C. B. SWASEY.

MACHINE FOR LOADING CARTRIDGES.

APPLICATION FILED SEPT. 23, 1918.

1,325,339.

Patented Dec. 16, 1919.

3 SHEETS—SHEET 1.

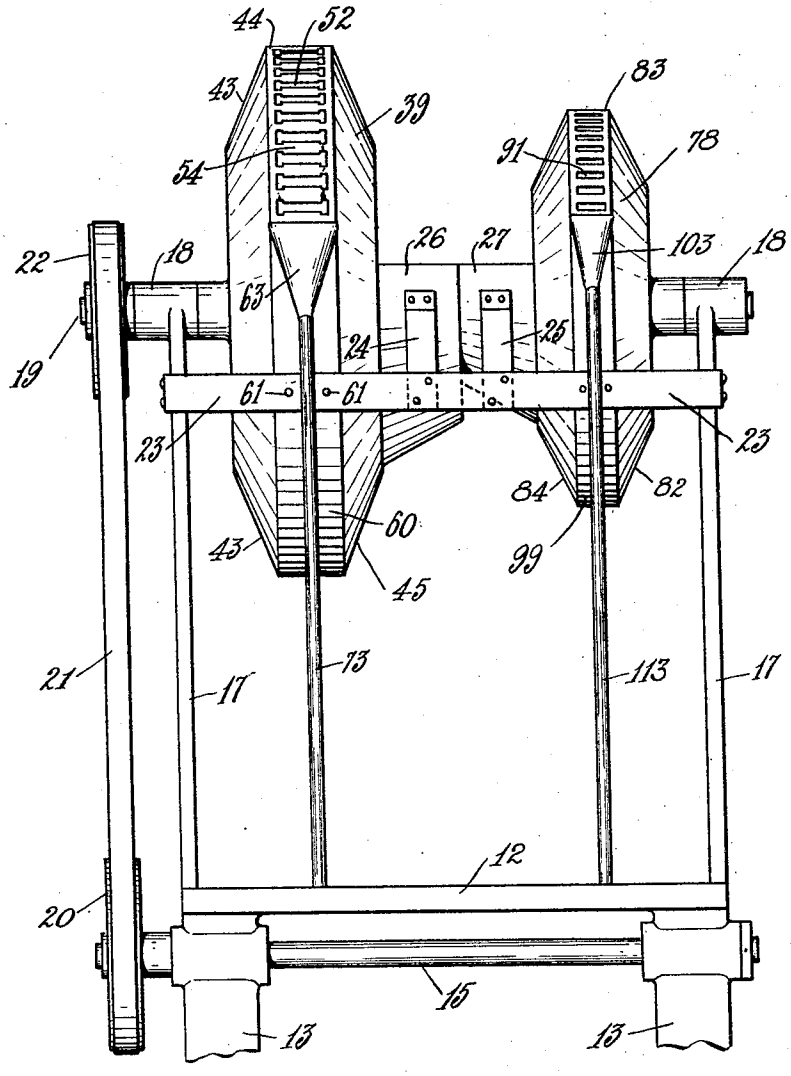

Fig. 1.

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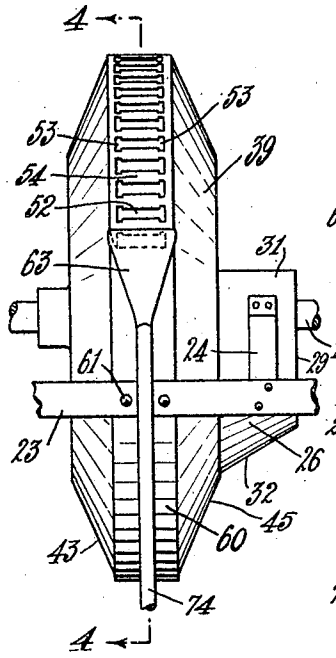

Fig. 2.

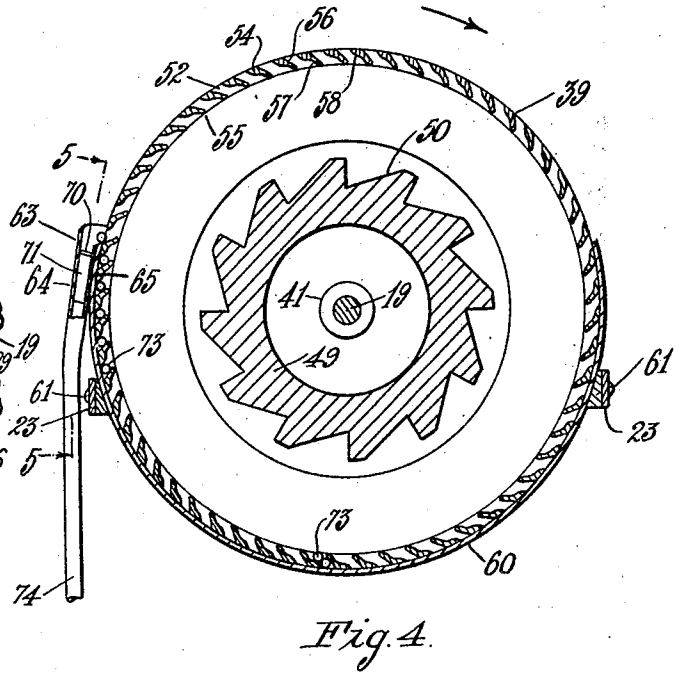

Fig. 4.

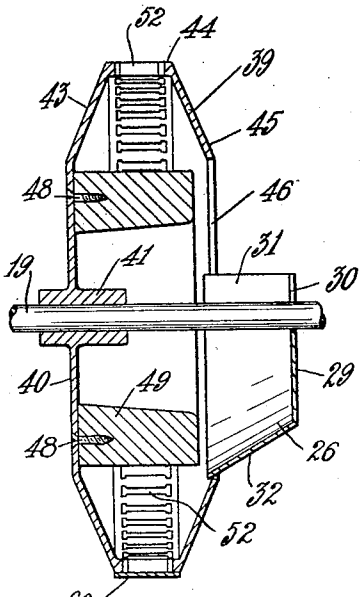

Fig. 3.

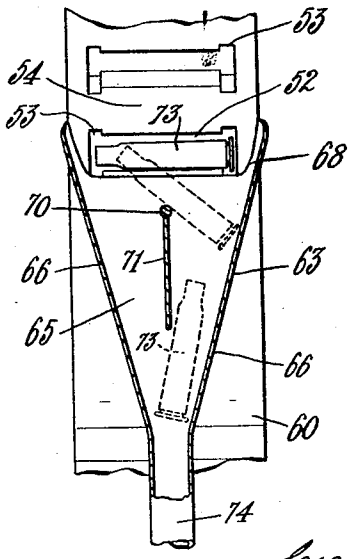

Fig. 5.

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3 SHEETS—SHEET 3.

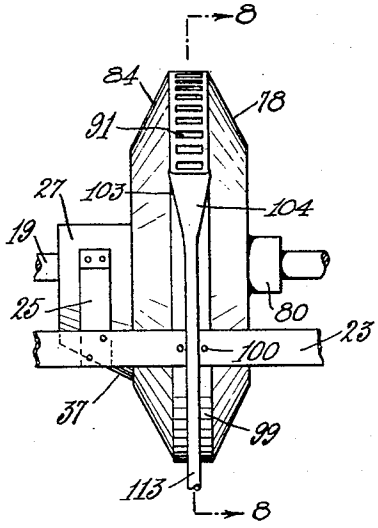

Fig. 6.

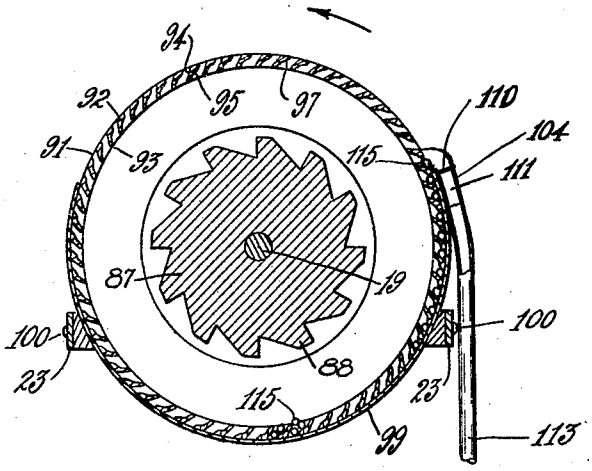

Fig. 8.

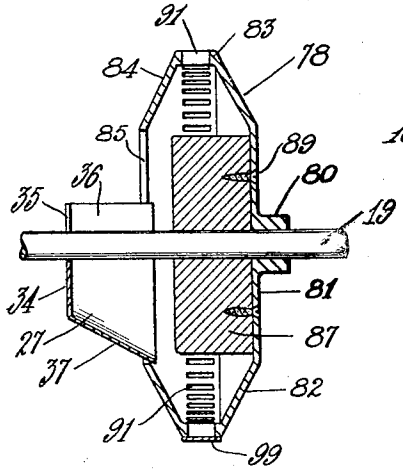

Fig. 7.

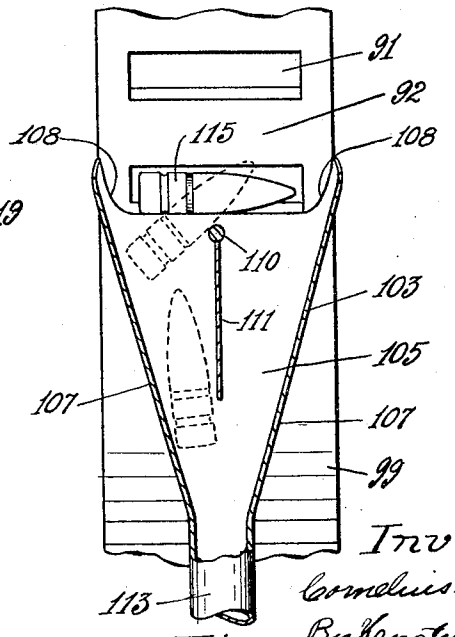

Fig. 9.

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UNITED STATES PATENT OFFICE.

CORNELIUS B. SWASEY, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO FRANK G. ROWLEY, OF PAWTUCKET, RHODE ISLAND.

MACHINE FOR LOADING CARTRIDGES.

1,325,339. Specification of Letters Patent. Patented Dec. 16, 1919.

Application filed September 23, 1918. Serial No. 255,277.

To all whom it may concern:

Be it known that I, CORNELIUS B. SWASEY, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Machines for Loading Cartridges, of which the following is a specification.

My invention relates to machines for loading cartridges, and particularly to the means for delivering the shells and bullets to the loading mechanism thereof.

The essential objects of my invention are to deliver the shells and bullets with speed and without jamming or denting; to insure that the shells and the bullets shall be delivered with their heads and blunt ends respectively downward; and to attain these ends in a simply operable and inexpensive mechanism.

To the above ends essentially my invention consists in such parts as fall within the scope of the appended claims.

In the accompanying drawings which form a part of this specification—

Figure 1 is a front elevation of so much of the frame of a cartridge loading machine as is directly pertinent to the embodiment of my invention thereon mounted; the usual dial or dials for receiving and conveying the shells and bullets together with the mechanism for operating the same being omitted,

Fig. 2, a front elevation of the shell drum and adjacent parts,

Fig. 3, a transverse section of the same,

Fig. 4, a section on line 4—4 of Fig. 2,

Fig. 5, a section on line 5—5 of Fig. 4,

Figs. 6, 7, 8, and 9, views of the bullet drum and adjacent parts, corresponding respectively to Figs. 2, 3, 4, and 5.

Like reference characters indicate like parts throughout the views.

The frame work of my machine may be of any construction best adapted to support my novel feeding mechanism.

In the form thereof herein shown it comprises the table 12 for supporting the dials and shell loading apparatus, said table being carried by supports 13 in which are journaled the main shaft 15 driven in any usual manner from a convenient source of power. Brackets 17 upon the ends of the table have bearings 18 in which is journaled a shaft 19.

From a wheel or pulley 20 on shaft 15 extends a belt 21 to a wheel 22 on shaft 19 for driving the latter. Upon opposite sides of the brackets are cross pieces 23 upon which are vertical arms 24 and 25 fast to hoppers 26 and 27 respectively.

The shell hopper 26 has an end wall 29 provided with a vertically disposed slot 30 to loosely admit the shaft 19, also side walls 31 and a downwardly inclined bottom wall 32. The top and inner end of the hopper are open.

The bullet hopper 27 is of similar construction, comprising the end wall 34 with slot 35, side walls 36, and bottom wall 37.

Fast to the driven shaft 19 is a shell drum 39 comprising an end wall 40 provided with a central hub 41 engaged to the shaft. The wall has an annular transversely inclined portion 43 integral with a cylindrical rim 44 carrying a transversely inclined portion or flange 45. The end of the drum opposite the wall 40 is open as at 46 into which extends the open end portion of the hopper 26. Fastened to the wall 40 by screws 48 or otherwise is a ring 49 with peripheral inclined teeth or serrations 50. This ring extends transversely of the drum beyond the rim 44 and adjacent to the open end of the hopper. The rim 44 is provided with a series of openings. Each opening comprises an oblong slot 52, disposed transversely of the drum, with laterally enlarged portions 53 at both ends. The resultant cross bars 54 formed by the slots have internally directed broad teeth 55 extending the length of the bars comprising inclined forward faces 56 and inclined rear faces 57 provided with intermediate shouldered portions 58.

A curved shield 60 slidably embraces the rim 44 and is supported upon the bars 23 by screws 61 or otherwise. A flat funnel 63 is soldered or otherwise fixed to one end of the shield so that its open top is in contact with or adjacent the rim. This shield comprises parallel front and back walls 64 and 65 and inclined side walls 66. The top margin of the wall is cut away to form an open slot 68. Midway the width of the funnel 63 is a transverse pin 70 fast in the front and back walls; and immediately below this pin is a vertical transversely disposed plate 71 also fast to said walls, forming a partition.

The empty cartridge shells 73 are introduced in quantity into the top of the hopper 26 whence they drop into the lower part of

the drum 39 which is moving in the direction of the arrow as shown in Fig. 4. The inclined teeth 55 select and elevate the shells to a plane somewhat above the axis of the drum and above the end of the shield 60. The absence of the shield at this point permits the shells to successively fall by gravity through the inclined slots 52 and 68 into the funnel 63. In falling each shell strikes an intermediate portion against the pin 70 which trips it so that the head of the shell is swung downwardly. The partition 71 prevents a complete oscillation or reversal of the shell, but insures the descent of the shell head downwardly, as shown in Fig. 5, into the conductor 74 which leads to or adjacent the table 12 or the loading dial thereon. In the first instance the shells are largely massed in the bottom of the drum, and the teeth 55 together with the momentum of the drum carry a superfluity of the shells to the upper portion of the drum, whence they fall into the cavities between the teeth 50 of the member 49 which serves to distribute the shells more generally.

A bullet drum 78 is mounted fast to the shaft 19 and is similar in detail to the shell drum except in the shape of its peripheral slots. It comprises a hub 80, wall 81, inclined portion 82, rim 83 and inclined flange 84, surrounding opening 85. The circular distributer 87 with its teeth 88 is fastened to the wall by screws 89. The rim 83 has a series of transverse oblong slots 91 forming cross bars 92, with teeth 93 having inclined faces 94 and 95 on opposite sides. The latter faces are provided with longitudinal shoulders 97.

A shield 99, attached by screws 100 to bars 23, embraces the bottom of the drum. The bullet funnel 103 is similar in detail to the shell funnel and is attached likewise to the shield 99. It comprises the front and back walls 104 and 105, side walls 107, and marginal slot 108, together with the transverse pin 110 and partition 111. A tube 113 leads from the funnel to the head of the machine or loading dial thereon.

The operations of feeding bullets 115 are those already described in connection with the feeding of shells.

An important feature of this construction is the wooden distributers 87, and 49 whereby the superfluous falling articles strike a wooden surface a short distance below, thus shortening the distance of the fall and preventing bruising of the articles.

Any suitable arrangement of dial and shell loading means may be employed, for instance, such as shown in the patent to Macomber, No. 1,282,610, October 22, 1918.

I claim:—

1. In a loading machine, the combination of a rotary drum provided with a series of peripheral slots, internal inclined teeth upon the drum between the slots and parallel therewith, a distributer fast to drum and concentric therewith, inclined peripheral teeth upon the distributer in the plane of the first mentioned teeth, and a funnel engaging the periphery of the drum.

2. In a loading machine, the combination of a hollow drum provided with an open side and with a peripheral series of slots, a series of inclined teeth in the drum intermediate the slots, a distributer fast to the drum concentric with the series of teeth, and a stationary hopper registering with the opening in the drum.

3. In a loading machine, the combination of a rotary drum provided with a series of peripheral slots, internal inclined teeth upon the drum between the slots and parallel therewith, a distributer in the drum and concentric therewith, and peripheral teeth upon the distributer in the plane of the first-mentioned teeth.

4. In a loading machine, the combination of a hollow drum provided with a peripheral series of slots, a series of inclined teeth in the drum intermediate the slots, and a distributer in the drum concentric with said series of teeth.

In testimony whereof I have affixed my signature.

CORNELIUS B. SWASEY.