

(No Model.)

H. BORCHARDT.
MAGAZINE FOR FIRE ARMS.

No. 254,453.

Patented Mar. 7, 1882.

Figure 1.

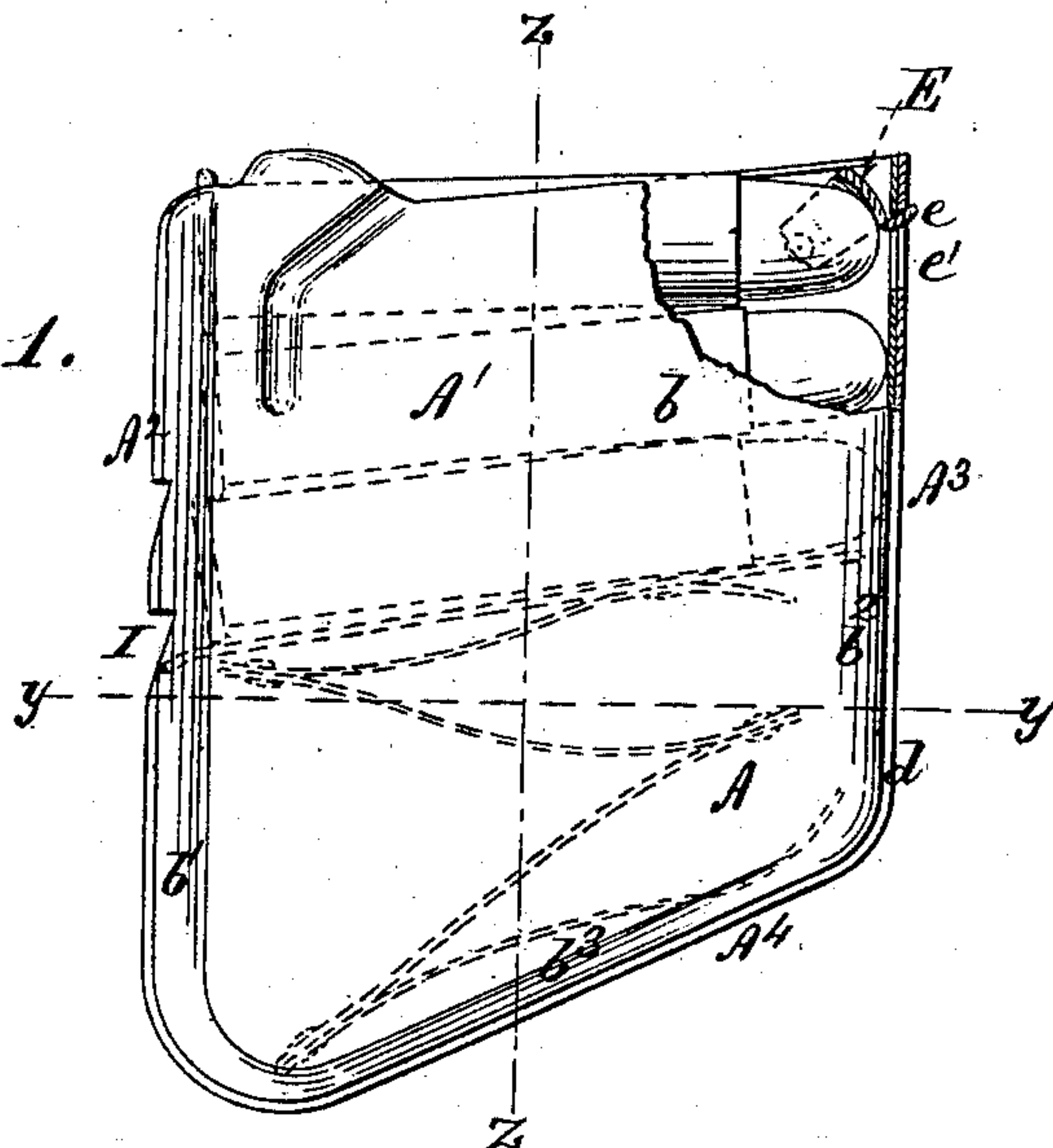


Figure 2.

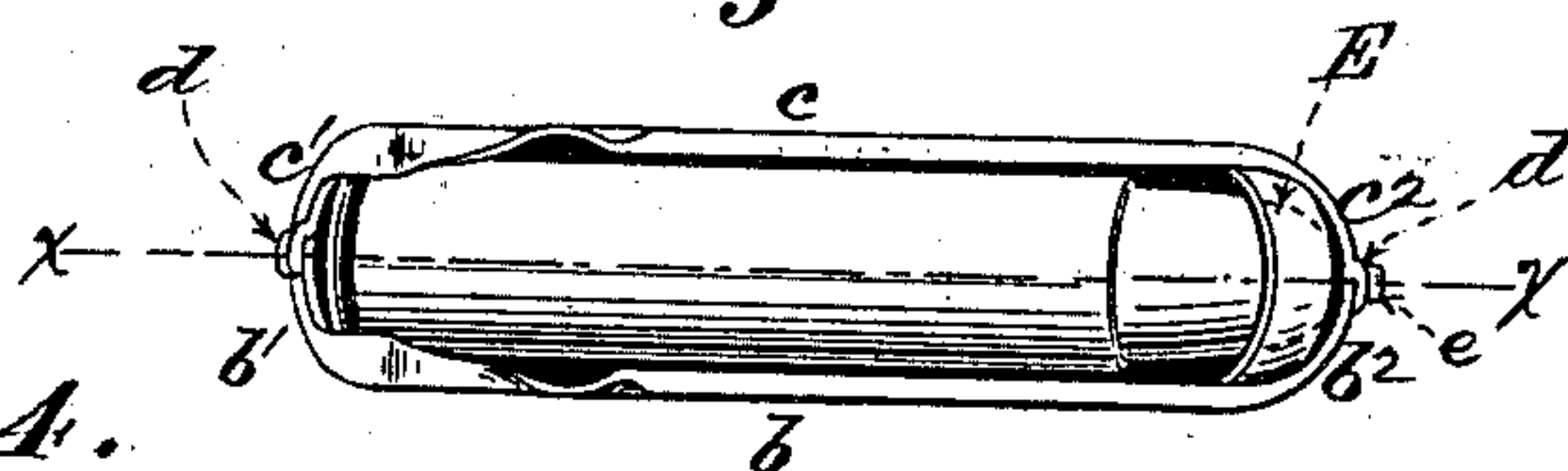


Figure 4.

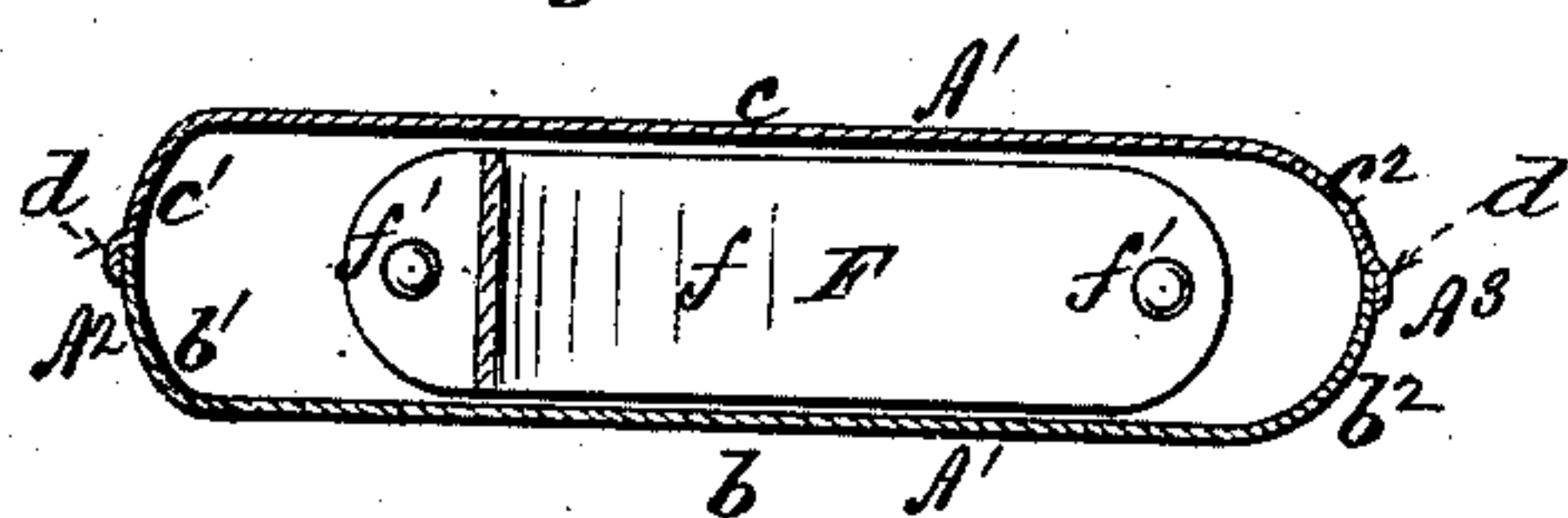


Figure 5.

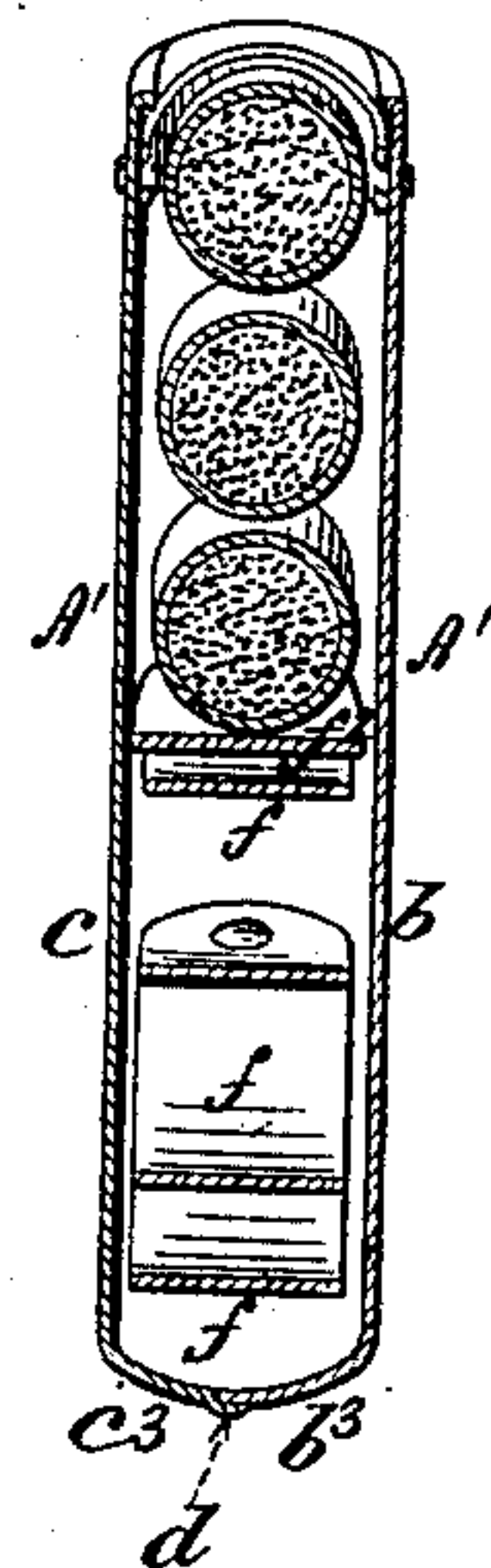
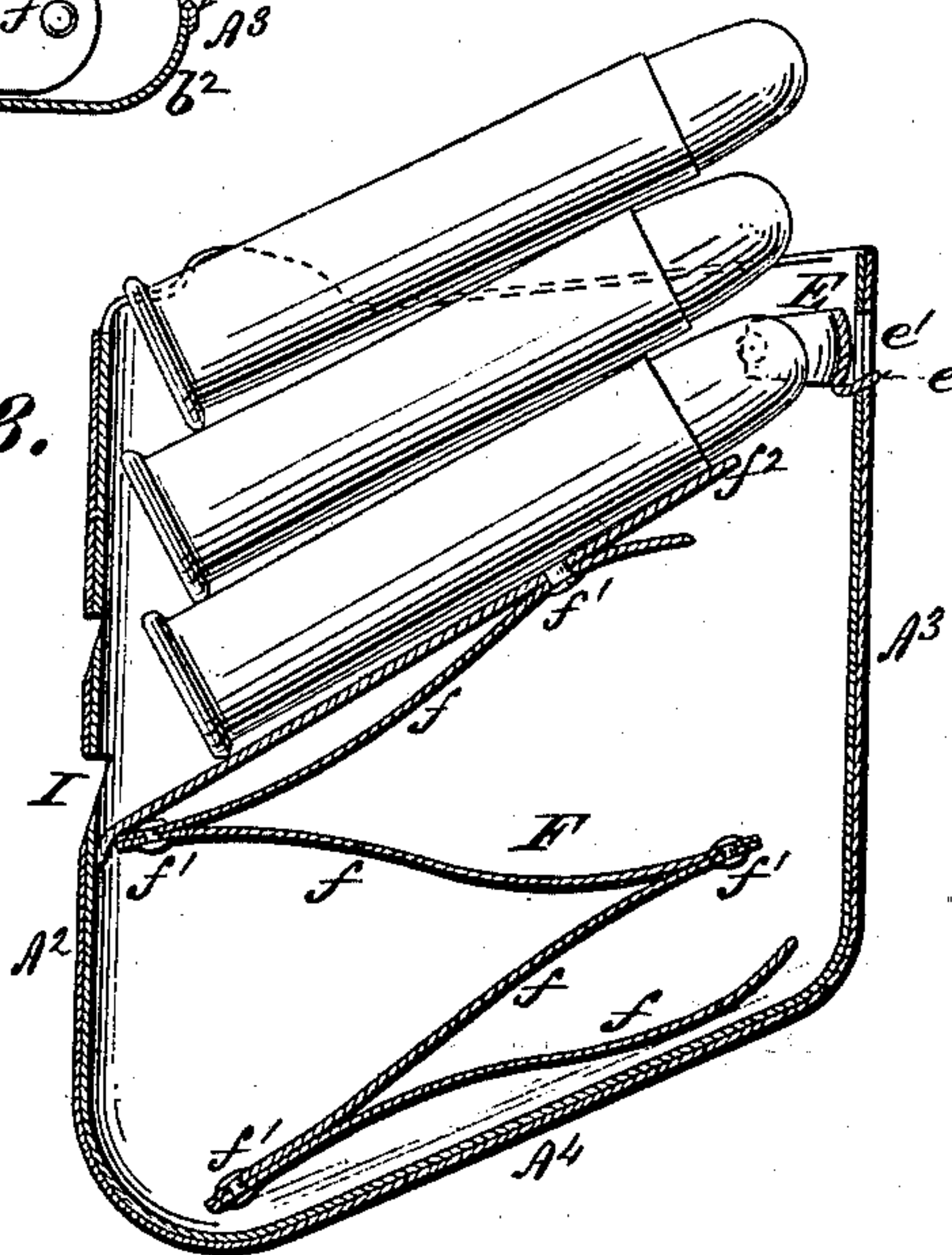


Figure 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

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MAGAZINE FOR FIRE-ARMS.

SPECIFICATION forming part of Letters Patent No. 254,453, dated March 7, 1882.

Application filed November 18, 1881. (No model.)

To all whom it may concern:

Be it known that I, HUGO BORCHARDT, of Bridgeport, Connecticut, have invented certain Improvements in Magazines for Bolt-Guns, of which the following is a specification.

My invention relates to the construction of magazines for that class of repeating-guns in which the magazine is detachably inserted into the bottom of the receiver, and is in the form of a flat trapezoidal box, containing at the bottom a zigzag expanding-spring, by the action of which the superposed cartridges are successively thrust upward into position to be pushed forward into the chamber of the gun whenever the charging operation is performed.

The first part of my invention relates to a mode of constructing the box or shell for containing the cartridges, by which its cost is greatly diminished.

Magazines or cartridge-boxes of this character are adapted to contain only a comparatively small number of cartridges—for example, five—and in active practice it is expected that the magazine, when it is exhausted, will be detached from the gun and thrown away, and another magazine, filled with fresh cartridges, be substituted in its place. It hence follows that it is desirable to simplify the construction of the magazine for the sake of diminishing its cost.

One object of my invention is to effect this result, which I accomplish by forming the magazine of two trapezoidally-shaped pieces of sheet metal, which are struck up in dies, so formed as to turn up the edges of the two parallel sides of the trapezoid and the edge of the diagonal side. The turned-up edges of the two pieces constitute flanges, and the extreme edges of the flange of one piece are outwardly offset to form a shoulder for the reception of the corresponding edges of the flange of the other piece, so that when the two pieces are united the offset portion of the flange on one piece overlaps a portion of the flange of the other piece, and can be secured thereto by brazing or otherwise.

Another part of my invention relates to the construction of the zigzag magazine-spring, composed of sinusoidally-curved leaves. Such

springs have heretofore been made of a ribbon of steel, folded back and forth, and have been expensive and difficult to make, in consequence of their liability to break at the bights of the folds during the operation of tempering.

My improvement in the spring consists in constructing it of a series of superposed sinusoidally-curved leaves, suitably secured to each other by rivets.

A further feature of my invention consists in providing the magazine with a lock for holding down the forward end of the uppermost cartridge, and thus preventing the ejection of the cartridge from the magazine. My device for this purpose consists of an oscillating yoke which swings over the forward end of the uppermost cartridge, and which is so arranged as to be swung outward and downward to release the uppermost cartridge, either by the act of attaching the magazine to the gun or by means of a key inserted into, or made a part of, the gun.

Finally, my invention consists in forming the recess or recesses in the rear wall of the magazine for the reception of the latch, by which the magazine is held in place, by cutting notches in the projecting rib formed by the joint by which the two pieces of the magazine are united.

The accompanying drawings, illustrating a magazine embodying my invention, are as follows:

Figure 1 is a side elevation of the magazine with a portion of its side wall represented as broken out to show the operation of the lock in holding down the forward end of the uppermost cartridge. Fig. 2 is a top view. Fig. 3 is a longitudinal vertical section through the line *xx* on Fig. 2, showing the upper cartridge released from the lock. Fig. 4 is a horizontal section of the magazine through the line *yy* on Fig. 1. Fig. 5 is a transverse section through the line *zz* on Fig. 1.

The magazine *A* is composed of the two pieces *b* and *c* of sheet metal, one of which, *b*, has its two parallel sides and its diagonal side provided with the flanges *b'* *b*² *b*³, while the other, *c*, has its corresponding sides provided with the flanges *c'* *c*² *c*³. The edges of

the latter are provided with the outward offsets d , which, when the two pieces are put together, overlap the corresponding edges of flanges b' b^2 b^3 . The joint thus formed may be
 5 secured by brazing or otherwise. The two pieces b and c , thus united, form the side walls, A' , the end walls, A^2 A^3 , and the bottom A^4 , of the magazine.

The rear upper portions of the side walls are
 10 curved inward in the usual manner to partially embrace and hold down the base of the uppermost cartridge.

The forward end of the uppermost cartridge is held down by means of the oscillating yoke
 15 or lock E , which is pivoted in the opposite side walls, A' , of the magazine, and has a range of oscillation sufficient to enable it to embrace the forward end of the uppermost cartridge, as shown in Figs. 1 and 2, or swing downward,
 20 as shown in Fig. 3, out of the path of the forward ends of the cartridges, leaving them free to be thrust upward by the magazine-spring F .

The oscillating yoke or lock E is provided with a central tongue, e , which projects through
 25 the slot e' in the front wall of the magazine, in position to be moved by the application of force external to the magazine.

In practice the yoke E may be made to swing downward by the engagement of the
 30 projecting tongue e with the front wall of the receiver, when the magazine is inserted in the gun; or a key may be arranged in the gun for acting upon the tongue e and swinging the yoke E downward when it is desired to unlock
 35 the cartridges from the magazine.

The magazine-spring F is made of the superposed sinusoidally-shaped steel strips or leaves
 40 f . These strips are so placed with relation to each other that their curves alternate in direction, and they are secured together at the ends where the two convex surfaces are in contact by the rivets f' . The uppermost leaf is riveted to the plate f^2 , upon which the lowermost cartridge rests.

45 Magazines containing my improvements are especially designed for employment in the re-

peating bolt-gun shown and described in Letters Patent of the United States No. 221,328, dated November 4, 1879, granted to James Lee, in which their mode of employment in connection with such guns is fully shown and described. 50

The gun is provided with the usual spring-latch, which, when the magazine is inserted, catches in the notch I , cut in the projecting rib
 55 formed by the joint on the rear wall of the magazine.

I claim as my invention—

1. A trapezoidally-shaped magazine substantially such as described, for holding later- 60 ally-superposed cartridges, made of two pieces of sheet metal, each flanged upon three sides, the two pieces being united by inserting the flange of one piece within the flange of another piece, and brazing or otherwise fastening the
 65 lapped flanges, the projecting rib or joint composed of the lapped flanges upon the rear wall of the magazine being cut away to form the notch for the reception of the spring-latch by which the magazine is detachably secured to
 70 the gun, substantially as described.

2. In a cartridge-magazine substantially such as described, a movable lock or yoke near the forward end of the mouth of the magazine for holding down the point of the uppermost
 75 cartridge, and thus preventing the cartridges contained in the magazine from being tilted upward by the outward thrust of the magazine spring.

3. In combination with a cartridge-magazine 80 substantially such as described, a suitably-tempered zigzag spring composed of sinusoidally-curved metallic strips or leaves, laterally superposed with their curves alternating in direction and successively riveted to each other
 85 at the ends where their convex surfaces are in contact.

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Witnesses:

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