

(No Model.)

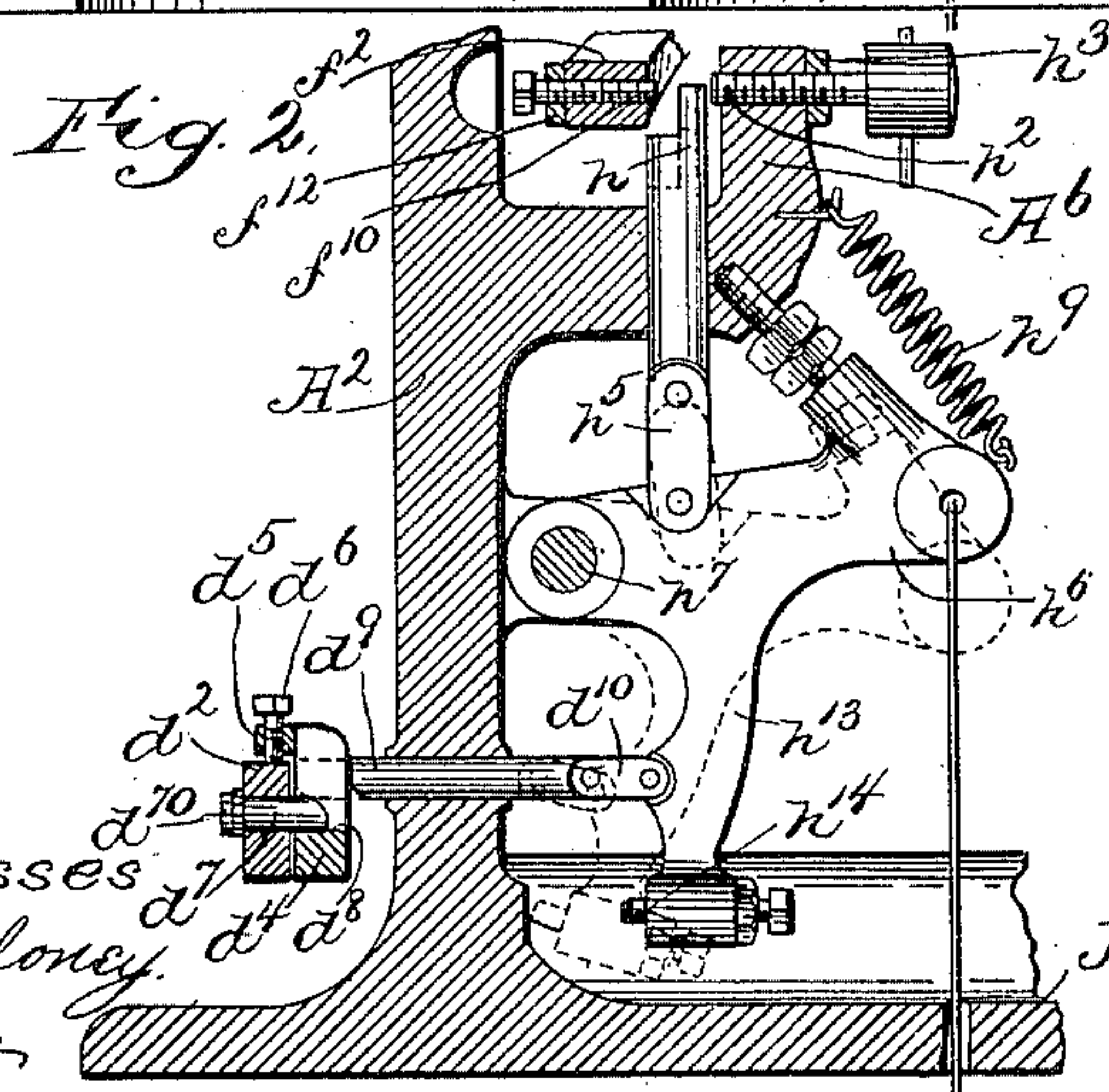
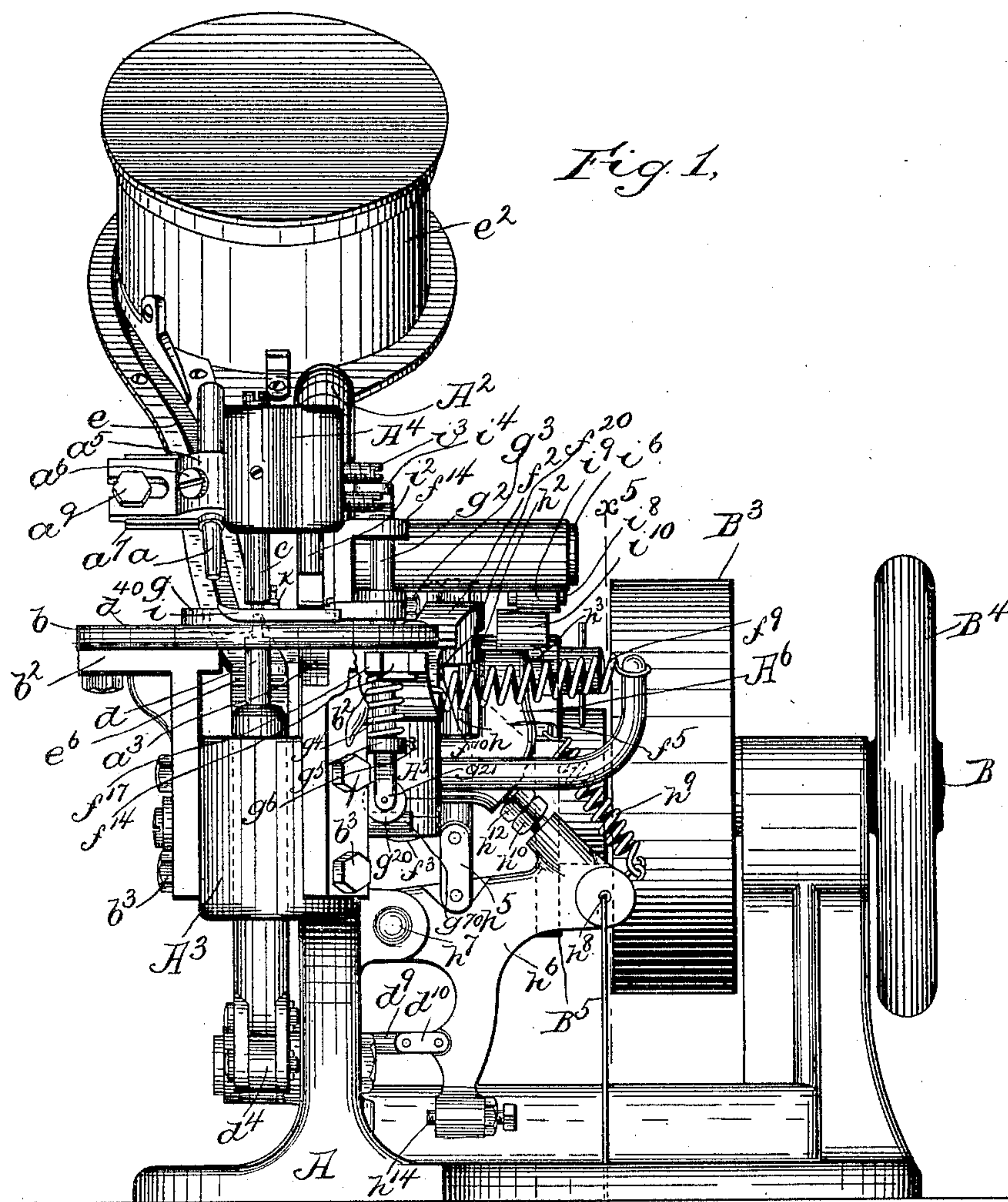
3 Sheets—Sheet 1.

P. R. GLASS.

EYELETING MACHINE.

No. 581,855.

Patented May 4, 1897.



Witnesses
Jas. J. Maloney
J. P. Linnore

Inventor,
Perley R. Glass.
by J. P. Linnore
Att'y.

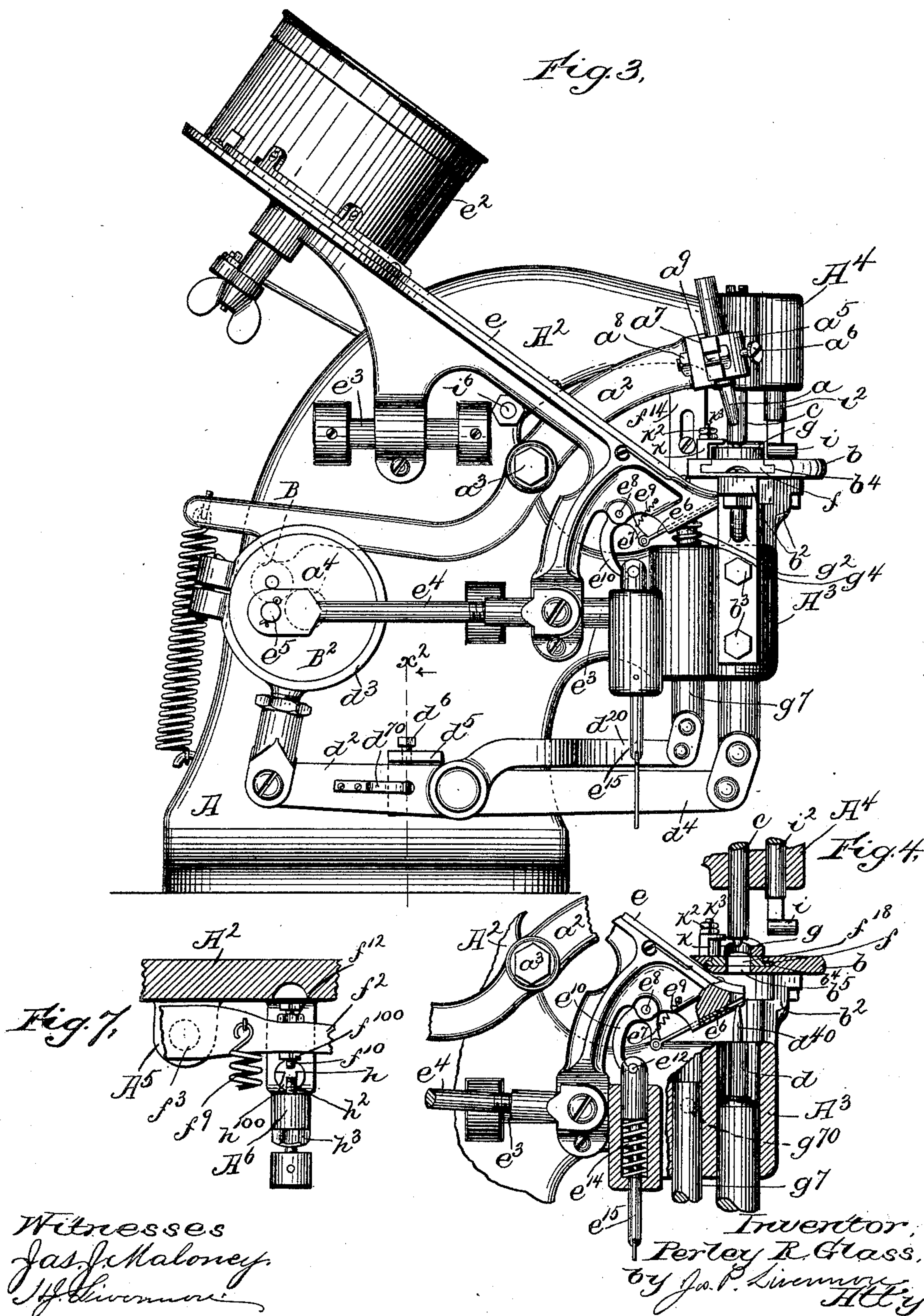
(No Model.)

3 Sheets—Sheet 2.

P. R. GLASS.
EYELETING MACHINE.

No. 581,855.

Patented May 4, 1897.



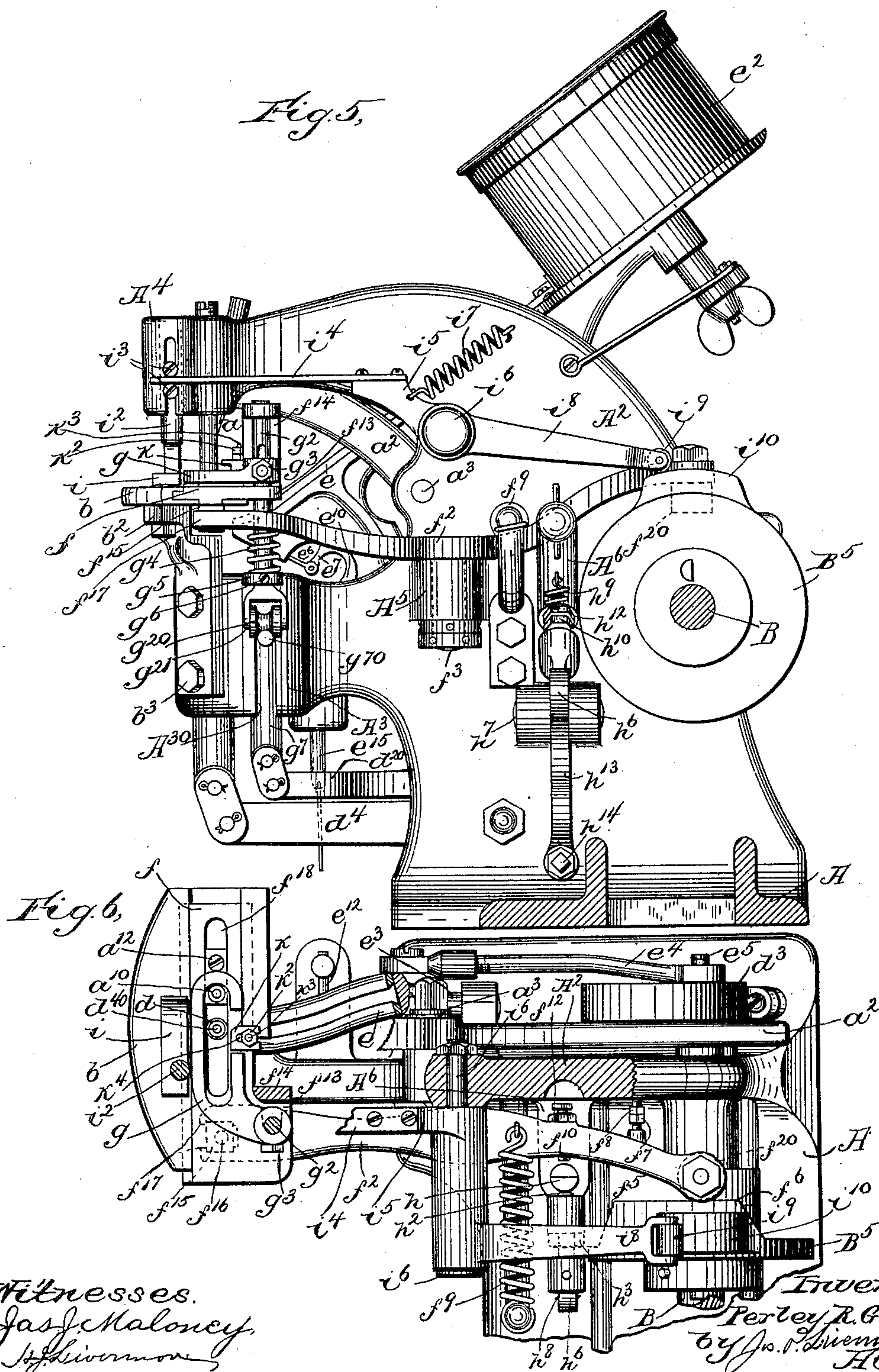
(No Model.)

3 Sheets—Sheet 3.

P. R. GLASS.
EYELETING MACHINE.

No. 581,855.

Patented May 4, 1897.



UNITED STATES PATENT OFFICE.

PERLEY R. GLASS, OF QUINCY, MASSACHUSETTS, ASSIGNOR TO CHARLES WHITTEMORE, OF NEWTON, MASSACHUSETTS.

EYELETING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 581,855, dated May 4, 1897.

Application filed October 2, 1896. Serial No. 607,653. (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 improved features of construction and arrangement applied to a machine of this class, the main elements of which are substantially the same as shown and described in a prior application filed by me May 20, 1896, Serial No. 592,364.

The machine to which the invention relates comprises a punch movable to and from the surface of a work-support to punch the stock supported thereon, and an eyelet feeding and setting mechanism comprising an eyelet-chute adapted to present the eyelets to a lower set movable to and from the upper set, which is stationary and adjacent to the punch, so that after the stock is punched it may be moved forward until the hole made by the punch lies over the under set, which then rises, taking an eyelet from the chute, inserting it into the said hole, and forcing it against the stationary upper set to upset the edges of the eyelet and secure the same in the stock.

The present invention is partly embodied in an improved feed mechanism adapted to move the stock forward after the punch has operated thereon, so as to present the hole made thereby to the lower set, the said feed mechanism consisting, essentially, of a lower member or slide movable along the work-support and means for reciprocating the said slide, and a gripper member movable to and from the surface of said slide to grip the stock and carry it forward and to release the same at the end of the feed movement as the feed-slide returns to its initial position preparatory to the next feed operation, novel means being provided for actuating the said slide and gripper member, as will be hereinafter fully described. In conjunction with the feed mechanism a presser-foot is provided adapted to engage and hold the stock, after it has been fed forward, during the return movement of the feeding device.

The invention further consists in novel means for disconnecting the lower set from its actuating device to prevent the operation thereof when it is desired to punch the stock without eyeletting the same, as, for example, when a portion of a shoe-upper is to be provided with eyelet-holes and the remainder thereof with lacing-studs, a portion of the upper being eyeleted with the eyeletting-machine and the remainder thereof punched thereby for the reception of the lacing-studs, which are to be subsequently applied by a different machine. In conjunction with this feature of the invention means are also provided for increasing the throw of the feed mechanism, whereby the holes punched for the reception of the lacing-studs are formed at a greater distance apart than those in which the eyelets are inserted, it being the usual practice to set the lacing-studs at a somewhat greater distance apart than the eyelets. For this purpose the feed-operating device, which consists of a lever acted upon by a cam, is normally limited in its movement by a stop, which is adapted to be withdrawn, as by a treadle, while the lever which operates the lower set is made in two parts, one of which is operated by an eccentric, as shown in my prior application above referred to, while the other is connected to and operates the lower set, the said parts being connected by a movable stop or latch which is adapted to be thrown out of engagement by a finger connected to and operated by the same treadle which operates the stop for the feed-lever above referred to. It is obvious that the machine might be arranged so that said devices could be separately operated without departing from the invention, and such construction might be desirable for machines intended for certain classes of work—for example, in cases where it is desirable to eyelet a portion of the holes and merely punch others without a different spacing of the eyeleted and non-eyeleted holes. A feature of the present invention, however, consists in providing means whereby such an operation is rendered practicable without departing from the construction in which the disconnection of the eyeletting devices and the variation in the feed throw are simultaneously accomplished. For this purpose means are

provided for preventing the lower set from picking up an eyelet as it moves upward, so that when it is desired to eyelet a certain number of holes and to merely punch others, but without varying the feed movement, this device, which is also under control of the attendant, may be put in operation, so that although the lower set moves upward as usual no eyelet is presented to the hole. This is accomplished by providing the eyelet-chute with a slide or stop the operation of which is under the control of the attendant, the said slide being adapted to engage the yielding finger of the lower set, the function of which is to pick up the eyelet and prevent the said lower set from engaging the eyelet as it rises.

Figure 1 is a front elevation of a machine embodying the invention. Fig. 2 is a sectional detail on line x^2 of Fig. 3, showing the device for varying the throw of the feed and for disconnecting the lower set from its actuating-lever. Fig. 3 is a side elevation looking toward the left of Fig. 1. Fig. 4 is a sectional detail showing the means for preventing the lower set from taking an eyelet during its upward movement. Fig. 5 is a sectional elevation looking toward the right of Fig. 1, the section being taken on the line x^5 of Fig. 1, the main portion of the machine being shown in elevation. Fig. 6 is a horizontal section taken through the upper portion of the frame and showing the main operative parts of the machine in plan, and Fig. 7 a detail showing a modification.

The machine embodying the invention is provided with a punch a , secured to a lever a^2 , pivoted at a^3 upon the side of a standard A^2 of the frame A and adapted to be moved to and from the surface of the work-support b , which is mounted on a bracket b^2 , secured, as by cap-screws b^3 , to a projection A^3 of the frame by means of a cam-roll a^4 , secured to a disk B^2 , eccentrically mounted on the main driving-shaft B . Adjacent to the punch a is the upper set c , consisting of an anvil supported in the overhanging projection A^4 of the frame A , which is adapted to cooperate with the lower set d , operated by the lever d^2 and an eccentric-strap d^3 , so as to have a reciprocating movement to and from the said upper set.

To present the eyelets to the lower set as it moves upward, a chute or raceway e , adapted to receive eyelets from the hopper e^2 , is provided and mounted on guide-supports e^3 , suitably secured to the frame, the said raceway being longitudinally movable along said guideway, such movement being provided for by a pitman e^4 , secured to a wrist-pin e^5 upon the disk B^2 .

As thus far described the construction and arrangement of the machine are substantially the same as shown and described in my prior application above referred to, the parts being operated by the rotation of the shaft B , which is provided with a pulley B^3 , and a hand-wheel B^4 , and adapted by its rotation to first operate

the punch to make the necessary hole in the stock and then to produce an upward movement of the lower set d and a forward movement of the raceway e , so that the spring-supported finger d^{40} of the lower set, passing upward into the mouth of the raceway, picks up an eyelet therefrom, the said raceway moving back out of the way of the main portion d of the lower set, so that the latter rises with the eyelet supported on the said finger d^{40} , which inserts the same into the hole made in the stock (which has meanwhile been moved or fed to the proper position) and by its further upward movement presses the said eyelet against the upper set c to upset and secure the same to the stock.

In order that the stock may be automatically moved forward after the punch has operated thereon, so that the hole made thereby may be properly presented to the lower set, an automatic feeding device is provided, the said device consisting, in accordance with the present invention, of a lower member or slide f and an upper member or gripper-jaw g , both being longitudinally movable with relation to the work-support b , the said slide f being mounted in a guideway b^4 and connected with a lever f^2 , having a pivotal support or stem f^3 in a lug A^5 and adapted to be turned on said pivot by means of a cam f^5 on a cam-wheel B^5 , mounted on the shaft B .

The construction and operation of the feed-actuating lever f^2 are best shown in Fig. 6, the end of said lever being provided with a cam-roll f^{20} , adapted to be engaged by the cam-surface f^5 as the shaft B rotates, whereby the said lever is moved to the position shown in Fig. 6, such movement producing a corresponding movement of the feed-slide, which, in conjunction with the gripper-jaw g , carries the stock along the work-support b until the hole which has been made therein by the punch lies directly over the lower set in proper position to be operated upon thereby.

In order to prevent the possibility of the lever f^2 overthrowing—that is to say, moving beyond the surface f^6 with which it engages after it has passed the cam-surface f^5 —a stop f^7 is provided cooperating with a similar stop f^8 , secured to the frame A , the said stops preferably consisting, as shown, of cap-screws respectively connected to the lever f^2 and to the said frame and adjustable with relation thereto, so that the position thereof may be changed to take up wear and properly limit the movement of the lever in response to the cam-wheel B^5 .

The movement of the lever f^2 on its pivot produces the proper feed movement of the stock, which is held against the slide f so as to be movable therewith by means of the gripper member g , as will be hereinafter described, and at the end of such feed movement it is obviously necessary to restore the feed device to its initial position preparatory to making another feed movement after the stock has been operated upon by the punch. The return

movement of the lever f^2 and feed-slide f is provided for by means of the spring f^9 , such movement being limited by a stop h , which normally stands in the position shown in Fig. 6, and is engaged by a stop projection f^{10} , adjustably secured to the lever f^2 , being herein shown as threaded therein and provided with a lock-nut f^{12} .

In order that the feed mechanism may properly operate upon the stock to carry it forward a predetermined distance, determined by the throw of the lever f^2 , and then leave the stock in the position to which it has been advanced during the return movement of said lever, means are provided whereby the gripper member g is normally spring-pressed toward the surface of the stock supported upon the slide f , in order that the stock may be gripped between the two members of the feed device during the forward movement thereof, and the said gripper member g is so arranged that it will be moved upward away from the surface of the stock during the return movement of the feed-slide f , so as not to engage the stock during such return movement. For this purpose the gripper member g is secured to a rod g^2 , preferably by means of a set-screw g^3 , for the proper adjustment of the same, and the said rod is mounted in a suitable guide connected with the feed member f , being herein shown as passing through an opening in a guide extension f^{13} of said feed member and through a similar opening in a guide-bracket f^{14} , secured thereto and consisting, as shown in Fig. 1, of an upright having an overhanging portion extending over the opening in said extension f^{13} , the guide-openings for the rod g^2 thus being in line with each other and affording a proper guide-support therefor.

To press the gripper member normally toward the surface of the stock, a spring g^4 is provided, herein shown as bearing at one end against the collar g^5 , secured by a set-screw g^6 to the said rod, and at the other end against the under side of the lever f^2 , which, as indicated in dotted lines, Fig. 6, is slotted to receive the said rod. To separate the gripper member g from the feed-slide f , the said rod is adapted to be engaged by a plunger g^7 , secured to the end d^{20} of the lever d^2 , which normally operates the lower set, and, as shown herein, the said plunger g^7 , which is mounted in a guideway in the projection A^3 of the frame A , is provided with a projection g^{70} , extending through a slot A^{30} and adapted to be engaged by a roller or trolley g^{20} , mounted on a spindle extending across between the two portions of a forked end g^{21} of the said rod g^2 .

Since the feed takes place after the stock has been punched and before the operation of the lower set to insert and set the eyelet therein, it is obvious that the return movement of the feed mechanism should take place as the lower set operates, and the cam-wheel B^5 is so arranged that the cam-roll f^{20} passes

beyond the end of the surface f^6 to permit the return movement of the feed mechanism just after the lower set has risen or begun to rise to complete the eyelet-setting operation.

As the lower set rises it is obvious that the plunger g^7 , which is secured to the end of the lever d^{20} , which is an extension of the lever d^2 , which operates said lower set, will rise, thereby lifting the rod g^2 and separating the gripper member g from the slide f , the return movement of the lever f^2 then taking place, while the roller or trolley g^{20} travels along the projection g^{70} until the initial position of the feed mechanism is reached, at the end of which time the down movement of the plunger g^7 permits the gripper member g to approach the feed-slide f , owing to the stress of the spring g^4 , so that the stock is gripped preparatory to the next feed operation.

The connection between the lever f^2 and the feed-slide f may be made in any suitable way, the said feed-slide being herein shown as provided with a block or swivel f^{15} , mounted on a pivot f^{16} and engaged by the jaws f^{17} of said lever, the said block thus being free to turn and to slide longitudinally between said jaws, as is necessary, since the movement of the feed-slide f is rectilinear, while the end of the lever f^2 moves on the arc of a circle.

In order to hold the stock in position during the return movement of the feed mechanism after the stock is released by the upward movement of the gripper member g , a presser-foot i is provided adapted to be moved downward upon the surface of the stock as it lies upon the work-support b just before the member g is lifted, as has been described. The said presser-foot i is herein shown as a plate or foot-piece secured to the end of a plunger i^2 , movable in a guideway formed in the projection A^4 of the frame and provided with projections i^3 , extending laterally through a slot in said projection A^4 and adapted to be yieldingly pressed downward, as by a spring-arm i^4 , connected to a lever i^5 , mounted on a projection i^6 from the side of the frame. The said presser-foot is normally held up by means of a spring i^7 , secured at one end to the frame and at the opposite end to said lever i^5 , and is adapted to be positively moved downward toward the surface of the stock by means of a lever-arm i^8 , formed integral with the lever i^5 and having a cam-roll i^9 adapted to be engaged by a cam projection i^{10} on the surface of the cam-wheel B^5 .

In conjunction with the feeding device an adjustable gage for the stock is provided, consisting of a block or projection k , secured to the surface of the feed-slide f by means of a nut k^2 on a projection k^3 , extending upward from the surface of said feed-slide through a slot k^4 in the said gage. The said gage determines the position of the eyelet-holes with relation to the edge of the stock, which is engaged thereby when the stock is placed upon the work-support, and as the said gage moves with the feed-slide it is obviously impossible

for the stock to change its position during the feed movement from the punch to the eyelet-setting devices. The punch a is adjustable longitudinally and laterally, being shown as secured in a socket a^5 by means of a set-screw a^6 , the said socket being movable in a guideway a^7 at the end of the lever-arm a^2 , and adapted to be secured in any given position by means of a nut a^8 on a bolt a^9 , passing through an opening in said guideway and a slot in the socket a^5 . The said punch coöperates with an anvil-piece a^{10} , secured to the work-support b and extending upward therefrom through a slot f^{18} in the feed member f , the said slot also permitting the upward movement of the lower set through a corresponding slot b^5 (see Fig. 4) in the feed-table b . The said anvil a^{10} is adjustably secured to the feed-table b , as by a screw a^{12} , so that when the position of the punch is changed the position of the anvil may be correspondingly changed, whereby the stock is properly supported during the punching operation.

As has been stated, the forward movement of the feed-slide f is limited by the stops f^7 and f^8 and the rearward movement thereof by the stop h . In order, therefore, to increase the length of the feed movement when it is desired to punch the holes at a greater distance apart, the stop h is adapted to be moved out of the path of the projection f^{10} from the lever f^2 , the said projection f^{10} then coming into contact with a stop h^2 , herein shown as a rod or projection threaded in a lug A^6 and provided with a lock-nut h^3 , the said stop thus being adjustable.

The removable stop h consists of a plunger extending upward through a guide-opening in the lug A^6 , as shown in Fig. 1, in which it is longitudinally movable, a downward movement thereof obviously withdrawing the stop from the path of the lever f^2 and permitting the latter as it swings to be engaged by the stop h^2 . To produce such downward movement of the said stop, it is connected, as by a link h^5 , to a rocker h^6 , pivoted at h^7 to the frame of the machine and connected at h^8 with a suitable treadle or operating device, (not herein shown,) so that a down movement of said treadle produces a corresponding down movement of the stop h . The said rocker h^6 is normally held up in the position shown in Fig. 1 by a spring h^9 , the upward movement being limited by a stop h^{10} , adapted to be engaged by a stop projection h^{12} , the said stop and projection being herein shown as consisting respectively of a bolt threaded in the lug A^6 and a similar bolt threaded in the projection from the rocker h^6 .

When the feed movement of the stop is increased by removing the stop h from the path of the lever f^2 , as shown in dotted lines, Fig. 2, it is obvious that the hole punched in the stock will be moved beyond the sets which are stationary with relation to the punch, it being desirable, therefore, to prevent the operation of the lower set, the increased feed

movement being intended for use only when the stock is to be merely punched. For this purpose means are provided for disconnecting the lower set from its actuating-lever d^2 , and the plunger which operates the lower set is shown as connected to a supplemental lever d^4 , pivoted coaxially with the lever d^2 and normally adapted to be operated thereby, means being provided, however, for disconnecting said supplemental lever, so that an upward movement thereof corresponding to the downward movement of the lever-arm d^2 is prevented. The said supplemental lever d^4 is arranged to be moved downward by the lever d^2 at each up movement thereof, so that when it is disconnected from said lever it will be allowed to remain in its lowermost position with the lower set down. As herein shown, the said lever d^4 is provided with an overhanging extension d^5 beyond the pivotal support thereof, said extension overhanging the top of the lever d^2 and being preferably provided with a bolt d^6 , adapted to bear against the top of the lever d^2 to provide an adjustment for taking up wear, the up movement of the said lever d^2 being transmitted through said projection d^5 to the lever d^4 and producing a corresponding down movement thereof.

To operate the lower set—that is to say, to produce the proper upward movement of the lever d^4 —the said lever is normally connected with the lever d^2 by means of a latching projection d^7 , secured in an opening in said lever d^2 and extending over a shoulder d^8 in said lever d^4 , (see Fig. 2,) the said stop being normally spring-pressed toward the lever d^4 , so as to overlie said shoulder and engage the same during the down movement of the lever d^2 and produce an upward movement of the lever d^4 . To disconnect the said levers, a plunger d^9 is provided, passing through a suitable guideway in the frame and adapted to be moved into the position shown in dotted lines, Fig. 2, in which it overlies the projection d^7 , the said projection being shown as having an inclined upper surface, so that when the plunger d^9 is moved into the path of the latch d^7 the latter will be engaged thereby during the upward movement of the lever d^2 and forced outward against the stress of its spring d^{70} , so that during the next downward movement of the lever d^2 the latch d^7 will pass by the edge of the shoulder d^8 and consequently will not engage the lever d^4 to produce the up movement thereof.

In order that the lower set may be rendered inoperative by the same act of the attendant which shifts the feed mechanism, the plunger d^9 is connected by a link d^{10} to an arm or extension h^{13} from the rocker h^6 , so that as the said rocker is moved to the dotted-line position (shown in Fig. 2) the plunger d^9 is thrown into engagement with the latch d^7 . The said arm h^{13} is provided with an adjustable stop h^{14} , adapted to engage a portion of the frame and limit the down movement of the rocker

to prevent the plunger d^9 from moving sufficiently far to engage the top of the lever d^2 instead of the latch projection.

It is desirable in some cases to punch one or more holes at the usual or normal distance apart without, however, setting eyelets therein, and in order to accomplish this it is necessary to prevent the operation of the eyelet mechanism without shifting the feed. This may be accomplished by providing the feed-lever f^2 with a supplemental engaging portion independent of the stop f^{10} , arranged to engage the movable stop h at the end of the normal feed movement of said lever when the said stop is in its normal position, the said stop h being so arranged that it will not be engaged by the stop f^{10} itself. If, therefore, the stationary stop h^2 , which is adjustable, is arranged to engage the stop f^{10} at the end of the normal feed movement of the lever, it is obvious that the said feed movement will be limited whether the stop h is withdrawn or not, while if it is desired to provide an increased feed movement attendant upon a withdrawal of the stop h it is necessary only to adjust the stop h^2 . Such a construction is shown in Fig. 7, in which the stop h is provided with a slot h^{100} , through which the stop f^{10} is adapted to pass into engagement with the stationary stop h^2 . The said stop f^{10} , however, is provided with a flange or collar f^{100} , which is adapted at the end of the normal feed movement of the lever f^2 to engage the surface of the stop h . If, therefore, it is desired to render the said stop h practically inoperative—that is to say, to arrange for the normal feed movement of the lever whether the said stop is withdrawn or not—the stationary stop h^2 may be adjusted, as shown in said Fig. 7, so as to engage the end of the stop f^{10} at the end of the normal feed movement, so that if the stop h is withdrawn the feed movement will be the same as when it is in its normal position. To provide for an increased feed movement attendant upon the removal of the stop, as hereinbefore described, the stationary stop h^2 may be adjusted so that the stop f^{10} will not engage the same at the end of the normal feed movement, the said normal feed movement then being determined by the engagement of the collar f^{100} with the stop h when the said stop is in its normal position, it being obvious, however, that when the said stop h is withdrawn the movement of the lever f^2 will continue until the stop f^{10} engages with the stop h^2 , the operation thus being the same as hereinbefore described.

Another device for accomplishing the same purpose—that is to say, for preventing the eyeletting of the holes without changing the feed—is herein shown and forms a feature of the present invention, it being understood, however, that this device would not usually, as a matter of practice, be applied to machines except in cases where there is no need of providing for a variation in the feed, so that the feed-shifting and eyelet-set-disconnecting

mechanism hereinbefore described could be omitted, thus simplifying the construction and lessening the cost of the machine. This feature of the invention consists of a device for preventing the lower set from taking up an eyelet during its upward movement, the said lower set thus going through its usual movement without setting an eyelet in the opening, such an operation not being detrimental since the hole made by the punch is in this instance between the sets, so that they can come together without disfiguring the stock, as would be the case where the length of feed movement is varied. For this purpose the eyelet-chute e is provided with a slide or gate e^6 , (see Fig. 4,) longitudinally movable in a guideway formed in an extension of the supporting-frame for the chute or raceway, the said gate being adapted to move across the mouth of the chute, so as to engage the yielding finger d^{10} of the lower set as the said set moves upward and prevent the same from entering the mouth of the raceway and picking up an eyelet therefrom. As herein shown, the said gate e^6 is secured to an arm e^7 of a rocker pivoted at e^8 , the said gate normally being held in a position to engage the yielding finger d^{10} by means of a spring e^9 , secured at one end to the arm e^7 and at the other end to the raceway-supporting frame. In order that the said gate may be withdrawn during the normal operation of the machine, so as to permit the lower set to take the eyelet, the rocker-arm e^7 is provided with an arm or projection e^{10} , adapted as the feed-chute moves forward over the lower set to be engaged by a stop e^{12} , which is provided with a spring e^{14} , whereby it is normally held in the position shown in Fig. 4 and adapted to engage the arm e^{10} and withdraw the gate e^6 . If, however, it is desired to prevent the eyeletting of the punched holes, the stop e^{12} may be withdrawn from the path of the arm e^{10} , the said stop being shown as provided with a stem e^{15} , adapted to be connected with a treadle or similar device for this purpose, so that as the eyelet-chute moves forward the gate e^6 will not be withdrawn from its normal position, and will engage the yielding finger d^{10} and prevent the same from entering the mouth of the chute.

I claim—

1. In an eyeletting-machine, the combination with the punch, a stationary upper set and a reciprocating lower set adapted to cooperate with said upper set, of a feeding device comprising reciprocating separable members, and means for connecting one of said members to the device which operates the lower set, whereby said members are separated during the upward movement of said lower set, substantially as described.

2. The combination with the punch, a stationary upper set, and the reciprocating lower set adapted to cooperate with said upper set, of a work-support, a feed member comprising a slide longitudinally movable in a guideway

in said work-support, means for reciprocating said feed member, a cooperating feed member normally spring-pressed against the surface of said feed-slide, a lever for operating the lower set, and means for connecting said spring-pressed feed member with said lever, whereby said feed members are separated during the upward movement of the lower set, substantially as described.

3. In an eyeleting-machine, the combination with the punch, a stationary upper set and a reciprocating lower set cooperating therewith; of a feeding device consisting of separable members movable between said punch and the eyelet-setting devices, a rod or support connected with one of said members, an actuating-lever for the lower set, a plunger or reciprocating member connected therewith and provided with a portion adapted to engage said support to separate the members during the upward movement of the lower set, said support being adapted to travel along the same during the movement of the feeding devices, substantially as described.

4. In an eyeleting-machine, the combination with the punch, the stationary upper set and the lower set adapted to cooperate therewith; of a feeding device comprising separable members and means for reciprocating said members to feed the stock from the punch to the eyelet-setting devices; means for separating said members during the reverse movement thereof; and a presser-foot and means for operating said presser-foot to hold the stock during the separation of the feed members, substantially as described.

5. In an eyeleting-machine, the combination with the work-support, and a punch and eyelet-setting devices, of a feeding device consisting of a sliding member supported in a guideway in said work-support and a gripping member adapted to cooperate therewith, a lever connected with said sliding member, a cam-wheel having a cam-surface adapted to cooperate with said lever to produce a reciprocating movement of said sliding member, a presser-foot movable to and from the surface of said work-support, and a second cam-surface on said cam-wheel adapted to operate said presser-foot, substantially as described.

6. The combination with the work-support, of a gage for determining the position of the stock thereon, and means for moving said gage with the stock during a feed movement thereof, substantially as described.

7. In an eyeleting-machine, the combination with the work-support; of a feeding device comprising separable members and means for reciprocating said members with relation to said work-support and separating them during the movement thereof in one direction but not in the other; and a gage for the stock adjustably secured to one of said members and adapted to move therewith, substantially as described.

8. In an eyeleting-machine, the combination with the punch, of the eyelet sets later-

ally stationary with relation thereto, an operating device for said eyelet sets, a feeding device comprising reciprocating separable members, and means for connecting one of said members to the eyelet-set-operating device, whereby said members are separated during the operation of said eyelet sets, substantially as described.

9. In an eyeleting-machine, the combination with the punch and the eyelet-setting devices, of a feeding device for the stock independent of said punch and eyelet-setting devices, said feeding device comprising separable feed members, a lever connected with said feeding device, a cam adapted to move said lever in one direction, means for moving said lever in the opposite direction, a stop adapted to limit such movement and means for moving said stop out of the path of the lever to permit a longer movement thereof, substantially as and for the purpose described.

10. In an eyeleting-machine, the combination with a stationary set, of a movable set adapted to cooperate therewith, an actuating device for said movable set, and means for disconnecting said set from said actuating device, substantially as described.

11. In an eyeleting-machine, the combination with the reciprocating eyelet set, of an actuating-lever therefor, a connecting-lever for transmitting the movement of said actuating-lever to said eyelet set, and means for disconnecting said connecting-lever from said actuating-lever, substantially as described.

12. In an eyeleting-machine, the combination with the punch and the eyelet-setting device, of an actuating device for said eyelet-setting device, a feeding device for the stock, a movable stop for limiting the movement of said feeding device, means for moving said stop from its operative position and also disconnecting the eyelet-setting device from its actuating device to prevent the operation thereof, and a secondary stop adapted to limit the movement of said feeding device when said movable stop is withdrawn, substantially as described.

13. In an eyeleting-machine, the combination with the punch, the stationary upper set and the lower set adapted to cooperate therewith; of a lever normally connected with an actuating device to produce a reciprocating movement of said lower set, a feeding device for the stock consisting of separable feed members and a lever for producing a reciprocating movement thereof, a stop for limiting the movement of said lever, and means for removing said stop from the path of said lever and disconnecting the actuating-lever of the lower set from its operating device, substantially as described.

14. In an eyeleting-machine, the combination with the punch, the stationary upper set and the lower set adapted to cooperate therewith, of a feeding device for moving the stock forward after it has been operated upon by the punch, a stop for limiting the movement

of said feeding device, a lever connected with said lower set; an operating-lever adapted to be actuated by the driving mechanism, a latch carried by one of said levers and adapted to engage a shoulder on the other, a tripping device for said latch, a rocker connected with said tripping device and adapted to move it into the path of said latch, the said rocker being also connected to the stop for limiting the feed movement, substantially as described.

15. The combination with the punch, of the eyelet-setting device comprising the upper and lower set, means for producing a reciprocating movement of said lower set, a device for presenting an eyelet to said lower set during the upward movement thereof, and a slide or gate adapted to be introduced between said eyelet-presenting device and said lower set to prevent the lower set from engaging the eyelet thus presented thereto, substantially as described.

16. In an eyeleting-machine, the combination with the punch, of the eyelet-setting devices comprising the upper set and the reciprocating lower set, of an eyelet-feeding device comprising the reciprocating feed-chute

adapted to move into the path of the lower set as the said lower set rises and present an eyelet thereto, a slide or gate connected with said eyelet-chute and normally lying across the mouth or opening thereof into which the lower set is adapted to enter to pick up an eyelet, a stop normally in a position to engage and remove said gate during the forward movement of the said eyelet-chute, and means for moving said stop to prevent the operation thereof, substantially as described.

17. The combination with the eyelet-chute *d*, of the gate *e* normally lying across the mouth thereof, a rocker connected with said gate, a stop adapted to engage said rocker during the forward movement of the eyelet-chute, and means for withdrawing said stop from the path of said rocker, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PERLEY R. GLASS.

Witnesses:

JOS. P. LIVERMORE,
N. P. FORD.