(No Model.) 2 Sheets—Sheet 1.

C. S. HISEY.

POWDER OR SHOT FEEDING MECHANISM.

No. 528,097. Patented Oct. 23, 1894.

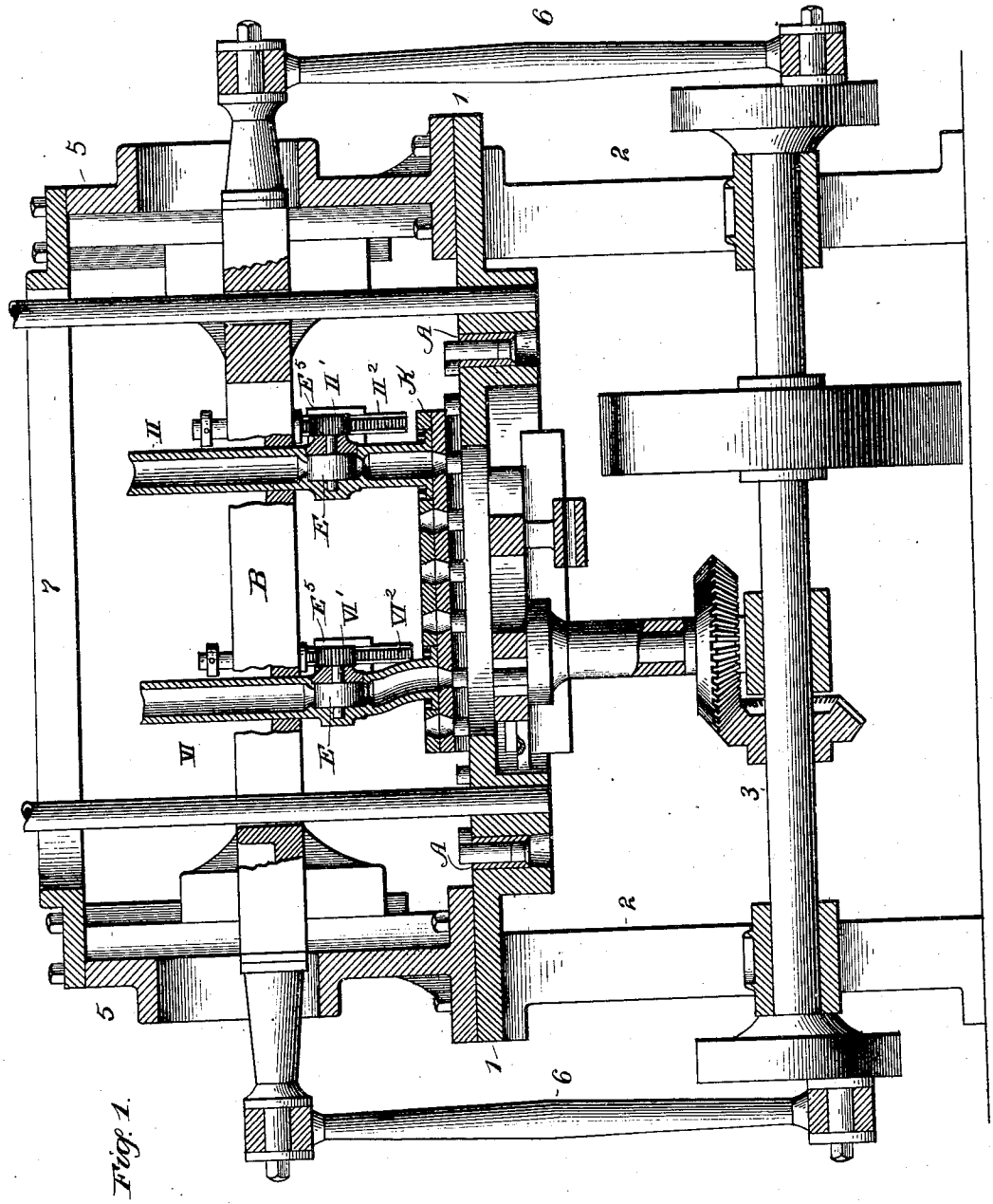

Fig. 1.

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

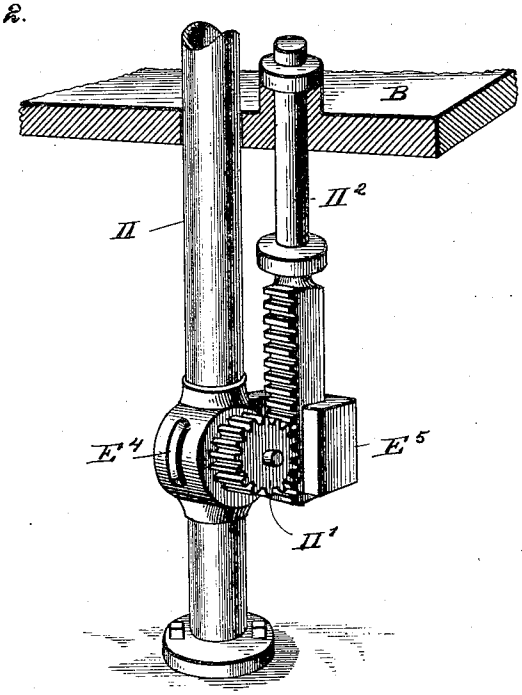
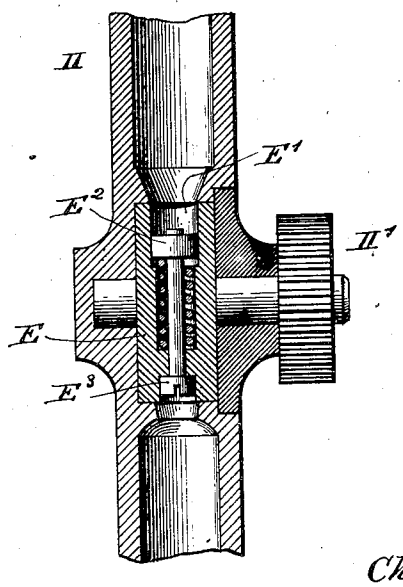


Fig. 3.



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UNITED STATES PATENT OFFICE.

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POWDER OR SHOT FEEDING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 528,097, dated October 23, 1894.

Application filed March 27, 1894. Serial No. 505,244. (No model.)

To all whom it may concern:

Be it known that I, CHARLES S. HISEY, a citizen of the United States, residing at Aurora, in the county of Dearborn and State of Indiana, have invented certain new and useful Improvements in Powder or Shot Feeding Mechanism; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in cartridge loading machines, and to the particular class of said machines which is constructed and adapted to charge or fill shot gun cartridges, and it consists in an improved powder or shot feeding device to be hereinafter fully described and particularly pointed out in the claims.

In automatic cartridge loading machines, whether of the endless chain type, such as that shown and described in my Patent No. 505,423, or of the type shown in my Patent No. 480,015, or of that shown in the companion joint application of myself and Elliott S. Rice, filed on March 1, 1894, Serial No. 501,935, it is an object to have all the separate mechanisms which make up the cartridge loading machine as simple in construction as possible, and to have them take up as little space as possible. In machines of this class, the size of each part is regulated to a certain extent by the size of the largest part, and it has been found impossible to reduce the size of the machines shown in my former patents, on account of the space which has to be assigned to the powder and the shot feeding devices, and the consequent regulation of the distances between the other parts so that a uniform travel of the cartridge shells from one loading station to another may be had.

My invention has for its object to provide a powder or shot feeding device, which will be simpler in construction and operation than those now in use, which can be situated directly over the line of travel of the shell carrier, can be actuated by a rod passing through the reciprocating cross head, and which will occupy very much less space than such devices have heretofore occupied in machines of this character.

I accomplish the object of my invention by the use of a revoluble charger mounted in the powder or shot feeding tubes, which tubes are placed directly over the shell carrier and actuated by means operated by the power shaft. I form in the surface of the revoluble charger a recess or pocket, whose bottom surface is composed of a spring pressed plunger, normally set to any desired position by an adjusting screw, but adapted to give and prevent mutilation of the shot should any clogging of the same occur.

My invention is fully illustrated in the drawings accompanying and forming a part of this application, in which the same reference letters and numerals refer to the same or corresponding parts, and in which—

Figure 1 is a longitudinal section of a cartridge loading machine, having the powder and shot feeding devices shown in position thereon. Fig. 2 is a detail perspective view of one of the feeding devices, and Fig. 3 is a cross section of the same.

Referring to the drawings, 1 represents the machine bed or table. It is rectangular in form, and is supported from the ground by the standards 2. In the upper surface of the table is cut a deep groove, approximately elliptical in form, in which move the shell carrier blocks A, and on both sides of which sets of loading tools may be placed.

3 is the main power shaft of the machine, and is journaled centrally between the standards of the machine table in cross pieces running between the same.

To the top of the machine table are bolted the upright castings 5, which form bearings for the double cross head B, through which pass the rods operating the powder and shot feeding devices. The ends of the cross head project through slots formed in the casting 5, and connection is made between said cross head and the central power shaft by the connecting rods 6, which are attached at their lower ends to cranks on the power shaft. The castings are connected together at the top, in order to give them firmness and rigidity, by the tie-plate 7.

The powder and shot feeding tubes, II and VI, are placed at suitable points along the line of travel of the shell carrier, and extend

vertically upward directly over the said line of travel, a base of support being provided for them by the supplemental table K. A short distance above the supplemental table, the powder and shot feeding tubes are rounded out to receive the revoluble chargers E, in the surfaces of which recesses or pockets E′ are cut, in which the charges are received. The charge containing recesses or pockets E′ are made adjustable, so as to contain varying charges of powder and shot, by having their lower surfaces formed by the spring pressed pistons E^2, the position of which is determined by the philister headed screws E^3, which pass from opposite sides of the revoluble chargers through screw threaded openings in the piston. Slots E^4 are cut in the rounded out portions of the powder and shot feeding tubes on the side opposite to that of the rotation of the charge containing recesses, by means of which access to the screws which regulate the contents of such recesses may be had.

By forming the bottom of the charge containing recesses or pockets E′ of spring pressed pistons, not only are such recesses or pockets made adjustable, but mutilation of the shot and locking of the charger is prevented, should one of the shot be caught between the edge of the charge containing recess and the side of the shot feeding tube. This might happen with large sized shot, but in the construction of charges here shown no difficulty will be occasioned thereby, for should a shot become so lodged, it would force the spring pressed piston which forms the bottom of the charge containing recess down, and thus avoid injury.

Mounted on the pins which afford bearings for the revoluble chargers E are gear wheels II′ and VI′. With these gear wheels mesh the toothed portions of the rods II^2 and VI^2, which pass through apertures in the cross head B, and are provided with collars, so that the cross head, in moving up and down, after passing the stage between the two collars, will strike one of the collars and thus move the rods up or down, thereby rotating the chargers E between the two positions they occupy, namely, (first) that in which the charge containing recesses E′ are in a position to receive charges, and, (second,) that in which they are ready to discharge their charges. The action thus afforded is positive and certain. The force required to rotate the charger is sufficient to prevent the mere weight of the toothed rods from causing such rotation. These rods are therefore held in position. Bottom guides are formed for the same by the castings E^5.

The simplicity of the mechanism is such that there is no danger of its getting out of order, and the dwell afforded while the cross head is passing between the collars on the actuating rods insures the proper receiving and delivering of the charges. This dwell may be made to occupy any desired portion of a revolution of the power shaft by suitably placing the collars on the actuating rods and arranging the gears.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a cartridge loading machine, the combination with a powder or shot feeding tube, or a revoluble charger mounted therein, having a recess or pocket in its surface whose bottom is formed by a spring pressed piston, means for normally setting said piston in any desired position, and means for operating the charger, substantially as described.

2. In a cartridge loading machine, the combination with a powder or shot feeding tube, of the revoluble cylinder E mounted therein, having the recess or pocket E′ cut in its surface, whose bottom is formed by the spring pressed piston E^2, the screw E^3 for normally setting the piston in any desired position, and means for operating the charger, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES S. HISEY.

Witnesses:
J. LOWE WHITE,
JOSEPH D. WOOD.