

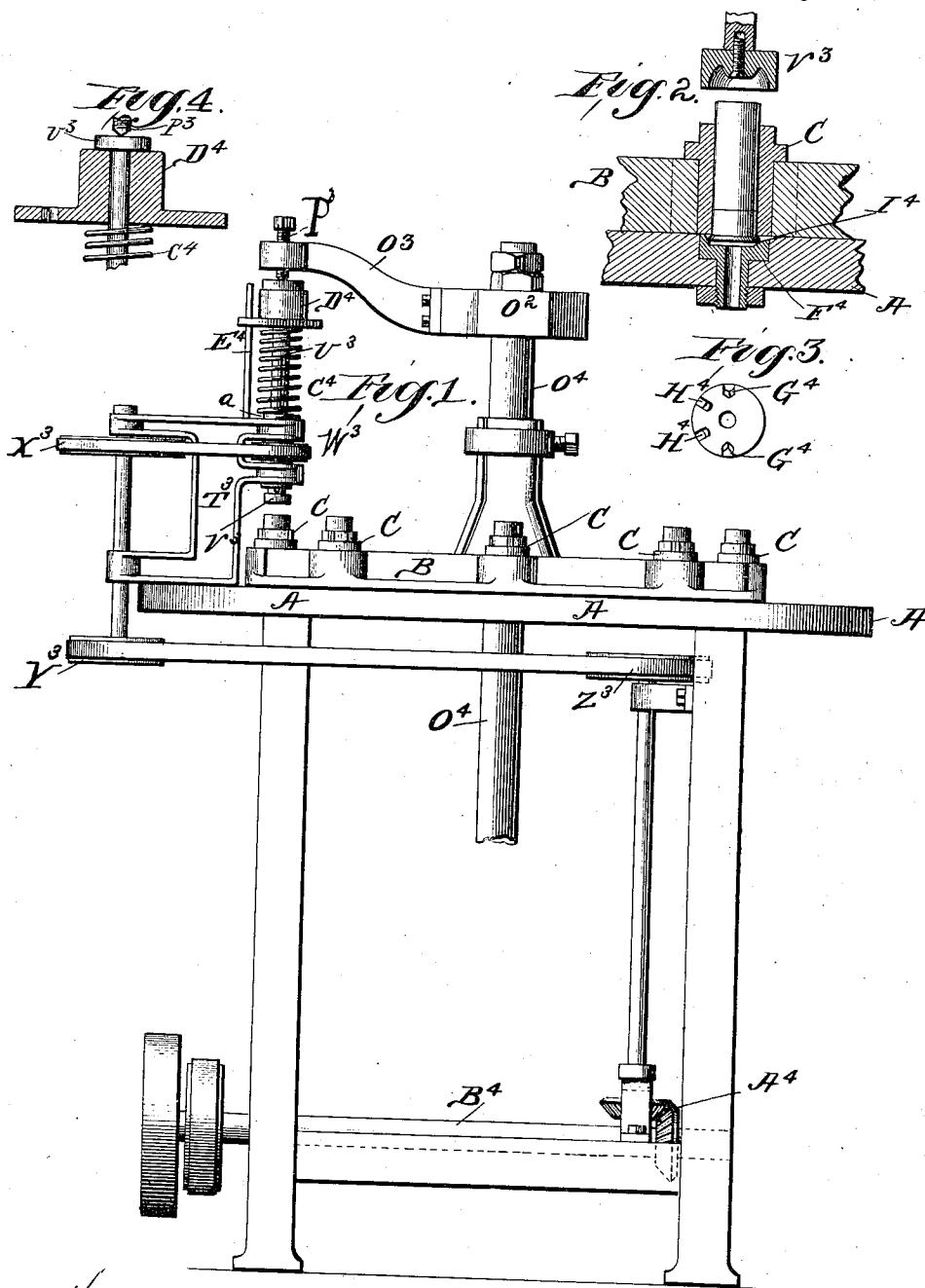
(No Model.)

G. M. PETERS.

CRIMPER FOR CARTRIDGE LOADING MACHINES.

No. 540,221.

Patented May 28, 1895.



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UNITED STATES PATENT OFFICE.

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CRIMPER FOR CARTRIDGE-LOADING MACHINES.

SPECIFICATION forming part of Letters Patent No. 540,221, dated May 28, 1895.

Original application filed September 28, 1889, Serial No. 325,358. Divided and this application filed July 31, 1891. Serial No. 401,292. (No model.)

To all whom it may concern:

Be it known that I, GERSHOM MOORE PETERS, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Improvement in Crimpers for Cartridge-Loading Machines, of which the following is a specification.

This invention relates to improvements in crimpers for cartridge loading machines, and this application is a division and continuation of my application filed September 28, 1889, Serial No. 325,358.

The invention consists in a construction and arrangement substantially as hereinafter described and more particularly pointed out in the claims.

Like letters refer to the same parts in the several figures of the drawings, in which—

Figure 1 is a side elevation of my crimper attached to a cartridge-loading machine. Fig. 2 is a detail view in section of the crimping-cup, the shell-case, and the holder for the base of the shell, together with the shell in position in said shell-case and holder. Fig. 3 is a plan view of the holder; and Fig. 4 is a detail view, in vertical section, of the bearing-block for the upper end of the shaft of the crimper.

In the drawings I have shown the crimper secured by a detachable bracket, T^3 , to the stationary table A of a cartridge loading machine of the round table class, such as is covered by my patents numbered 383,905 and 398,650, but it is obvious that such crimper is equally applicable to other types of cartridge loading machines. In this bracket I mount the crimper shaft in such a manner that it will be free to rotate and to move vertically, and in order to effect this, I have found it convenient to interpose a bearing or sleeve, a , carrying a pulley, W^3 , and to join said sleeve to the shaft by a spline and groove or similar connection. The rotation of the pulley fixed to the sleeve will rotate the sleeve and shaft and at the same time permit a vertical movement of the shaft. This crimper shaft, U^3 , has secured to its lower end the crimper cup, V^3 , which will hereinafter be more particularly described, and the upper end of such shaft has a bearing in the block, D^4 , which latter is guided and kept from rotating by the pin or rod, E^4 , which

may extend from the bracket, T^3 . A spiral spring, C^4 , encircles the shaft, U^3 , and is arranged between the bearing block, D^4 , and the bracket, and thereby tends to normally force upward the crimper.

Rotation may be imparted to the pulley, W^3 , and shaft, U^3 , in any suitable manner, but I have in the drawings shown a main shaft, B^4 , geared by miter wheels to a vertical shaft, which supports a pulley, Z^3 , which latter is connected by a band to a pulley, Y^3 , and this in turn to, X^3 , which by a belt drives the pulley, W^3 .

In my patents above referred to, and in the application of which this is a division, the various loading devices (which are called tools) are carried or operated by a single vertically reciprocating block which may be designated as a tool carrier; and in Fig. 1, of the drawings of this application there is illustrated at, O^2 , O^3 , a reciprocating block or tool carrier adapted to the machine of the type shown. This tool carrier is shown in Fig. 1 as composed of two parts, a polygonal head, O^2 , and a projecting portion or arm, O^3 , which latter may carry an adjusting screw, P^3 . The tool carrier may be reciprocated by any proper mechanism, but in the drawings I have shown a vertical shaft, O^4 , to the upper end of which said tool carrier is secured, and which shaft receives its motion from any suitable device. (Not shown.)

The crimper is arranged in the path of a portion of the tool carrier, and as illustrated herein the screw, P^3 , in its downward movement strikes the bearing piece, D^4 , and forces the crimping cup down upon the shell and crimps the latter as will hereinafter be described. The screw, P^3 , may be adjusted to regulate to a certain degree the depression of the crimper by the tool carrier. The spring, C^4 , automatically returns the crimper to its normal position. The crimping cup, V^3 , may be detachably secured to its shaft by a screw or other connection, and it is inclined or concaved on its interior and provided with a central projection whose sides are inclined in a direction opposite to the inclination of said cup.

The shells must be brought under the crimper at regular intervals, and for this pur-

pose a carrier must be employed. In the drawings I have shown a carrier in the form of a rotating table, B, in which are secured shell cases, C, of less height than the shells to be crimped.

In the stationary table, I fit holders, F⁴, the construction and purpose of which I will now describe. In the process of crimping the cup is revolved quite rapidly but the shell should be stationary, and so I provide a holder for the base of the shell, which has beveled knife edged projections, G⁴, G⁴, which cut into the metallic base of the shell and prevent the rotation of the latter. These sharp points are preferably placed about on a line with the center of the holder, and in order to place the shell with its central line over such points, I provide the holder with other projections, H⁴, H⁴, located at one side of and extending inwardly a proper distance so that the shell will not be permitted to drop down into the depression of the holder until it has cleared these projections, H⁴, H⁴, and is suitably positioned over the knife points. After the shell is crimped the carrier is moved, and in order to then lift the shell off the knife points and out of the depression in the holder, I form that side of the latter toward which the shell is being carried, with an inclined surface, as is well shown at, I⁴, in Fig. 2 of the drawings.

The operation of the invention may be briefly described as follows: After the shells are loaded with powder, shot, and wads, they are successively brought by the carrier under the crimper. The tool carrier is then depressed and it forces down the crimper shaft and cup upon the top of the shell, and as such cup is being revolved at a high rate of speed, its inclined or concaved sides turn in the top edge of the shell, which is pressed into a bead by the central projection of the cup, the shell being meanwhile held stationary by the knife edged projections in the holder. The tool carrier is next lifted, and the crimper is then

automatically lifted by the spiral spring. The carrier or rotating table then is moved, and as it moves the shell is lifted off the knife edged projections by the inclined side of the holder. Another shell is brought by the carrier underneath the crimper and the foregoing operation is then repeated.

I am aware that rotating crimpers in cartridge loading machines are not new, and that it is not new to reciprocate such crimpers by a cross-head to which the crimper shaft is attached, and which cross head may carry some of the tools; but in my construction the crimper shaft is detached from the tool holder and instead is located in the path of the same, so that the tool holder will not carry the crimper shaft, but will merely contact with it in its downward stroke and thus operate it.

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

1. In a cartridge loading machine, the combination with the shell carrier of the reciprocating tool holder, and a constantly revolving crimper located in the path of the tool holder, whereby the tool holder on its descent depresses the crimper, substantially as described.

2. In a cartridge loading machine, the combination with the shell carrier of the reciprocating tool holder, a constantly revolving crimper located in the path of the tool holder for depressing said crimper, and a spring for raising said crimper, substantially as described.

3. In a cartridge loading machine, the combination of a rotating crimper, a shell carrier and shells, with a stationary holder for the shells provided with knife edged projections and an inclined surface at one side, substantially as and for the purpose set forth.

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