J. H. DUDLEY.

Cartridge-Loading Implement.

No. 196,439. Patented Oct. 23, 1877.

Fig: 2.

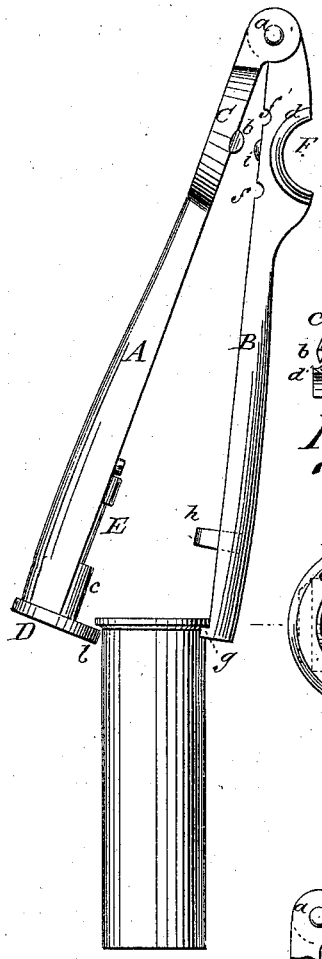


Fig: 1.

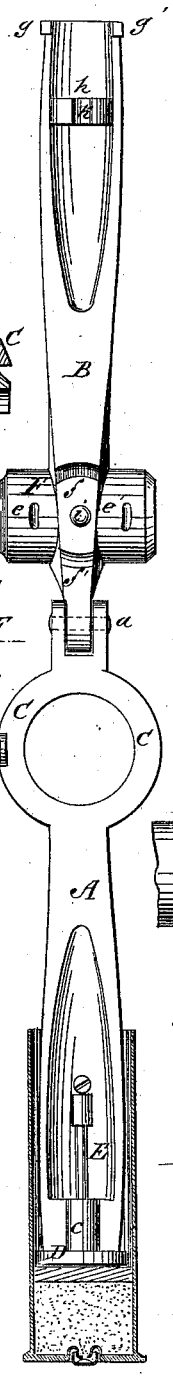


Fig: 3.

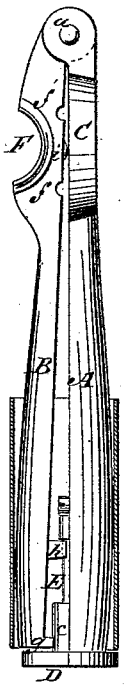


Fig: 4.

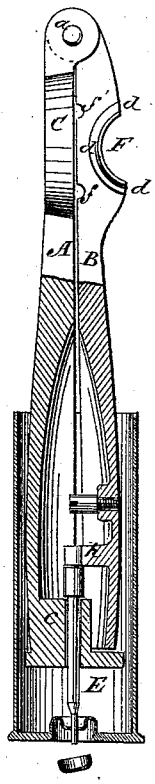


Fig: 5.

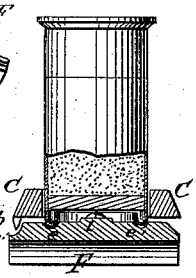


Fig: 6.

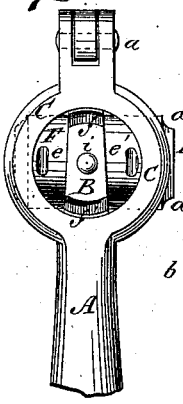


Fig: 8.

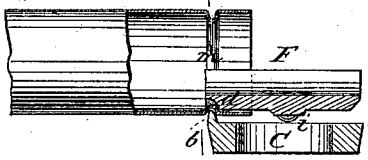


Fig: 7.

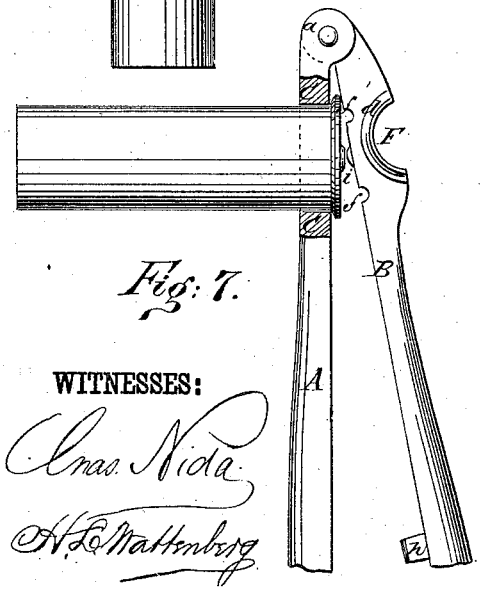
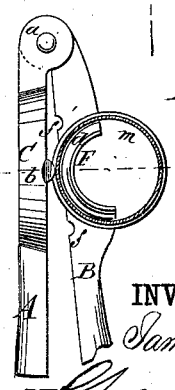


Fig: 9.



WITNESSES:

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JAMES H. DUDLEY, OF POUGHKEEPSIE, NEW YORK.

IMPROVEMENT IN CARTRIDGE-LOADING IMPLEMENTS.

Specification forming part of Letters Patent No. **196,439**, dated October 23, 1877; application filed August 18, 1877.

To all whom it may concern:

Be it known that I, JAMES H. DUDLEY, of Poughkeepsie, in the county of Dutchess and State of New York, have invented a new and Improved Implement for Breech-Loading Guns; and that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making part of this specification.

This invention is in the nature of an improvement in an implement for loading and preparing cartridges for breech-loading guns; and the invention consists in an implement having two legs, hinged together, one end of one of the legs being provided with a perforated and undivided disk or rammer and an annular opening, the other leg of the implement being provided, near its upper end, with a convex bearing, having a groove formed on its under side and near one of its ends, and with other grooves formed upon the under side of said bearing.

In the accompanying sheet of drawings, Figure 1 is a front elevation of my implement extended, showing operation of loading cartridge; Fig. 2, a side elevation of the same, with legs nearly closed, for extracting cartridge from gun-barrel; Fig. 3, a side elevation, showing legs entirely closed together, for extracting paper cylinder from barrel; Fig. 4, a side view, partly in section, showing needle for dislodging caps; Fig. 5, side view of cartridge and instrument, partly in section, showing operation of upsetting end of cartridge; Fig. 6, plan, showing grooves in back of bearing and teat for capping; Fig. 7, side view, showing operation of capping; Fig. 8, side view of shell and implement, partly in section, showing operation of forming welt; and Fig. 9, end view of cartridge placed over bearing for operation of forming welt.

Similar letters of reference indicate like parts in the several figures.

As is well known, the cartridges for breech-loading guns consist of shells of thin metal or paste-board, the pasteboard shells having thin metal bases to receive the percussion-cap, and they are prepared for use by inserting the cap into the center of this metal base, and are loaded with powder, which is kept in place by a wad, and then with the shot, which is also kept in place by a wad. The cartridge thus prepared is inserted in a gun, and after the gun is discharged the shell is to be withdrawn.

To prepare these shells for firing I construct an instrument consisting of two legs, A and B, hinged together at their ends, as shown at *a*, Fig. 1. The leg A, at or near the point at which it is hinged to the leg B, has formed on it an annulus, C, with a teat, *b*, projecting from its under side and near its outer edge. The other end of the leg A has formed upon it an undivided disk, D, the edges of which disk project beyond the surface of the end of the leg A, and also beyond the surface of the end of the leg B, when this last-mentioned leg is folded down parallel with the leg A.

The disk D is perforated through its center, through which perforation may be protruded a needle, E, which needle slides freely in and out through the perforation in the disk, and within the end of the leg A in suitable guides or bearings *c*, within which it is fitted.

The leg B, hinged, as before stated, to the leg A, has cast or otherwise secured to it, at or near the point at which it is hinged to the leg A, a bearing, F, the under side of this bearing having a groove or channel, *d*, formed in it near one of its ends. There are also formed in the under side of the bearing F two other grooves, *e e'*; and into the upper part and under side of the leg B are also made grooves *f f'*, which last-mentioned grooves are concentric with the grooves *e e'* in the under side of the bearing F, and also concentric with the annulus C.

The unhinged end of the leg B is constructed with ears *g g'*, which project from its under surface, and it has also fitted to it a stop, *h*, and near its hinged end a teat, *i*, which teat is concentric with the annulus C on the leg A.

Now, my instrument, constructed as I have described it, is operated as follows: A cartridge-shell that has been fired remains within the barrel of the gun with considerable tenacity. To extract it the instrument is opened, and the flange of the metal base of the cartridge-shell is grasped between the projecting part *l* of the disk D on the leg A and the ears *g g'* on the leg B, as shown in Fig. 2. The instrument being then tightly grasped in the

same manner as a pair of pliers, the shell is withdrawn with facility.

It sometimes happens that the metal base of the cartridge-shell becomes detached from the shell, leaving a paper cylinder, with both ends open, in the barrel of the gun. To extract such a cylinder the legs of the instrument are closed together parallel, and it is thrust through the paper shell until the disk D is beyond the inner end of the shell; then by slightly opening one leg from the other the projecting edge of the disk is forced over the inner edge of the cartridge-shell, as shown in Fig. 3, forming a hook, which enables the shell to be readily extracted.

It now becomes necessary to dislodge the exploded cap from the metal base of the shell. To do this the needle E is permitted to project through and beyond the surface of the disk D, and the leg B is then shut down parallel with the leg A until the stop *h* is brought in contact with the head of the needle, thereby preventing its retraction. The instrument in its closed position is inserted within the shell, and the needle E is pressed firmly through the opening in the metal base of the shell and against the exploded cap, readily dislodging it, as shown in Fig. 4. A new percussion-cap being now inserted into the metal base, it must be pressed home within the shell to avoid danger of missfire. To do this the shell is placed through the annulus C until the flange of its metal base holds it in position, when the leg B is brought down until the teat *i*, which is concentric with the annulus, is brought against the head of the cap, as shown in Fig. 7, forcing it home within the base of the shell. The powder is then put into the shell and a wad is placed over the powder. The charge is then rammed home by closing both legs of the instrument together, the disk D forming the head of the rammer, and the needle E being retracted within the handles, in which retracted position it is retained by a slot, *k*, in the stop *h*. This ramming, however, may be equally well effected with the legs open, in which case the needle would simply work in and out from the face of the disk without in any way interfering with ramming. The shot then being supplied to the shell, a wad is forced down upon it by the disk D, in a similar manner to the ramming of the powder before described; but it now becomes necessary to hold this last-mentioned wad in place tightly against the shot, in order that the charge within the shell may not be loosened when carrying it about, which would interfere with effectual firing.

To so retain the last-mentioned wad, the end of the bearing F, having the groove or channel *d*, is inserted into the end of the shell until it rests against the wad over the shot. Then the leg A is pressed downward until the teat *b* on the annulus C is brought tightly against the outer surface of the cartridge-shell, and the shell is then turned with the right hand until the teat *b* has formed a welt, *m*, entirely around the inside of the shell and immediately over the wad, which prevents the wad from becoming displaced. This welt is produced by the teat *b* forcing the shell into the groove *d* in the under side of the bearing F; or, instead of forming the welt just mentioned in the cartridge-shell to keep the charge in place, the end of the shell may be passed through the annulus C until its edge is received within the grooves *e e'* in the under side of the bearing F, and *f f'* in the under side of the leg B. Now, if the cartridge is pressed with some force into these grooves, the annulus C acting as a guide, and the shell turned at the same time, the end of the shell will be upset and turned inward, as shown in Fig. 5, and the part so turned, coming in contact with the surface of the wad, holds it firmly in place.

The instrument hereinbefore described is an improvement on the one patented by me on the 27th day of March, 1877; and I am aware that in my said patent a notch is shown in the edge of the bearing for the cartridge-shell, in combination with an annulus and teat. This notch being objectionable, however, I do not consider it the same as a groove, nor do I desire to claim it in this application; but

What I now claim as new, and desire to secure by Letters Patent, is—

An instrument for loading cartridge-shells, consisting of two hinged legs, and constructed with an annular guide on one leg, in combination with grooves formed in the convex surface of a bearing for the cartridge-shell on the other leg, whereby the end of the shell may be upset or turned inward, substantially as described.

JAMES H. DUDLEY.

Witnesses:
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COMS. DU BOIS, Jr.