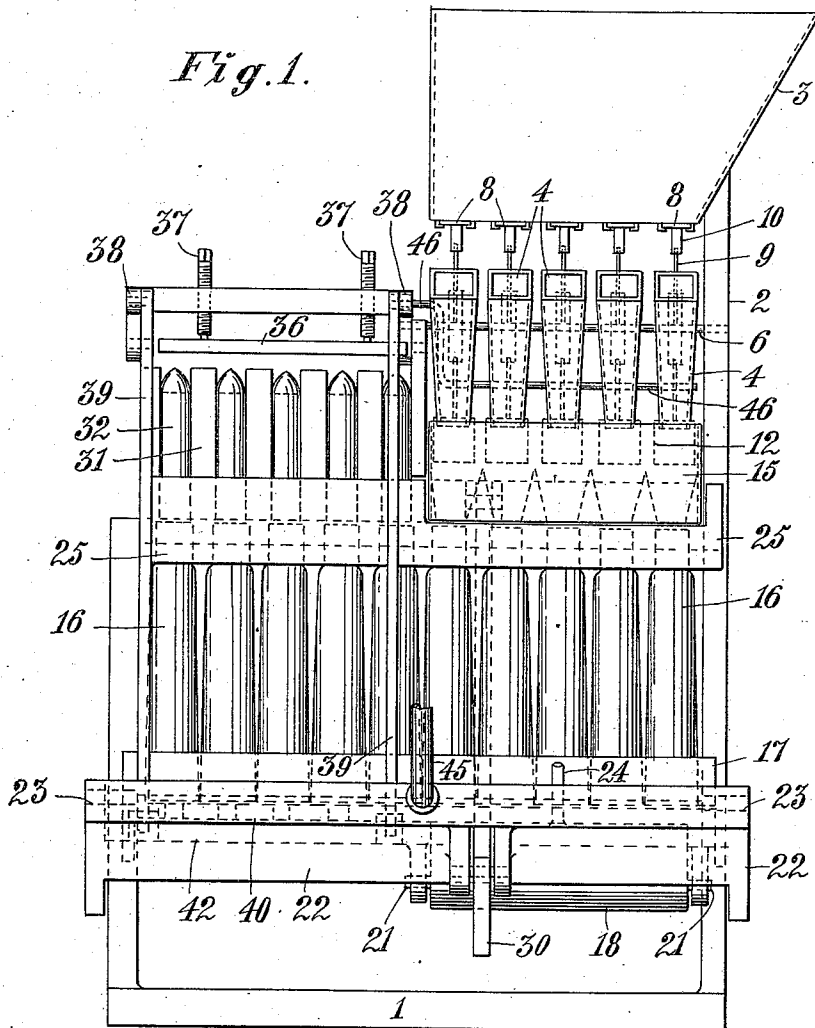


O. BENGTTSSON.
 APPARATUS FOR CHARGING CARTRIDGES.
 APPLICATION FILED JAN. 27, 1908.

934,787.

Patented Sept. 21, 1909.

3 SHEETS—SHEET 1.



Witnesses
 Emil Wahlberg.
 August Sorenson

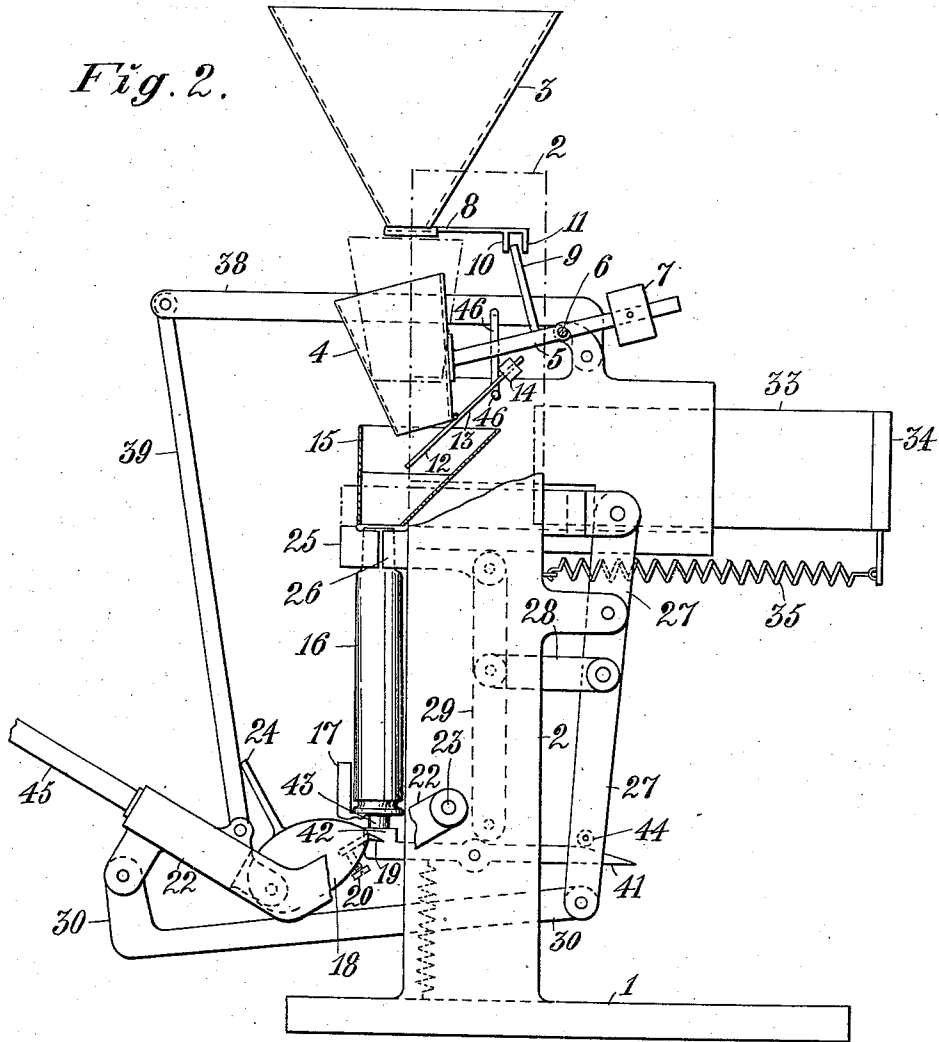
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Fig. 2.



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3 SHEETS—SHEET 3.

Fig. 3.

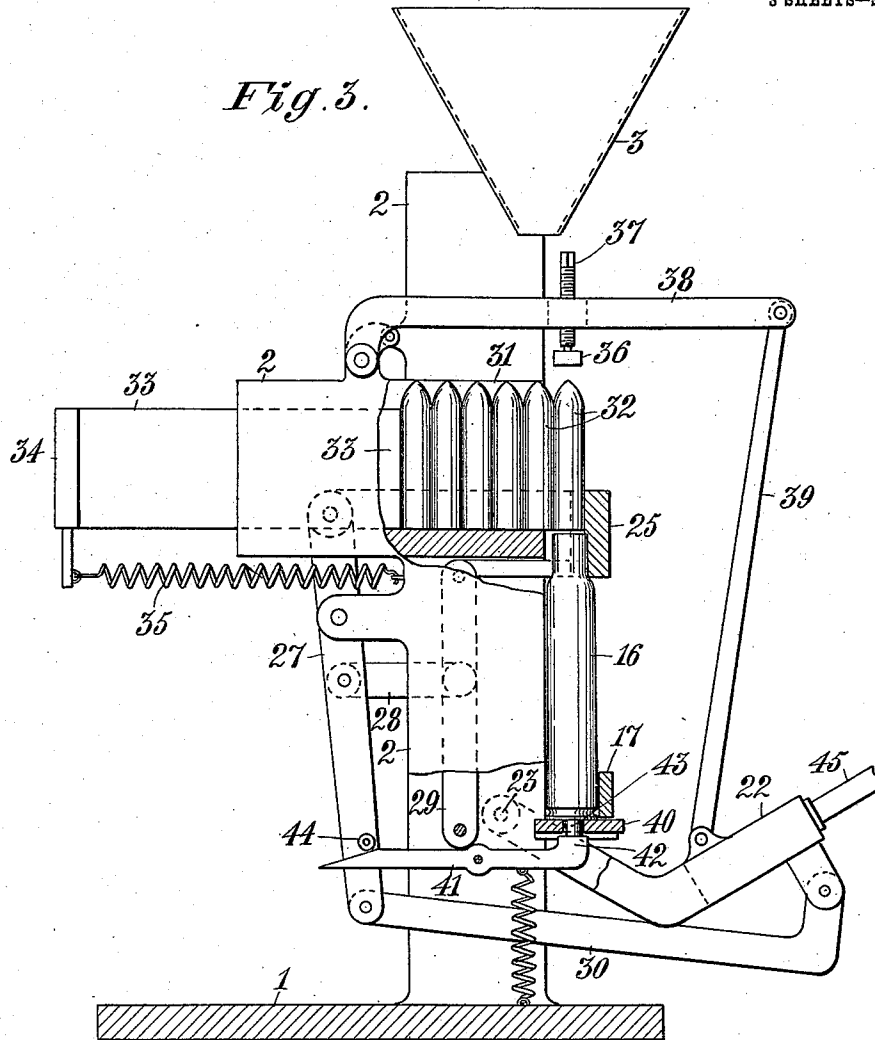
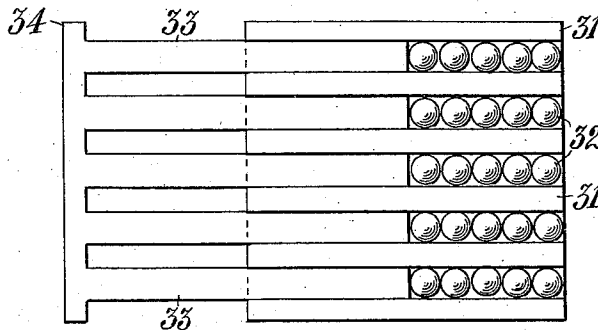


Fig. 4.



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UNITED STATES PATENT OFFICE.

OLOF BENGTTSSON, OF BODA, SKILLINGSFORS, SWEDEN.

APPARATUS FOR CHARGING CARTRIDGES.

934,787.

Specification of Letters Patent. Patented Sept. 21, 1909.

Application filed January 27, 1908. Serial No. 412,784.

To all whom it may concern:

Be it known that I, OLOF BENGTTSSON, a subject of King of Sweden, and resident of Boda, Skillingsfors, Sweden, have invented new and useful Improvements in Apparatus for Charging Cartridges, of which the following is a specification, reference being had to the drawings accompanying and forming part hereof.

10 This invention relates to improvements in apparatus for charging cartridges for rifles and the like.

The object of the invention is to make it possible to recharge a number of cartridge shells, in a simple and effective manner, by a swinging movement of a part connected to all the mechanisms required for the recharging.

20 The invention consists, chiefly, in the combination of means for charging the cartridges with powder, extracting the percussion caps and compressing the cartridge shells in one position of the cartridges, and means for inserting percussion caps and bullets in another position of the cartridges.

25 The invention further consists in the combination, construction and arrangement of parts, hereinafter described and claimed.

30 In the accompanying drawings there is shown a suitable form of construction of the apparatus.

Figure 1 shows the charging-apparatus seen from the front. Fig. 2 shows the same seen from the right in Fig. 1, and Fig. 3 shows the apparatus from the left side. Finally, Fig. 4 shows the bullet-magazine seen from above.

40 The loading- or charging-apparatus consists of a bottom-plate 1, which can suitably be provided with a device by means of which the apparatus can be clamped fast to a table, a plank or the like. The bottom-plate 1 supports a casing. 2, which, in its turn, supports the different parts of the apparatus.

45 On the upper part of the framework 2, there is found attached a hopper or the like 3. for the powder, which receiver can suitably have a funnel-shaped section and a length corresponding to about the united breadth of the five cartridge-shells. Close under the hopper 3, are attached the powder-scales 4 (see Fig. 2). In the form of construction shown there are five powder-scales, one for each cartridge-shell.

55 The powder-scales each consist of a lever

5, which is rotatable around a pin 6 and which at the one end supports the powder-scales 4, which is suitably funnel-shaped. On the other end of the lever 5 there is attached a weight 7, which is movable to and fro along the lever and balances the powder-scales 4, so that this last-named, when it contains no powder, assumes the position indicated by dotted lines in Fig. 2. In the last-named position, each powder-scale comes close under an opening in the bottom of the hopper 3, which opening is closed by means of a sliding-piece 8. The movement of the sliding-piece is brought about in this way, that the upper end of an arm 9, which projects upward from the lever 5, engages between two projecting pieces 10 and 11 attached to the under side of the sliding-piece 8. When the powder-scales 4 is lifted by the weight 7, the sliding-piece 8 is made to open, while it is closed when the powder-scales 4 sinks.

The bottom of the powder-scales 4 consists of another swinging shutter 12, which is pivotally movable around a hinge on the one side and is provided with an arm 13, which carries a counterbalance 14. This counterbalance is so adjusted that it balances the powder which is in the powder-scales 4. Finally, under the powder-scales 4 there is a funnel 15, through which the powder runs down into the cartridge-shell.

The empty cartridge-shells 16 are pushed, five at a time, into the apparatus on the right side in Fig. 1. During this process the shells are held fast by a frame 17 which clasps the thicker end of the shells and extends along the whole front side of the apparatus. In the right division (Fig. 1) of the apparatus, the powder is poured into the shells while simultaneously the percussion-caps are extracted and the cartridge-shells are compressed.

The mechanism for the extraction of the percussion-caps consists of a rib 18 in which are inserted five pins 19 which are held fast by screws 20. In this way a screw can easily be exchanged for a new one if it should be broken. The rib 18 is pivotally attached by means of a pin 21 in a frame 22, which in its turn is pivotally attached to the casing 2 by means of pins 23. On the upper side of the rib 18 there is attached an arm 24 which limits the rotation of the rib in the one direction by catching against the upper side

of the frame 22. The rib 18 can suitably be acted upon by a spring which presses the said rib upward.

The device for the compression of the cartridge-shells consists of two frames 25 and 26 which, on the inner side, are provided with slots corresponding to the form of the shells. These frames are attached to the frame 22 by means of a system of levers 27, 28, 29 and 30 in such a manner that the frames 25 and 26 are brought toward each other and thus compresses the shell when the frame 22 is turned upward. When, on the contrary, the frame 22 is turned downward, the frames 25, 26 move away from each other and leave the shells free.

In the other part of the apparatus (see the left side in Fig. 1 and Fig. 3), new percussion-caps and projectiles are inserted.

In the upper part of the casing 2 there is arranged a magazine for the projectiles. The magazine consists, as is shown by Fig. 4, of a number of parallel ribs 31 between which the projectiles 32 are placed. The projectiles are pressed forward in the direction toward the frame 25 which extends past that part too of the apparatus and, on the inner side, is provided with slots corresponding to the form of the projectiles by ribs 33 which, at the posterior ends are united by means of a rib 34. A spiral spring 35 is attached to the rib 34 and thus keeps the ribs 33 pressed against the projectiles.

The pressing-down of the bullets in the shells is performed by means of a rammer or plunger 36, which is carried by levers 38 by means of set-screws 37. These said levers are, in their turn, attached to the frame 22 by means of the link-arms 39. When the frame is turned downward, the levers 38 are thus rotated downward too, and the rammer 36 presses down into the shells the bullets which are pressed forward by the spiral spring 35.

In order to insert the percussion caps, these are arranged in a plate 40 which is pushed in under the frame 17. The plate can suitably have the same thickness as a percussion-cap, and is provided with five holes in which percussion-caps have previously been inserted. The pressing-down of the percussion-caps into the shells is performed by means of a lever 41, which supports an arm 42, in which are inserted five pins 43. The pins are placed in such a way that each pin comes directly under a hole in the plate 40 and directly under the center of a cartridge shell. When the anterior front end of the lever 41 is turned upward, the percussion-caps are thus pressed into the shells. The lever 41 is put into motion by this means, that its posterior end has been cut off obliquely, and the oblique surface thus obtained is acted on by a roller 44 which is attached to the arm 27.

The charging-apparatus can be arranged for hand- or machine-power, according to wish. In the former case the frame 22 is provided with a handle 45, by means of which the frame can be moved up and down. In the second case, again, the movement can be brought about in such a way that the frame 22 is acted upon by a ratchet-wheel, which wheel is given a continuous rotatory movement by means of some suitable gearing.

The apparatus acts in the following manner. Five cartridge-shells are placed in the apparatus on the right side in Fig. 1, during which process the frame 22 shall be in its lowest position, so that the frames 25 and 26 do not prevent the shells being pushed into the frame 17. When, by means of the handle 45, the frame 22 is turned upward to that position which is shown in Fig. 2, the pins 19 enter into the percussion-caps and pull the same downward, out of the shells, in addition to which the frames 25 and 26 are at the same time moved toward each other and compress the shell. The powder-scales 4 have meanwhile been filled with powder from the receiver 3. After the powder-scales have been filled with the right amount of powder, they tip over and assume the position shown by the continuous lines shown in Fig. 2. When the frame 22 is turned upward, the lever 38 goes with it and an arm 46 opens the shutter 12, so that the powder runs down into the shells. Here-with the first-part of the charging process is completed. The frame 22 is thereupon turned down again, and five fresh cartridge-shells are inserted on the right side of the apparatus. The shells which were formerly inserted are hereby moved over to the left side of the apparatus. When the frame 22 is thereupon once more turned upward, the percussion-caps are pressed in by the lever 41 while the rammer 36 is simultaneously carried upward, so that the spring 35 can press forward five projectiles out of the magazine toward the frame 25. This last-named takes up for the moment such a position that the projectiles come directly over the openings of the shells, in consequence of which the projectiles are thus pressed down into the shells when the frame 22 and, together with this, the rammer 36 are again carried downward. The five shells which were inserted first are thus now ready charged while the other five shells have been filled with powder, etc. in the right side of the apparatus. When five new shells are thereupon put in at the right side, the loaded cartridges are ejected from the apparatus on its left side, and the work begins again in the same way.

While the apparatus is at work there are thus always ten shells in it. In consequence of this, loading or charging takes place very

rapidly with this apparatus, and on account of the powder being weighed, the loaded cartridges are very uniform.

Having now described my invention what I claim and desire to secure by United States Letters Patent is:

1. In an apparatus for charging cartridges, the combination of means, operated from a common lever, for charging the cartridges with powder, extracting the caps and compressing the cartridge-shells in one position of the cartridges, and means, operated from the same lever, for inserting caps and bullets in another position of the cartridges, substantially as and for the purpose set forth.

2. In an apparatus for charging cartridges, the combination of a swingable frame, means operated by the said frame, during its upward movement, for charging the cartridges with powder, extracting the caps and compressing the cartridge-shells in one position and inserting caps in another position of the cartridges, and means operated by the said frame, during its downward movement, for inserting bullets into the cartridge-shells in their latter position, substantially as and for the purpose set forth.

3. In an apparatus for charging cartridges, the combination of a guide for the cartridges, a powder charging mechanism, a cap extracting mechanism, a shell compressing mechanism, a cap inserting mechanism, a bullet inserting mechanism, a swingable frame, and connections between the said frame and the several mechanisms aforesaid for causing a set of cartridge shells to be filled with powder, freed from caps and compressed during the upward movement of the frame, while a second set of cartridge shells previously treated as aforesaid are provided with caps during the said upward movement and provided with bullets during the downward movement of the swingable

frame, substantially as and for the purpose set forth.

4. In an apparatus for charging cartridges, the combination of a casing (2), a frame (17) rigidly attached to the said casing and having a width enabling it to receive the thicker ends of the cartridge-shells, said frame (17) extending along the whole front side of the casing, powder-scales (4) placed in the casing above the said frame, means for filling the said scales with powder, means comprising a handle (45) for emptying the said scales, when the said handle is moved upward, two movable frames (25, 26) placed in the casing between the scales (4) and the rigid shell-receiving frame (17), said movable frames (25, 26) being provided, at their inner sides, with recesses corresponding to the form of the cartridge-shells, a link-motion (27, 28, 29, 30) operated by the handle (45) for moving the said frames (25, 26) so as to compress the shells, when the handle is moved upward, a rammer (36) for pressing bullets into the cartridge-shells, connections between the said rammer and the operating handle (45) for moving the rammer downward with the handle, a rib (18) pivotally attached to the operating handle (45) close below the rigid shell-receiving frame (17), said rib (18) being provided with pins (19) for extracting the percussion-caps, a lever (41) adapted to be actuated from the operating handle, an arm (42) carried by the said lever (41), and pins (43) carried by the said arm (42) for inserting new percussion-caps, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

OLOF BENGTTSSON.

Witnesses:

EMIL WAHDENG,
AUGUST TÖRMSON.