

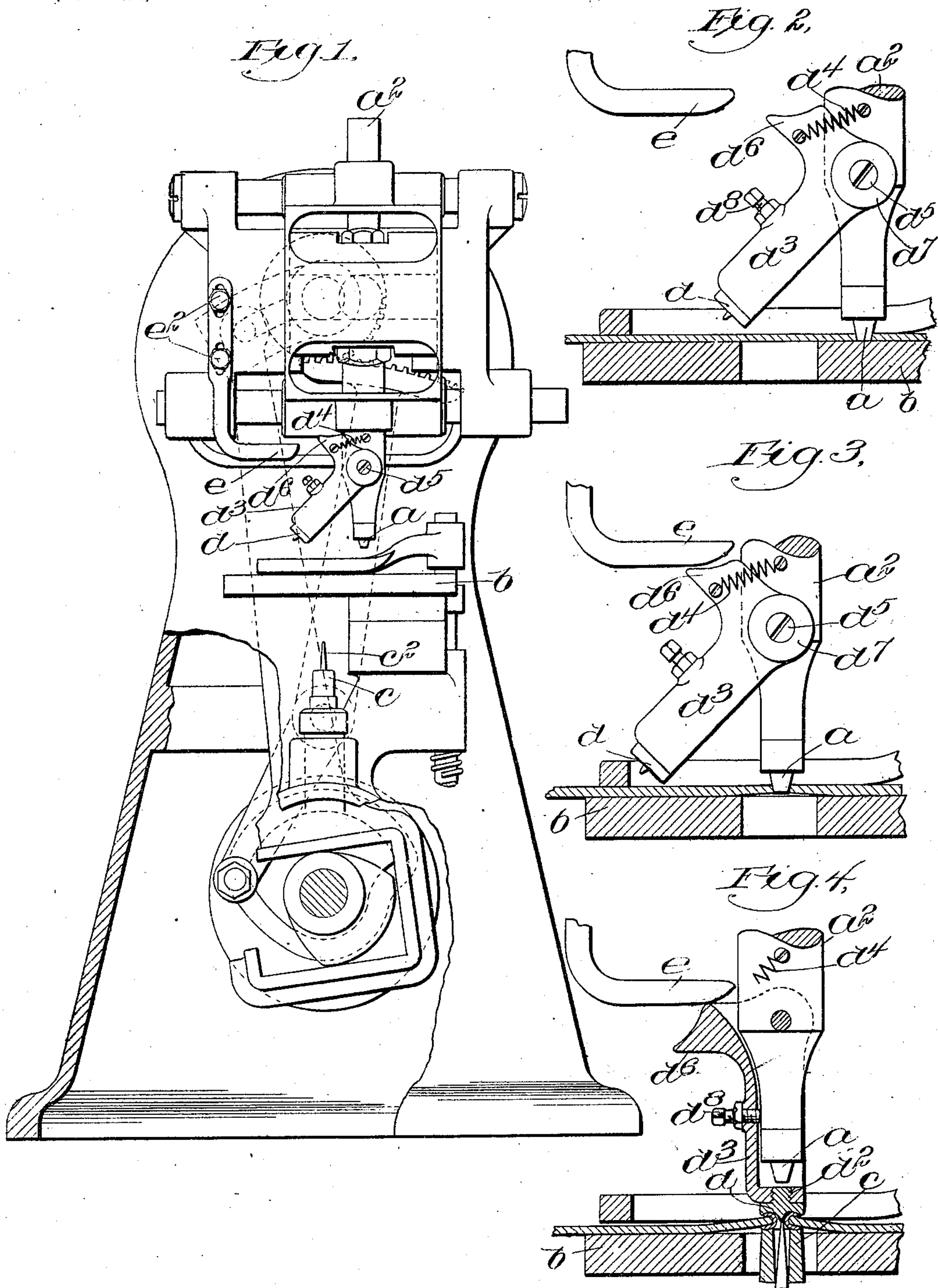
No. 687,015.

Patented Nov. 19, 1901.

P. R. GLASS.
EYELETING MACHINE.

(Application filed June 20, 1901.)

(No Model.)



Witnesses:

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UNITED STATES PATENT OFFICE.

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EYELETING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 687,015, dated November 19, 1901.

Application filed June 20, 1901. Serial No. 65,271. (No model.)

To all whom it may concern:

Be it known that I, PERLEY R. GLASS, 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, and is embodied in a machine of that type in which the punch descends into contact with an anvil upon which the material rests in order to punch a hole in the material and then moves laterally to feed the material, after which an eyelet is presented to the hole which has been punched. In accordance with the invention the machine is provided with two clenching or setting devices, one of which has a reciprocating movement and is adapted to receive an eyelet and present the same to the previously-punched opening, the other being adapted to stand in the path of the eyelet thus presented to upset or clench the shank thereof as the two setting devices come together. As herein shown, the lower set is arranged to feed the eyelet and to reciprocate vertically toward and from the upper set, which is arranged to come into line with said lower set after the punch has finished the punching and feeding operations and has moved away from the punched material.

It is the object of the invention to simplify the construction and at the same time to insure that the upper set shall be positively positioned to receive the eyelet at the end of the punching operation, it being necessary, of course, in a machine of this class that the upper set should occupy the position previously occupied by the punch at the end of the feed movement thereof. In accordance with the invention the upper set is arranged to stand normally out of alinement with the punch and lower set in order not to interfere with the punching operation, but is provided with means for positively moving it into alinement with the lower set after the punch has left the material, but prior to the return

movement of said punch, which takes place before the next punching operation. As herein shown, the upper set is connected with and carried by the punch-rod, being movably supported thereon, as by a pivotal connection, there being a spring or equivalent means for holding the said set away from the cutting portion of the punch, so as not to interfere with the punching operation, the said set being moved into its operative position in response to the upward movement of the punch, which takes place at the end of the punching and feeding operations.

Figure 1 is a front elevation of a machine embodying the invention, certain parts of the machine being omitted, as they form no part of the invention. Fig. 2 is an enlarged detail, partly in section, showing the punch and the upper setting device in the position assumed by them at the end of the punching operation, but prior to the feeding operation. Fig. 3 is a similar view showing the same parts in the position assumed at the end of the punching and feeding operations. Fig. 4 is a similar view showing the parts, together with a portion of the lower setting device, in the position assumed by the several parts during the setting operation.

The invention is shown as embodied in a machine of the type described in a prior patent, No. 636,035, granted to me October 31, 1899, the main operative parts of which need not, therefore, be described, as they may be understood by reference to the said prior patent. The operation of this type of machine, however, may be briefly described as follows: The punch a , which is provided with a tubular cutting portion, is mounted on a vertically-reciprocating rod a^2 and normally stands over an anvil or support b , upon which the material rests, and out of alinement with the lower set c , which is provided with a yielding pin c^2 for the feed of the eyelet in the usual way. In the operation of the machine the punch first descends into contact with the anvil, perforating the material, as shown in Fig. 2, and then rises slightly, so as to become separated from the anvil, but not from the

material, a lateral movement of the punch then taking place to the position shown in Fig. 3, where the punch a and the punched hole in the material are directly over the lower set c . The operation is completed by the rising of the lower set to present the eyelet to the material, the clenching being performed in the construction shown in the patent above referred to by the cooperation of the lower set with the punch itself. In accordance with the present invention, however, the machine is provided with an upper set to receive the thrust of the lower set and to spread and clench the shank of the eyelet when the lower set rises, the said upper set being provided with means whereby it is positively moved into its operative position at the proper time in the cycle of operations of the machine. As herein shown, the said upper set d is secured, as by a screw-thread d^2 , to the end of a set-carrying member d^3 , which is connected with and supported by the punch-rod, the said member being normally held by a spring d^4 or equivalent means in such a position as not to interfere with the punching operation. To move the said set d into operative position after the punching operation and prior to the upward movement of the lower set, the upward movement of the punch-rod itself is utilized, the member d^3 being shown as pivotally connected at d^5 with the punch rod a^2 and as having a projection d^6 , which in the lateral feed movement of the punch is carried under a projecting stop e , suitably secured to the frame of the machine. As is best shown in Figs. 2, 3, and 4, the projecting portion d^6 during the lateral feeding movement of the punch a is carried from the position shown in Fig. 2 to that shown in Fig. 3, in which it is under the projection e , and as the punch rises the portion d^6 , coming into contact with the projection e , causes the member d^3 to be rocked on its pivot until it reaches the position shown in Fig. 4, where it stands directly over the lower set c , so as to cooperate in the setting operation, as indicated in said Fig. 4.

As herein shown, the member d^3 is arranged to partially surround the punch and punch-rod and is provided with ears d^7 , one on each side of the said punch-rod, to receive the pivot member d^5 , the said member d^3 thus being firmly supported by the punch-rod, so as to resist the thrust of the lower set during the clenching operation. In the upward movement of the punch said member d^3 is brought to rest against the side of the punch-rod and is shown as provided with an adjustable screw-stop d^8 , by which its position is determined, the member e being also vertically adjustable, as by cap screws or bolts e^2 , Fig. 1, the parts being so arranged that at the end of the upward movement of the punch the member d^3 will be firmly held in position by the member e and the stop d^8 , said member d^3

being mainly supported, nevertheless, by the punch-rod a^2 . At the end of the clenching operation the punch-rod a^2 travels back to the same lateral position as that shown in Fig. 2, the spring d^4 throwing the member d^3 out of alinement with the punch, so that it will not interfere with the material when the punch again moves down to the position shown for the purpose of punching a hole.

I claim—

1. In an eyeleting-machine, the combination with a punch having longitudinal and lateral movements to punch and feed the material; of a setting device and means for positively moving the same into position over the punched hole at the end of the lateral feed movement of the punch but prior to the return movement thereof; and a cooperating setting device for the completion of the clenching operation, as set forth.

2. In an eyeleting-machine, the combination with a punch having longitudinal and lateral movements to punch and feed the material; of a setting device movable with the said punch but normally standing out of alinement therewith; means for positively moving said setting device into alinement with said punch during the upward movement thereof after the material has been punched and fed; and a cooperating setting device to complete the clenching operation, as set forth.

3. In an eyeleting-machine, the combination with a punch having longitudinal and lateral movements to punch and feed the material; of a setting device pivotally connected with the said punch and normally held out of alinement therewith by means of a spring or yielding connection; a stationary engaging portion into contact with which the said setting device is adapted to be moved during the lateral and vertical movement of the punch, the said engaging portion being so arranged as to move the setting device into alinement with the punch as the punch recedes from the material; and a cooperating setting device, as set forth.

4. In an eyeleting-machine provided with a punch which has a longitudinal movement to punch the material and a lateral movement to feed the material; a setting device pivotally connected to the punch-rod; a spring normally holding the said setting device out of alinement with the punch; a projecting portion of said setting device adapted to cooperate with a stationary adjustable projection during the upward longitudinal movement of the punch to carry the setting device into alinement with the punch; an adjustable stop carried by said setting device adapted to come in contact with the side of the punch to position the said setting device; and a cooperating setting device, as set forth.

5. In an eyeleting-machine, the combination with the punch having longitudinal and lateral movements to punch and feed the ma-

terial; of a setting device and means for positively moving the same into position over the punched hole in response to the upward longitudinal movement of the punch; and a co-
5 operating setting device for the completion of the clenching operation, as set forth.

In testimony whereof I have signed my

name to this specification in the presence of two subscribing witnesses.

PERLEY R. GLASS.

Witnesses:

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JAS. J. MALONEY.