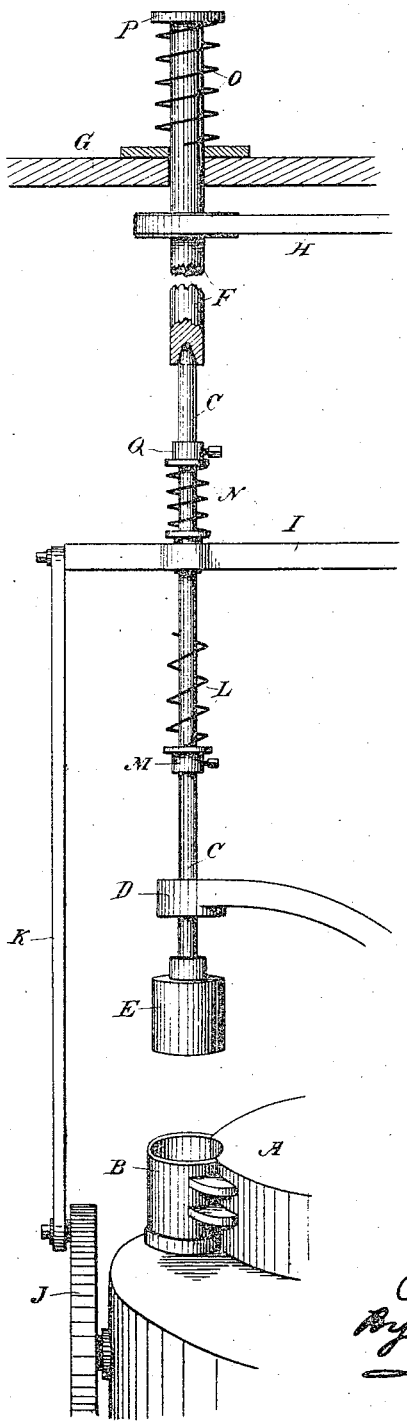
(No Model.)

P. SELBY.

CARTRIDGE LOADING MACHINE.

No. 384,089. Patented June 5, 1888.



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UNITED STATES PATENT OFFICE.

PRENTISS SELBY, OF OAKLAND, CALIFORNIA.

CARTRIDGE-LOADING MACHINE.

SPECIFICATION forming part of Letters Patent No. 384,089, dated June 5, 1888.

Application filed August 2, 1887. Serial No. 245,979. (No model.)

To all whom it may concern:

Be it known that I, PRENTISS SELBY, of Oakland, Alameda county, State of California, have invented an Improvement in Cartridge-Loading Machines; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to improvements in cartridge-loading machines.

The feature of my present invention is an improved device for crimping the shells after the powder, shot, and wads are in place.

It consists of a vertically-moving stem or spindle, with means for rotating the same, and an arrangement of springs and weighted arms whereby the operation is more perfectly performed.

Referring to the accompanying drawing for a more complete explanation of my invention, the figure is a view showing a section of the rotary table with one of the cylindrical chambers for holding the shell and the mechanism for crimping the shell when it is brought to the proper point.

A is the table, having the chambers B, into which the shells are deposited by mechanism which I have not here shown, as it forms no part of my invention.

C is the vertical stem or spindle passing through the lower guide, D, and having the crimping-flange E fixed to its lower end, so as to be in position to be pressed upon the cartridge contained in the chamber or hole B to crimp its upper open end when properly presented. The upper end of the spindle C is made conical in shape, and the long heavy rod F, which extends up through the floor or guide G, has a corresponding socket in its lower end, which fits over the spindle C tightly enough, so that the two will be rotated together.

H is a pulley around which the driving-belt passes from the source of power, and this pulley rotates the shaft F and the spindle C, turning in the guides, so as to cause the crimping-flange E to be rotated for the purpose of crimping the shell.

The spindle C passes through an arm or guide, I, which is caused to rise and fall by means of a crank-wheel, J, and a connecting-pitman, K. This crimping movement has heretofore been performed by means of a sharp spiral thread or screw formed upon the spindle of the crimper and a nut which fits said thread and moves upward and downward, so as to rotate the spindle when the crimper is fitted over the shell; but this is objectionable in some particulars, and especially because it is difficult to bring the exact pressure desired upon a crimper, and because it is impossible to bring this pressure upon the shell gradually. In the present case I effect this by means of springs L, which surround the spindle C and rest upon an adjustable collar, M. This collar may be raised or lowered upon the spindle, according to the amount of pressure desired, and when the bar I is lowered by the movement of the crank-wheel J the crimper first rests upon the edge of the cartridge-shell, and a further downward movement of the bar, which is produced by the rotation of the crank, brings the pressure of the bar upon the top of the spring L, thus pressing the crimper gradually downward with whatever force may be desired. As the weight of the rod F and the spindle C is considerable, I employ the springs N and O to relieve this weight and to allow the crimper to come down gradually upon the shell. The rod F, which extends upward a considerable distance through the guide or floor G, has the spring O, surrounding its upper end and resting upon the top of the upper guide, while the upper end of the rod has a head or collar, P, which rests upon the top of the spring, thus relieving the rod C and crimper of too great a weight. The spring N rests upon the top of the bar I or an adjustable sleeve through which the spindle C passes, and the collar Q, which is fixed to the rod C, rests upon this spring. It will be manifest from this construction that when the crank of the wheel J is at its highest point the crimper will be raised above the cartridge, and the weight of the spindle C and rod F will be supported upon the springs N and O. As the crank-wheel performs its revolution, allowing the bar I to move downward, the edge of the crimper E will first press lightly upon the top of the shell, the whole being kept in rapid rotation by means of the belt and belt-pulley H, and as the supporting-bar I continues its descent the weight of the spindle C and rod F will gradually be brought altogether upon the

crimper. A further descent of the bar I causes it to commence pressing upon the top of the spring L, and the force brought upon this spring is increased to any desired point, depending upon the position of the collar M and the consequent tension of the spring L.

By this construction I am enabled to bring the crimper down upon the edge of the shell with a gentle and gradually-increasing pressure instead of with a abrupt blow, as in the former construction.

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

1. In a cartridge-loading machine, the vertically-moving crimper-stem and the rotating spindle seated upon its upper end, in combination with the supporting-arm through which the stem passes, a pitman connected with one end of said arm, a crank-wheel to which the opposite end of the pitman is attached, the collars M and Q on the vertical stem, and the springs bearing against the collars, substantially as described.

2. In a cartridge loading machine, the vertical spindle having the crimper attached to the lower end, the rising and falling supporting-arm, in combination with the spring N and collar Q, by which the weight of the spindle is supported upon the arm from above, and the spring L and collar M upon the spindle beneath the arm, whereby the pressure of the arm is gradually increased by its descent, substantially as herein described.

3. The vertical spindle carrying the cartridge-crimper at its lower end, the rising and falling arm through which the spindle passes, the collars, and springs, as shown, in combination with the vertical rod extending through guides in a line above the spindle, having a tapering socket in the lower end to fit the head of the spindle, and a pulley by which the rod and spindle are caused to rotate, substantially as herein described.

4. The vertical rising and falling spindle carrying a crimping-head at its lower end and having supporting and operating springs and collars, as shown, the vertical rod standing in line above the spindle, having a tapering socket in its lower end fitting a correspondingly-shaped head of the spindle, and a pulley on said rod through which a rotary motion is imparted, in combination with the spring O, surrounding the rod, and the collar or head P, whereby the weight of the rod and spindle is automatically reduced as they move downward, substantially as herein described.

In witness whereof I have hereunto set my hand.

PRENTISS SELBY.

Witnesses:
JAMES L. KING,
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