(No Model.)

J. A. HAAS.

CARTRIDGE CRIMPER.

No. 363,955. Patented May 31, 1887.

Fig. 1

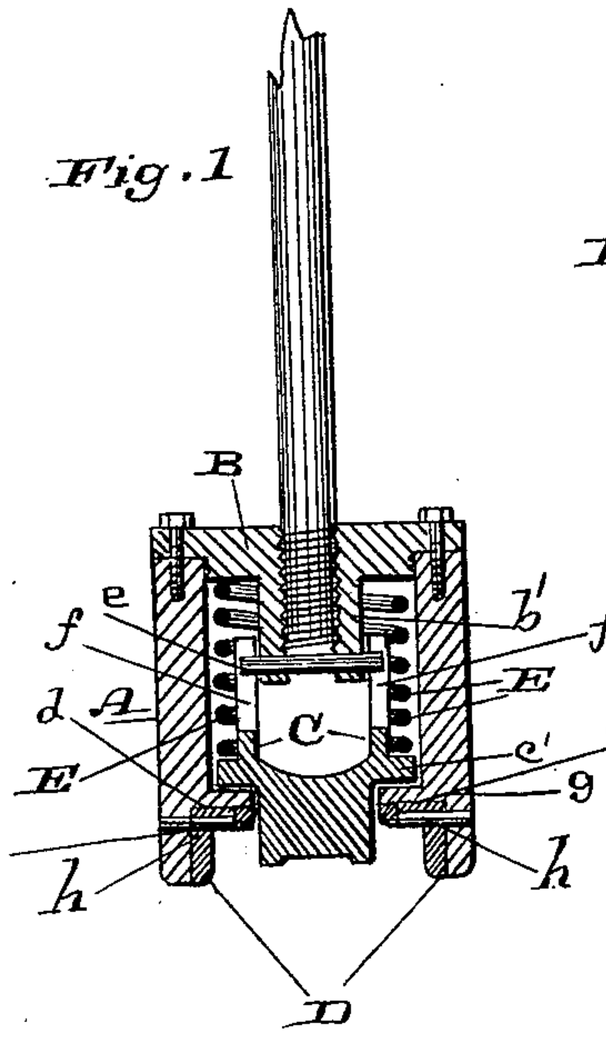
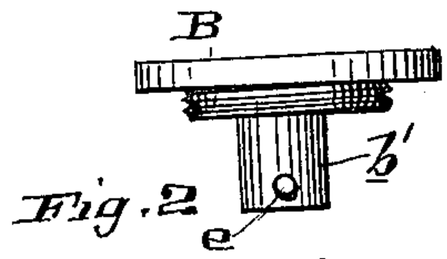
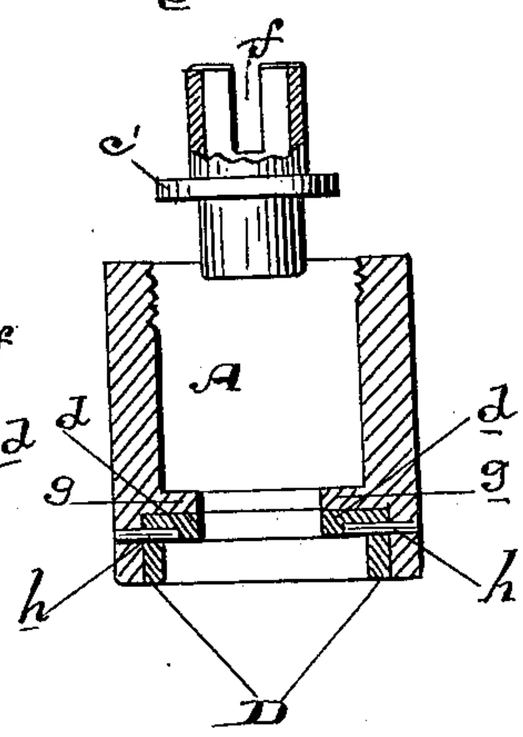


Fig. 2





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UNITED STATES PATENT OFFICE.

JOHN ADAM HAAS, OF PORT COSTA, CALIFORNIA.

CARTRIDGE-CRIMPER.

SPECIFICATION forming part of Letters Patent No. 363,955, dated May 31, 1887.

Application filed February 18, 1887. Serial No. 228,119. (No model.)

To all whom it may concern:

Be it known that I, JOHN ADAM HAAS, of Port Costa, Contra Costa county, State of California, have invented an Improvement in Cartridge-Crimpers; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to a crimper for crimping the edges of the shells which are used for cartridges for breech-loading shotguns.

In the mechanical devices for loading pasteboard cartridges for shotguns, after the powder, shot, and wads are in their respective positions, it is necessary to crimp the edge of the cartridge smoothly, that the contents may be held firmly in position. This is generally done by a crimping attachment, which consists of a piece of metal suitably formed to press on the edge of the cartridge, with a solid projecting center which rests on the upper wad. The portion fitting on the edges of the shell has small offsets, so that when the crimper is revolved the offsets will ream or crimp the edge. The solid center resting on the upper wad prevents the crimper from having too much downward force, so as to injure or break the edge of the shell. In addition to the revolving motion the crimper has a vertically-reciprocating motion, so that the shell may pass under it, be crimped, and then pass on, giving place to another to be treated in the same way. It happens, however, that the commercial wads used in making these cartridges are not of uniform thickness. In loading, four wads are used, so that, while the shells may be uniform, the length of the load may vary so much that there is more or less distance between the edge of the shell and the surface of the top wad. If the thickness of the wads brings the load up too near the edge of the shell, the solid center portion of the crimper is apt to press too hard on the load and force the shot so as to slightly enlarge the diameter of the shell at the point where the shot lies. If the thickness of the wads does not bring the load up near enough to the edge of the shell, then the solid center of the crimper does not rest upon the upper wad sufficiently to prevent the offsets on the crimper from exerting too much force on the shell-edge and making said edge broken or ragged. Moreover, these crimpers, being formed of solid pieces and subject to rapid revolution and friction, wear out rapidly and must be renewed frequently, and for each variation of charge the crimper must be changed, since shells containing less quantity of powder and shot must have a deeper crimper and longer center than those which have more powder and shot, in order to have the shells crimped properly. For every lot of shells loaded, therefore, a suitable-sized crimper must be used. My invention is designed to remove these objections; and it consists of a crimper having a movable and self-adjusting center and a removable and interchangeable crimping portion.

Figure 1 is a vertical section. Fig. 2 shows the different parts separate.

The crimper is usually a small solid piece of metal, center offsets, and flange, all in one piece, which screws onto the spindle of the crimping attachment.

In forming my crimper I make a case, A, with a removable cap or top, B. This cap has a downward projection, *b'*, with its interior threaded, so that it may be screwed onto the spindle to be revolved and reciprocated. The movable center C is provided with a flange, *c'*, and a coiled spring, E, rests on the upper side of the flange, a shoulder, *g*, in the case preventing the movable center from going too far down. When the cap B is in place the spring and movable center are inclosed in the shell. To cause the center to revolve with the shell and spindle a pin, *e*, is fixed on the extension *b'*, and fits in slots *f* on the cylindrical extension of the center C.

A removable crimping-flange, D, having a shoulder, *d'*, fits onto the inner end of the case A, and is adapted to be removed and changed when worn, as this portion is subject to the greatest wear. Crimping-pins *h* pass through holes formed in the shell A and through the sides of the crimping-flange D, holding said crimping-flange in place and also forming the offsets, which crimp or press down the edges of the shell. The removable crimping-flange revolves with the shell, and is prevented from being forced upward not only by the pins *h*, but by the same shoulder, *g*, which keeps the movable center in place.

The operation is as follows: In the automatic shotgun cartridge-loaders, such as is represented by the machine known as the

"Chamberlin," the shell, when loaded and wadded, comes under the crimping attachment, which at the proper time comes down in the cartridge and by its momentum and pressure crimps the edge, and thus holds the charge in place. The movable center C rests on the upper wad, and if the charge is high, by reason of thick wads, the spring E is compressed, and the pressure exerted is not enough to "bulge" the cartridge where the shot lies. The pins or offsets *h* crimp the edge of the shell, and as the revolution of the machine progresses the crimper is withdrawn, the finished cartridge passes on, and another takes its place.

Should the load by reason of thin wads not come up very high in the shell, the movable center still presses on the central wad with force enough to prevent the crimping-flange from exerting so much pressure as to break the edge of the shell. In this way full or light wads in the cartridges will make no difference in the smoothness and uniformity of the crimping. Varying loads may be treated without changing the crimper. The removable crimping-flange D can be taken out and changed whenever worn by removing its pins.

This cartridge-crimping device may also be applied to machines which are worked by hand.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a cartridge-crimping device, the exterior case or shell, A, having the removable cap or cover B, and the central pressure-plunger, C, having the slotted extension fitted to said cap, and the flange *c'*, in combination with the removable crimping-flange D and spring E, substantially as and for the purpose herein described.

2. In a cartridge-crimping device, the exterior case, A, with its self-adjusting pressure-plunger C, in combination with the crimping-flange D and the pins *h*, by which it is secured within the exterior case, said pins also serving as crimping-offsets, substantially as herein described.

3. In a cartridge-crimping device, the exterior shell, A, with its interior vertically-moving and spring-actuated plunger or center, C, having a slotted extension, in combination with the cap B, by which the case is closed, said cap having an extension with pin to engage with a corresponding slot in the plunger or center and cause it to revolve, substantially as and for the purpose herein described.

In witness whereof I have hereunto set my hand.

JOHN ADAM HAAS.

Witnesses:
JOSEPH PETER BRIARE,
CHARLES HARRISON WRIGHT.