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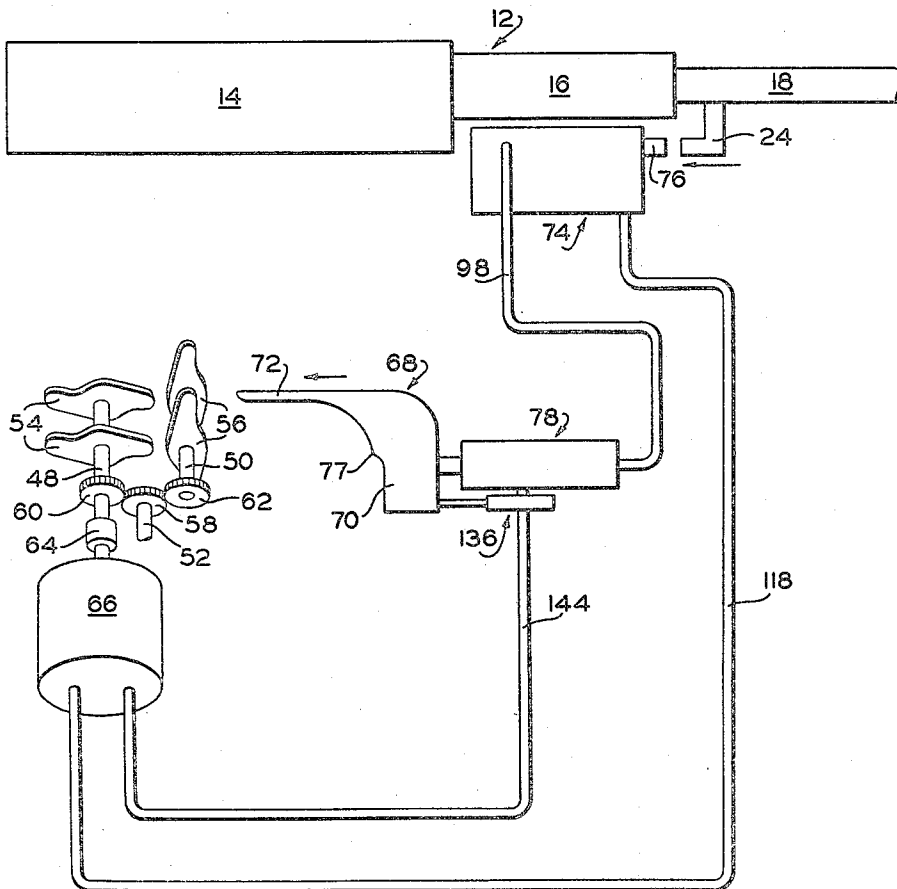
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FEEDER MECHANISM FOR A FIREARM

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3 Sheets-Sheet 1

Fig. 1



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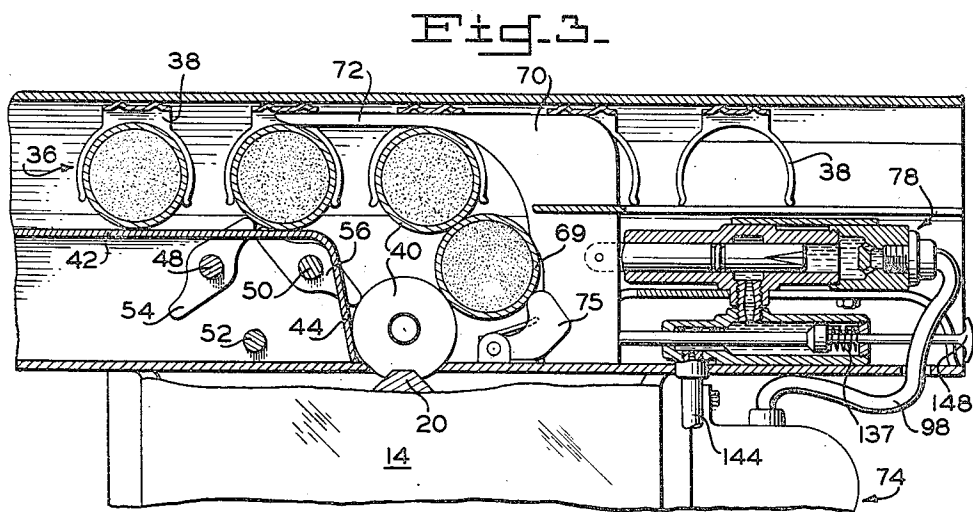
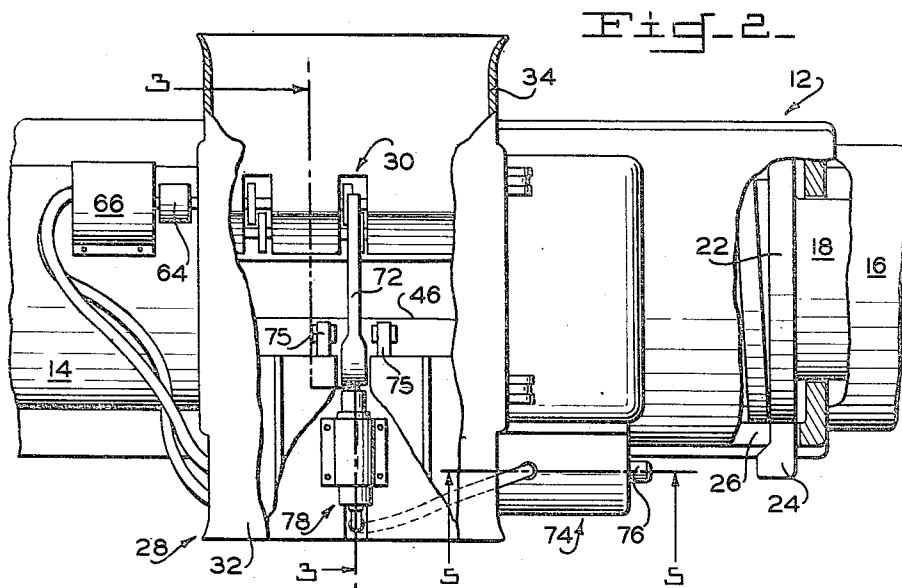
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FEEDER MECHANISM FOR A FIREARM

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FEEDER MECHANISM FOR A FIREARM

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Fig. 4

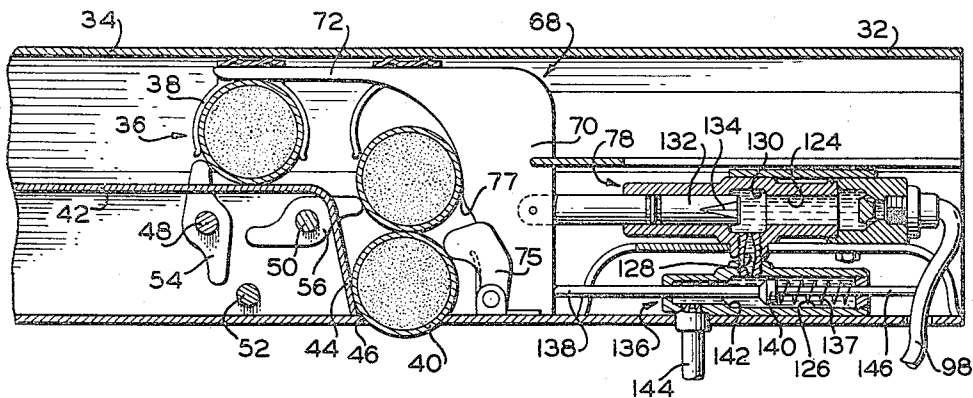
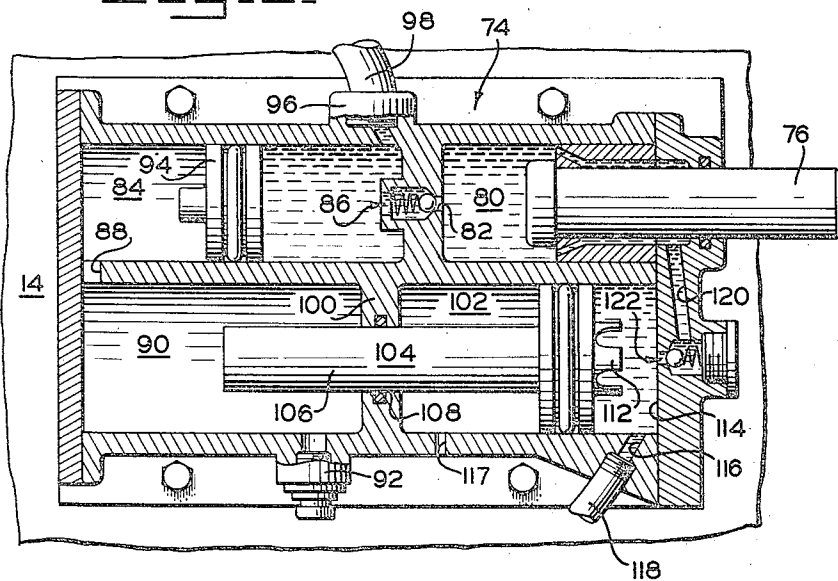


Fig. 5



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FEEDER MECHANISM FOR A FIREARM

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14 Claims. (Cl. 89—33)

This invention relates to automatic firearms supplied with cartridges from a belt and more particularly to feeding mechanisms therefor.

With the rapid rate of fire achieved by firearms today, considerable trouble has been experienced with those weapons which are supplied with cartridges from a linked belt because of the stresses placed upon the links during the rapid acceleration and deceleration to which the belt is subjected at the beginning and end of a burst of fire.

Bulk is also an important factor with firearms today, as space in weapon-carrying vehicles, such as tanks and planes, is limited.

It is, therefore, an object of this invention to provide a feeding mechanism for automatic firearms which reduces the stresses placed upon the cartridge belt carried thereby at the beginning and end of a burst of fire.

It is another object of this invention to provide a sprocket-type feeding mechanism of compact design which permits a reduction in the cross-sectional silhouette of a firearm.

It is a further object of this invention to provide a feeding mechanism having a replenishable bank of cartridges to absorb the accelerative and decelerative forces applied to the cartridge belt.

It is a still further object of this invention to provide a sprocket mechanism comprised of a pair of synchronized two-toothed sprockets which engageably feed a cartridge belt into the receiver to reduce the cross-sectional silhouette of a firearm.

It is another and still further object of this invention to provide a hydraulic power source for actuating the sprocket device and stripper member of a feeding mechanism, which is powered by the recoil forces of the firearm.

The specific nature of the invention as well as other objects and advantages thereof will clearly appear from a description of a preferred embodiment as shown in the accompanying drawings in which:

Fig. 1 shows schematically the feeding mechanism of this invention;

Fig. 2 is a top partially cross-sectioned view of the feeding mechanism;

Fig. 3 is a view taken along line 3—3 of Fig. 2 and shows the stripper member in bank position;

Fig. 4 is similar to Fig. 3 but shows the stripper member in operating position; and

Fig. 5 is an enlarged cross-sectioned side view of the hydraulic pump.

Shown in the figures is a firearm 12 having a receiver 14 with a jacket 16 mounted to the front end thereof. A barrel 18 is reciprocally mounted in jacket 16 so as to recoil into receiver 14 and energize for cyclic operation therein a reciprocable bolt 20. A cylindrical sleeve 22 is mounted on the breech end of barrel 18 to assist in snubbing the recoil and counterrecoil thereof and in locking bolt 20 in a battery position. Projecting from

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the right side of sleeve 22 is a lug 24 which extends outside of receiver 14 through a longitudinal slot 26.

Extending laterally over the top of receiver 14 and secured thereto is a case 28 of substantially rectangular configuration which houses a feeding mechanism 30. The right and left ends of case 28 are open, as noted at 32 and 34, respectively. Left end 34 permits entry into case 28 of a loaded cartridge belt 36 comprised of a plurality of articulately joined links 38 which resiliently engage cartridges 40 and permit such cartridges to be pried downwardly therefrom sideways. The empty links are ejected from right end 32.

Extending into case 28 from left end 34 so as to be parallel with the top side of such case is a planar slideway 42 which is spaced sufficiently from such top side to permit cartridge belt 36 to pass therebetween. Slideway 42 is terminated at the inner end by a planar stop portion 44 which extends downwardly therefrom approximately in alignment with the left side of the chamber of barrel 18 so that when cartridge 40 is in longitudinal contact therewith such cartridge is in alignment with such barrel chamber. When in contact with stop portion 44, cartridge 40 is also positioned over a feed throat 46 in the top of receiver 14, whereby such cartridge may be picked up by bolt 20 when going to battery position and chambered in barrel 18.

Mounted for rotation between the front and rear sides of case 28 is an axle 48, an axle 50 spaced to the right and in lateral alignment therewith, and a third axle 52 which is spaced between and below such other axles. Fixedly mounted to axle 48 is a pair of sprockets 54 which extend upwardly through suitable slots in slideway 42 to contact the cases of the cartridges 40 positioned on such slideway. Mounted on axle 50 is a pair of similar sprockets 56, which also extend up through slideway 42 and forwardly through stop portion 44. Mounted on axle 52 is a gear 58 which meshes with similar gears 60 and 62 mounted on axles 48 and 50, respectively, whereby a hydraulically operated motor 66 connected to axle 48 by means of a one-way clutch mechanism 64 drives the sprockets 54 and 56 at a similar rate of speed and in a direction to feed cartridge belt 36 through case 28. Sprockets 54 and 56 are of two-toothed type and are geared so as to be 90° out of phase and are so correlated that the cartridge belt 36 is engageably passed thereby along slideway 42 with one or the other of such sprockets being in contact with one of the cartridges 40 in such cartridge belt at all times.

Mounted for slidable lateral movement in case 28 on the right side of feed throat 46 is a vertically-disposed stripper member 68 having a body portion 70 and a prong portion 72 which extends from the top of such body portion for insertion between the cartridges 40 and the engaging links 38 when cartridge belt 36 is pulled through such case by the sprockets 54 and 56. The underside of prong portion 72 is arcuately joined to the left side of body portion 70 whereby the cartridges 40 are pried sideways from their engaging links 38 and are guided downwardly towards feed throat 46. The stripped links pass along the top side of stripper member 68 to the outside of case 28.

Stripper member 68 is slidable between a bank position and an overtravel position. In the bank position a reserve stripped cartridge, noted at 69, is positioned between a cartridge positioned in feed throat 46 and the cartridge in cartridge belt 36 and thereby forces such stripper member away from feed throat 46. In the overtravel position, the space between stop portion 44 and the arcuate side of body portion 70 is slightly less than the diameter of cartridge 40. The position at which stripper member 68 is held by a cartridge 40 in contact with stop portion 44 is

the operating position of such stripper member. Pivotally mounted on both sides of stripper member 68 is a pawl 75 which is spring biased either against the reserve cartridge 69 when such stripper member is in bank position or against the cartridge positioned over feed throat 46 when such stripper member is in operating position. Provided on the arcuate side of stripper member 68 is a protrusion 77 which is located above the dead center of reserve cartridge 69 when stripper member 68 is in bank position and thereby biases such reserve cartridge downwardly towards feed throat 46.

Mounted on the right side of receiver 14 forwardly contiguous of case 28 is a hydraulic pump 74 having a reciprocal plunger 76 which extends outwardly therefrom to be engaged and actuated rearwardly by lug 24 when barrel 18 recoils to provide the power, as hereinafter described, for operating motor 66. Disposed hydraulically between pump 74 and motor 66 is a valve device 78 which is mounted within case 28 adjacent right end 32 thereof and is arranged to control the fluid passed from pump 74 to motor 66, as hereinafter described.

Pump 74 is provided with a plurality of interconnected cylindrical chambers; valves and movable pistons which are arranged, as hereinafter described, so that they form a positive pressure differential on opposite sides of motor 66, to assure operation thereof; provide sufficient stored power to operate such motor for charging firearm 12; and include self-regulating means to deliver just enough hydraulic fluid to fill the requirements of such motor.

Plunger 76 is slidable into a first chamber 80 so as to partially displace the hydraulic fluid therein when such plunger is actuated by lug 24 during recoil of barrel 18. The hydraulic fluid displaced by plunger 76 is forced through an orifice 82, provided in the rear end wall of first chamber 80, into a second chamber 84 aligned therewith. A check valve 86 is mounted in orifice 82 to prevent return of the hydraulic fluid therethrough into chamber 80. Positioned below second chamber 84 and communicating therewith by means of an orifice 88 in the rear end thereof is a third chamber 90. Provided in third chamber 90 is a connector 92 whereby air may be forced into such chamber from an outside source. In the selected embodiment the desired pressure is 1500 p. s. i. A freely moving piston 94 in second chamber 84 separates the air in the rear portion thereof from the hydraulic fluid in the front portion and transfers the pressure of the air to the hydraulic fluid. An outlet 96 at the front end of second chamber 84 is connected by a conduit 98 to valve device 78 for providing hydraulic fluid under pressure thereto.

Third chamber 90 is terminated at the front end by a wall 100 which separates such chamber from a fourth chamber 102 forwardly thereof. Mounted for slidable movement in fourth chamber 102 is a piston 104 having a cylindrical shank portion 106 which extends slidably through a bore 108 in wall 100 into third chamber 90. The cross-sectional area of shank portion 106 is approximately one-third that of third chamber 90 whereby a pressure of some 500 p. s. i. is exerted against piston 104 to force such piston forwardly against a supply of hydraulic fluid in fourth chamber 102 in front of such piston. Provided on the front end of piston 104 are prongs 112 which prevent such piston from bottoming against the front end of fourth chamber 102, noted at 114, and thereby blocking off an opening 116 in the front portion of such chamber which is connected to a conduit 118 which returns the hydraulic fluid from motor 66 to pump 74. An orifice 117 vents the rear end of fourth chamber 102 to the atmosphere. Passageways 120 provide communication between fourth chamber 102 and first chamber 80, and a check valve 122 is provided in such passageway to permit passage of hydraulic fluid only from such fourth chamber to such first chamber. Sufficient hydraulic fluid is stored in chamber 102 to operate the sprockets 54 and 56 for

several revolutions when pumped by plunger 76 into second chamber 84.

Valve device 78 is provided with a first cylinder 124 and a second cylinder 126 vertically disposed thereunder. A passageway 128 located between cylinders 124 and 126, approximately midway the ends thereof, provides communication between such cylinders. Cylinder 124 is increased in diameter at the entrance of passageway 128 thereto to form an annular chamber 130. Slidably mounted in first cylinder 124, is a cylindrical rod 132 which is pivotally connected at the outer end to stripper member 68. Rod 132 is of such length that when stripper member 68 is in bank position, passageway 128 is blocked thereby and when in an operating position, such passageway is uncovered. Provided in the inner portion of rod 132 is a V-channel 134 which cooperates with chamber 130 to gradually increase the opening between cylinders 124 and 126, as stripper member 68 moves from bank to operating position. Connected to the right end of chamber 124 is the free end of conduit 98 leading from pump 74 whereby the pressure of the hydraulic fluid from pump 74 forces stripper member 68 toward the operating position or to overtravel position if a cartridge 40 is not disposed between stop portion 44 and such stripper member, as when the last one of the cartridges 40 is chambered. Slidably mounted in second cylinder 126 is a poppet valve 136 biased to the left by a spring 137 and having a stem portion 138 which abuts stripper member 68, and a head portion 140 which is cooperable with a seat portion 142 in such cylinder. Seat portion 142 is located between passageway 128 and an opening in the left end of second cylinder 126 to which there is joined a conduit 144 leading to motor 66. Valve 136 is so arranged that when stripper member 68 is in the overtravel position head portion 140 is in contact with seat portion 142 to block the passage of hydraulic fluid from valve device 78 to motor 66. Extending from head portion 140 towards right end 34 of case 28 is a rod 146 which is terminated by a handle portion 148 whereby such head portion may be manually unseated from seat portion 142.

Operation

To initially charge firearm 12, the air pressure in second and third chambers 84 and 90 is charged from an auxiliary source to 1500 p. s. i. The end of cartridge belt 36 is then introduced into left end 34 of case 28 and slid along slideway 42 until prong portion 72 of stripper member 68 is positioned between the leading cartridge 40 and its engaging link 38. The one-way clutch 61 permits free rotation of sprockets 54 and 56 during insertion of cartridge belt 36 therewith. Handle portion 148 is then pulled and held outwardly to unseat valve 136 whereby hydraulic fluid is permitted to pass from pump 74 to motor 66 which is actuated to rotate sprockets 54 and 56. Rotation of sprockets 54 and 56 draws cartridge belt 36 into case 28 until the leading one of the cartridges 40, which has been stripped from its engaging link 36 by stripper member 68, is positioned over feed throat 46 ready to be picked up by bolt 20 when released to go to battery position. Through the force of motor 66, stripper member 68 is forced into bank position by the reserve cartridge 69 which becomes positioned between the leading cartridge in contact with stop portion 44 and the cartridge being stripped. When stripper member 68 is moved to bank position, rod 132 blocks passageway 123 to stop motor 66 and hold cartridge belt 36. Whereby, stripper member 68 is maintained in bank position, and valve 136 is maintained in open position.

When firearm 12 is fired, lug 24 drives plunger 76 inwardly during recoil of barrel 18 to force the hydraulic fluid displaced thereby in first chamber 80 into second chamber 84 and thereby replenish the hydraulic fluid used therefrom when the firearm was initially charged. As the hydraulic fluid in fourth chamber 102 is under 500 p. s. i. pressure, the hydraulic fluid therein is passed by passage

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way 120 into such first chamber to move plunger 76 outwardly ready for re-engagement by lug 24.

With the removal of the leading one of the cartridges 40 by bolt 20, the reserve cartridge 69 is moved downwardly into position over feed throat 46 by its pawls 75, and the pressure of protrusion 77, thus, permitting stripper member 68 to be moved toward operating position by the pressure of the hydraulic fluid against the rear end of rod 132. As stripper member 68 is moved away from bank position, passageway 128 is gradually unblocked by the progressive movement of V-channel 134 into chamber 130, permitting hydraulic fluid to pass gradually and without a sudden impact from pump 74 to motor 66. When reserve cartridge 69 is in position over feed throat 46, stripper member 68 is in operating position, passageway 128 is fully unblocked by rod 132, and motor 66 is fully powered. Thus, there is seen that the accelerative forces imparted to cartridge belt 36 is considerably less than that produced when the feeding mechanism is operated directly by the firearm and does not have a reserve bank of cartridges to draw from while being accelerated.

During the following cyclic operation of firearm 12, more hydraulic fluid in first chamber 80 is pumped by plunger 76 into second chamber 84, which is in effect an accumulating chamber, and is replaced from the reserve supply of hydraulic fluid in fourth chamber 102. When the hydraulic fluid has been withdrawn from fourth chamber 102, prongs 112 on piston 104 contact front wall 100 of such chamber and, thereby, the pressure in such chamber is reduced to zero. From then on the stroke of plunger 76 will be regulated, by the amount of hydraulic fluid returning from motor 66, to deliver just enough fluid to fill the requirements of such motor.

When the firing of firearm 12 is stopped, the leading one of the cartridges 40 remains positioned over feed throat 46 and in contact with stop portion 44 while sprockets 54 and 56 continue to move cartridge belt 36 into case 28. As a result, reserve cartridge 69 is forced against the right side of the leading one of the cartridges 40 and the left side of stripper member 68 which is moved thereby to bank position. Consequently, rod 132 is moved to block passageway 128 and the passage of hydraulic fluid to motor 66 which is stopped thereby. Thus, cartridge belt 36 is gradually decelerated and the bank replenished to permit the gradual acceleration of cartridge belt 36, as hereinbefore noted, when firearm 12 commences firing.

By sprockets 54 and 56 being 90° out of phase with each other, and the teeth of sprockets 54 starting to disengage from one of the cartridges 40 as the teeth of sprockets 56 start to pick up such cartridge, cartridge belt 36 is positively passed along slideway 42. Further, by sprockets 54 and 56 having only two teeth each, the height of the feeding mechanism 30 is considerably reduced.

From the foregoing, it is clearly apparent that there is herein provided a feeding mechanism for automatic firearms whereby the stresses placed upon the cartridge belt carried thereby at the beginning and end of a burst of fire are reduced which permit a reduction in the cross-sectional area of the firearm and which is simple and rugged in construction and positive in operation.

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. For a firearm supplied with cartridges by a belt and having a feed throat, a feeding mechanism including a slideway, a pair of two-toothed sprocket means successively engageable with the cartridges for moving the belt along said slideway, a stripper member slidable in alignment with the cartridge belt, a prong portion extending from said stripper member for separating the cartridges

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from the belt, an arcuate side on said stripper member for guiding the cartridges separated from the belt toward the feed throat, resilient means for biasing said stripper member against the cartridges in the belt, motor means for powering said sprockets so that said belt moved thereby overpowers said resilient means when one of the cartridges is immovably positioned over the feed throat and moves said stripper member away from the feed throat so that an extra one of the separated cartridges is forcible between the feed belt and the feed throat to form a reserve bank, and means responsive to movement of said stripper member for stopping said motor means when the reserve bank is formed and for starting said motor means when the reserve bank is depleted.

2. For a firearm supplied with cartridges by a belt and having a feed throat, a feeding mechanism including a slideway, a pair of two-toothed sprocket means successively engageable with the cartridges for moving the belt along said slideway, a stripper member slidable in alignment with the cartridge belt, a prong portion extending from said stripper member for separating the cartridges from the belt and moving the separated cartridges toward the feed throat, resilient means for biasing said stripper member against the cartridges in the belt, motor means for powering said sprockets so that said belt moved thereby overpowers said resilient means when one of the cartridges is immovably positioned over the feed throat and moves said stripper member away from the feed throat so that an extra one of the separated cartridges is forcible between the feed belt and the feed throat to form a reserve bank, means responsive to movement of said stripper member for stopping said motor means when the reserve bank is formed and for starting said motor means when the reserve bank is depleted, and spring-biased pawls pivotally mounted on both sides of said stripper member for moving the last one of the separated cartridges to the feed throat.

3. For a firearm supplied with cartridges by a belt and having a feed throat, a feeding mechanism including a slideway, a pair of two-toothed sprocket means successively engageable with the cartridges for moving the belt along said slideway, a stripper member slidable in alignment with the cartridge belt, a prong portion extending from said stripper member for separating the cartridges from the belt and moving the separated cartridges towards the feed throat, resilient means for biasing said stripper member against the cartridges in the belt, motor means for powering said sprockets so that said belt moved thereby overpowers said resilient means when one of the cartridges is immovably positioned over the feed throat and moves said stripper member to form a reserve bank of the separated cartridges between the feed belt and the feed throat, control means responsive to movement of said stripper member for stopping said motor means when the reserve bank is formed and for starting said motor means when the reserve bank is depleted, spring-biased pawls pivotally mounted on both sides of said stripper member for moving the last one of the cartridges in the belt to the feed throat, and means responsive to actuation of the firearm for energizing said resilient means and said motor means.

4. For a firearm supplied with cartridges by a belt and having a feed throat, a feeding mechanism including a slideway, a stop portion leading angularly from the end of said slideway to the feed throat, a first two-toothed sprocket means mounted on a rotatable first axle disposed relative to said slideway so that said first sprocket means engageably moves the cartridges in the belt along said slideway, a second two-toothed sprocket means mounted on a rotatable second axle and disposed relative to said first sprocket means and said slideway so as to engageably receive the cartridges from said first sprocket means and pass the cartridges along said slideway to said stop portion, gear means for cooperably joining said first sprocket means to said second sprocket means, a slidable stripper member for stripping the cartridges from the belt after passing said

stop portion, for guiding the cartridges separated from the belt along said stop portion to the feed throat and for guiding the stripped belt from the firearm, resilient means for biasing said stripper member against the cartridges in the belt, motor means for powering said first and second sprocket means so that said belt moved thereby overpowers said resilient means when one of the cartridges is in contact with said stop over the feed throat and moves said stripper member to form a reserve bank of the separated cartridges between the belt and the feed throat.

5. For a firearm supplied with cartridges by a belt and having a feed throat, a feeding mechanism including a slideway, a stop portion leading angularly from said slideway to the feed throat, a first two-toothed sprocket means mounted on a rotatable first axle disposed relative to said slideway so that said first sprocket means engageably moves the cartridges in the belt along said slideway, a second two-toothed sprocket means mounted on a rotatable second axle and disposed relative to said first sprocket means and said slideway so as to engageably receive the cartridges from said first sprocket means and pass the cartridges along said slideway to said stop portion, gear means for cooperably joining said first sprocket means to said second sprocket means, a slidable stripper member for stripping the cartridges from the belt after passing said stop portion, for guiding the cartridges separated from the belt along said stop portion to the feed throat and for guiding the stripped belt from the firearm, resilient means for biasing said stripper member against the cartridges in the belt, motor means for powering said first and second sprocket means so that said belt moved thereby overpowers said resilient means when one of the cartridges is in contact with said stop over the feed throat and moves said stripper member to form a reserve bank of the separated cartridges between the belt and the feed throat, and means responsive to movement of said stripper member for stopping said motor means when the reserve bank is formed and for starting said motor means when the reserve bank is depleted.

6. For a firearm supplied with cartridges by a belt and having a feed throat, a feeding mechanism including a slideway, a stop portion leading angularly from said slideway to the feed throat, a first two-toothed sprocket means mounted on a rotatable first axle disposed relative to said slideway so that said first sprocket means engageably moves the cartridges in the belt along said slideway, a second two-toothed sprocket means mounted on a rotatable second axle and disposed relative to said first sprocket means and said slideway so as to engageably receive the cartridges from said first sprocket means and pass the cartridges along said slideway to said stop portion, gear means for cooperably joining said first sprocket means to said second sprocket means, a slidable stripper member for stripping the cartridges from the belt after passing said stop portion, for guiding the cartridges separated from the belt along said stop portion to the feed throat and for guiding the stripped belt from the firearm, resilient means for biasing said stripper member against the cartridges in the belt, motor means for powering said first and second sprocket means so that said belt moved thereby overpowers said resilient means when one of the cartridges is immovably positioned over the feed throat and moves said stripper member to form a reserve bank of the separated cartridges between the belt and the feed throat, means responsive to movement of said stripper member for stopping said motor means when the reserve bank is formed and for starting said motor means when the reserve bank is depleted, spring-biased pawls pivotally mounted on both sides of said stripper member for moving the last one of the cartridges in the belt to the feed throat, and means responsive to actuation of the firearm for energizing said resilient means and said motor means.

7. For a firearm supplied with cartridges by a belt and having a feed throat, a feeding mechanism including rotat-

able two-toothed sprockets engageable with the cartridges for moving the belt into the firearm, a slidable stripper member for separating the cartridges from the belt and guiding the separated cartridges towards the feed throat, means responsive to hydraulic pressure for biasing said stripper member against the cartridges in the belt, and motor means responsive to hydraulic pressure for powering said sprockets so that said belt moved thereby overpowers said means when one of the cartridges is immovably positioned over the feed throat and moves said stripper member away from the feed throat so that an extra one of the separated cartridges is forcible between the belt and the feed throat to form a reserve bank.

8. For a firearm supplied with cartridges by a belt and having a feed throat, a feeding mechanism including rotatable two-toothed sprockets engageable with the cartridges for moving the belt into the firearm, a slidable stripper member for separating the cartridges from the belt and guiding the separated cartridges towards the feed throat, means responsive to hydraulic pressure for biasing said stripper member against the cartridges in the belt, motor means responsive to hydraulic pressure for powering said sprockets so that said belt moved thereby overpowers said means when one of the cartridges is immovably positioned over the feed throat and moves said stripper member away from the feed throat so that an extra one of the separated cartridges is forcible between the belt and the feed throat to form a reserve bank, pump means responsive to actuation of the firearm for providing hydraulic pressure to said stripper member and said motor means, and means cooperating with said pump means for regulating the output of said pump means according to the requirements of said motor means.

9. For a firearm supplied with cartridges by a belt and having a feed throat, a feeding mechanism including a slideway, a pair of two-toothed sprocket means successively engageable with the cartridges for moving the belt along said slideway, a stripper member slidable in alignment with the cartridge belt, a prong portion extending from said stripper member for separating the cartridges from the belt, an arcuate side on said stripper member for guiding the cartridges separated from the belt toward the feed throat, means responsive to hydraulic pressure for biasing said stripper member against the cartridges in the belt, motor means responsive to hydraulic pressure for powering said sprockets so that the belt moved thereby overpowers said means when one of the cartridges is immovably positioned over the feed throat and moves said stripper member away from the feed throat so that an extra one of the separated cartridges is forcible between the belt and the feed throat to form a reserve bank, means for supplying hydraulic pressure to said means and said motor means, and valvular means responsive to movement of said stripper member for shutting off said hydraulic pressure from said motor means when the reserve bank is formed and for supplying said motor means with said hydraulic pressure when the reserve bank is depleted.

10. For a firearm supplied with cartridges by a belt and having a feed throat, a feeding mechanism including a slideway, a pair of two-toothed sprocket means successively engageable with the cartridges for moving the belt along said slideway, a stripper member slidable in alignment with the cartridge belt, a prong portion extending from said stripper member for separating the cartridges from the belt and moving the separated cartridges towards the feed throat, piston means responsive to hydraulic pressure for biasing said stripper member against the cartridges in the belt, motor means responsive to hydraulic pressure for powering said sprockets so that the belt moved thereby overpowers said piston means when one of the cartridges is immovably positioned over the feed throat and moves said stripper member to form a reserve bank of the separated cartridges between the belt and the feed throat, pump means responsive to actuation

of the firearm for delivering hydraulic pressure to said piston means and said motor means, valvular means responsive to movement of said stripper member for stopping said motor means when the reserve bank is formed and for starting said motor means when the reserve bank is depleted, and spring-biased pawls pivotally mounted on both sides of said stripper member for moving the last one of the cartridges in the belt to the feed throat.

11. For a firearm supplied with cartridges by a belt and having a feed throat, a feeding mechanism including a slideway, a stop portion leading angularly from said slideway to the feed throat, a first two-toothed sprocket means mounted on a rotatable first axle disposed relative to said slideway so that said first sprocket means engageably moves the cartridges in the belt along said slideway, a second two-toothed sprocket means mounted on a rotatable second axle and disposed relative to said first sprocket means and said slideway so as to engageably receive the cartridges from said first sprocket means and pass the cartridges along said slideway to said stop portion, gear means for cooperably joining said first sprocket means to said second sprocket means, a slidable stripper member for stripping the cartridges from the belt after passing said stop portion, for guiding the cartridges separated from the belt along said stop portion to the feed throat and for guiding the stripped belt from the firearm, piston means responsive to hydraulic pressure for biasing said stripper member against the cartridges in the belt, motor means responsive to hydraulic pressure for powering said first and second sprocket means so that said belt moved thereby overpowers said piston means when one of the cartridges is immovably positioned over the feed throat and moves said stripper member to form a reserve bank of the separated cartridges between the belt and the feed throat, pump means responsive to actuation of the firearm for delivering hydraulic pressure to said piston means and said motor means, valvular means responsive to movement of said stripper member for stopping said motor means when the reserve bank is formed and for starting said motor means when the reserve bank is depleted, spring-biased pawls pivotally mounted on both sides of said stripper member for moving the last one of the cartridges in the belt

to the feed throat, and regulator means cooperating with said pump for regulating the output thereof according to the requirements of said motor.

12. For a firearm having a feed throat for receiving a cartridge and a bolt intermittently actuated during a portion of the operative cycle for removing cartridges from the feed throat to a barrel for discharge therein, a feeding mechanism for supplying cartridges from a linked belt to the feed throat including hydraulically-actuated means for constantly moving the belt into the firearm, and a stripping device for separating the cartridges from the belt and for guiding and camming the separated cartridges toward the feed throat, said stripping device cooperating with said hydraulically-actuated means to provide bank means disposed between said hydraulically-actuated means and the feed throat for absorbing the surging movement of the cartridges resulting from the constant movement of the belt and the intermittent movement of the separated cartridges from the feed throat.

13. The device of claim 12 wherein said bank means is charged with a reserve of separated cartridges when the firearm is stopped to absorb part of the decelerating forces applied to the belt by such stoppage with said bank means reducing part of the accelerating forces applied to the belt when firing commences.

14. The device of claim 12 wherein said bank means is charged with a reserve of separated cartridges when the firearm is stopped to absorb part of the decelerating forces applied to the belt by such stoppage with said bank means reducing part of the accelerating forces applied to the belt when firing commences, and including accelerator means actuated by said stripper for energizing said hydraulically-actuated means responsive to the degree to which said bank means is depleted.

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