

(No Model.)

P. R. GLASS & W. L. WHITEMORE.
EYELETING MACHINE.

No. 581,856.

Patented May 4, 1897.

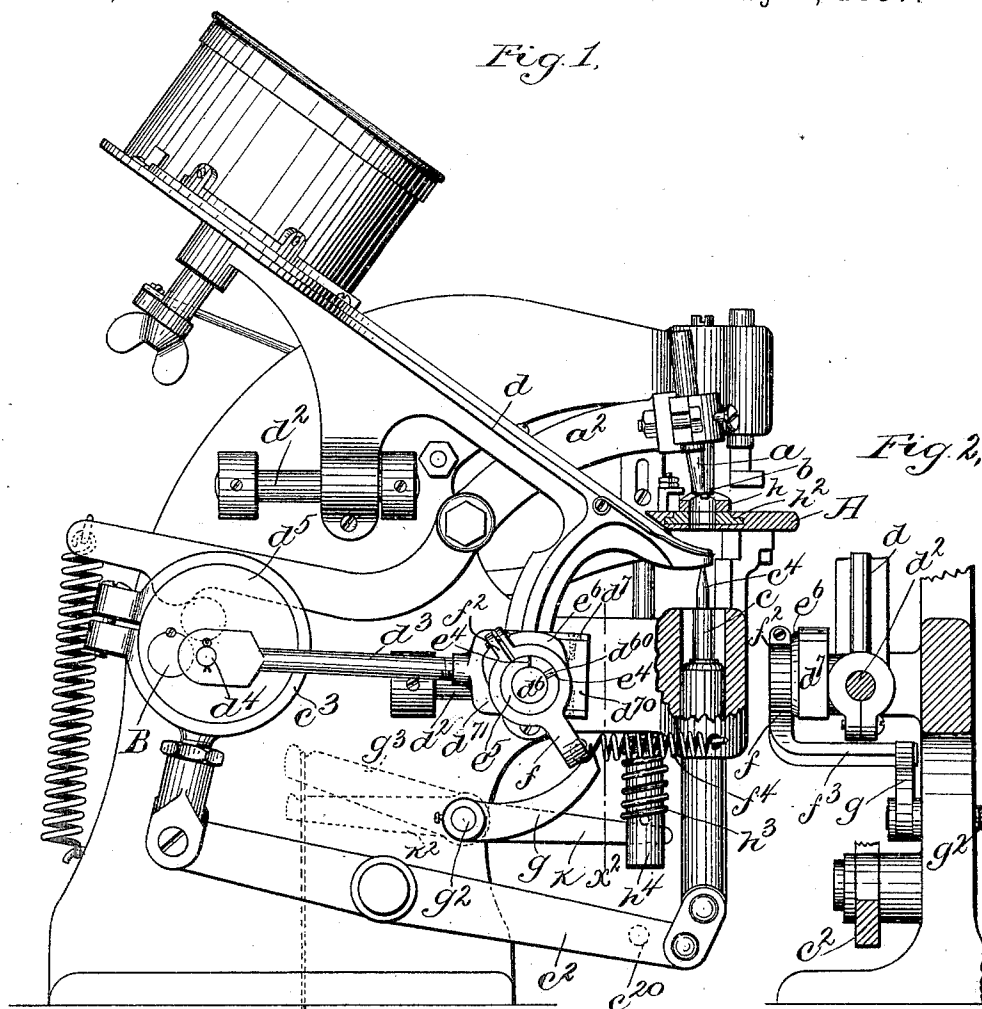


Fig. 1.

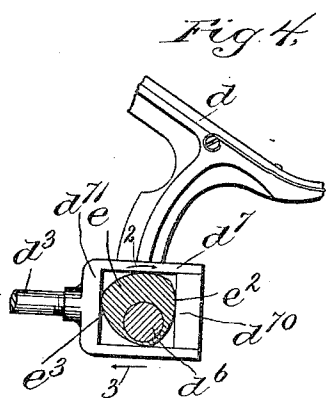


Fig. 4.

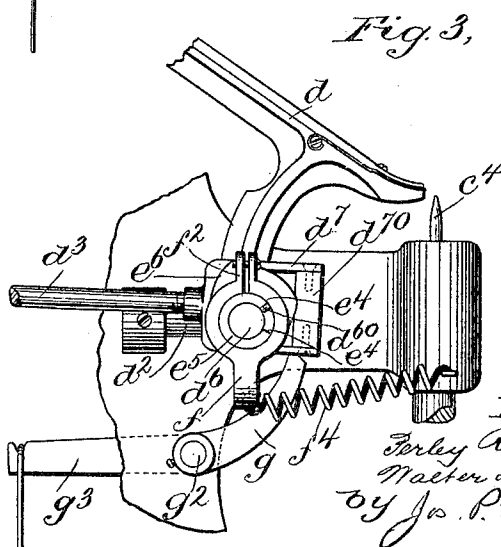


Fig. 3.

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UNITED STATES PATENT OFFICE.

PERLEY R. GLASS AND WALTER L. WHITTEMORE, OF QUINCY,
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EYELETING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 581,856, dated May 4, 1897.

Application filed December 18, 1896. Serial No. 616,220. (No model.)

To all whom it may concern:

Be it known that we, PERLEY R. GLASS and WALTER L. WHITTEMORE, of Quincy, county of Norfolk, and State of Massachusetts, have invented an Improvement in Eyeletting-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

The present invention relates to an eyeletting-machine of that class in which the stock is punched and an eyelet inserted therein, and in which the eyelets are presented to the eyelet inserting and setting devices by means of a reciprocating feed-chute which moves into the path of the eyelet-setting device and presents an eyelet thereto at each operation.

It is sometimes desirable in machines of this class to punch the stock without subsequently inserting the eyelets—as, for example, in the case of the shoe-uppers which are to be provided with a line of eyelets extending part way along the same and punched openings without eyelets for the reception of lacing-studs along another portion thereof.

The present invention is mainly embodied in an improved operating device for the eyelet-chute, whereby the movement thereof toward the eyelet-setting devices can be limited when so desired, so that said chute does not move forward sufficiently far to present an eyelet to the eyelet set in the operation thereof. For this purpose the eyelet-chute, in accordance with the present invention, is provided with an operating device for producing its reciprocating feed movement, and the said operating device is connected with the chute in such a way that the point of connection can be shifted during the operation, so that while the said operating device follows out its full cycle of movements it will not be accompanied by a correspondingly complete movement of the eyelet-chute. The device is so arranged, however, that there is a positive connection between the eyelet feed-chute and its operating device at all times, so that the feed movement of said chute in either direction is positively produced and not dependent upon the action of a spring or similar instrumentality, which might result in an improper timing of the feed in a rapidly-operating machine.

Figure 1 is a side elevation of an eyeletting-machine embodying the invention; Fig. 2, a sectional elevation on the line x^2 of Fig. 1; Fig. 3, a side elevation of a portion of the machine shown in Fig. 1 with the parts in a different position, and Fig. 4 is a sectional detail to be hereinafter referred to.

The device embodying the invention is shown as applied to a machine of substantially the same construction as that shown and described in prior applications filed by Perley R. Glass on May 20, 1896, Serial No. 592,364, and October 2, 1896, Serial No. 607,653.

The machine embodying the invention comprises the punch a , secured to the end of a pivoted punch-lever a^2 and movable to and from the work-support or bed-plate A to punch the stock, and the upper and lower eyelet-setting devices b and c , the upper of said devices being stationary and the lower having a reciprocating movement produced by the lever c^2 and eccentric-strap c^3 , substantially as in the construction shown in the applications above referred to.

In the operation of the machine the stock is acted upon by the punch and then fed to a position in which the opening made by the punch lies upon the work-support A directly over the reciprocating lower set c , and the said lower set then rises, the spring eyelet-finger c^4 thereof passing through the jaws of an eyelet-chute d , picking up an eyelet therefrom, inserting it into the opening in the stock, and upsetting it or securing it in said opening in conjunction with the upper set b .

In order to properly present the eyelets to the finger c^4 , the chute d is adapted to reciprocate so as to move forward over the finger c^4 to present the eyelet thereto and then move back out of the way of the lower set as the latter rises. The said feed-chute is herein shown as mounted on guide-supports d^2 and actuated in its reciprocating movement by means of a pitman d^3 , connected to a wrist-pin d^4 on a disk d^5 , carried by the driving-shaft B , the said disk being, as shown, eccentrically mounted on the said driving-shaft to properly coöperate with the eccentric-strap for operating the lower set.

In order to limit the feed movement of the chute d , or, in other words, to prevent the said chute from moving into the path of the eye-

let-pin c^4 when it is desired to prevent the insertion of an eyelet into the stock, means are provided, in accordance with the present invention, for shifting the point of connection between the eyelet-chute and its operating device, herein shown as the pitman d^3 , this being accomplished, as shown, by means of a cam e , rotatably secured to said chute, as by mounting it upon a projection or stem d^6 from the chute d , the said cam being in engagement with the chute-operating device and shown as contained in a yoke d^7 , connected with the pitman d^3 or any equivalent operating device, so that as the said cam is turned upon the projection d^6 it will move the said projection with relation to the said yoke.

Referring to Fig. 4, the cam e is provided with front and rear cam-surfaces e^2 and e^3 , engaging, respectively, with the inner surfaces of the cross members d^{70} and d^{71} of the yoke d^7 , it being obvious, therefore, that if the said cam is rotated upon the projection d^6 in the direction of the arrow 2 the engagement of the surface e^2 with the yoke member d^{70} will produce a movement of the projection d^6 in the direction of the arrow 3, thus shifting the point of connection between the chute and its operating mechanism, so that the forward movement thereof will be limited, as shown in Fig. 3, whereby the said chute is prevented from presenting an eyelet to the finger c^4 during the upward movement of the lower set c . To produce such a movement of the cam and place the operation thereof under control of the attendant, the said cam is shown as provided with an engaging projection f , secured thereto and adapted to be engaged by a lever g upon a rock-shaft or fulcrum-spindle g^2 , and having an arm g^3 , adapted to be connected to a suitable treadle or other actuating device. (Not herein shown.) When, therefore, it is desired to prevent the insertion of the eyelets, the attendant operates the lever g^3 , moving the arm g into the position shown in Fig. 3, so that as the pitman d^3 moves forward the cam e will be turned upon the projection d^6 , shifting the said projection with relation to its pitman, whereby the corresponding forward movement of the chute is limited, the said chute being arrested in the position shown in Fig. 3.

As herein shown, the movement of the cam is limited by means of a pin or projection d^{60} from the engaging projection d^6 , the said pin cooperating with shoulders e^4 , formed in the hub or boss e^5 from the said cam, the operating projection f of the said cam being herein shown as secured upon the said boss e^5 by means of a split collar f^2 .

As herein shown, the cam e is laterally confined in the yoke d^7 by means of the said pin d^{60} , which bears against the side of the cam to prevent its outward movement with relation to the yoke, and the projecting flange e^6 , which bears against the side edges of the yoke (see Fig. 2) and prevents its inward movement.

The lever g is shown as close to the supporting-frame of the machine, and the arm f is therefore provided with an extension f^3 , (shown in Fig. 2,) extending into the path of the said lever, so as to be engaged thereby when the arm g is lifted into its operative position, as shown in Fig. 3.

To maintain the cam e in its normal position when not engaged by the arm g , the projection f is shown as connected by a spring f^4 with a portion of the frame, the said spring obviously having a tendency to maintain the cam in the position shown in Fig. 1, in which the projection d^6 or point of connection between the chute and its actuating device is at its extreme forward position.

While it is obvious that this feature of the invention may be embodied in any eyeletting-machine having a reciprocating feed-chute, it is preferably used, as shown, in connection with the eyeletting-machine shown and described in the prior application, Serial No. 607,653, referred to above. In this machine, as shown herein, the upper set is stationary, and the punch is also stationary with relation thereto so far as lateral movement is concerned, the stock which has been operated upon by the punch being presented to the eyelet-setting devices by means of laterally-movable feed-jaws h h^2 , operating substantially as in the construction shown in the said prior application. As shown herein, the said jaws are normally held together by means of a spring h^3 , mounted upon a stem h^4 , suitably connected with the upper jaw, and in accordance with the present invention said stem is adapted to be operated upon by means of the lever c^2 , a pin c^{20} being herein shown as adapted to engage the end of the said stem h^4 to lift the same and separate the jaws during the upward movement of the lower set. When thus separated, the jaws move back with relation to the stock, the means for accomplishing such movement not being herein shown, since they form no part of the present invention and are fully disclosed in the prior applications above referred to.

It is desirable at times to insert the stock when the jaws are held together by their spring without causing the same to be opened by producing the movement of the other instrumentalities, and for this purpose, in accordance with the present invention, a lever k is provided and adapted to engage with the said stem h^4 , as indicated in dotted lines, Fig. 1, the said lever k having an arm k^2 , adapted to be connected, as indicated, to a treadle or other suitable actuating device. Thus by operating the said treadle the feed-jaws may be separated and the stock placed in position in the machine without turning the main shaft thereof to bring the parts into such position that the jaws will be opened by the lever c^2 .

We claim—

1. In an eyeletting-machine having a punch and eyelet-setting devices, the combination with an eyelet feed-chute, of an operating de-

vice for producing a reciprocating feed movement thereof, and means for shifting the point of connection between said chute and said operating device to vary the range of movement of the chute, substantially as described.

2. In an eyeleting-machine, the combination with an eyelet feed-chute, of a cam movably secured thereto, a movable actuating device in engagement with said cam and adapted by its movement in either direction to produce a corresponding movement thereof, and means for moving said cam during such movement of the operating device to shift the position of the eyelet-chute with relation thereto, substantially as described.

3. In an eyeleting-machine, the combination with a reciprocating eyelet-chute, of a cam rotatably secured thereto, a pitman connected with the main shaft for actuating said chute, a yoke connected with said pitman and containing the said cam which is in engagement with opposite ends of said yoke, an arm or projection from said cam, and a lever adapted to be moved into the path of said arm to produce a rotation of the said cam during the movement of the pitman, and thereby shift the point of connection between said pitman and said eyelet-chute, substantially as described.

4. In an eyeleting-machine, the combination with a reciprocating eyelet-chute, of a cam rotatably secured thereto, a pitman connected with the main shaft for actuating said chute, a yoke connected with said pitman and containing the said cam which is in engagement with opposite ends of said yoke, an arm or projection from said cam, a lever adapted to be moved into the path of said arm to pro-

duce a rotation of the said cam during the movement of the pitman, and thereby shift the point of connection between said pitman and said eyelet-chute, and a stop-pin for limiting the movement of said cam with relation to said eyelet-chute, substantially as described.

5. The combination with the eyelet-chute *d*, of the projection *d*⁶, the shifting-cam *e* rotatably mounted on said projection, the pitman *d*³ provided with the yoke having engaging portions *d*⁷⁰ and *d*⁷¹ adapted to cooperate with said cam, the projection *f* connected with said cam, and the lever *g* adapted to cooperate with said projection to produce a rotary movement of the said cam during the forward movement of said yoke, substantially as described.

6. In an eyeleting-machine, the combination of a punch and eyelet-setting devices, of a feeding device comprising separable feed-jaws adapted during their movement in one direction to engage and feed the stock from said punch to said setting device, means for separating said jaws during the movement thereof in the opposite direction, and a supplemental lever provided with an actuating device under the control of the attendant adapted to engage and separate the said jaws when the said feeding device is in any position, substantially as described.

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

PERLEY R. GLASS.

WALTER L. WHITTEMORE.

Witnesses:

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JAS. J. MALONEY.