

(No Model.)

G. P. SALISBURY.

MACHINE FOR FINISHING METALLIC CARTRIDGE SHELLS.

No. 312,019.

Patented Feb. 10, 1885.

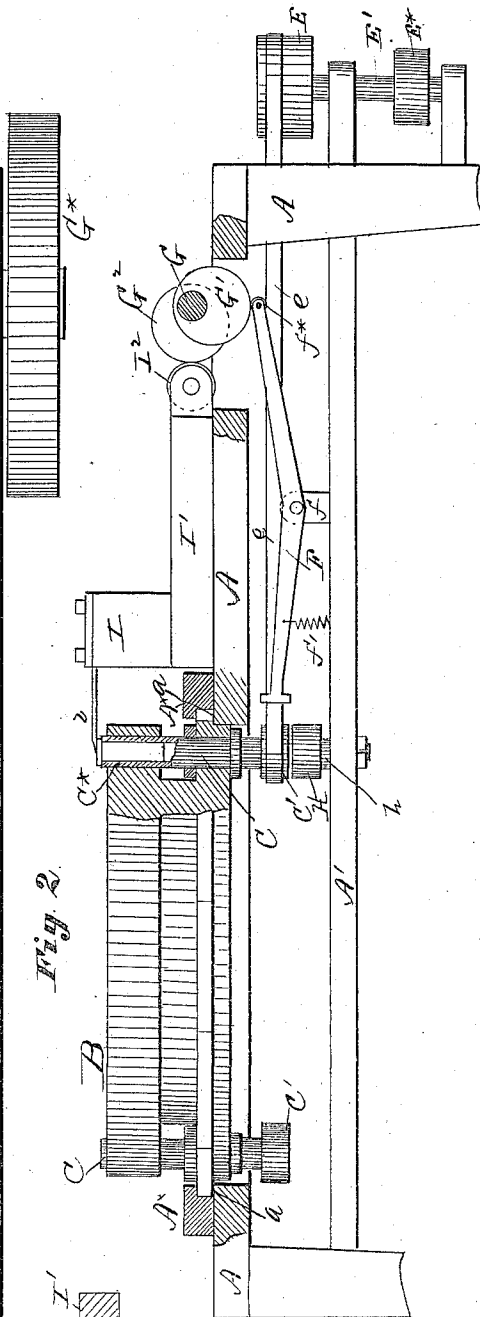
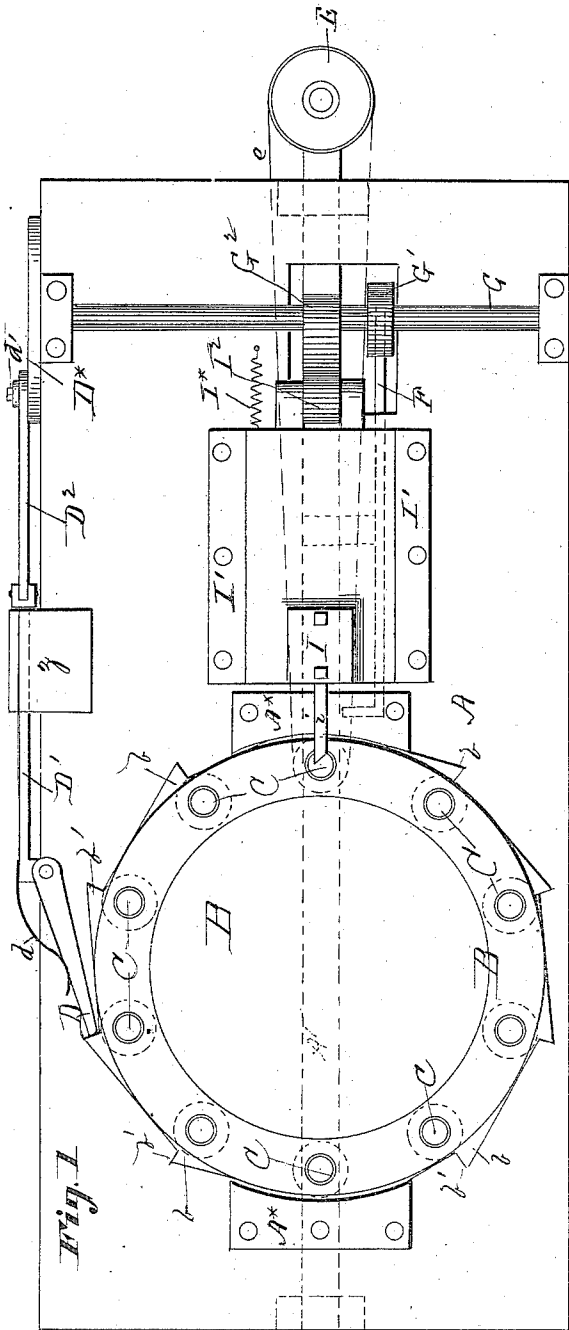
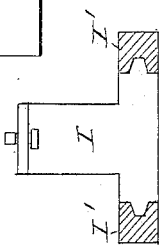


Fig. 3



Witnesses.
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UNITED STATES PATENT OFFICE.

GEORGE P. SALISBURY, OF NEW HAVEN, CONNECTICUT.

MACHINE FOR FINISHING METALLIC CARTRIDGE-SHELLS.

SPECIFICATION forming part of Letters Patent No. 312,019, dated February 10, 1885.

Application filed May 14, 1884. (No model.)

To all whom it may concern:

Be known that I, GEORGE P. SALISBURY, a citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Machines for Finishing Metallic Cartridge-Shells, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to machines for finishing metallic cartridge-shells; and it has for its object the provision of a simple and efficient apparatus for this purpose.

I construct my machine with an intermittently-rotatable dial, near the circumference of which a line of independently-rotatable cartridge-holders are placed. The dial is rotated step by step to bring a cartridge-holder into line with a tool for finishing the shell carried in a reciprocating tool-holder. The cartridge-holder is formed at the top to receive the shell inside or outside of it in any position, according to the work to be done. Means are provided to rotate the cartridge-holder when it is brought into line with the tool, and when the operation upon the shell is completed the means for rotating the holder are withdrawn from it and kept in readiness to take hold of and rotate the next holder as it comes in place in front of the tool.

The following detailed description will more fully explain the nature of my invention and the manner in which I construct and operate the same.

The accompanying drawings illustrate what I consider the best means for carrying my invention into practice.

Figure 1 is a plan view of the machine. Fig. 2 is a side elevation of the same, with the legs broken off, and parts of the framing, dial, and cartridge-holder broken away the more clearly to show the invention. Fig. 3 is a transverse section of the tool-holder.

Similar letters of reference indicate corresponding parts in all the figures where they occur.

A represents the fixed frame-work of the machine.

A' is a supporting-beam running longitudinally under the table.

Detailed portions of the frame or table and the purpose of the beam A' will be hereinafter

described as they are used in connection with the working parts.

B is a dial, which rests upon a shoulder, *a*, on the table A. Clamps A*, under cut, as shown, and circular or properly curved on their inner face to fit against the edge of the dial, are placed over the shoulder *a* to hold the dial in place. Near its circumference the dial B is provided with the line of cartridge-holders C, which are set in it with liberty to be rotated or revolved therein. These holders may be made in the form of open-topped cylinders, and receive the cartridges in them in the position shown at C*, Fig. 2, where a portion of the holder is broken away to show the shell, or they are of any other form at the top to suit the work to be done. The periphery of the dial is provided with ratchet projections *b*, corresponding in number with the number of cartridge-holders. These projections have a sloping face for the pawl D to ride over, and an abrupt face, *b'*, for the said pawl to take hold of. The pawl D is carried on a reciprocating arm, D', and is borne upon by a spring, *d*, which insures its proper action. The arm D' is pivoted to a pitman, D², which is operated by the wrist-pin *d'* on the wheel D*. As this wheel is rotated it causes the arm D' to be reciprocated, and, through the medium of the pawl D and projections *b*, effects the step-by-step rotation or movement of the dial. Between the movements of the dial a cartridge-holder, C, is in position and rotated under the tool. For this purpose the holder C is provided with a pulley, C', underneath the dial B. A band, *e*, extending from the power-pulley, E, which is fixed on a short upright shaft, E', held in the beam A', and rotated in any convenient manner, encircles the pulley C' and causes the cartridge-holder C to revolve. To this belt *e* is connected a belt-shipper, F, pivoted at *f*, as shown, and bearing at the other end against the cam G' on the shaft G. A spring, *f'*, tends to move the shipper and throw the belt off the pulley C', but is overcome by the action of the cam G' at each revolution.

Beneath and in line with the cartridge-holder C and pulley C', when the dial is stationary and the holder is in position to have the cartridge acted upon by the tool, is a loose pulley, H, held upon a fixed stud, *h*, and when the band *e* is thrown off the pulley C' by the force of the

spring f' upon the shipper (when the cam G' is turned into position opposite to that shown in Fig. 2) the said band e will be received upon the loose pulley H and continue to run there without affecting the cartridge-holder. The action of the pawl D , which moves the dial B , and of the cam G' , which, through the shipper F and belt, e , effects the revolution of the cartridge-holder C , are so timed relatively to each other as that the dial B shall stand still while the holder C is being rotated, and that the holder C shall be at rest when the dial B is being moved. While the dial B is standing still and one of the cartridge-holders C is being rotated, a tool, i , of a character suitable to accomplish the work desired, is advanced over the holder, and the rotation of the latter causes the work to be done upon the shell which it contains. The tool i is carried in a reciprocating tool-holder, I , which is moved in ways I' I' on the table A . A cam, G^2 , upon the shaft G operates against an anti-friction roller, I^2 , upon the rear end of the tool-holder I and effects the forward movement thereof, thereby bringing the tool i over the cartridge-holder in the dial, as shown in Figs. 1 and 2 of the drawings. When, by the revolution of the shaft G , the cam G^2 is brought to a position opposite to that shown in the drawings, Figs. 1 and 2, the spring I^* , attached at one end to the table A and at the other to the reciprocating tool-holder I , draws the said holder back and removes the tool from over the cartridge-holder. This withdrawal of the tool occurs simultaneously with the shipping of belt e from holder C to loose pulley H , as will be seen by the position of the cams G' G^2 in the drawings. It will thus be seen that after each movement of the dial B to bring a cartridge-holder into line with the tool the cartridge-holder is rotated, and a tool is advanced over it to perform the desired finishing operation, and that the cartridge-holder is released and the finishing-tool withdrawn when the dial is again to be moved forward a step to bring another cartridge-holder, with its shell, into position to be rotated and operated upon. The shaft G is revolved by having a belt from any suitable power passed over the band-wheel G^* , which it carries on one end, and a pulley, E^* , is provided upon the shaft E' , to receive a belt to drive said shaft; but it will be understood that the power may be applied in any way. The horizontally-reciprocating arm D' is held in a guide, z , as shown.

The tool i may be of any desired form to suit the work it is intended to do. It is held in the head of the holder I in such a manner as to be readily removable, so that one can be taken out and another put in its place.

The upper ends of the cartridge-holders are

made in different forms, according to the work to be done on the shells. When the head of the shell is to be turned, they are of the cylindrical form, or perforated, as shown in Fig. 2, and the shell is held in the perforation. When the outside of the shell is to be polished, the shell sets on the end of the holder.

The end of the shipper which bears against the cam G' may be equipped with an anti-friction roller, f^* , as shown in Fig. 2.

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

1. The dial B , provided with the cartridge-holders C , adapted for turning in bearings in the dial, and having pulleys on their inner ends, said dial being constructed and arranged to have an intermittent and rotary motion to bring the holders successively in line with the stud h , having a pulley to allow the belt to run on either of the pulleys thus brought in juxtaposition, as described.

2. The tool i , having reciprocating motion toward and from the shells, in combination with the rotating disk B and the cartridge-holders carried by said disk, said cartridge-holders being provided with means for rotating each of them as it is brought into contact with said tool, in order that the shell may be finished by the latter, substantially as set forth.

3. A series of independently-rotatable cartridge-holders and a moving support which successively presents them in position, in combination with a tool which is brought into contact with the side of the upper end of each shell as thus rotated, for the purpose of finishing the latter, substantially as set forth.

4. A disk, B , provided with peripheral projections b , in combination with a pawl, D , which engages said projections, and means for operating it to rotate said disk, the cartridge-holders C , independently rotatable in said disk, and provided with pulleys C' , the belt F , whereby said pulleys are successively driven, and a reciprocating tool, i , which acts in turn on the periphery of each shell to finish the same, substantially as set forth.

5. The combination, with the intermittently-moving dial B and cartridge-holders carried thereby, of the reciprocating tool-holder I , belt e , for rotating the cartridge-holder, shipper F , for shipping the belt, and shaft G , having the cams G' G^2 , for operating the shipper and the tool-holder, respectively, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE P. SALISBURY.

Witnesses:

GEORGE TERRY,
F. C. DAYTON.