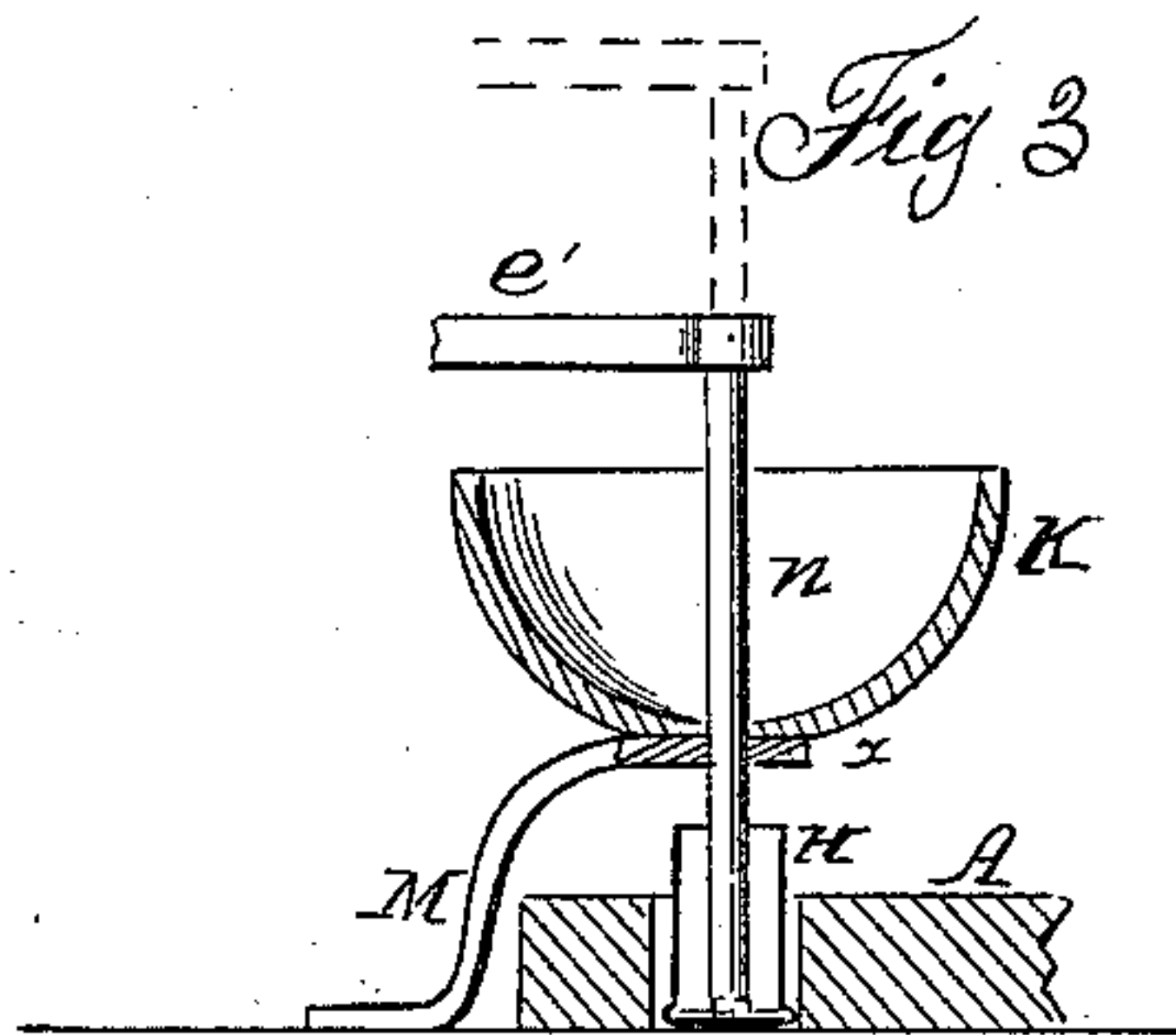
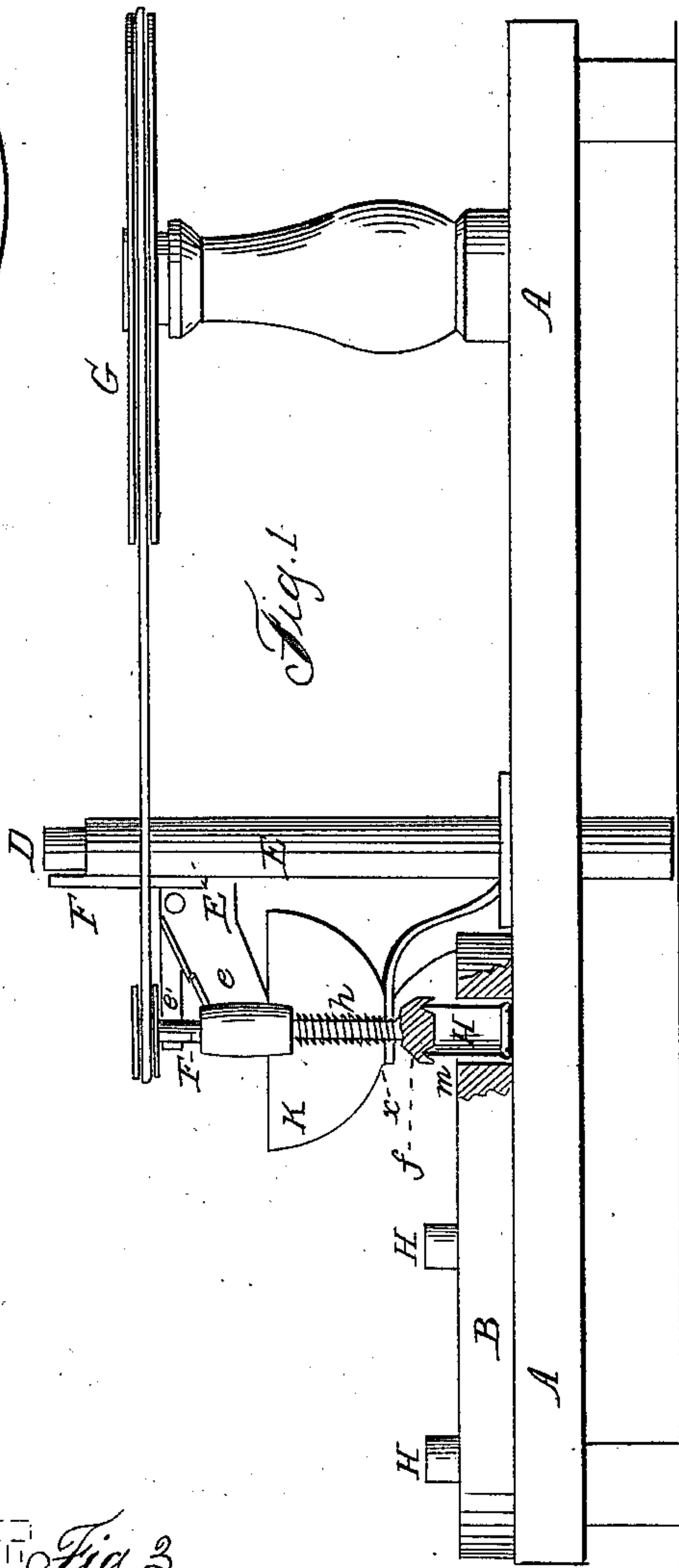
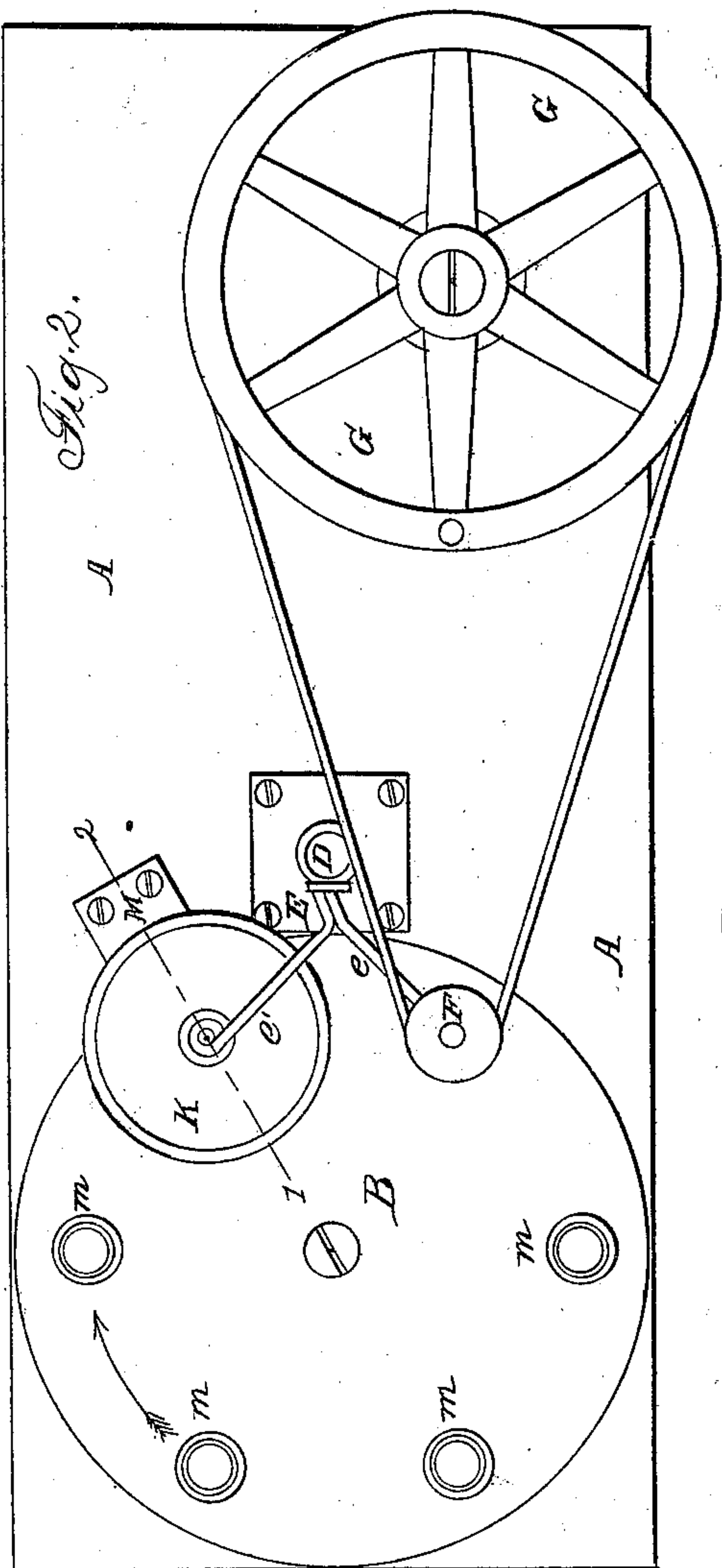


C. SHARPS.

Loading Cartridges.

No 40.772

Patented Dec 1. 1863



Witnesses  
Charles Howson  
W. Albert Steel

Inventor  
Henry Howson  
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# UNITED STATES PATENT OFFICE.

CHRISTIAN SHARPS, OF PHILADELPHIA, PENNSYLVANIA.

## METHOD OF PRIMING METALLIC CARTRIDGES.

Specification forming part of Letters Patent No. 40,772, dated December 1, 1863.

*To all whom it may concern:*

Be it known that I, CHRISTIAN SHARPS, of Philadelphia, Pennsylvania, have invented a new and Improved Mode of Charging Metallic Cartridge-Cases; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to the charging of the interior of the flanges or enlargements of metallic cartridges with detonate; and it consists in introducing a proper quantity of the detonate, while in a fluid or semi-fluid state, into the case, and by a rapid revolving motion imparted to the latter, causing the detonate to be projected and packed into the interior of the flange or enlargement, substantially as described hereinafter.

In order to enable skilled machinists to construct apparatus for carrying my invention into effect, I will now proceed to describe the machinery which I have used with success.

On reference to the accompanying drawings, which form a part of this specification, Figure 1 is a side view of mechanism used for carrying out my invention; Fig. 2, a plan view, and Fig. 3 a vertical section on the line 1 2, Fig. 2.

Similar letters refer to similar parts throughout the several views.

A is the base-plate of the machine; and to this plate a disk, B, is so connected that it can be turned freely, there being in the present instance six orifices, *m*, in the disk, each of which is of a proper diameter to receive one metallic cartridge.

On a vertical rod, D, secured to the base-plate A, is a sliding piece, E, from which project the two arms *e* and *e'*, the former carrying the spindle F, which in the present instance derives its motion from the driving-pulley G, a spiral spring, *h*, surrounding the spindle and serving to depress the same. The spindle has at the lower end an enlargement, *f*, in the under side of which is cut an annular recess adapted to the open end of the metallic cartridge H, which is deposited (flanged end downward) in one of the orifices *m* of the disk B.

K is a cup secured to a plate, M, on the base-plate A in such a manner as to overhang the disk, there being at the bottom of the cup

a hole, in which a rod, *n*, attached to the arm *e'* of the sliding piece E, is arranged to fit snugly and slide freely, a leather strip or washer, *x*, intervening between the plate M and the cup. The cup K and spindle F are so situated in respect to each other and to the disk B that when the spindle F coincides with one of the orifices *m* of the disk the hole in the cup is central with an adjacent orifice *m* of the disk. An intermittent reciprocating motion is imparted to the sliding piece E, and consequently to the rod *n* and spindle F, and an intermittent revolving motion is imparted to the disk, each movement of which is in the present instance to the extent of one-sixth of a complete revolution.

It has been deemed unnecessary to illustrate and describe the mechanism by which the desired movements are imparted to the sliding piece and disk, as various devices for rendering the apparatus automatic will readily suggest themselves to expert machinists.

Prior to setting the machine in motion the detonate in a fluid or semi-fluid state is deposited in the cup K. As the disk B is moved in the direction of the arrow, an attendant deposits the empty cartridge-cases in the holes *m*. When one of the cases carried by the disk arrives at a point beneath the hole in the cup K, the disk stops and the case remains stationary at this point until the rod *n* (which, by the movement of the sliding piece E, had been elevated so far that its lower end was a short distance above the bottom of the cup) descends, passing through the hole in the cup and through the leather washer, and forcing from the cup a portion of the fluid or semi-fluid detonate, and projecting it into the metallic cartridge-case, the detonate being thus deposited into the center of the case without smearing the side of the same. After this, the sliding piece E is suddenly elevated and the rod *n* thereby raised clear of the cartridge-case, when the disk B is again moved to the extent of one-sixth of a complete revolution, which movement places the case which has received the detonate immediately beneath the spindle F, where it remains stationary for a short time. The sliding piece E again descends, carrying with it the spindle F, the enlarged end *f* of which fits over the open edge of the case H, against which the spindle is caused to bear with more or less force by the



spiral spring *h*. It should be understood that the spindle continues to revolve at a rapid speed during the movement of the machine. The moment it comes in contact with the cartridge-case, therefore, a revolving motion of corresponding rapidity must be imparted to the latter. This rapid movement of the case causes the fluid or semi-fluid detonate to be projected by centrifugal force into the interior of the flange, where it remains. The sliding piece *E* is again raised and the disk *B* turned to the extent of one-sixth of a revolution, and the attendant withdraws the cartridge-case charged with detonate from the orifice in the disk, and deposits it on a table or shelf to be dried prior to the introduction of the powder and attachment of the ball.

It will be seen without further description that each cartridge-case in succession first receives its proper supply of detonate, and then is revolved at such a speed as to cause this supply to be packed in the interior of the flange.

Although I have illustrated and described

peculiar mechanism for carrying out my invention, it will be evident that the machinery may be modified and altered and other machinery substituted for carrying the invention into effect. I therefore wish it to be understood that I do not desire to confine myself to the specific devices herein described; but

I claim as my invention and desire to secure by Letters Patent—

Charging metallic cartridge-cases with detonate by introducing into each case a proper quantity of detonate in a fluid or semi-fluid state, and by a rapid revolving motion of the case projecting and packing the detonate into the interior of the flange or enlargement of the case, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHRISTIAN SHARPS.

Witnesses:

JOHN WHITE,

HENRY HOWSON.