

(No Model.)

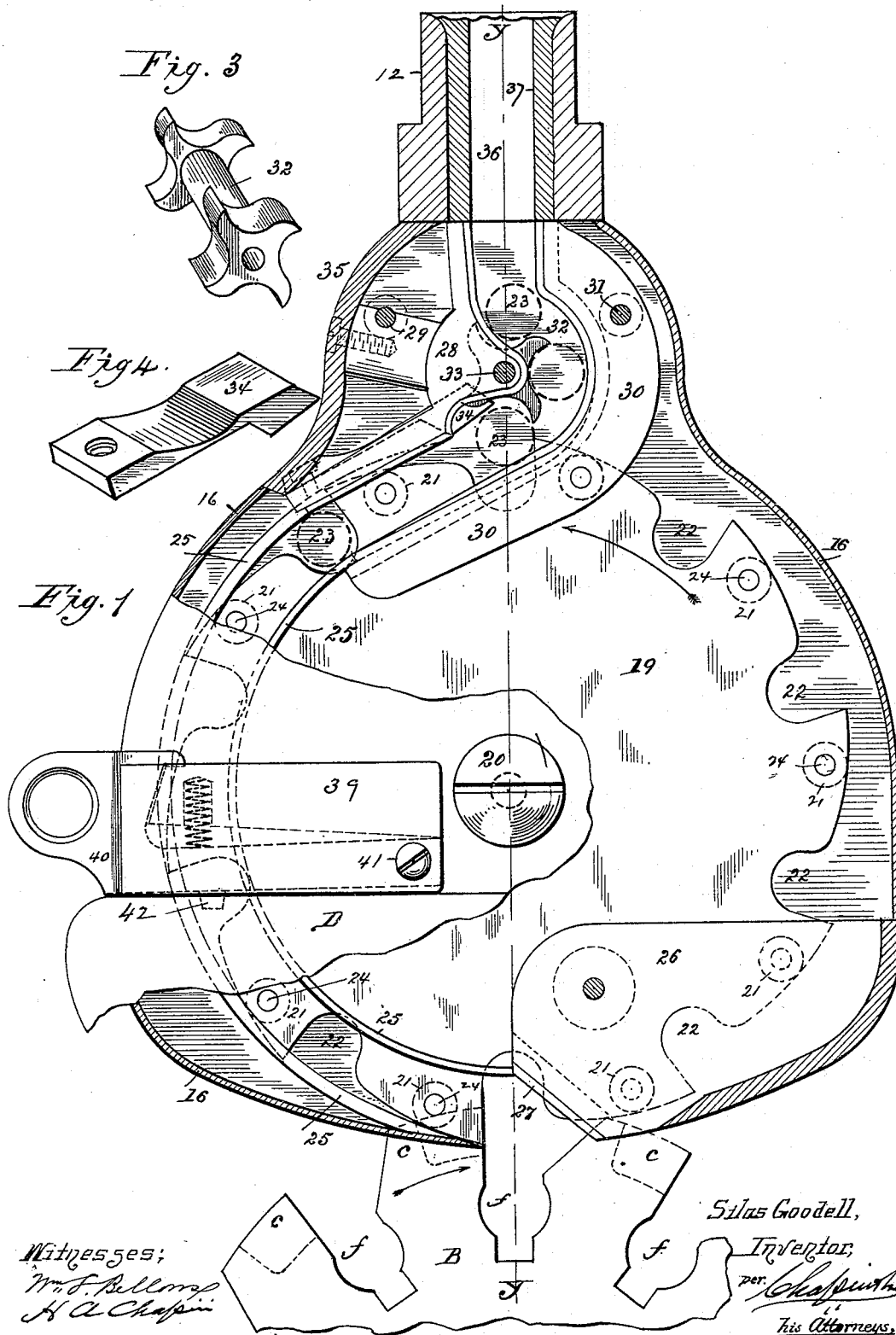
2 Sheets—Sheet 1.

S. GOODELL.

CARTRIDGE FEEDER FOR MACHINE GUNS.

No. 421,862.

Patented Feb. 18, 1890.



Witnesses;
W. F. Bellows
H. A. Chapin

Silas Goodell,
Inventor,
per Chapman
His Attorneys.

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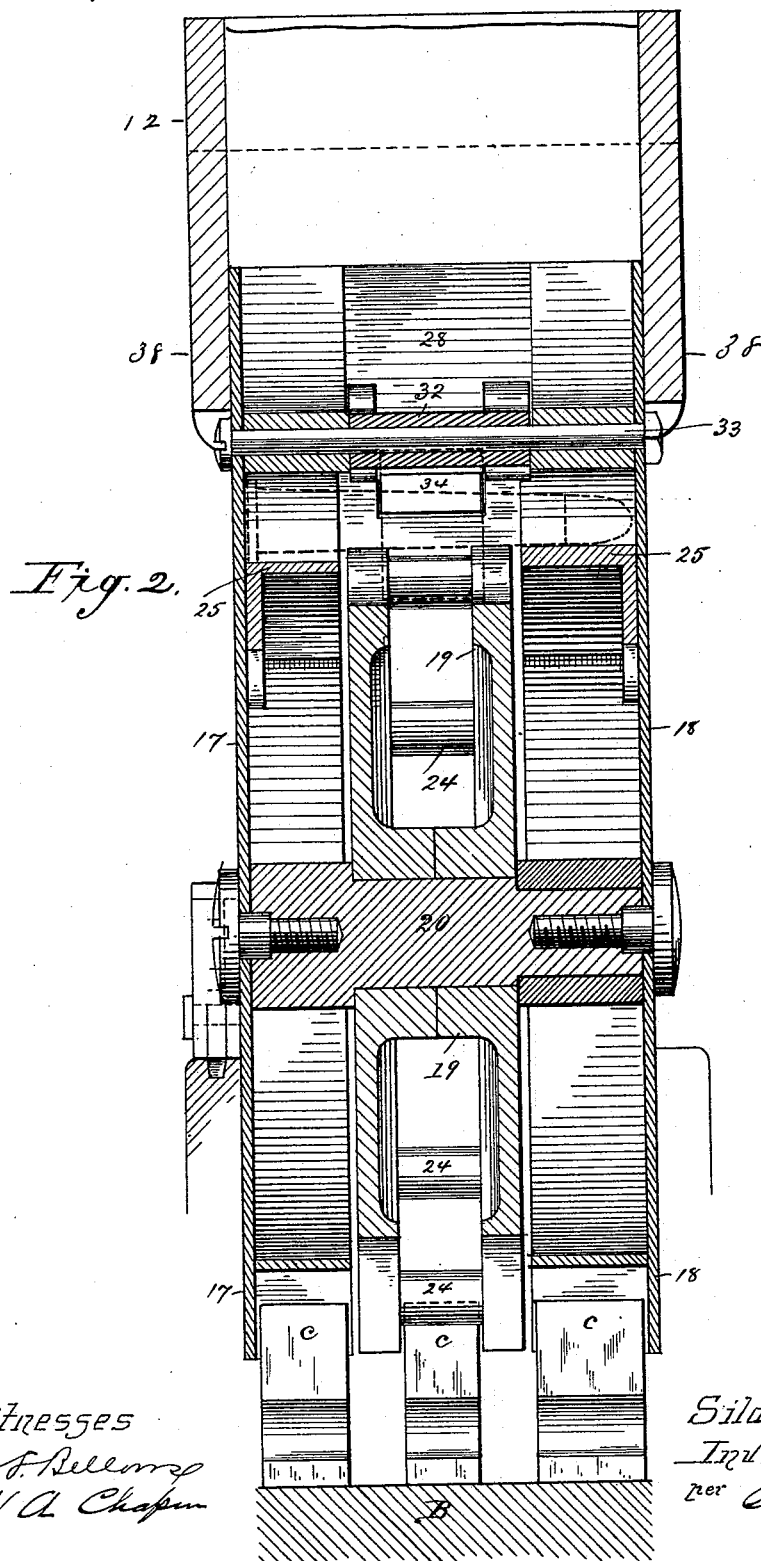
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Witnesses

Wm. F. Bellamy
H. A. Chapin

Silas Goodell,
Inventor,

per *Chapin*
his Attorneys

UNITED STATES PATENT OFFICE.

SILAS GOODELL, OF HARTFORD, CONNECTICUT, ASSIGNOR TO THE GATLING GUN COMPANY, OF SAME PLACE.

CARTRIDGE-FEEDER FOR MACHINE-GUNS.

SPECIFICATION forming part of Letters Patent No. 421,862, dated February 18, 1890.

Application filed June 20, 1889. Serial No. 314,940. (No model.)

To all whom it may concern:

Be it known that I, SILAS GOODELL, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented new and useful Improvements in Cartridge-Feeders for Machine-Guns, of which the following is a specification.

This invention relates to cartridge-feeding devices for machine-guns, the object being to provide improved positively-operating devices of this class, and which embody improved means for preventing any cessation of the regular movement of the cartridges to the gun by the stoppage of a cartridge or cartridges at the mouth of the feeder; and the invention consists in the peculiar construction and arrangement of the parts of the machine, all as hereinafter fully described, and pointed out in the claims.

In the drawings forming part of this specification, Figure 1 is a side elevation, partly in section, of a cartridge-feeder embodying my improvements. Fig. 2 is a sectional view on line *y y*, Fig. 1. Figs. 3 and 4 are perspective views of detail parts hereinafter fully described.

In the drawings the operative mechanism of the feeder is shown within a metallic case consisting of a border 16 and two sides, the front 17 and the rear 18, said border and sides being suitably secured together to form said case, in which a cartridge-propelling wheel 19 is hung to rotate on a center bolt 20, said bolt being attached to the case by two screws, as shown. The border 16 has an opening made through it at the lower end of the case to allow portions of the ribs *c* of the cartridge-carrier B of a machine-gun to enter the case and engage with the propelling-wheel therein, as below described. Said wheel 19 is constructed with a series of teeth 21 around its periphery, between which are circular recesses 22, in which cartridges 23 are received. The wheel 19 is constructed of two separated metallic plates, as shown in Fig. 2, which are united by a series of transverse metal bars 24, near the borders of said teeth 21.

On the inner opposite sides 17 and 18 of the case are fixed circular metallic strips 25,

extending about half-way around the inner side of the case, as shown in Fig. 1, between which the ends of the cartridges 23 (one of which is shown in dotted lines in Fig. 2) pass when engaged by the wheel 19 on their way to the cartridge-carrier B of the gun. Opposite the ends of said strips 25, in the lower end of the case, is fixed a guide-block 26, having an inclined edge 27, against which the cartridges carried by the wheel 19 strike, and are thereby made to drop into the grooves *f* of the cartridge-carrier B. Said block is slotted centrally to allow the border of wheel 19 to move between its sides, as shown by dotted lines in Fig. 1. A wheel-supporting block 28 is secured in the upper end of said case by screws 29, passing through the sides of the case into said block, and opposite said block 28 is secured a cartridge-guiding block 30 by other screws 31, also passing through the sides of the case. The said two metallic blocks 28 and 30 have parallel adjoining faces, as shown, thereby forming a suitable passage between them, through which the cartridges 23 move toward and onto the propelling-wheel 19, the lower end of said block 30 being slotted to allow the border of said wheel 19 to pass between its sides and receive the cartridges, as shown in Fig. 1. The cartridge feeding or controlling wheel 32 is hung in a central slot in said block 28, in the position shown in Fig. 2, on a bolt 33, passing through the sides of the case and the laterally-projecting parts of said block, as shown, and to the under side of said block below said wheel is secured a spring cartridge-guide 34, by a screw passing through its lower end, as shown. The free end of this spring-guide extends between the ends of the wheel 32, on which the cartridges lie, (see Fig. 2,) and the under side thereof near said wheel is nearly parallel to the opposite side of the block 30, and is directly opposite the ends of the teeth 21 on wheel 19, as they move in their circular path through block 30, to take the cartridges, as shown in Fig. 1. A plate 35 is secured by a suitable screw or screws entering said block 28, over an opening in the border 16 of the case, said plate constituting a part of said border which may be removed to enable one to have access to

the wheel 32 and the spring 34, to adjust the parts, if need be. The wheel 32 rotates in such proximity to the opposite side of the block 30 that cartridges dropping through the passages 36, Fig. 1, fall upon said wheel 32, and are thereby held in a horizontal position, as shown by a cartridge in dotted lines in Fig. 2, and are thereby brought onto the propeller-wheel in proper position to cause them to drop into the recesses 22 therein.

In Fig. 1, one of the cartridges 23, there indicated in dotted circles, is seen just below the wheel 32, under the free end of spring 34, and opposite the point of one of the teeth 21, on the propeller-wheel, and should said cartridge prove to be of such diameter that it could not pass freely between said tooth-point and spring, the latter, as said tooth strikes the cartridge, springs back sufficiently to prevent the cartridge from being caught and stopped or from forming any obstruction to the movement of the wheel 19, or from being injured by the latter, and the cartridge then drops into one of said recesses 22, and passes on with wheel 19 to the cartridge-carrier B, which, as above described, engages with the wheel 19 and causes it to rotate, as stated.

The upper or receiving end of the feeder-case has a mouth 12 thereon adapted to receive the foot of any suitable vertical cartridge guide or feeder, a portion of said foot 37 being shown in section in Fig. 1, and said mouth is secured to said case by pending borders 38 on the front and rear sides thereof, (see Fig. 2,) through which the above-referred-to screws 29 and 31 pass before passing through the sides of the case into the blocks 28 and 30 within the latter. The hopper K of the gun is partly shown in Fig. 1, into which the said feed-case is set, thereby bringing the wheel 19 into operative relation with the carrier B. On the side of the feed-case is fixed a metallic latch-case 39. In a longitudinal slot therein a latch 40 is pivoted by the screw 41, the end of the latch projecting at the border of the case and perforated to permit of inserting the finger to operate it. A socket is formed in the latch-case to receive a spiral spring, which bears on the upper edge of the latch to swing the latter downward, and the latch has on its lower edge a tooth 42, engaging with a corresponding notch in the upper

side of the hopper, whereby the case is retained in proper position on the hopper. The latch is disengaged from the hopper by lifting its projecting end.

What I claim as my invention is—

1. A cartridge-feeder for machine-guns having guide-blocks at its entrance, between which is a cartridge-passage, a cartridge-guiding wheel 32 hung on one side of said passage and rotating partially therein, and a spring secured on one side of said passage, whose free end forms a part of one wall thereof, combined with a cartridge-propelling wheel whose path of rotation is partly in said passage and opposite said spring, substantially as set forth.

2. The combination, with the wheel 32, rotating partially in the cartridge-entering passage of the feeder, of the spring 34, having its free end capable of a flexible movement between the ends of said wheel, and the propelling-wheel 19, whose teeth enter said passage opposite the flexible end of said spring, substantially as set forth.

3. A cartridge-feeder having an entering-passage for cartridges, as described, a cartridge receiving and propelling wheel having its path of rotation across said passage, and a spring having its free end opposite the points of the teeth of said wheel when they enter said passage, substantially as set forth.

4. In combination with the cartridge-carrier of a machine-gun, a propeller-wheel having recesses in its periphery to receive cartridges and engaging with said carrier, a case in which said propeller-wheel rotates having guide-blocks therein near the entrance thereto, between which is a cartridge-passage leading to said wheel, a cartridge-governing wheel hung to rotate partly within said passage, and a spring forming a portion of one wall thereof, cartridge-guiding strips in said case leading from the end of said passage to the exit-opening in the case, and a guide-block at one side of said opening to direct cartridges into said carrier, substantially as set forth.

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Witnesses:

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