

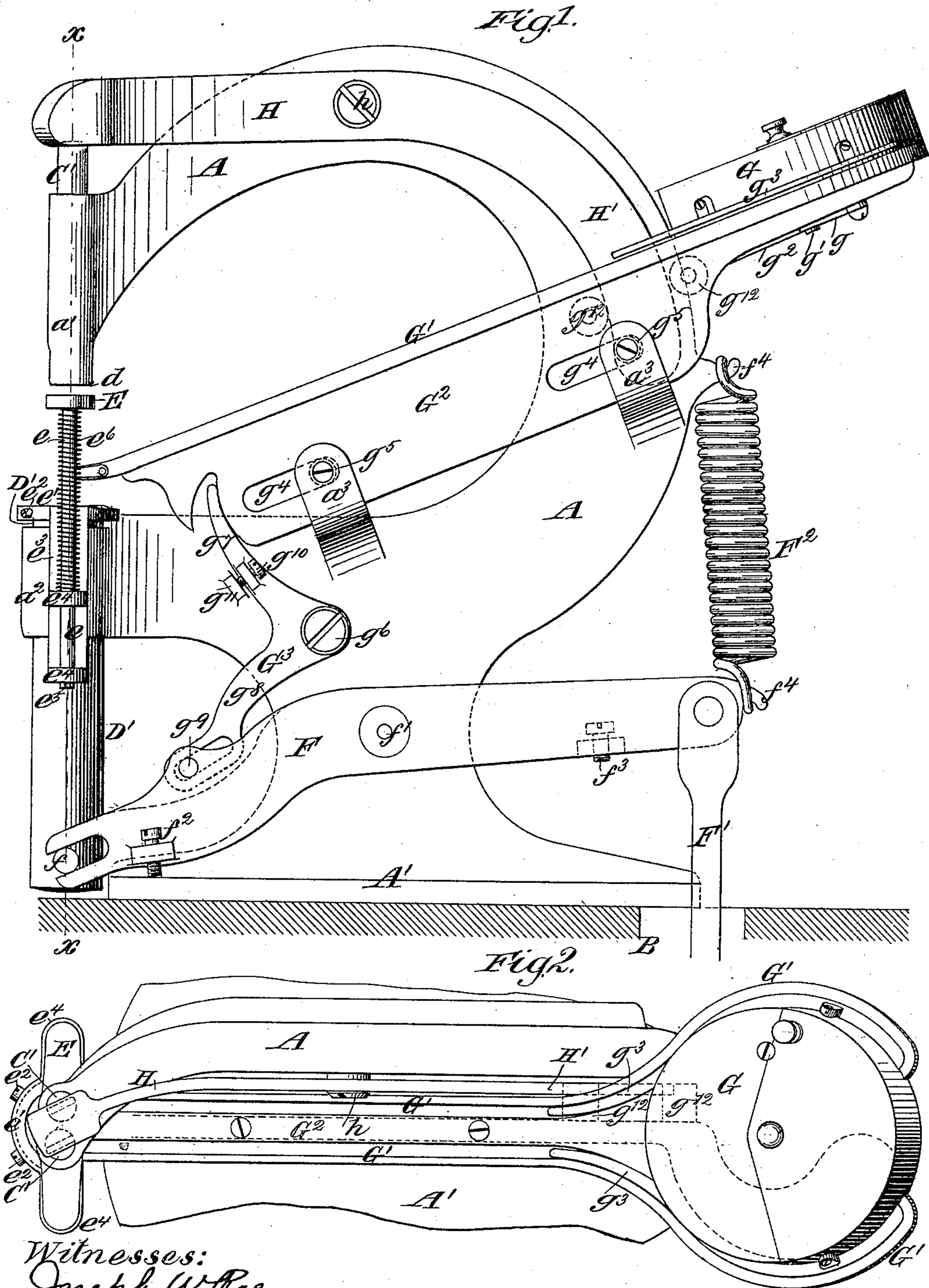
(No Model.)

2 Sheets—Sheet 1.

E. B. STIMPSON, Jr.  
EYELETING MACHINE.

No. 391,925.

Patented Oct. 30, 1888.



Witnesses:  
Joseph W. Roe.  
C. Sundgren.

Inventor.  
Edwin B. Stimpson Jr.  
By his Atty. *Bruck & Co.*

(No Model.)

2 Sheets—Sheet 2.

E. B. STIMPSON, Jr.

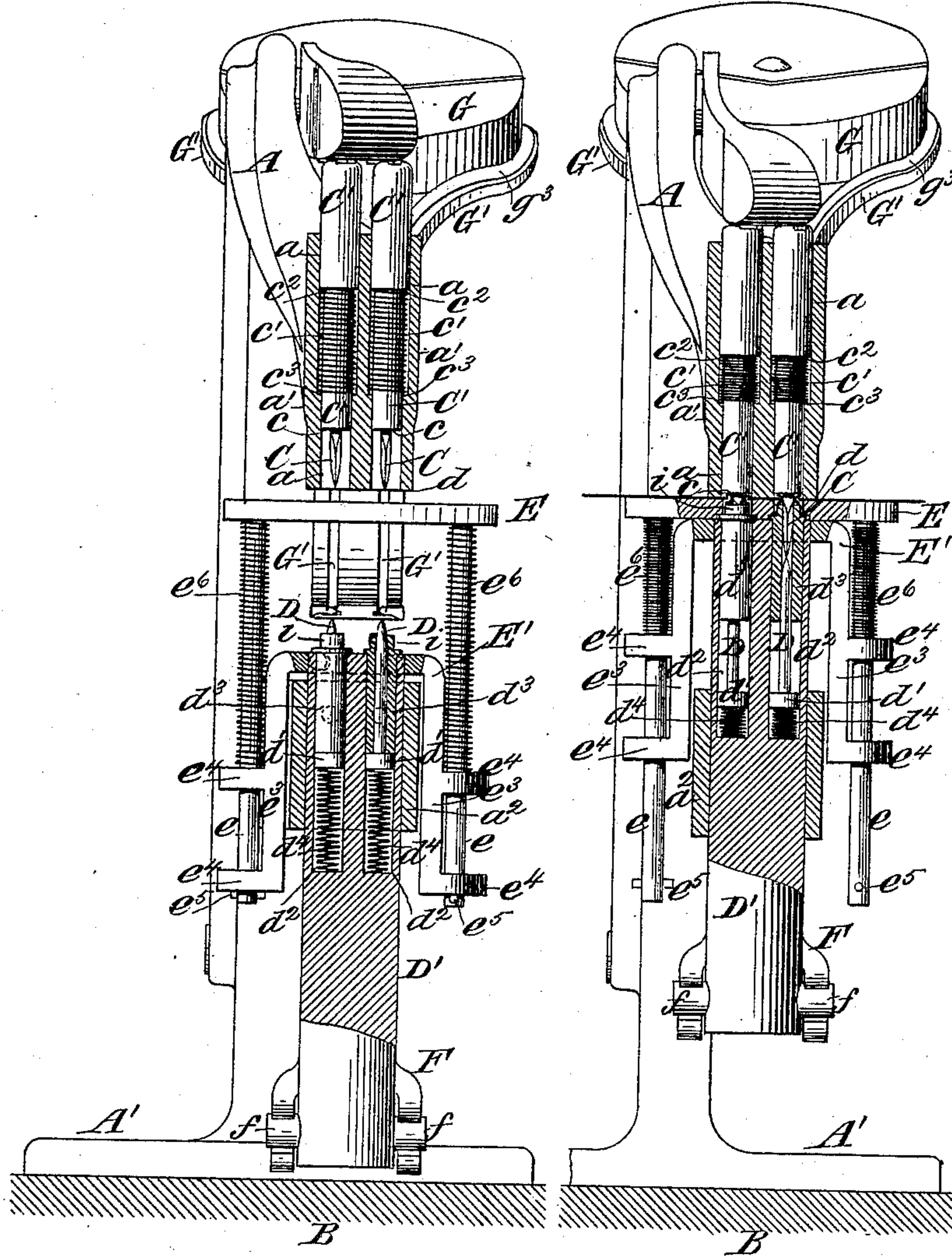
# EYELETING MACHINE.

No. 391,925.

Patented Oct. 30, 1888.

*Fig. 3.*

*Fig. 4.*



*Witnesses.*

Joseph W. Roe.

El Sundgren.

*Inventor:*

Edwin P. Stimpson Jr.  
by his attys  
Brown & Hall



# UNITED STATES PATENT OFFICE.

EDWIN B. STIMPSON, JR., OF BROOKLYN, NEW YORK.

## EYELETING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 391,925, dated October 30, 1888.

Application filed March 24, 1888. Serial No. 263,372. (No model.)

*To all whom it may concern:*

Be it known that I, EDWIN B. STIMPSON, JR., of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Eyeletting-Machines, of which the following is a specification.

My invention relates to those machines for setting eyelets which are more commonly termed "eyeletting-machines."

I will describe in detail an eyeletting machine embodying my improvement, and then point out the novel features in claims.

In the accompanying drawings, Figure 1 is a side elevation of a machine embodying my invention. Fig. 2 is a plan of the same, a portion of the bed-plate being broken away to reduce the size of the figure. Fig. 3 is a vertical section through the head of the machine upon about the plane indicated by the dotted line *xx*, Fig. 1, the ends of the levers which operate the plunger and the anvils and piercers being, however, shown in end view; and Fig. 4 is a view similar to Fig. 3, but showing the parts in the position which they occupy at the moment of setting the eyelets.

Similar letters of reference designate corresponding parts in all the figures.

A designates the frame of the machine, which has at the bottom a base plate or bed, A', on which it stands, and by which it may be secured to a table or support, B. As here represented, the machine is constructed for setting two eyelets at one and the same operation, and there are employed two piercers, C, and two yielding followers, D, which are arranged in line with each other, as shown best in Figs. 3 and 4, the piercers C being here represented as uppermost and working downward, and the yielding followers D being below and working upward. At the base or inner end of each piercer C is a shoulder, *c*, and, as here represented, each shoulder *c* is upon a vertically-movable rod, C', and forms the anvil against which the eyelet is set. The rods C' are fitted to bores *a* formed in the head *a'* of the machine-frame A, and around each rod is a spring, *c'*, which bears at the upper end against a shoulder, *c''*, upon the rod, and at the lower end against a shoulder, *c'''*, in the bore *a*. The springs *c'* exert a constant tendency upon the rods C', which here form separate anvils to elevate the rods sufficiently to shield the pier-

cers C within the head *a'* of the machine-frame; but by a force applied to their upper ends the rods may be pressed downward, so as to project the piercers C beyond the end *d* of the head *a'*, and to project the shoulders *c* as far as the end *d* of the head and bring them to the position for setting eyelets, or to setting position, as shown in Fig. 4.

The yielding followers D are carried in a plunger, D', which is fitted to a guide, *a''*, in the frame of the machine, so as to provide for its vertically-reciprocating movement therein. The followers D are adapted to yield downward within the plunger, and, as here represented, said followers have heads *d'* at their lower ends, and are fitted to slide within bores *d''* formed in the plunger D'. Into each bore *d''*, and above the head *d'* of the follower D, is inserted a sleeve or bushing, *d'''*, through which the follower works. Beneath each follower D and in the bore *d''* is a spring, *d''''*, and consequently when the follower, which normally projects beyond the plunger, strikes against an object the spring *d''''* is compressed and the follower yields downward within the plunger. The sleeve or bushing *d'''*, which is inserted in each bore *d''* to hold the follower D in place, may be considered as a part of the plunger.

E designates a work-table or fabric-presser, which has imparted to it a vertical movement, and which is supported by springs, so as to permit it to yield. In the present example of the invention the table or presser E is supported by rods *e* from a yoke, E', which is secured directly to the plunger D'. As here represented, the yoke E' has a ring-like portion, *e'*, which is fitted upon the upper end of the plunger D' and there secured by set-screws *e''*, and said yoke also has downwardly-extending arms *e'''*, provided with lugs or ears *e''''*, in which the rods *e* slide. As here represented, the rods *e* have at their lower end shoulders which are formed by cross pins *e''''''*, and which strike against the lugs or ears *e''''* when the rods are raised to their highest position, and thus prevent the withdrawal of the rods and limit the upward projection of the table or presser E. Upon the rods *e* are placed coiled springs *e''''''*, which bear at one end upon the work-table or presser E and at the lower end against the uppermost lugs or ears, *e''''*, and these springs serve to yield downward when



the work-table E strikes against a part which forms an abutment for it to hold the work against, and which in this instance is formed by the lower end, *d*, of the head *a'* of the frame.

5 F designates a lever, which engages, as here represented, with a pin, *f*, in the plunger D', and which is fulcrumed at *f'*. To the rear end of this lever is attached a rod, F', which may be operated by a treadle, (not here shown,) and  
10 *f*<sup>2</sup> *f*<sup>3</sup> are stops for limiting the two positions of the lever by striking against the bed-plate A', and which are here represented as screws inserted in the lever. The stop *f*<sup>2</sup> limits the downward movement of the plunger D', which  
15 is produced, as here represented, by a spring, F<sup>2</sup>, attached at the points *f*<sup>4</sup> to the rear end of the lever F and to the frame A, and the stop *f*<sup>3</sup> limits the upward movement of the plunger, produced by drawing down the rear end of the  
20 lever by the rod F'.

G designates a supply-hopper for eyelets, which is constructed so as to deliver eyelets at opposite sides thereof, and G' designates two supply-channels, which lead from opposite  
25 sides of the hopper G and thence, at an incline, downward on the paths of the yielding followers D. The construction of the hopper G is well known in machines of this class, and it contains, as in other machines, a brush  
30 which has a short arm or crank, *g*, upon its axle *g'*, and this short arm or crank *g* is connected by a rod, *g*<sup>2</sup>, with the fixed frame A of the machine, and as the hopper and feeding-channels are moved laterally away from and  
35 toward the path of the yielding followers D the brush within the hopper G receives from the rod *g*<sup>2</sup> a short oscillation, which aids in discharging the eyelets through the openings in the sides of the hopper. At opposite sides  
40 of the hopper and at the receiving ends of the feeding-channels G' are attached guards *g*<sup>3</sup>, which overlie the receiving end portions of the feeding-channels and prevent displacement of the eyelets.

45 Where the machine is intended for setting only one eyelet at an operation, of course two feeding-channels G' would be unnecessary, and the eyelet-hopper G would have extending from it only a single feeding-channel, as is  
50 usual.

The feeding-hopper G and feeding-channels G' are mounted upon a bar or support, G<sup>2</sup>, which has a sliding movement in suitable guides. As here represented, the bar or sup-  
55 port G<sup>2</sup> is constructed with slots *g*<sup>4</sup>, which are mounted upon rollers *g*<sup>5</sup>, projecting from ears or lugs *a*<sup>3</sup> on the frame A of the machine, and a sliding movement is imparted to the support G<sup>2</sup>, as here represented, by a lever, G<sup>3</sup>, ful-  
60 crumed at *g*<sup>6</sup> to the frame, and having its one arm, *g*<sup>7</sup>, engaging with the bar or support G<sup>2</sup> and its other arm, *g*<sup>8</sup>, having a pin-and-slot connection, *g*<sup>9</sup>, with the lever F. Consequently as the lever F is raised to elevate the plunger D'  
65 it acts, through the lever G<sup>3</sup>, to move the support G<sup>2</sup>, and consequently the feeding-channel and hopper, away from the path of the follow-

ers D, and when the plunger D' is lowered the lever G<sup>3</sup> returns the support G<sup>2</sup> and the super-  
posed channel and hopper to the position 7c shown in the drawings, or allows them to slide back to that position by the force of gravity.

For the purpose of limiting the downward and inward movement of the bar or support G<sup>2</sup>, so that the lowermost eyelets in the feed-  
ing channels will come to the exact position in 75 line with the yielding followers D, I have represented a stop-screw, *g*<sup>10</sup>, inserted in the lever G<sup>3</sup> and bearing against a lug or ear, *g*<sup>11</sup>, upon the frame A. As a means of pushing down-  
80 ward the rods C', which form the anvils *c* and the piercers C, I may employ a lever, as H, which is fulcrumed at *h* to the frame A, and one end of which overlies and rests upon the up-  
per ends of the rods C'. The rear end portion, 85 H', of the lever H is curved downward, as shown in Fig. 1, and is represented as lying between the side of the frame A and the bar or support G<sup>2</sup>, and as intermediate between two projec-  
90 tions or rollers, *g*<sup>12</sup>, on the bar or support G<sup>2</sup>. Consequently as the bar or support G<sup>2</sup> is moved in the direction of its length to carry the feed-  
ing-channels away from or toward the line of the yielding followers D the projections or  
95 rollers *g*<sup>12</sup> act upon the lever H H', so as to first depress the rods C' and the anvils and piercers which they carry, and then to relax pressure upon the same and allow them to be raised by the springs *c'*, applied to them.

In the position of parts shown in the draw- 100 ings the machine is inoperative, and there is ample room to introduce a fabric between the work-table or fabric presser E and the abutment *d*. (Here shown as formed by the head  
105 *a'* of the frame.) When eyelets are to be set, the fabric is placed upon the table E and the lever F is operated by the treadle. The first rising movement of the plunger D' raises the  
work-table E and causes it to press and hold 110 the fabric firmly against the abutment *d*, and then the springs *e*<sup>6</sup> yield, while the plunger D' continues to rise and carries the yielding fol-  
lowers D through the two lowermost eyelets in the feeding-channels G'. The bar or sup-  
115 port G<sup>2</sup> is meanwhile moving away from the plunger, or toward the right hand of Fig. 1, and by its operation on the lever H H' forces down the rods C', thereby piercing the fabric by the piercers C while it is held immovable  
120 against the abutment *d* by the work-table E, and likewise serving to bring the shoulders *c*, which form the anvils, down upon the fabric, or to project said shoulders as far as the abutment *d*. Meanwhile, by the rising movement  
125 of the plunger D', the followers D, with the eyelets upon them, are brought against the ends of the piercers, and being thus arrested yield into the plunger D' while the plunger contin-  
ues to advance, passes the eyelets over the 130 piercers and through the holes in the work-table E, which are provided for them, thence through the fabric, and, finally, the setting projections *i*, which surround the yielding followers D, and which in this instance are



formed by the ends of the bushings  $d^3$ , set the eyelets solidly against the anvils  $e$ , the parts coming to the position shown in Fig. 4.

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

1. The combination, in an eyeleting-machine, of a longitudinally-movable anvil having a piercer projecting from its end, and a device, as lever H, for moving it lengthwise to pierce the fabric and bring the anvil to setting position, a longitudinally-movable plunger in line with the anvil and containing a yielding follower, a reciprocating work-support, a rigid work-abutment above the said work-support, against which the fabric is pressed and held by the work-support while the piercer enters the fabric and while the eyelet is forced through the fabric and set by the movement of the plunger, and an eyelet-feeding device for supplying eyelets to the follower, substantially as described.

2. In an eyeleting-machine, the combination, with the frame-head, an anvil movable vertically therein and having a piercer connected therewith, and a device, as lever H, for moving the anvil to pierce the fabric, of a vertically-movable plunger below and in line with the anvil and having a yielding follower projecting beyond it, a vertically-movable and yielding work-support, whereby the fabric is pressed upwardly and held against the frame-head while it is pierced and the eyelet is set by the movement of the plunger, and an eyelet-feeding device for supplying eyelets to the follower, substantially as herein described.

3. The combination, with a vertically-movable anvil having a piercer projecting from its end, and a device, as lever H, for moving it vertically to pierce the fabric and bring it to setting position, of a vertically-movable plunger carrying a yielding follower in line with the anvil, a work-support carried by the plunger and supported through springs therefrom, an abutment above said work-support, against which the fabric is pressed and held by the work support during the piercing of the fabric and setting of the eyelet, and a feeding device for supplying eyelets to the follower, substantially as herein described.

4. The combination, with a vertically-movable anvil having a piercer projecting beyond it, and a device, as lever H, for moving the anvil to bring it to setting position and to pierce the fabric, of a vertically-movable plunger carrying a yielding follower arranged opposite the anvil, a vertically-movable work-support and an abutment above the work-sup-

port, against which the fabric is pressed by the work-support and held while the fabric is pierced and the eyelet is set, a feeding-hopper and channel for supplying eyelets to the follower, and a support for the channel movable laterally away from the path of the follower, and which acts upon the lever for operating the anvil, substantially as herein described.

5. The combination, with the frame A, and the anvil with its piercer and the plunger with its yielding follower arranged opposite each other and in line, of the fabric-abutment  $d$ , the work-table E, supported by springs from the movable plunger, the movable bar  $G^2$ , carrying the eyelet-feeding device, the lever F, for operating the plunger, and the lever H, acted upon by said bar for operating the anvil, substantially as herein described.

6. The combination, with an anvil having a piercer projecting beyond it, and a device, as lever H, for moving the anvil to setting position and piercing the fabric, of a vertically-movable plunger opposite the anvil and having a yielding follower projecting from its end, a yoke, as  $E'$ , secured to the plunger, and a work-table upon the rods  $e$ , supported by springs  $e^6$ , an abutment, as  $d$ , against which the fabric is pressed by the work-table, and a feeding device for supplying eyelets to said follower, substantially as herein described.

7. In an eyeleting-machine, the combination, with a plurality of vertically-movable piercers, each having a shoulder from which it springs and which forms an anvil, and a vertically-movable plunger arranged opposite the piercers and having yielding followers corresponding in number to the piercers and projecting beyond the plunger, of a feeding device for supplying eyelets to the followers, and a single device, as lever H, for operating all the piercers and the anvils formed by their shoulders, substantially as herein described.

8. In an eyeleting-machine, the combination, with a main frame of an anvil having a piercer projecting beyond it and an oppositely-arranged plunger having a yielding follower, of a feeding-hopper, a channel for supplying eyelets mounted on a sliding support, which support is movable toward and from the plunger, the lever F, and a lever,  $G^3$ , said sliding support having a slotted connection with the main frame, and the lever  $G^3$  being unconnected with said support, substantially as specified.

EDWIN B. STIMPSON, JR.

Witnesses:

FREDK. HAYNES,

HENRY J. MCBRIDE.