwardly through an edge thereof, a block having opposite faces grooved to receive the walls of the slot and connected to the follower, and means for releasably securing the drive plate against rotation.

FRED A. DICKINSON.