

(No Model.)

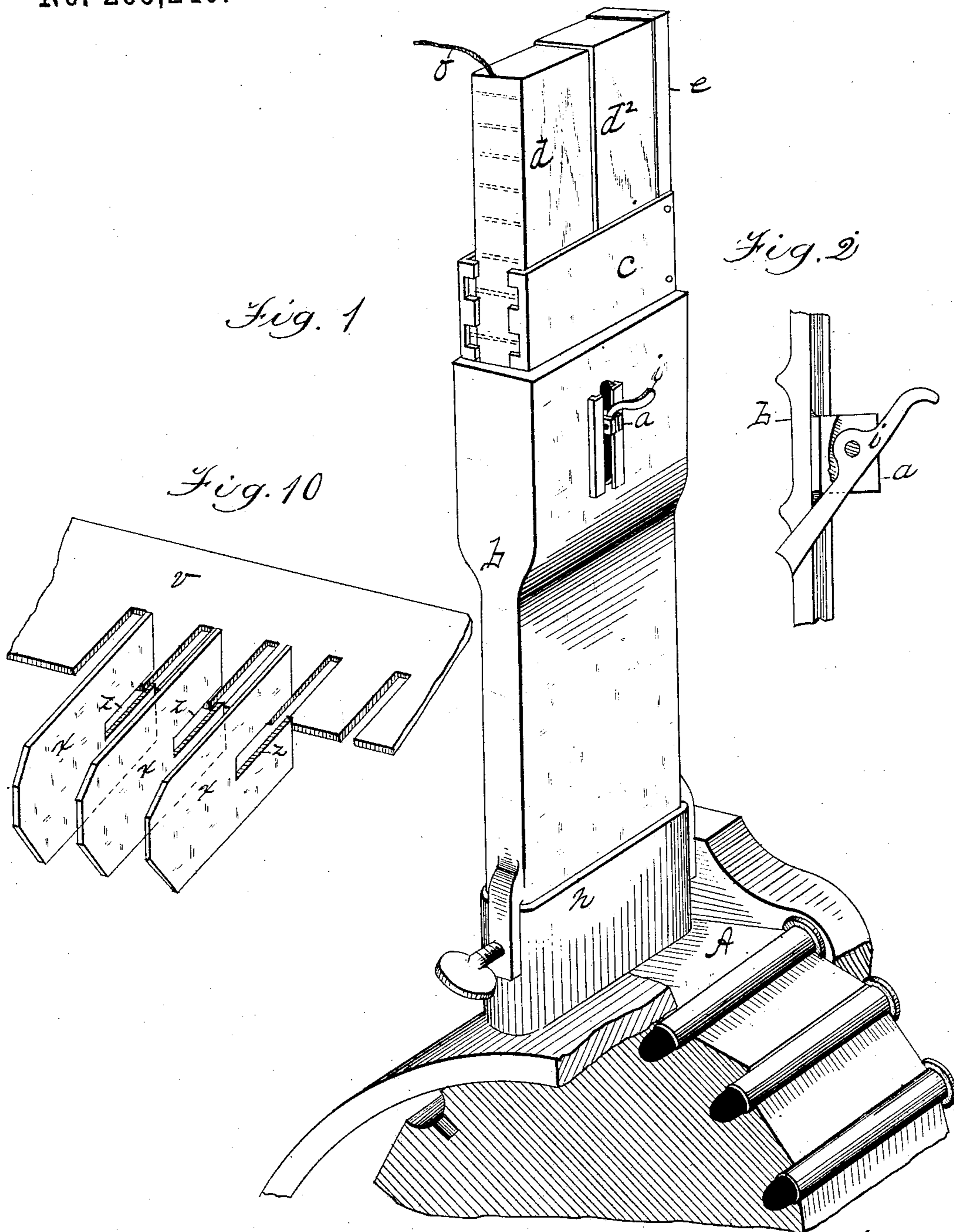
3 Sheets—Sheet 1.

L. F. BRUCE.

CARTRIDGE FEEDER FOR MACHINE GUNS.

No. 265,240.

Patented Oct. 3, 1882.



Witnesses;

Walter Fowler,  
R. F. Hyde

Inventor;

Lucien F. Bruce  
By Henry A. Chapin  
att'y

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Fig. 3

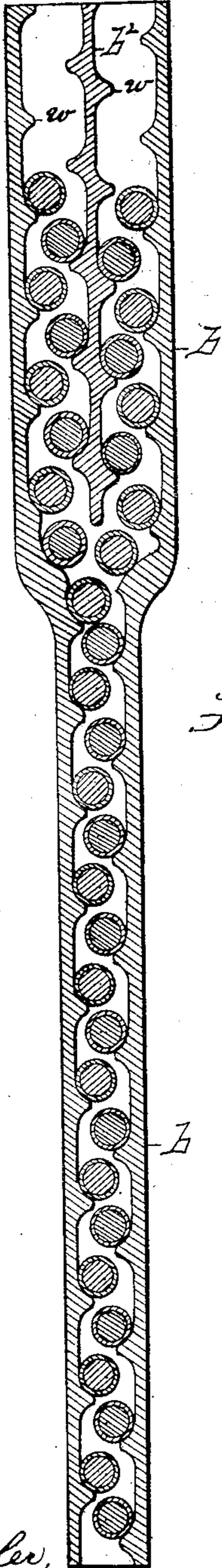


Fig. 4

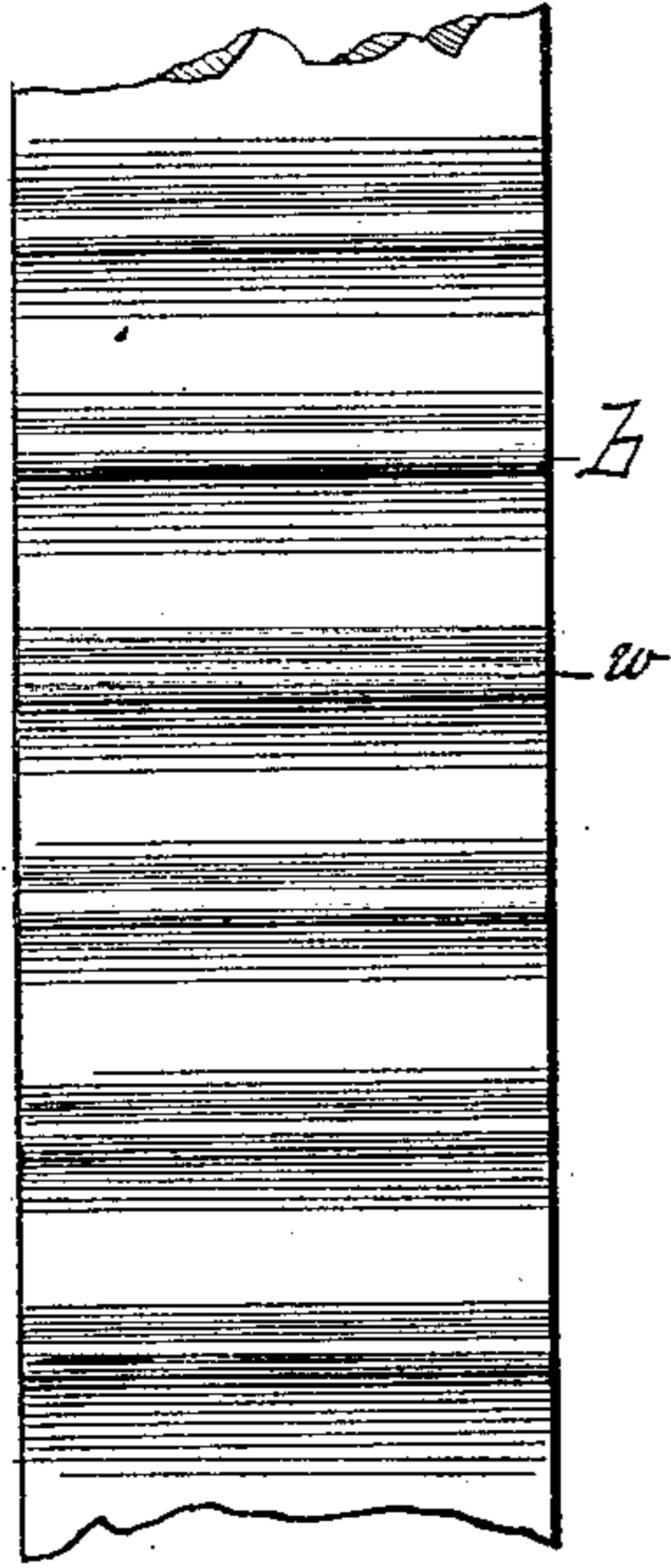
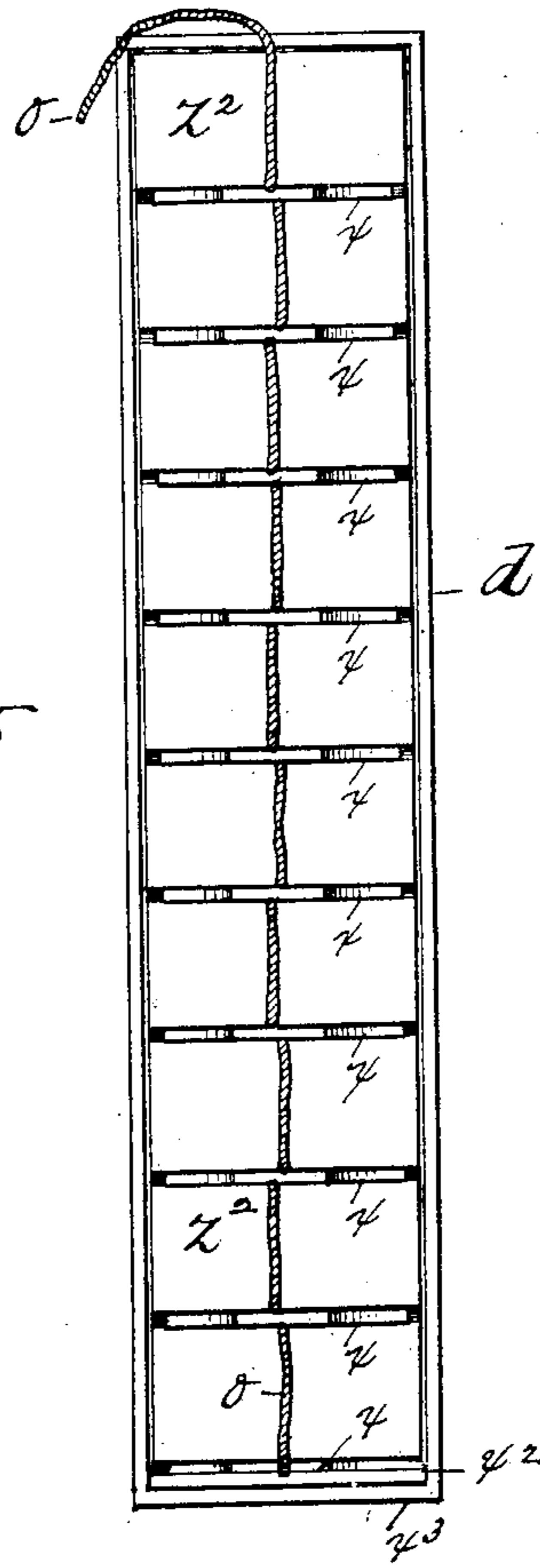


Fig. 5



Witnesses;

Walter Fowler,  
R. F. Hyde

Inventor;

Lucien F. Bruce  
By Henry A. Chapin  
Atty.

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Fig. 6

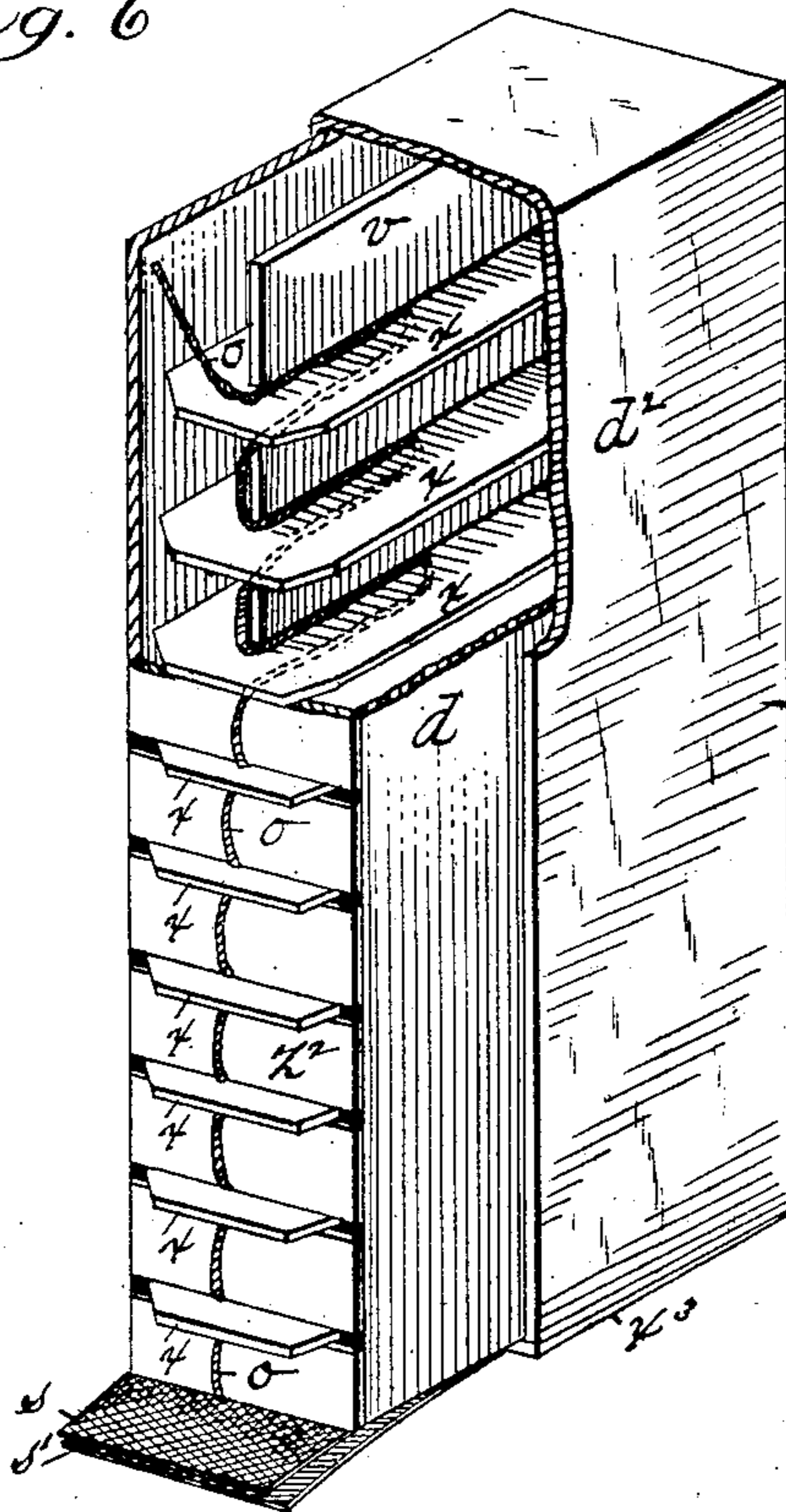


Fig. 7

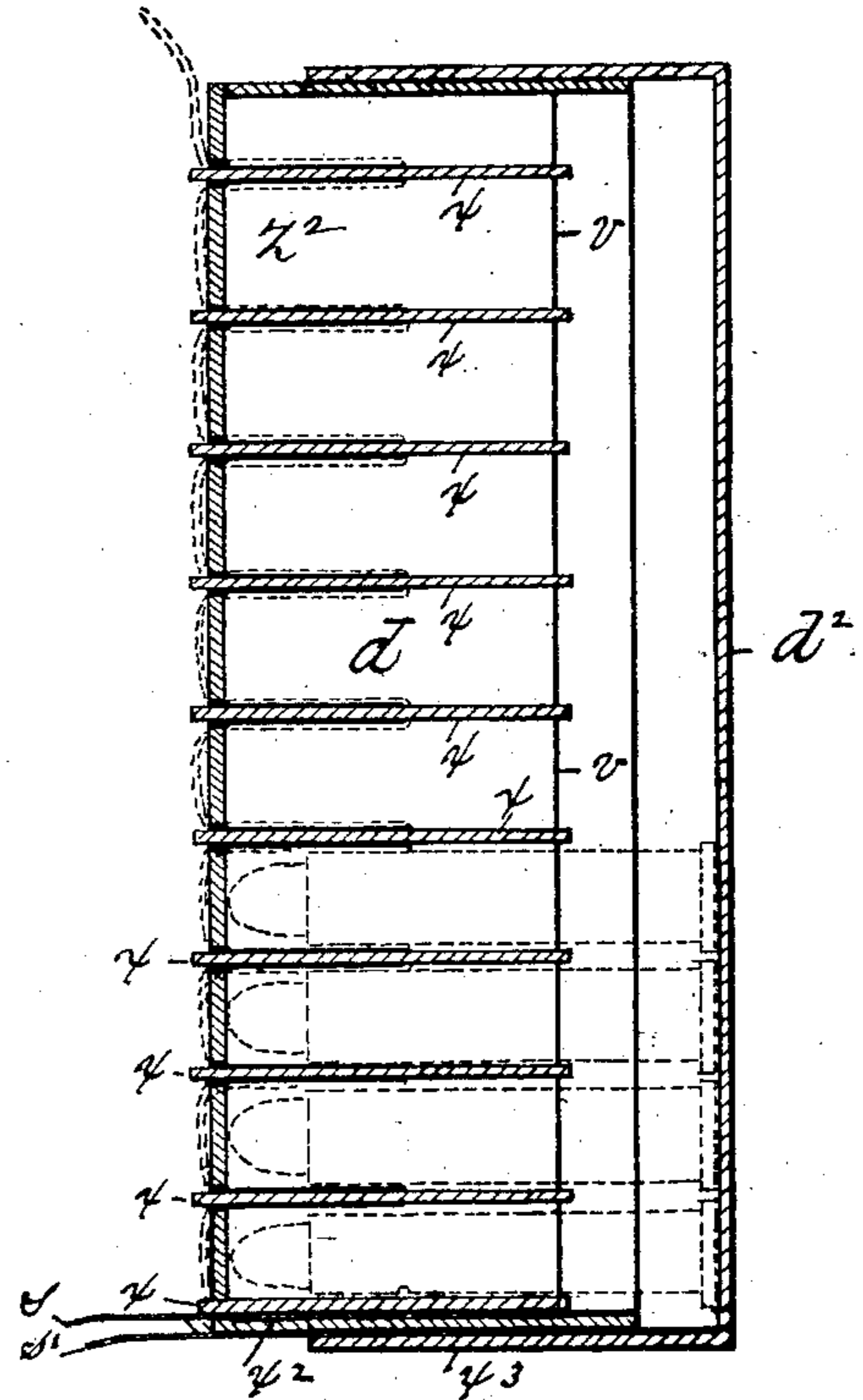


Fig. 8

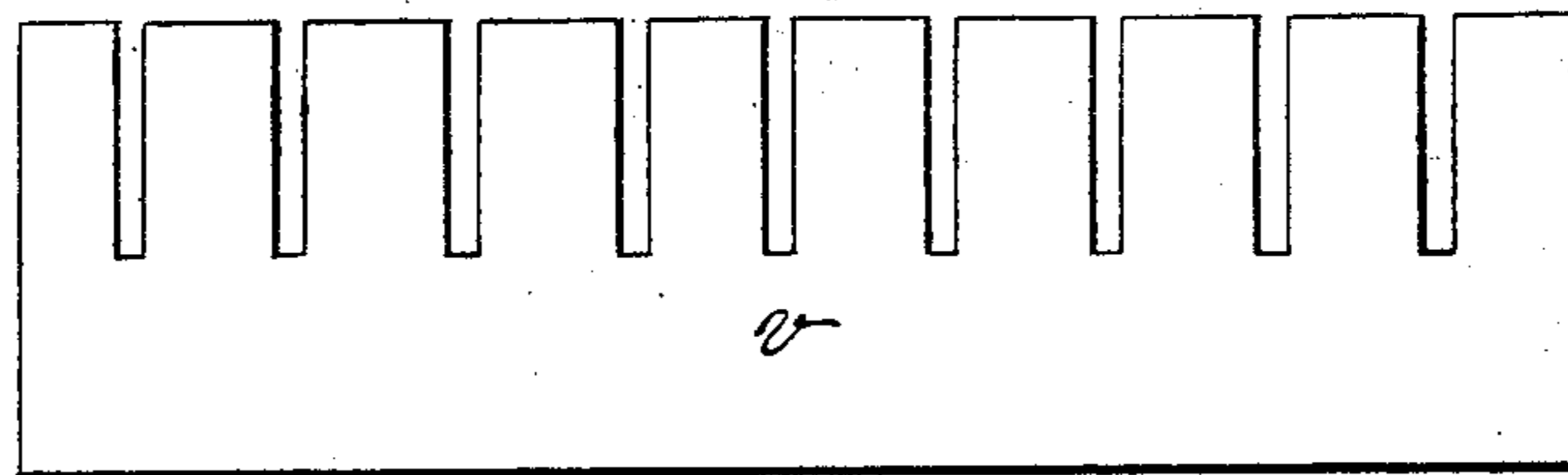
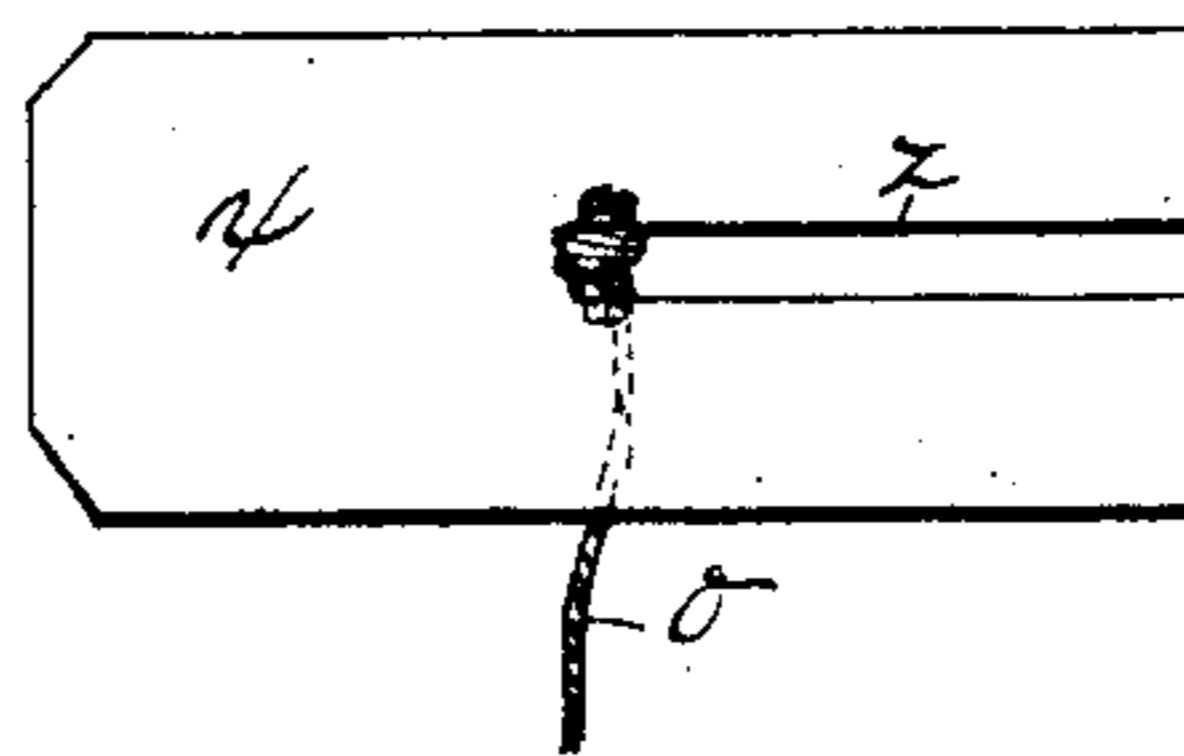


Fig. 9



Witnesses;

Walter Fowler,  
R. H. Hyde

Inventor;

Lucien F. Bruce  
By Henry A. Chapin  
Atty

# UNITED STATES PATENT OFFICE.

LUCIEN F. BRUCE, OF SPRINGFIELD, MASSACHUSETTS.

## CARTRIDGE-FEEDER FOR MACHINE-GUNS.

SPECIFICATION forming part of Letters Patent No. 265,240, dated October 3, 1882.

Application filed February 18, 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-Feeders for Machine-Guns, of which the following is a specification.

This invention relates to improvements in cartridge-feeders for machine-guns and in cartridge-boxes in which to pack and transport cartridges which are intended to be used for charging said guns, the object being to supersede the ordinary cartridge-feeders, in which the cartridges are hung by their rims in vertical grooves and slide downward in an inclined position toward the gun, by providing a feeder in which the cartridges are compelled to move downward in a horizontal position, one above the other, and not in contact, but following each other in rapid succession, and being made to drop in proper position into the gun without the interposition of any separate cartridge-straightening devices, such as are often employed with the above-named grooved feeders; and, also, to provide an improved feeder for receiving the contents of a cartridge-box in two lines into two fixed vertical channels, which lead into a single channel, which leads directly to the interior of the gun; and, furthermore, to provide a cartridge-box adapted to have its contents dropped simultaneously in two lines through one end of the box into two channels of a machine-gun feeder.

In the drawings forming part of this specification, Figure 1 is a perspective view of a cartridge-feeder constructed according to my invention, shown in position upon a section of a gun, and illustrating the position of the box of cartridges previous to dropping its contents into the feeder. Fig. 2 illustrates detail parts in connection with a section of one side of the feeder. Fig. 3 is a vertical section of the feeder through its walls and channels transversely, and showing the positions of the cartridges therein while passing through it. Fig. 4 is a face view of a section of the inner wall of the feeder. Fig. 5 is a plan view of the bottom of a cartridge-box constructed according to my invention, having its thin outer covering removed. Fig. 6 is a perspective view, partly in section, of said box and cover. Fig. 7 is a view

of said box and cover with one side removed. Fig. 8 is a plan view of the central partition of said box. Fig. 9 is a plan view of one of the transverse partitions of said box. Fig. 10 is a perspective view of a section of said central partition and several of said transverse partitions.

In the drawings, A indicates said section of a gun, in which is shown the cartridge-carrier thereof. *n* is a hopper on said section A. *b* is the cartridge-feeder. *ce* is a cartridge-box socket on the upper end of said feeder. *a* is a sliding block. *i* is a pivoted cartridge-starter, pivoted in block *a*. *d* is the cartridge-box. *d*<sup>2</sup> is the box-cover. *v* is the longitudinal central partition of said box. *z* indicates the transverse partitions of the box. *o* is a cord interlocked with said transverse partitions. *x*<sup>2</sup> is a removable end of said box. *x*<sup>3</sup> is a removable end of the box-cover. *s s'* are cloth strips attached respectively to said ends *x*<sup>2</sup> and *x*<sup>3</sup> of the box and the cover.

Like letters refer to like parts in the several figures.

In the construction of my improved cartridge-feeder *b* its sides and edges are preferably made of metal, and may be cast in proper form and be united in any convenient manner to form the vertical feeder *b*, whose width transversely from edge to edge is made according to the length of the cartridges which it is to receive and guide downward. The inner adjacent walls of the feeder are provided with transverse corrugations *w*, parallel with each other, as shown in Figs. 3 and 4, and in the upper end of said feeder, which at that point is made thicker therefor, is inserted a partition, *b*<sup>2</sup>, midway between the inner faces of the sides of the feeder. Said partition *b*<sup>2</sup> has both of its faces corrugated to correspond with the said corrugated sides, and to form at said upper end a double-channeled feeder, each of which channels is open at its upper end, and their lower ends open into a single channel below said partition, which leads directly into the gun. The series of corrugations *w* upon one wall of the feeder—or, in other words, the projecting portions thereof—are made to occupy positions opposite the depressions of said corrugations in the opposite wall, as shown in Fig. 3. A slot is formed in one side of the feeder, in which is fitted, in any convenient manner, a block, *a*, so that it may at will be

moved up and down in said slot; and a hand-  
 lever, *i*, is pivoted in said block *a*, the upper  
 end of which projects outwardly beyond the  
 side of the feeder, and its lower end may be  
 5 swung into the channel within the feeder. The  
 lower end of the feeder *b* is provided with any  
 suitable fastening or clamping devices, by  
 which it may be secured firmly to the hopper  
*n* upon the gun *A*, as shown in Fig. 1. One  
 16 edge of the feeder is allowed to stand up above  
 the main body thereof, said part being indicat-  
 ed by the letter *e*, and two side pieces joined  
 thereto form therewith a cartridge-box socket  
 on the upper end of the feeder, which is open  
 15 at one edge, as shown, and the adjacent edges  
 of said opening are provided with notches, as  
 seen in said figure.

The cartridge-box *d*, which is adapted to be  
 used with cartridge-feeders of this class, is of  
 20 novel construction, inasmuch as it is adapted  
 to drop the cartridges it contains simultane-  
 ously into the feeder through one of its ends  
 while the box rests stationary on the feeder in  
 the position shown in Fig. 1, while ordinarily  
 25 the box-cover is removed, and the heads of the  
 cartridges being engaged in vertical grooves,  
 the box is drawn away from them, leaving the  
 cartridges hanging therein by their rims or  
 heads. Said box *d* has a cloth strip or tear-  
 30 ing-tag, *s*, cemented to one end thereof,  $x^2$ ,  
 whereby the said end may be instantaneously  
 torn off, and one end of the box-cover *d* has  
 also a cloth strip, *s'*, likewise cemented there-  
 to, said end of the cover being indicated by  
 35 the letter  $x^3$ , and it may be torn off in the  
 same manner and at the same time as said end  
 $x^2$  of the box is removed, as above described,  
 since when the cover is placed on the box the  
 ends  $x^3$   $x^2$  are placed one over the other, as in  
 40 Figs. 6 and 7, so that both of said cloth strips  
*s* *s'* may be grasped at one movement. A par-  
 tition, *v*, having therein a series of slots from  
 its lower edge upward, is secured in said box  
*d* centrally between its sides, and a series of  
 45 transverse partitions, *x*, having slots *z* therein,  
 are set crosswise on said partition *v*, the slots  
*z* in the partitions *x* inclosing the upper por-  
 tion of the partition *v*, while the slots in the  
 last-named partition inclose the lower portions  
 50 of the partitions *x*. One of said partitions *x*  
 is placed directly against the removable end  
 $x^2$  of said box, as shown in Fig. 7, so that when  
 said end is removed none of the cartridges can  
 drop out. The said box is provided with a  
 55 transversely-slotted bottom,  $z^2$ , and said slots  
 are directly under the above-mentioned slots  
 in the partition *v*, and the transverse parti-  
 tions are placed in the box by putting them  
 through said slots in the said box-bottom; but  
 60 as they are so placed the cord *o* is passed  
 through the slot *z* in each partition *x*, one end  
 being knotted inside of the one next to the  
 end  $x^2$  of the box. Thus said cord runs from  
 65 what is the bottom partition *x*, when the box  
 is placed on end to discharge the cartridges  
 therefrom, up one side of it, across that por-  
 tion of the box-bottom between it and the next

partition *x*, then down and through slot *z*, and  
 back again to the box-bottom, and so on with  
 all of said transverse partitions until all are  
 70 looped or attached to said cord and the end  
 is left projecting, as in Figs. 1 and 7. The  
 above-described course of said cord with re-  
 spect to the partitions *x* is shown in Figs. 6  
 and 7. After said partitions and cord have  
 75 been placed in the box, as just described, a thin  
 sheet of paper is cemented over the bottom  $z^2$ ,  
 giving it the appearance shown in Fig. 1, and  
 retaining said parts in place until they are  
 forcibly removed, as hereinafter described. 80  
 Said box *d* is filled with cartridges in the usual  
 manner, so that they occupy the positions rela-  
 tive to said partitions shown in Fig. 7 in dot-  
 ted lines.

The operation of said cartridge feeder and 85  
 box is as follows: The box *d* is placed by the  
 operator on its end in the socket *ce* on the  
 feeder, having first torn off the ends  $x^2$  and  $x^3$   
 of the box and cover by pulling upon the strips  
*s* *s'*. By one hand the box is held firmly 90  
 against the projection *e*, and the end of cord *o*  
 is seized and pulled suddenly in a direction  
 away from the bottom of the box, drawing  
 with it every one of the transverse partitions  
*x* and letting the cartridges in box *d* drop 95  
 bodily into the two channels of the feeder *b*,  
 whence they descend, rolling from one side to  
 the other of said channels as they strike the  
 projections of said corrugations, and being  
 meanwhile kept separate from one another by 100  
 the form and disposition of the latter, and they  
 reach the head of the single channel under the  
 partition  $b^2$  from the side ones, one after the  
 other—that is to say, the positions of the car-  
 105 tridges in the two channels at the top of the  
 feeder do not coincide, the said projections of  
 the corrugations being so arranged as to per-  
 mit the cartridges in one channel to be enough  
 in advance of those of the other to cause a car-  
 110 tridge to pass first from one side and then the  
 other into the single channel below under the  
 lower end of the partition  $b^2$ . Thus the con-  
 tents of said two channels flow steadily down  
 and form a single line in the lower channel  
 115 leading to the gun.

It will be seen that the projections upon the  
 corrugated sides of the feeder maintain the  
 cartridges always in a horizontal position while  
 they move downward, so supporting them that  
 the weight of their balls cannot cause them to 120  
 assume any other position than that just named.

Usually the vibrating motion imparted to  
 the feeder by the gun while being fired is suffi-  
 125 cient to cause the cartridges to flow uninterr-  
 ruptedly through the feeder; but should any  
 stoppage of the cartridges occur they can be  
 readily started by seizing the lever *i*, pressing  
 its lower end against a cartridge, and, pressing  
 downward, force it and those near it down  
 through the feeder. Block *a*, being movable 130  
 in the side of the feeder, allows of moving le-  
 ver *i* up and down therein for the above-named  
 purpose.

If desired, any convenient stop device may

be applied to the feed for the purpose of arresting the movement of the cartridges toward the gun, such as a pin or like implement passed through one side into the channel.

5 The above-described cartridge-box socket upon the upper end of the feeder *b* is made with an opening in one edge, so that the cord *o* may be drawn unobstructedly from one end of the box to the other, and the said notches  
10 in the borders of said opening permit said transverse partitions *x* to be drawn from the box across the opening in said socket without hinderance.

What I claim as my invention is—

15 1. A cartridge-feeder for guns having a cartridge-channel therein inclosed on all sides, and whose adjacent widest walls are provided with a series of transverse corrugations, substantially as set forth.

20 2. A cartridge-feeder for guns having a cartridge-channel therein whose adjacent walls are provided with a series of transverse corrugations parallel with each other, the projecting portions of which upon one wall are located opposite the depressions in the opposite  
25 wall, substantially as set forth.

3. A cartridge-feeder for guns having two cartridge-channels therein, side by side, whose adjacent walls are provided with a series of transverse corrugations, and a single cartridge-  
30 channel, provided with like corrugations, located below said two channels, with which the latter communicate, substantially as set forth.

4. In combination with the feeder *b*, having a vertical slot in its side, the block *a*, movable  
35 in said slot, and the lever *i*, pivoted to said block, substantially as set forth.

5. The within-described cartridge-box for machine-gun feeders having a central partition between its sides, provided with a series of  
40 slots from its lower edge upward, a series of slotted transverse partitions, a cord engaging with said last-named partitions, having its free end extending outside of said box, and means,  
45 substantially as described, for removing one end of said box, all as set forth.

LUCIEN F. BRUCE.

Witnesses:

T. WALTER FOWLER,  
R. F. HYDE.