

36 Ammunition Loading,
Capping and Uncapping.

Draftsman.

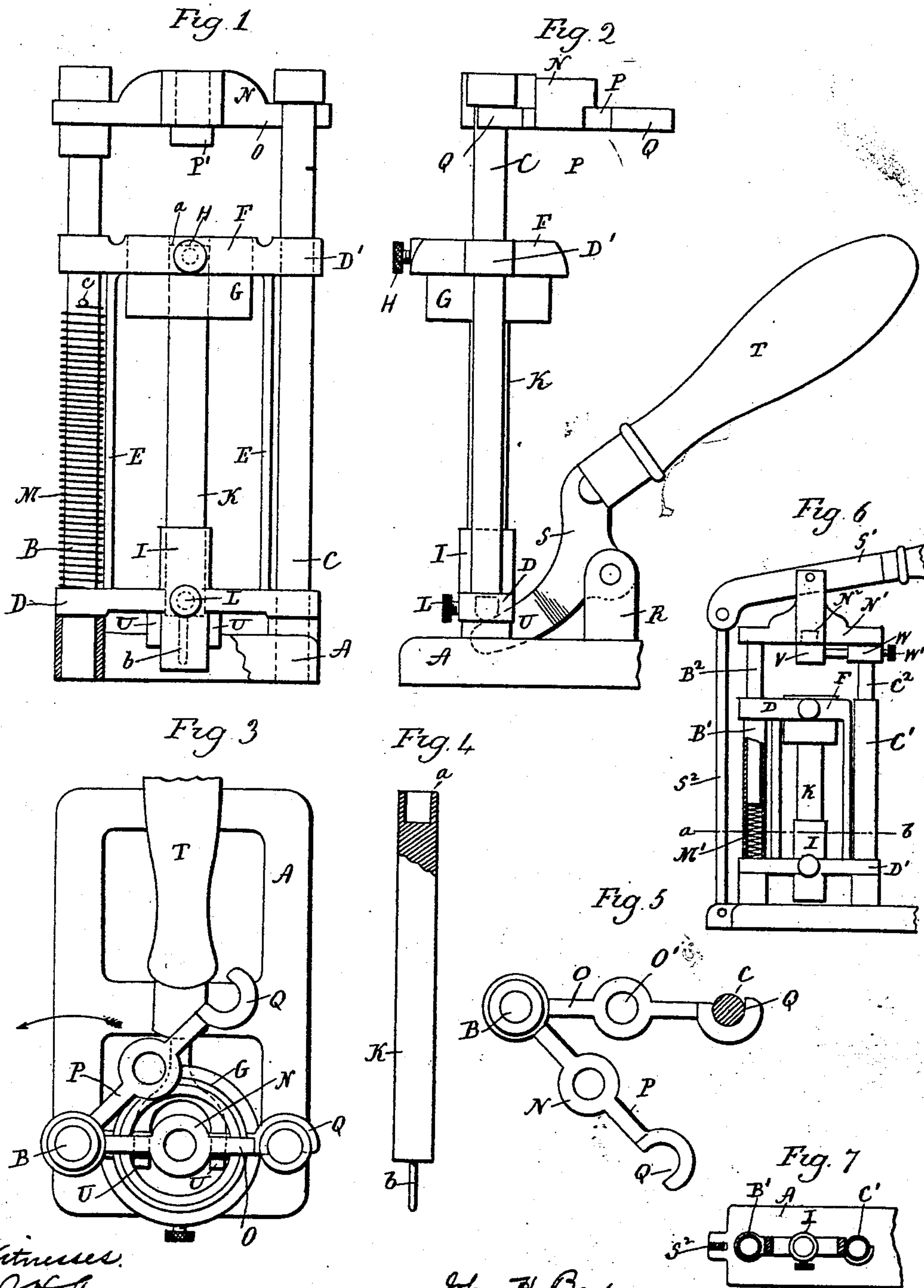
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J. H. BARLOW & J. A. DERBY.
MACHINE FOR CAPPING OR DECAPPING CARTRIDGES.

(Application filed Aug. 16, 1901.)

(No Model.)



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MACHINE FOR CAPPING OR DECAPPING CARTRIDGE

SPECIFICATION forming part of Letters Patent No. 689,699, dated December 24,

Application filed August 16, 1901. Serial No. 72,225. (No model.)

To all whom it may concern:

Be it known that we, JOHN H. BARLOW and JOSEPH A. DERBY, of New Haven, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Machines for Capping and Decapping Cartridges; and we do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a front view of a capping and decapping machine constructed in accordance with our invention, a portion of the base being broken away; Fig. 2, a side view of the same; Fig. 3, a top view of the same; Fig. 4, a side view, partially in section, of the stud; Fig. 5, a broken top view showing the swinging cross-head in position reverse to that shown in Fig. 3; Fig. 6, a front view, partially in section, illustrating a modification; and Fig. 7, a view on the line *a b* of Fig. 6.

This invention relates to an improvement in devices for capping and decapping cartridge-shells.

Cartridge-shells of the same gage are of uniform external diameter; but shells of different manufacture differ in internal construction, and a great variety of primers are employed.

Great care must be exercised in properly locating the primer in the shell in order that the powder in the loaded shells may be properly ignited, so as to avoid misfires, the cause of which is generally the misplacement of the primer. One of the greatest objections to devices for capping cartridge-shells is that the shells are not sufficiently supported internally and so as to provide an anvil for supporting the shell, so that as a result the head of the shell has been concaved, thus carrying the top of the primer beyond the proper reach of the firing-pin of a gun, whereby a misfire is caused. If the shells to be capped are supported on a stud or pin that will correctly fit the inside of the shell so as to properly guide it, the device can be used to cap only a comparatively small number of shells of different manufacture, owing to the great

variety of base shapes and inside diameters or strengthenings, and if a pin is made small enough to enter the shells trouble is experienced with the movement of the knock-out or inserting pin. The great variation in the shape and thickness of the base causes great variation in the height of the top of the shells when on the pin or stud. This, together with the variety of lengths and diameters, makes it impossible to employ devices hinged levers with an inserting pin attached directly thereto and so as to form a circle, as in such construction does not always press directly on the primer, so as to force it into the shell in a straight line.

The object of this invention is a device whereby cartridges of any gage may be readily capped or decapped with the primers adapted to the shells to be operated upon; and it is the construction as hereinafter described, particularly recited in the claims.

In carrying out the invention we provide a base A, in which we mount two vertical posts B C, parallel with each other, upon which a slide is mounted, the slide being formed at opposite ends with arms D D', through which the posts pass, these arms being connected by links or braces E. The upper arm has a cam F, adapted to receive and hold a shell supporting guide G, corresponding in internal diameter to the external diameter of the cartridge-shells, and this guide is held within the ring by a set-screw. A plurality of cartridge-supporting guides of different diameters may be employed. The lower arm is provided with an upwardly-opening socket to receive a stud K, one end of which is recessed to form an anvil for capping the other end provided with a pin L for pinning. This stud is secured in place by a set-screw L. Around one of the posts, as B, is a spiral spring M, one end of which is upon the lower arm D and the other end against a transverse pin c, extending across the said post, the tendency of the spring being to force the arms downward. One of the posts, as C, is a swinging

cross-head N, the head comprising two arms O P, as clearly shown in Fig. 5, each formed at its outer end with hook-shaped ends Q, adapted to clasp the opposite post C, so that the central portions of either of the arms may be held in line with the stud K. One of these arms is provided with a flat face P' and the other with a decapping-recess O'. Pivotaly mounted in the base between lugs R is a cam-lever S, provided with a handle T and bifurcated at its inner end to form fingers U, which extend on opposite sides of the lower end of the socket I and by which the socket may be raised. In capping, the stud K is arranged, as in Fig. 1 of the drawings, with its recessed end α uppermost, and over this stud a shell is placed, upon which it is centrally held by the guide G. A primer is placed in the pocket of the shell and the cam-lever S turned, so as to force the stud K upward, the movement of the stud being vertical, so that the primer, which will strike against the punch P', will be forced into the pocket in a straight line. In decapping, the stud K is reversed in position, so as to have the pin b project upward through the guide G, and the head N is turned to bring the arm O and the opening therein in line with the stud, by the upward movement of which the primer is forced from the pocket.

Instead of mounting the swinging gate or cross-head at the upper end of the device and so as to permit the cartridges to be readily placed over and removed from the stud, the stud itself may be mounted to swing outward, in which case the gate or cross-head may be vertically movable, as shown in Fig. 6, in which the posts B' C' are tubular to receive vertical pins B² C², which are connected at their upper ends by a cross-head N'. In this instance one end of the arms D at the upper end may be entirely removed and a portion of one of the lower arms at the same side, leaving a hook-shaped end D', while the opposite sides of the arms are free to turn upon the post B'. The arm at the top is in the form of a ring F, like that before described, and the lug at the lower end carries socket I to receive a stud K, the lower end of the socket resting upon the base A. The cam-lever-S' is hinged to the upper end of a link S², which is mounted in the base A, and this lever is pivoted to the cross-head N', so as to force it downward toward the stud K. Preferably, and as shown, a spiral spring M' will be placed in one of the posts, the normal tendency being to force the pins upward. Pivoted to one of the posts, as C², is an arm W, adapted to be clamped by a set-screw W' and carrying at its outer end a punch V, adapted to be located at the center of the cross-head N' and so as to stand in line with the stud K. The under face of the cross-head N' is formed with a recess N² to receive the primers removed from the shells.

The operation of this device is substantially the same as that before described.

cept that the shell is adapted to be swung from beneath the cross-head to permit it to be placed upon and removed from the stud. In capping, the arm W is turned into line with the cross-head, while for decapping it is turned out of line with the cross-head, so that the point of the stud may force the primer upward into the cross-head.

With either of the constructions shown the shells are guided centrally over the stud, by which they are suitably supported for capping, and the direction of movement is always vertical, so that the primers are forced straight into their pockets.

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a device for capping and decapping cartridges, the combination with a vertical stud, a bushing or guide operating upon the outside of the shell within which the stud is centrally located, a cross-head, and a lever, the cross-head and stud being arranged whereby one may be turned out of line with the other, substantially as described.

2. In a device for capping and decapping cartridges, a vertically-arranged stud mounted between vertical posts, a cartridge-guide around the upper end of said stud, a swinging cross-head above said stud, provided with two arms either of which may be swung into line with said stud, and a lever adapted to raise the said stud against said cross-head, substantially as described.

3. In a device for capping and decapping cartridges, a vertically-arranged stud mounted between two vertical posts, a cartridge-guide arranged around the upper end of said stud, a cam-lever pivoted to said base and adapted to lift said stud, a swinging cross-head above said stud, and adapted to be turned so as to present the faces for capping or decapping in line with the said stud, substantially as described.

4. In a device for capping and decapping cartridges, a base supporting two vertical parallel posts, connected arms adapted to slide on said posts, the lower arms supporting a socket and the upper arms a ring, a stud mounted in said socket, a spring around one of said posts, and adapted to force said socket downward, a cross-head pivoted to one of said posts, and provided with two arms, either of which is adapted to be swung into line with said stud, and a cam-lever pivoted to said base, and formed with fingers projecting forward under said socket, whereby said socket may be raised, substantially as described.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

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JOSEPH A. DERBY.

Witnesses:

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