

(No Model.)

2 Sheets—Sheet 1.

E. B. STIMPSON, Jr.  
MACHINE FOR SETTING EYELETS.

No. 391,208.

Fig. 1. Patented Oct. 16, 1888.

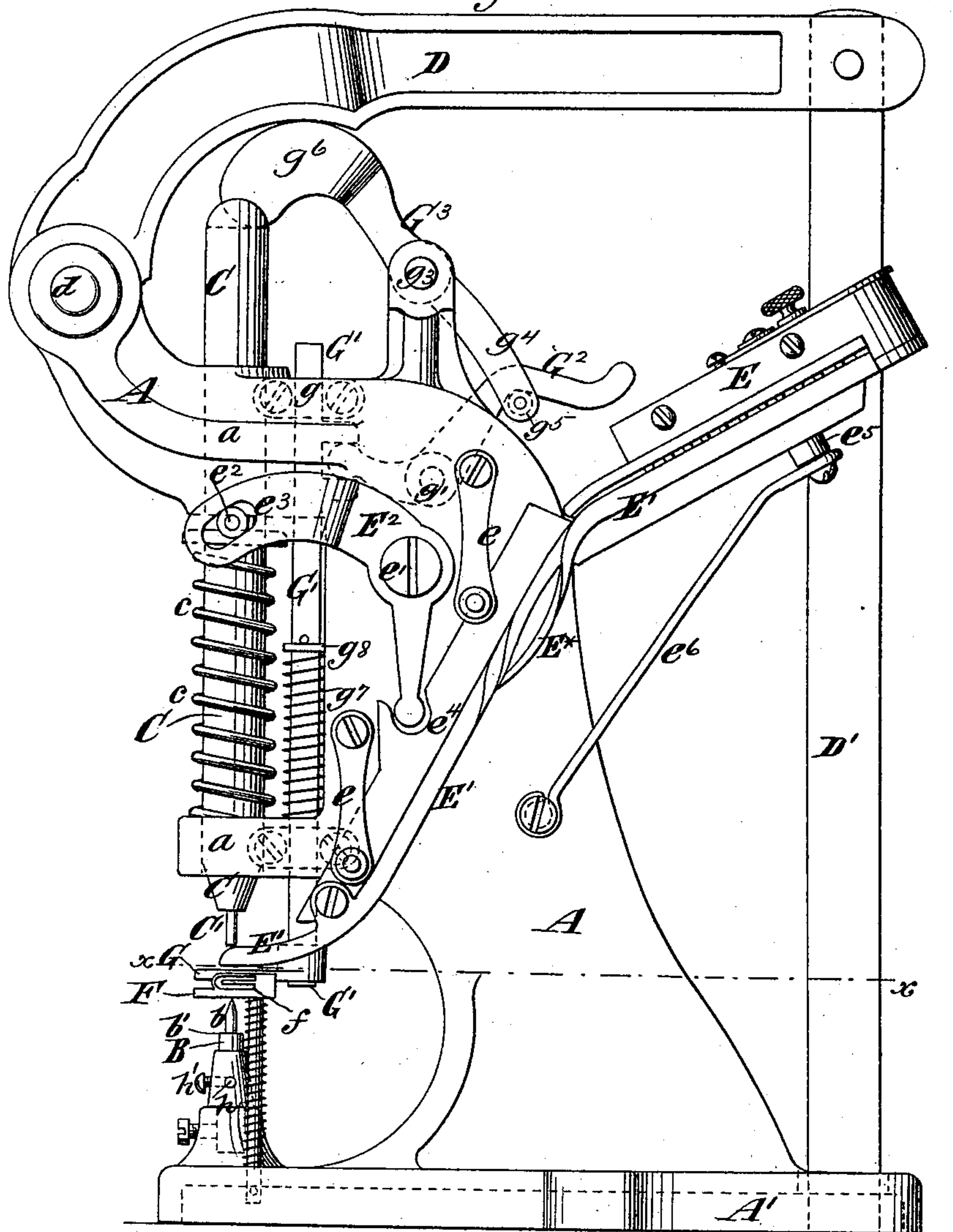
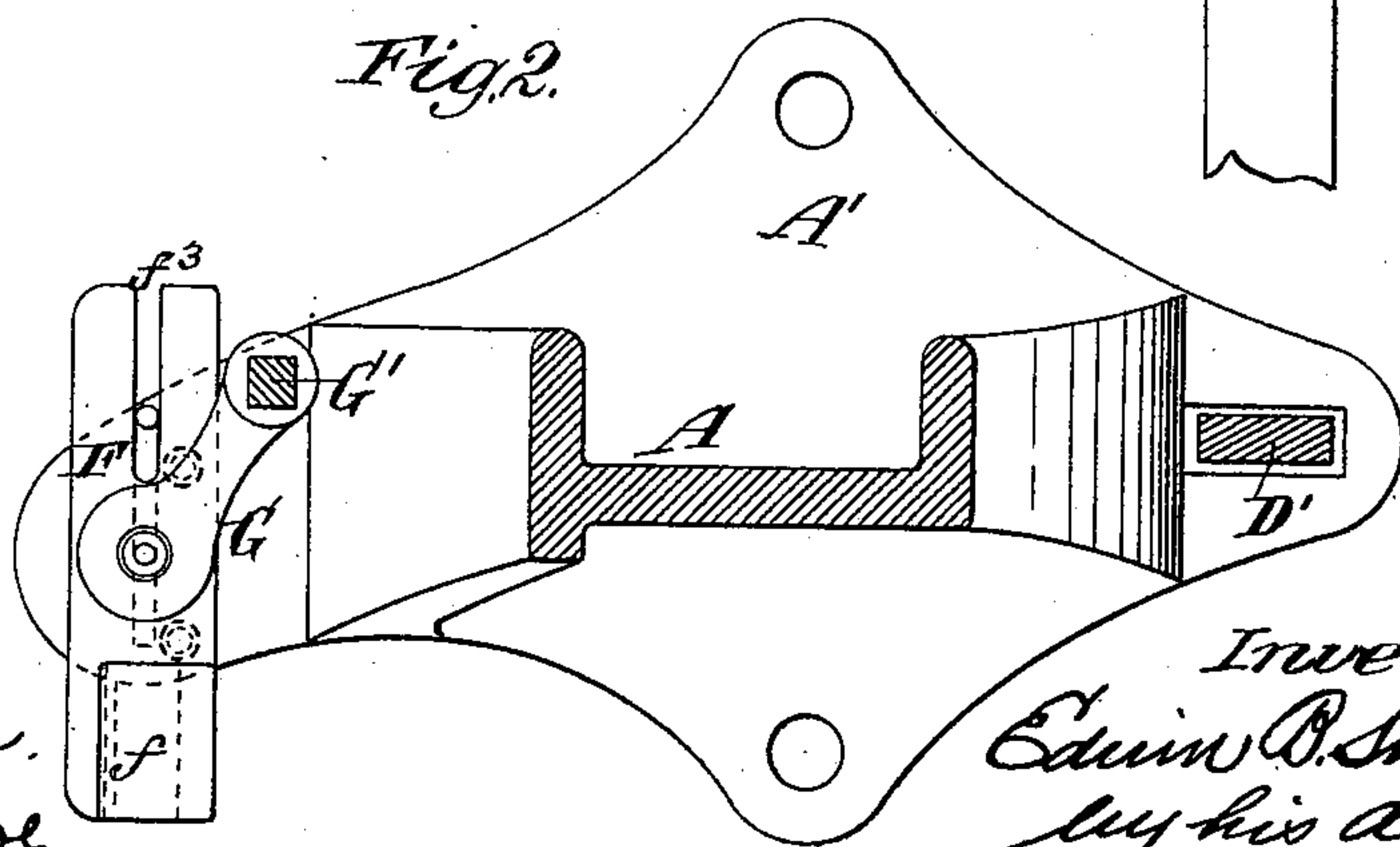


Fig. 2.



Witnesses:  
O. Sundgren.  
Joseph W. Roe.

Inventor:  
Edwin B. Stimpson  
by his attys  
Brown & Hall

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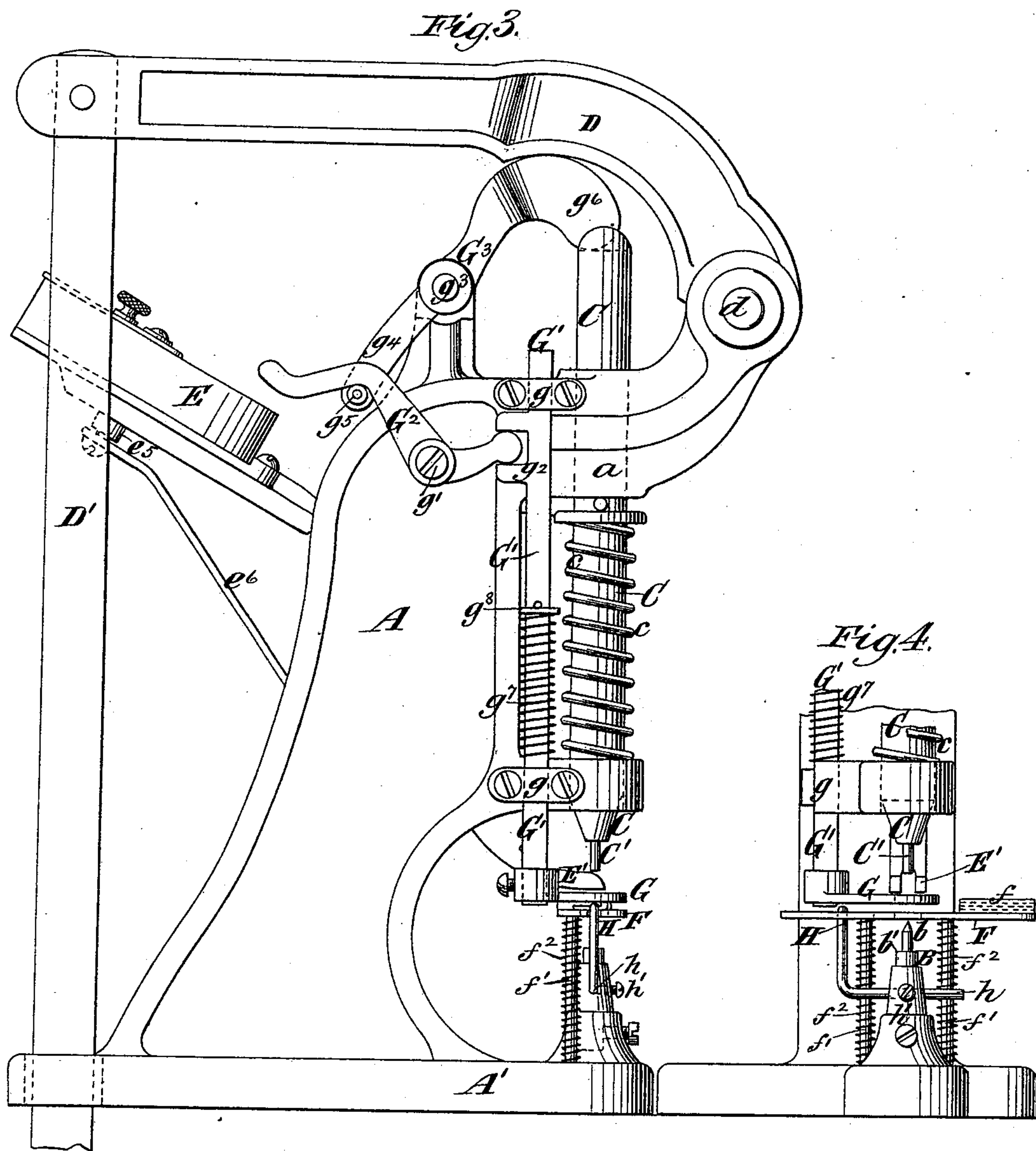
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# UNITED STATES PATENT OFFICE.

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

## MACHINE FOR SETTING EYELETS.

SPECIFICATION forming part of Letters Patent No. 391,208, dated October 16, 1888.

Application filed January 23, 1888. Serial No. 261,561. (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  
5 useful Improvement in Machines for Setting Eyelets; of which the following is a specification.

My invention relates to machines for setting eyelets, whether they be made in the form of  
10 simple eyelets, or have extending from them hooks or like devices, the operation of setting the eyelet to secure it in a fabric being the same in both cases. In such machines are usually employed an anvil having a fixed pin pointed  
15 to pierce the fabric, and having a shoulder upon it against which the eyelet is set and by which the eyelet is flanged outward to secure it in the fabric, and opposite, but in line with this anvil, is a reciprocating plunger carrying  
20 a yielding follower.

The invention consists in novel combinations of parts, hereinafter particularly described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is  
25 a side view of a machine embodying my invention. Fig. 2 is a transverse section upon about the plane indicated by the dotted line  $x$ , Fig. 1. Fig. 3 is an elevation of the side of the machine opposite to Fig. 1, and Fig. 4 is a  
30 front elevation of the lower portion of the machine.

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

A designates the frame of the machine,  
35 which, through its base portion A', is secured upon a table or other support.

In a post rising from the base portion A' is fixed the anvil B, having a pointed finger,  $b$ , for piercing the fabric, and a shoulder,  $b'$ ,  
40 against which the eyelet is upset, and in line with the anvil B is a reciprocating plunger, C, fitted to suitable guides,  $a$ , in the frame, and which has extending downward from it and in line with the anvil B a yielding follower or  
45 pin, C'. I have not shown this yielding follower C' in detail, as it may be arranged to slide within a socket in the plunger C and pressed downward by a spring within the plunger, as is usual in eyeleting-machines. After being  
50 depressed, the plunger C is raised by a spring,  $c$ , applied to it, and the plunger is forced downward against the force of the spring  $c$  by means

of an operating lever, D, fulcrumed at  $d$ , and which may be connected by a downwardly-extending rod, D', with the operating-treadle. 55

E designates the hopper from which the eyelets are fed, and which has extending downward from it a feeding-channel, E'. Down this channel E' the eyelets slide, and the lower eyelet in the channel comes to a position in  
60 line with the anvil B and the follower C'. As the plunger C is depressed, the follower C' passes through this lower eyelet, and the hopper E and feeding-channel E' are then moved laterally out of the path of the follower, the  
65 last eyelet being retained upon the plunger and withdrawn from the channel. As a means of laterally moving the feeding-channel out of the way, I have represented the same devices as are employed in my Letters Patent No. 70  
372,826, dated November 8, 1887. The channel E' is shown as hung by links  $e$  from the frame A, and is operated by a lever, E<sup>2</sup>, fulcrumed at  $e'$  to the frame, and one end of which has a pin-and-slot connection,  $e^2 e^3$ , with the  
75 plunger C, while the other end engages a notch or seat,  $e^4$ , in the channel-bar. When the plunger C is depressed, it operates the lever E<sup>2</sup> to swing the channel E' and the hopper E away from the path of the plunger, and as the  
80 plunger is raised it operates said parts in a reverse direction to bring the lower end of the channel again in the path of the plunger or follower.

In the hopper E is arranged a brush upon  
85 a crank-shaft,  $e^5$ , which by a rod,  $e^6$ , is connected with the frame A, and as the hopper E is moved laterally the brush turns relatively to it, owing to its fixed connection  $e^6$  with the frame, and serves to agitate the eyelets in the  
90 hopper and bring them to proper position for entering the feeding-channel E'. I here make no claim to the parts just described for feeding the eyelets and for operating the feeding-channel. 95

Essential elements of my invention are a work table or bed, F, and a work-presser, G, which serves to hold the work clamped upon the table or bed when the eyelet is thrust through it. Very often it is desired to apply  
100 eyelets in a folded strip of cloth or other fabric, and to facilitate such operation I combine with the table or bed F a folder or folding-guide,  $f$ , whereby the fabric is accurately



folded before it comes in the path of the anvil and follower B C'. The work table or bed F occupies normally the position just above the point *b* of the anvil B, and it is supported by springs which will yield to permit the work table or bed F, with the work clamped upon it by the presser G, to be forced down over the pointed finger *b*, in order to pierce the work for the eyelet. The presser G is operated positively, first to clamp the work upon the table or bed F at the time the plunger descends, and afterward to depress the table or bed F, with the work clamped upon it, over the pointed finger *b*. The presser G is fixed upon an upwardly-extending stem or rod, G', guided at *g* in the frame of the machine, and it is operated by levers which are acted upon by the main operating-lever D, as is best shown in Fig. 3.

G<sup>2</sup> designates a lever, which is fulcrumed at *g'*, and one arm of which engages a notch or seat, *g''*, in the stem or rod G'. A second lever, G<sup>3</sup>, is fulcrumed at *g''* to the main frame, and one arm, *g''*, of this lever G<sup>3</sup> carries a roller or pin, *g''*, engaging the lever G<sup>2</sup>. The other arm, *g''*, of the lever G<sup>3</sup> is cam-shaped and is interposed between the main operating-lever D and the plunger C, as described in my aforesaid patent, for imparting to the plunger C a greater movement from the lever D than it would otherwise receive. When the main operating-lever D is operated by the treadle, the lever G<sup>3</sup> is swung upon its pivot, and the roller or pin *g''*, riding under the tail of the lever G<sup>2</sup>, serves to depress the stem or rod G' and the presser G. As the main operating-lever rises through the action of the spring *e*, applied to the plunger, the presser and its stem or rod G' are raised by a spring applied in any suitable manner. I have here shown a spring, *g''*, applied between the collar *g''* on the stem or rod and one of its guides *g*.

The work plate or table F has downwardly-extending stems or rods *f'*, to which are applied springs *f''*, and as the presser G rises the work table or bed also rises, it being forced up by the springs *f''*. Where eyelets are to be set at equal distances apart in a piece of fabric, a gage consisting of a pin arranged at a definite distance from the anvil B, and over which the last eyelet set may be slipped, is employed. I have here shown such a gage, H, which projects upward through a slot, *f''*, in the work table or bed F, and which has a laterally-extending arm, *h*, passing through the post supporting the anvil and secured therein by a set-screw, *h'*. This laterally-extending arm *h* and set-screw *h'* provide for setting the gage H at any desired distance from the anvil B, and do not in any wise interfere with the downward movement of the work table or bed F.

When the anvil B is presented upward and the yielding follower C' is presented downward, as here shown, it is necessary that the eyelets, when brought into position to be set, should each have its flange at its upper end; but as the eyelets enter the feeding-channel E' they

rest upon their flanges, which are to be their lower ends. To secure the reversal of the eyelets in position before they reach the lower end of the feeding-channel E', I form said feeding-channel with a twist of one turn, as shown at E\*. By this twist the eyelets are reversed in position and their flanges, which are at their lower ends when entering the feeding-channel, are at the upper ends as they are delivered from the feeding-channel.

In the operation of my machine the fabric is first brought to proper position on the work table or bed F, and the main operating-lever D is pulled down, thereby simultaneously entering the yielding follower C' into the lowermost eyelet in the feeding-channel E' and withdrawing the feeding-channel laterally from the path of the follower. The presser G at the same time is forced down, clamping the work upon the work table or bed F and forcing the fabric down over the pointed finger *b*, and as the plunger C simultaneously descends it passes the eyelet through the perforated fabric and over the pointed finger *b*. As the yielding follower C' abuts against the pointed finger *b*, it yields upward in the plunger C, allowing the latter to descend over it and force the eyelet against the shoulder *b'* of the anvil, by which the lower end of the eyelet is spread outward or flanged over the fabric. The pressure upon the operating-lever D is then relaxed and the parts all returned to normal position represented in the drawings. The fabric is then pulled along and the last eyelet set is slipped over the gage H and the operation is then repeated.

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

1. The combination, in an eyelet-setting machine, of a fixed anvil and a reciprocating plunger carrying a yielding follower arranged opposite each other and in line, a work table or bed provided with a folding-guide through which the fabric is introduced, and a hopper and feeding-channel for supplying eyelets between the follower and anvil, substantially as herein described.

2. The combination, in an eyelet-setting machine, of a fixed anvil and a reciprocating plunger carrying a yielding follower arranged opposite each other and in line, a spring-supported and yielding table or bed, and a positively-operated presser, whereby the work is clamped to the table or bed and by which the table is moved to force the fabric upon the point of the anvil for puncturing it, substantially as herein described.

3. The combination, with a pointed anvil and the reciprocating plunger arranged opposite the anvil and carrying a yielding follower, of a lever for operating the plunger, a spring-supported and yielding table or bed, a work-presser upon an upwardly-extending stem or rod guided in the frame of the machine, and levers connected with said stem or rod and operated by the main operating-lever of the



plunger, whereby said plunger and the presser and work table or bed are operated simultaneously, substantially as herein described.

4. The combination, with an anvil and an  
5 oppositely-arranged plunger carrying a yielding follower in line with the anvil, of a lever for operating the plunger, a spring-supported and yielding work table or bed, the presser G,  
10 G<sup>2</sup>, connected with said stem, and the lever G<sup>3</sup>, having at one end a cam-like head resting between the plunger and its operating-lever and at the other end engaging the lever G<sup>2</sup>, substantially as herein described.

15 5. The combination, with an anvil and an

oppositely-arranged plunger carrying a yielding follower in line with the anvil, of a spring-supported and yielding work table or bed slotted at *f*<sup>3</sup>, a gage-finger projecting upwardly through said slot and having a laterally-extending and adjustable arm or shank, whereby it is supported independently of the table or bed, and a positively-operated presser for clamping the fabric upon the table or bed, substantially as herein described.

EDWIN B. STIMPSON, JR.

Witnesses:

C. HALL,

FREDK. HAYNES.