

(No Model.)

2 Sheets—Sheet 1.

L. F. BRUCE.

CARTRIDGE FEEDER FOR MACHINE GUNS.

No. 273,249.

Patented Mar. 6, 1883.

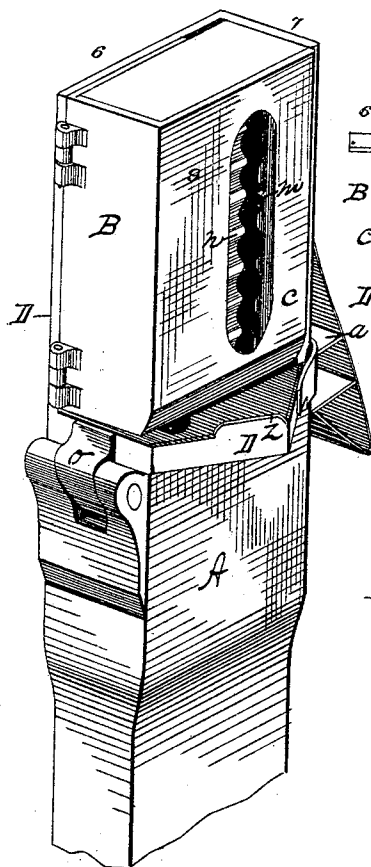


Fig I,

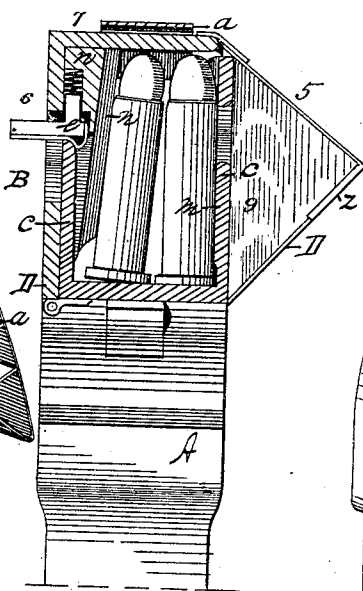


Fig IV,

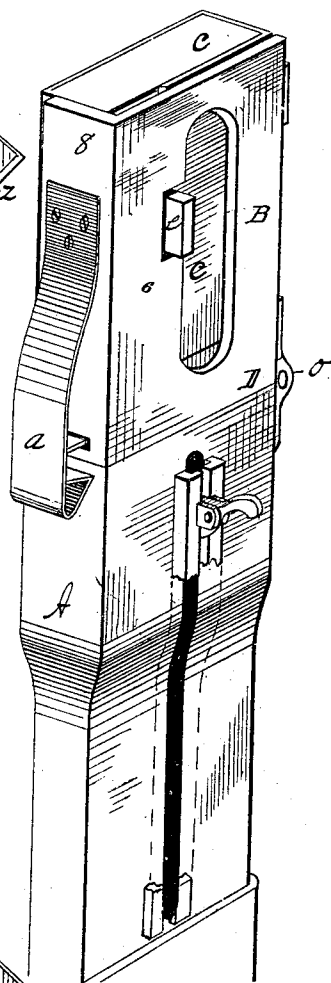


Fig II,

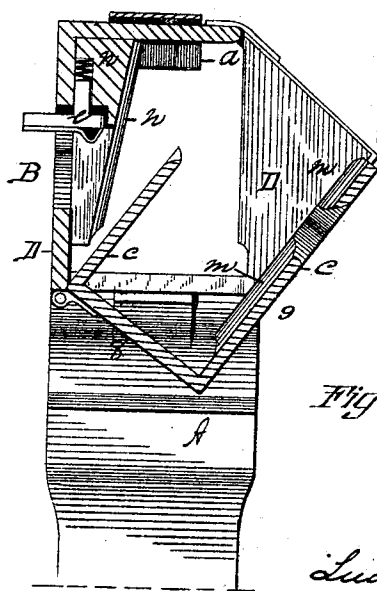


Fig III,

Witnesses,
R. J. Hyde
Wm. H. Chapin

Inventor;
Lucien F. Bruce
By Henry A. Chapin
Att'y

(No Model.)

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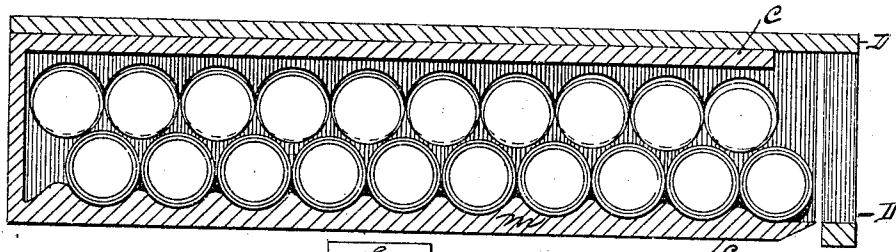


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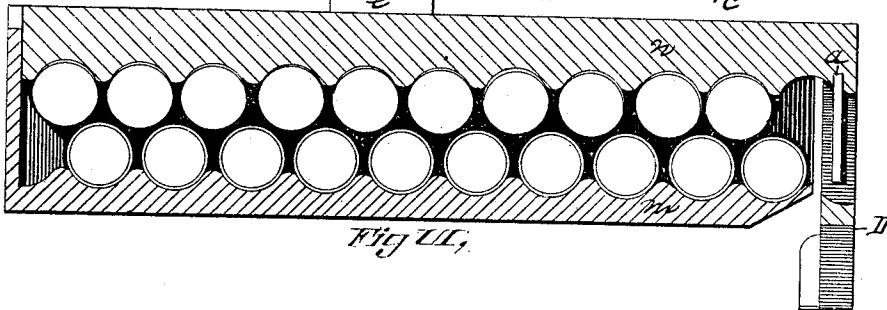


Fig I,

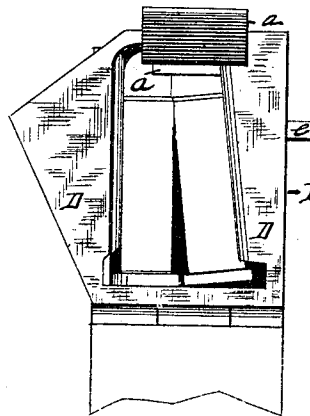
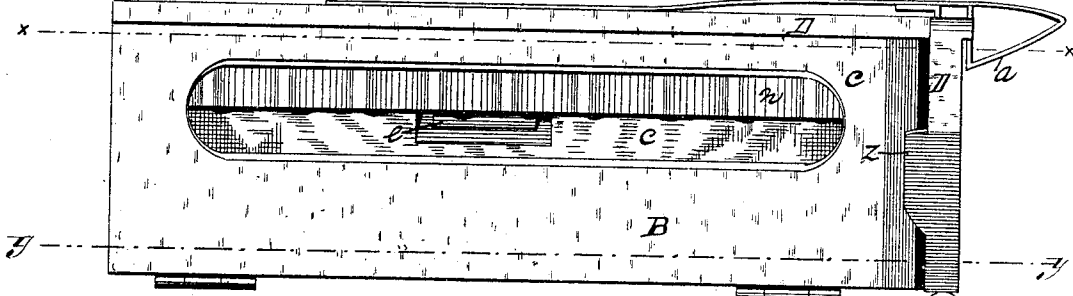


Fig IIII,

Witnessed;
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UNITED STATES PATENT OFFICE.

LUCIEN F. BRUCE, OF SPRINGFIELD, MASSACHUSETTS.

CARTRIDGE-FEEDER FOR MACHINE-GUNS.

SPECIFICATION forming part of Letters Patent No. 273,249, dated March 6, 1883.

Application filed June 17, 1882. (No model.)

To all whom it may concern:

Be it known that I, LUCIEN F. BRUCE, a citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Cartridge-Receiver for Gun-Feeders, of which the following is a specification.

This invention relates to improved devices for transferring cartridges from an ordinary box in which they are packed at the manufactory to a tubular cartridge-feeder for machine or other guns, the object being to provide a cartridge-receiver adapted to be suitably connected with a feeder into which the entire contents of said box may be dropped, and in which they may be temporarily held in substantially the same relative position that they occupied in said box, but not separated by partitions, and from which they may be instantaneously discharged (each one during said discharge being held practically in a horizontal position) into the end of said tubular feeder.

In the drawings forming part of this specification, Figure I is a perspective view of a cartridge-receiver embodying my invention, there represented as hinged in operative position to the end of a cartridge-feeder. Fig. II is a similar view to Fig. I, but showing the reverse side of the device. Fig. III illustrates said receiver turned over at right angles to the side of said feeder, and shows a transverse section thereof. Fig. IV is a similar view to Fig. III, but shows said receiver shut and the position of cartridges therein when in that condition. Fig. V is a side elevation of said receiver and a section of said feeder. Figs. VI and VII are longitudinal sections of Fig. V on the lines *xxyy*, respectively, and illustrate the positions of the upper and lower ends of the cartridges when they are held by the receiver. Fig. VIII is an open-end view of said receiver adjoining said feeder.

In the drawings, A represents the upper end of a tubular cartridge-feeder adapted to conduct cartridges, when properly introduced therein, to the operative parts of a machine-gun. A slot is cut through one side of said feeder, as shown in Fig. II. Two guide-strips

are secured at the sides of said slot, and a short lever, the outer end of which is shown, is pivoted in a suitable block, which is adapted to slide between said guide-strips, and the opposite end of said lever projects far enough through said slot into said feeder to strike and push along any cartridges which may become stopped therein as they pass through it. Said block and lever are moved up and down by hand. Said cartridge-receiver consists of a frame, D, having a perforated end and a triangular base, *b*, on one side thereof, one perforated side, *6*, and a front edge, *7*. Said frame D is hinged to the feeder A at *o*, and has a spring cartridge-stop, *a*, secured on its said front edge, on which is an arm at about right angles thereto extending through said front edge into the interior of the receiver, as shown in Fig. III, IV, and VIII. Frame D is provided with a long opening in its side 7, as in Fig. II, and at one edge of said opening is placed a spring-catch, *e*, (shown clearly in Figs. III and IV,) having a slight rib on it next to said opening. On the inner face of said side of frame D, between said opening and its said edge, is fixed a strip, *n*, having a corrugated face, and at the end of said frame, near to its base, said corrugations extend nearly across said side and past the end of said opening therethrough, as seen in Fig. III. It will be observed that the above-named corrugations are arranged transversely to said side of frame D. A raised border, *z*, is provided on the edge of the aforesaid triangular base on frame D. A box, *c*, constituting a part of said receiver, having sides 8 and 9 of unequal height and one edge and one end open, is hinged to the rear edge of said frame D in such a manner that when said box is shut against said frame—that is, swung from the position shown in Fig. III to that shown in Fig. IV—a receiver is formed, consisting of a box closed on all sides excepting at one end, and the latter presents an opening of the form shown in Fig. VIII. The narrow side of box *c* (see Fig. III) is adapted to swing against the inner face of the side of frame D, over the aforesaid opening, through the same, and back of the face-line of said line of corrugations *n* on the said side, as in Fig. IV, and there to become temporarily fastened by slipping past

said rib on the spring-catch *e*. The extent of the opening movement of box *c* is governed by the border *z* on said triangular base to frame D, against which the side of said box swings, and the latter being there arrested, a temporary partial covering for the open end of said box is formed by said base, as shown in Fig. III, when so opened, whereby the cartridges are held up until the box is closed. The inner face of said wide side of box *c* is provided with a series of transverse corrugations *m*, extending nearly across the same, and the projecting portions of said corrugations are located opposite the depressions in the corrugations *n* on the inner face of the side of frame D. Said corrugated side of box *c* is provided with an opening therethrough, whereby the position of the cartridges in the receiver can be inspected.

The operation of my improvement is as follows: The operator upon whom devolves the duty of supplying cartridges to the tubular feeder A takes a position at the side thereof (said feeder and receiver occupying in practice that shown in Fig. II) to the left, his left hand grasping the back edge of the receiver and his fingers reaching against the spring-catch *e*. He takes a box of cartridges, from which the cover is removed in his right hand, presses against spring-catch *e*, and the narrow side of box *c* with the fingers of the left one, and thus opens said box, as in Fig. III. He then swings the top of the receiver back a little to clear the cartridge-stop *a* from contact with the feeder A, and to bring said receiver to a more convenient position to receive the cartridges, when he inserts the open or uncovered side of said cartridge-box into box *c*, gives the receiver a quick throw or swing backward, causing all of the cartridges in said packing-box to be instantly and simultaneously transferred to box *c* of the receiver, and, as said base *5* now lies partially under the cartridges, they are held up while box *c* is swung to shut it against the frame D. The receiver is now shut by swinging box *c* to the position shown in Figs. IV and VIII, bringing the ball ends of the lower cartridges onto the arm on stop *a*, whereby the cartridges are temporarily held, as hereinafter described, and the receiver is swung up with a sharp quick motion to a vertical position, as in Fig. II, drawing the arm on the stop *a* outward, and both rows of cartridges in the receiver pass at once into the feeder A, and thence to the gun.

It will be seen that the interior width of the receiver, when in a closed position, is considerably less across the top than across the bottom, (as it lies in Fig. IV,) and that consequently the bullet ends of the cartridges are forced into the depressions of said corrugations, and, by reason of the above-described relative location of the projections and depressions of the latter on each, or, rather, on the opposite sides of said receiver, said ends of the cartridges are forced a little past each other,

as in Fig. VIII. Said receiver is of such width as to give some freedom of movement to the rim ends of the cartridges, as shown; but to properly control the movement of the latter it is requisite that that of the ball ends should be restrained, as it is, by their contact with the said corrugated sides of the receiver when they move toward the feeder A, whereby they are caused to enter the latter in a horizontal position.

It will be seen that the arm on the stop *a* stands before the ball ends of said cartridges, and that the two at the end (see Fig. VIII) are crowded slightly into the grooves of the opposite corrugations of the receiver, whereby the said two cartridges and all back of them are, by the co-operation of said arm on stop *a* and said corrugations, prevented from leaving the receiver until the latter is brought to a proper position over the feeder A, and the arm on stop *a* is thereby drawn away from before the ends of said cartridges, when, owing to weight of their balls, the cartridges will at once start downward into the feeder in the manner above stated. By the use of said receiver cartridges can be transferred from common packing-boxes to the feeder A with great rapidity and regularity.

What I claim as my invention is—

1. A cartridge-receiver for gun-feeders, consisting of the frame D, having a perforated end and a triangular base, 5, the perforated side 6, and the front edge, 7, and of the box *c*, hinged to said frame by one corner, the latter and said box being provided with corrugations on opposite walls thereof, and the spring-catch *e*, adapted to engage with one side of said box, combined and operating substantially as set forth.

2. A cartridge-receiver for gun-feeders, consisting of the frame D, having an opening through its side, and provided with corrugations on its interior at one side of and extending by the end of said opening, and of the box *c*, hinged to said frame and provided with corrugations on its interior opposite to those above named on said frame, combined and operating substantially as set forth.

3. The frame D, provided with a triangular base, 5, having thereon the raised border *z*, the box *c*, hinged to said frame and having one end adapted to swing over the face of said base, whereby the latter becomes a temporary partial covering for the end of said box, combined and operating substantially as set forth.

4. The combination, in a cartridge-receiver for guns, of the frame D and the box *c*, hinged to said frame, both being provided with corrugations on their interior walls, and of the spring-stop *a*, having an arm extending partially across one end of said receiver and under the ends of the cartridges therein, substantially as set forth.

5. The combination, with a double-channeled tubular feeder for guns, of a cartridge-receiver of box-form, consisting of two parts hinged to-

gether longitudinally, substantially as described, and hinged to said feeder and adapted to receive therein in two rows the contents of a cartridge-box unseparated by partitions, and means, substantially as described, for retaining said cartridges within said receiver until it is swung to a position in a line with said

feeder, and then to permit said cartridges to drop thereinto simultaneously, substantially as set forth.

LUCIEN F. BRUCE.

Witnesses:

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R. F. HYDE.