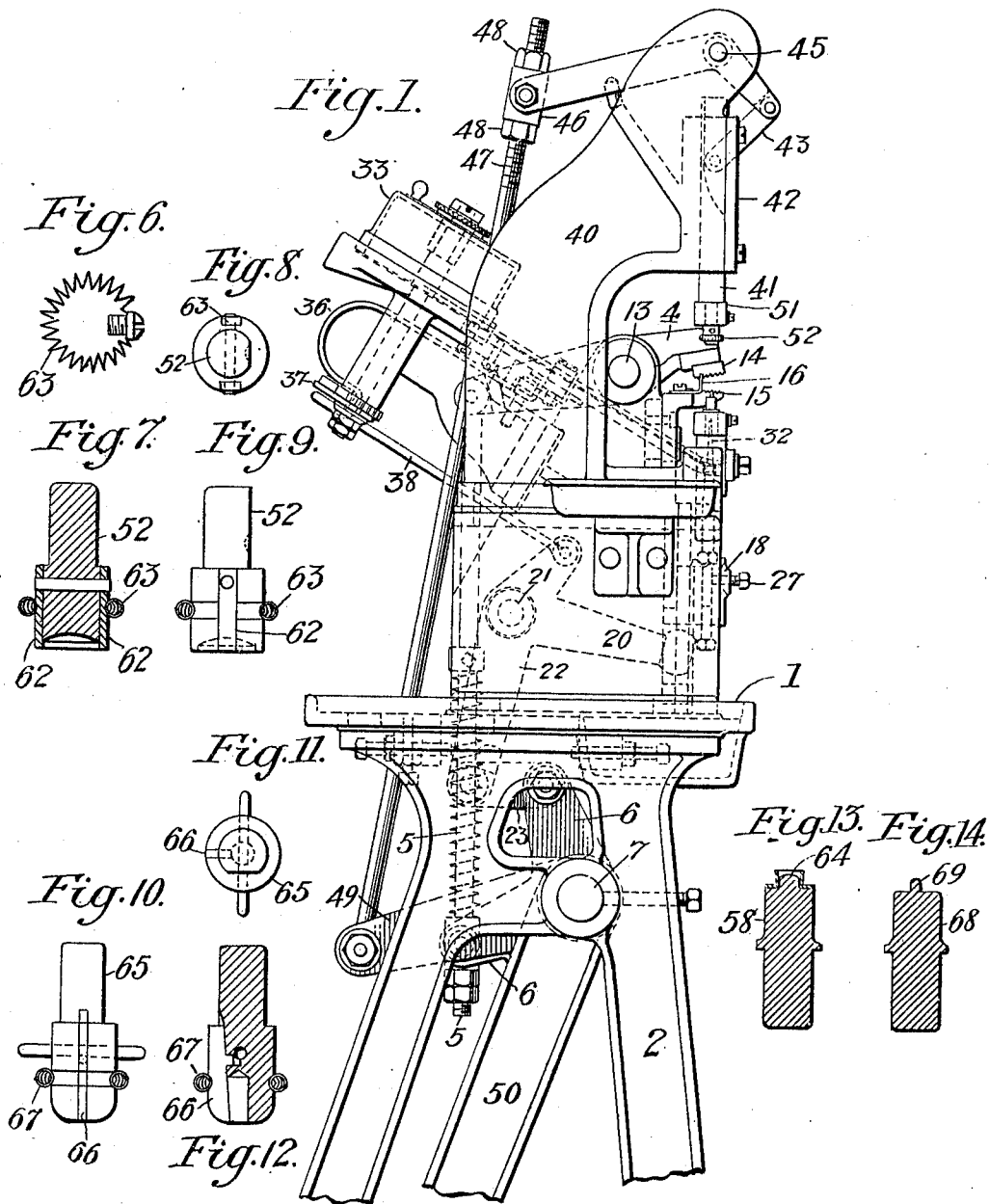


J. H. GOSS & G. R. LEGGETT.
MACHINE FOR ATTACHING GLOVE FASTENERS.
APPLICATION FILED JUNE 28, 1909.

956,847.

Patented May 3, 1910.

5 SHEETS—SHEET 1.



Witnesses:
Lillie M. Perry.
O. W. Edelin.

Inventors:
John H. Goss.
George R. Leggett.
by M. M. Finckel.
Att'y.

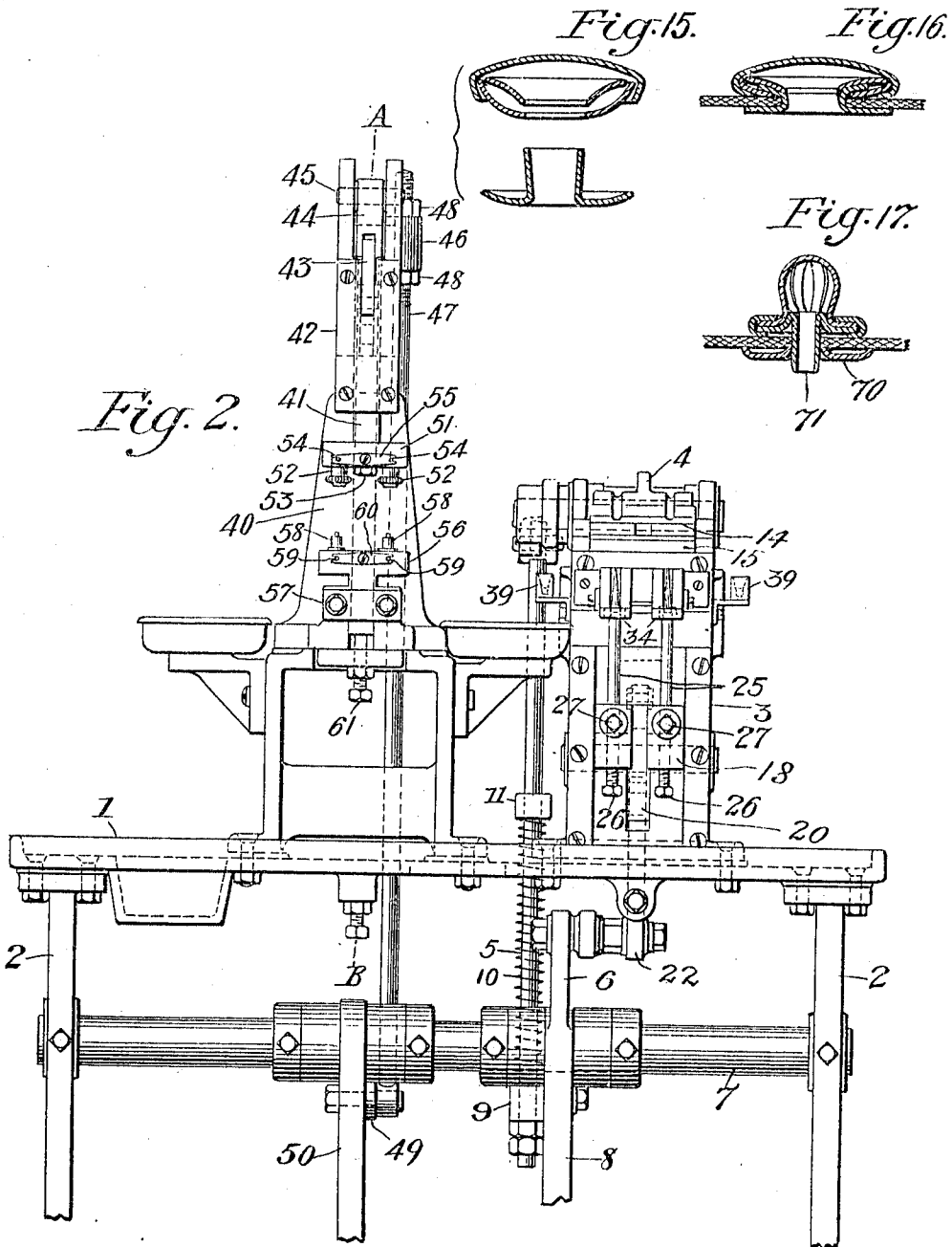
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Witnesses:
Lillie M. Curry,
D. W. Edlin.

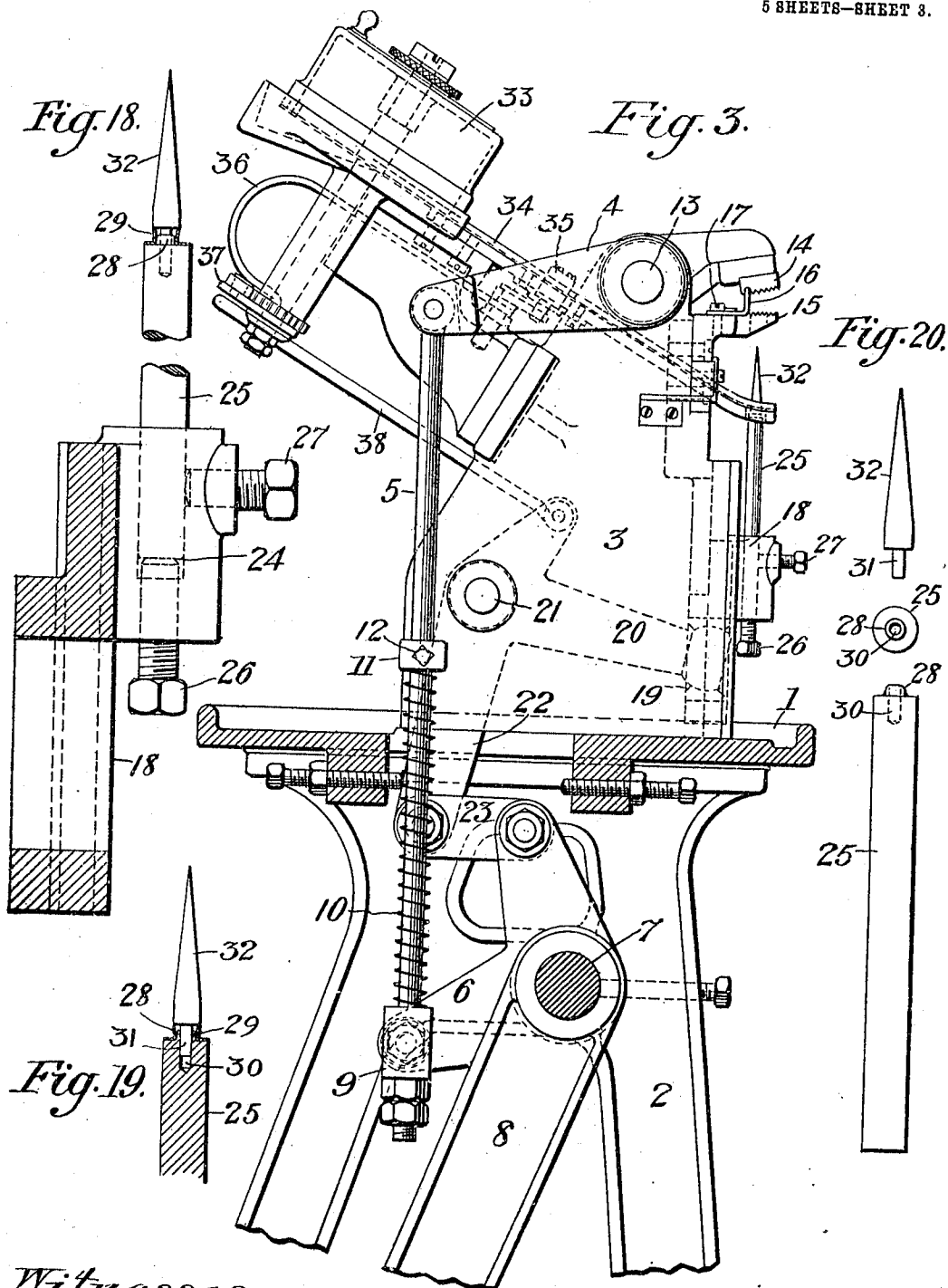
Inventors:
John H. Goss,
George R. Leggett,
by *W. H. Finkel* Atty.

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Witnesses:
Lilie M. Perry.
O. D. Edelin.

Inventors.
John H. Goss,
George R. Leggett.
by *M. H. Finnered*

A. H.

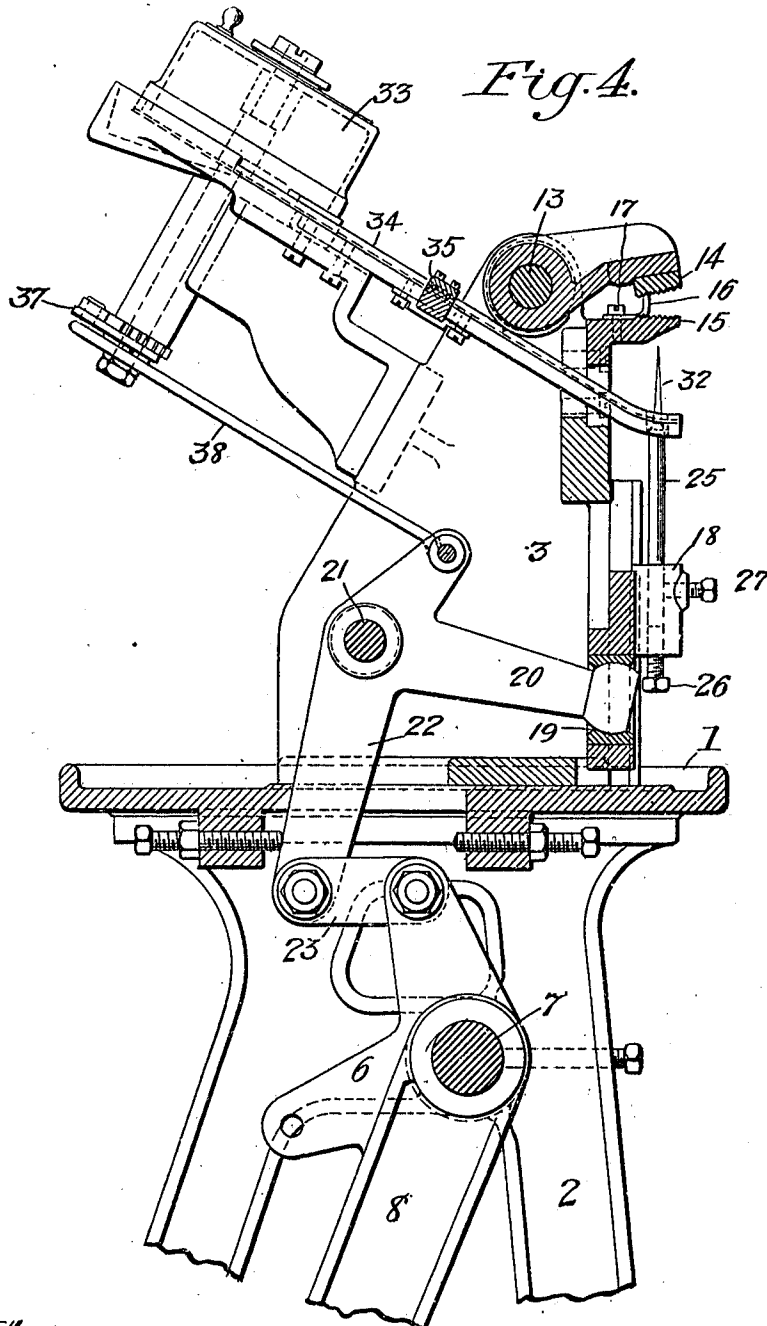
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5 SHEETS—SHEET 4.



Witnesses:
Lillie M. Perry.
O. W. Edlin.

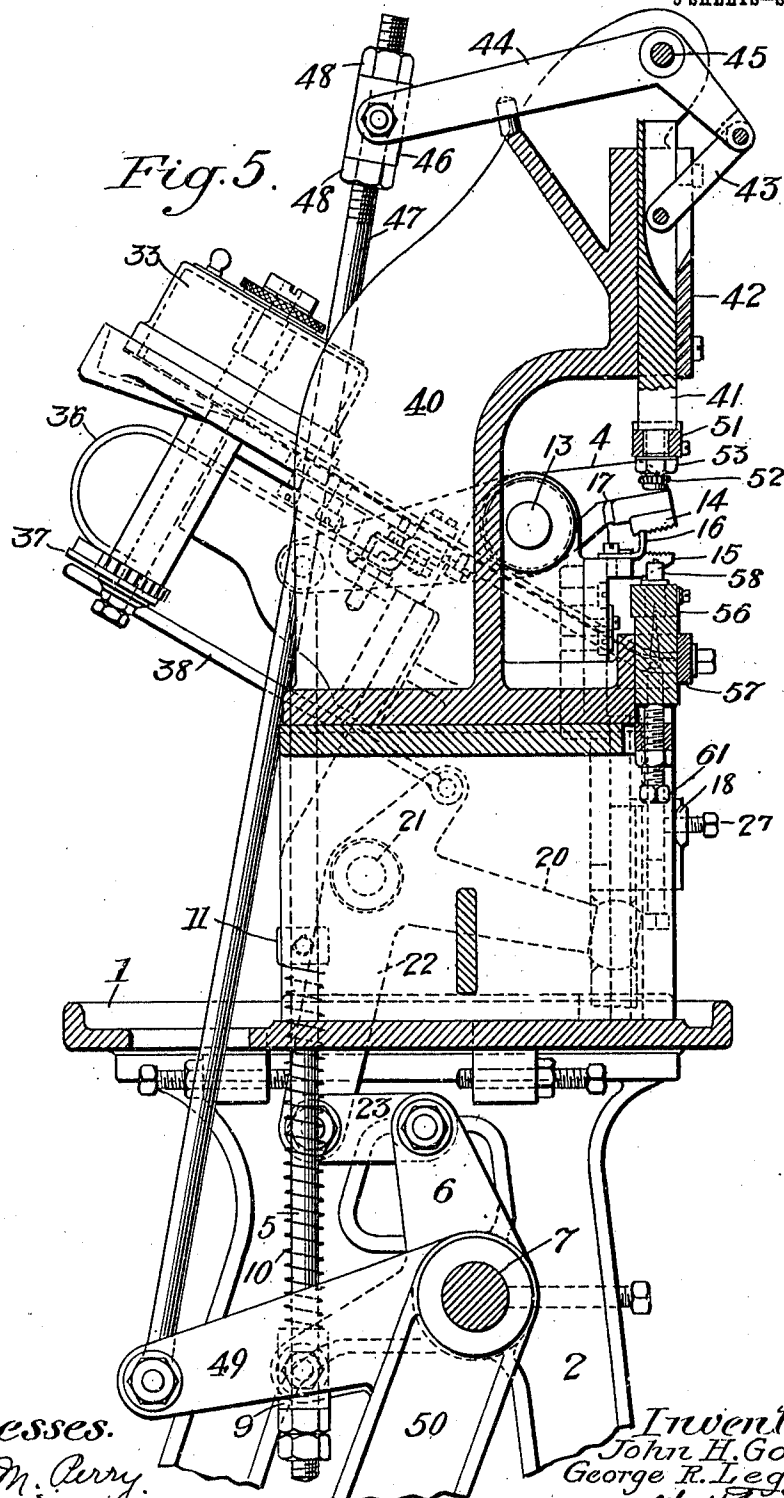
Inventors.
John H. Goss.
George R. Leggett.
by *Wm. F. Finckel*
Att'y.

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5 SHEETS—SHEET 5.



Witnesses.
Lillie M. Perry.
O. A. Edelin.

Inventors.
John H. Goss, Jr.
George R. Leggett.
by M. H. Finckel
Atty.

UNITED STATES PATENT OFFICE.

JOHN H. GOSS AND GEORGE R. LEGGETT, OF WATERBURY, CONNECTICUT, ASSIGNORS
TO SCOVILL MANUFACTURING COMPANY, OF WATERBURY, CONNECTICUT, A COR-
PORATION OF CONNECTICUT.

MACHINE FOR ATTACHING GLOVE-FASTENERS.

956,847.

Specification of Letters Patent.

Patented May 3, 1910.

Application filed June 28, 1909. Serial No. 504,822.

To all whom it may concern:

Be it known that we, JOHN H. GOSS and GEORGE R. LEGGETT, citizens of the United States, residing at Waterbury, in the county of New Haven and State of Connecticut, have invented a certain new and useful Improvement in Machines for Attaching Glove-Fasteners, of which the following is a full, clear, and exact description.

10 The object of this invention is to provide a simple and efficient machine for attaching articles to fibrous or textile material by means of eyelets, without cutting holes for the passage of the barrels of the eyelets.

15 The invention is specially designed for use in eyeleting snap-fasteners to thin fabric or textile gloves in such way as to avoid cutting the fabric, and to that extent rendering the attachment of the fastener more secure and
20 less liable to pull out in use; this pulling out or insecurity of the fastener being a common fault in some present methods of attaching such fasteners to gloves and other articles made of thin or stretchy material.

25 The invention consists of a machine for setting eyelets and for other purposes, having an eyelet-supporting medium to which the eyelet is fed and thereafter has a needle applied to it in advance of the eyelet with
30 relation to its approach toward the article in which the eyelet is to be set, so that the needle enters the article first and crowds aside, without cutting, the threads or fibers of the article and makes an opening into
35 which the eyelet enters and where it is left by the removal of the needle and the retreat of the eyelet-supporting medium, all as we will proceed now more particularly to set forth and finally claim.

40 In the accompanying drawings, illustrating the invention, in the several figures of which like parts are similarly designated, Figure 1 is a side elevation of a combined machine for setting eyelets and then utiliz-
45 ing them for attaching snap-fastener socket caps. Fig. 2 is a front elevation. Fig. 3 is a side elevation of the eyelet-inserting mechanism. Fig. 4 is a partial vertical section of the eyelet-inserting mechanism. Fig.
50 5 is a partial vertical section of the cap-attaching mechanism; Figs. 1 to 5, inclusive, having the lower parts of the frames and treadles broken away. Fig. 6 is a plan view of the cap-die spring. Fig. 7 is a longi-

tudinal section, Fig. 8 is a top plan view, 55 and Fig. 9 is an elevation of the cap-setting die. Fig. 10 is a side elevation, Fig. 11 is a top plan view, and Fig. 12 is a longitudinal section of the die for setting studs. Fig. 13 is a longitudinal section of the
60 punch for setting the cap eyelet, with an eyelet arranged thereon. Fig. 14 is a longitudinal section of a punch for setting studs. Fig. 15 shows on an enlarged scale, in cross-section, a form of cap and eyelet
65 which may be set by a machine of this invention, and Fig. 16 is a cross-section showing these parts set upon a piece of fabric. Fig. 17 is a longitudinal section of a form of stud which may be set by a machine of
70 this invention. Fig. 18 is a detail, on a larger scale, showing the eyelet-needle: Fig. 19 is a partial longitudinal section and elevation illustrating the arrangement of the
75 eyelet-inserting mechanism. Fig. 20 shows the needle in elevation, and its supporting pin in top plan view and side elevation, detached.

While the eyelet-setting or eyelet-inserting mechanism and the cap-attaching mechanism may be separate and distinct machines, still it is preferred to erect them upon a common bench or table 1, supported by suitable frames 2.

The eyelet-inserting machine comprises a
85 head 3, suitably mounted on the table, and having at its top a lever 4, connected by a rod 5, with a bell-crank or rock-lever 6, mounted upon a rod 7, and said bell-crank or rock-lever is connected with a foot-treadle
90 8, or other power-supplying mechanism. In order to permit certain lost motion, for a purpose presently appearing, the rod 5 is connected with the bell-crank 6 through a swivel-block 9, over which is placed a spring
95 10, the tension of which is regulated by means of an adjustable collar 11, fixed to the rod by a set-screw 12 or otherwise. The lever 4 may be mounted upon a stud 13, and its free end is provided with a toothed jaw
100 14. Fixed to the head 3 is a complementary jaw 15, and suitably mounted upon this fixed jaw is a set-edge 16, made adjustable by means of a set-screw 17, in order to regulate the distance in or out of the eyelets with
105 reference to the article to which they are to be applied.

In the face of the head 3 is a slide 18, and

this slide has in it an opening 19 into which projects one arm of a rock-lever 20, mounted upon a stud 21 on the head. Another arm 22 of this lever extends downwardly and is connected by a link 23 with the other arm of the bell-crank 6, whereby the lever is rocked by the treadle and this rocking motion converted into a vertically reciprocating motion of the slide 18. The slide 18 has a socket 24 in which is mounted a rod or pin 25, adjusted therein by a set-screw 26, and said adjustment fixed by a set-screw 27. The upper end of this pin is finished with a teat 28 adapted to receive and support an eyelet, as 29, Figs. 18 and 19; and centrally of this teat is a socket 30 extending longitudinally into the pin, and this socket is adapted to receive the shank 31 of a needle 32. This needle is designed to pierce the fibrous or textile fabric without cutting it, but rather pressing aside the fibers or threads, or crowding them away from one another in such way as to form an opening for the insertion of the eyelet.

The eyelets are fed to the eyelet-receiving teat 28 from a turret or hopper 33, discharging into a chute 34, the feed of the eyelets being controlled by any suitable gate or cut-off, indicated at 35; and this gate may be operated by a rod 36 connected with a ratchet-plate 37, and this ratchet-plate and the hopper may be controlled by a rod 38 connected with another arm of the lever 20. If two eyelets are to be fed simultaneously, the chutes or tracks, hoppers or turrets, the cut-offs and their operating mechanisms are duplicated.

Since any preferred form of eyelet-feeding mechanism may be used, the mere details of its construction are purposely left thus generally described, it being sufficient that the mechanism be such as to feed one, two or more eyelets simultaneously in accordance with the employment of one, two or more eyelet-receiving pins and needles. In the machine illustrated in the drawings, two eyelet-receiving pins are shown, and it is designed to simultaneously put two eyelets alongside of one another.

Describing the operation of this portion of the invention, it is to be said that the eyelets are fed to and deposited upon the teats of the eyelet-receiving pins, as indicated in Fig. 3, and when the slide carrying these pins is at its lowest position. Then the needles 32 are placed over the eyelets and in the sockets of the pins. Meanwhile, the glove or other article in which the eyelets are to be inserted, is placed between the jaws 14 and 15, and the treadle is moved so as to rock the lever 4 and cause the jaw 14 to descend and clamp the glove, the lost motion being such as to allow the slide 18 to remain in its lowest position during this

clamping operation, and after the glove is clamped, then the arm 20 rises and forces the needles through the glove and the eyelets are carried into the material of the glove and the parts are thus held until the needles are removed, and then the parts are released and the glove taken from the jaws with the eyelets inserted therein and in readiness for the subsequent operation, which will be described.

For convenience, the head 3 may be supplied with pockets 39 to receive the needles when not in use.

Adjacent to the eyelet-inserting mechanism is a head 40 in the face of which is a slide 41 held thereto by a face-plate 42, and connected by a link 43 with one arm of a lever 44 on the pin 45. This lever 44 is pivoted to a swivel-block 46 on the end of a rod 47, and with which it is adjustably connected by means of nuts 48 engaging a screwthreaded portion of said rod. This rod extends down to and is connected with a crank arm 49, which is connected with a treadle 50 mounted on the rod 7 (or other power device may be employed), so that upon rocking the crank-arm, the slide is reciprocated in the head. The bottom of this slide is provided with a die-holder 51, in which are arranged suitable dies 52. The die-holder may be connected with the slide by means of a nut or other fastening device 53, and the dies may be detachably secured in the die-holder by means of pins 54 and the spring 55. Beneath and aligned with this last described mechanism is a punch-holder 56, whose stem is arranged in a socket in the head 40, and is held therein by a face-plate 57. This punch-holder is provided with detachable punches 58 held in the punch-holder by means of pins 59 and a spring 60. The punch-holder is adjusted vertically by means of a set-screw 61.

As shown in Figs. 6 to 9, the dies 52 may have parallel clamps 62, yieldingly held in place by means of an encircling spring 63. As shown in Fig. 13, the punch 58 may have a teat 64 to position the eyelet.

After the eyelets have been put in the glove, as previously described, the glove is moved to this last described mechanism, and its eyelets placed over the punches 58 and suitable caps are placed in the dies 52 and then these dies are caused to descend on the eyelets and the eyelets enter the caps and are clenched in the caps. As illustrating this operation, it might be supposed that the caps are as shown in the upper view, Fig. 15, and the eyelets are as shown in the lower view of Fig. 15, and the final clenching or setting operation just last described would be represented in Fig. 16.

The construction of the cap and eyelet and their assembling as in Fig. 16, are well-known, and there are many different con-

structions embodying the same general principle, to all of which the present invention is applicable by the use of proper dies and punches. So, also, the mechanism may be employed in setting studs, such as are shown in Fig. 17, and in this case the dies may be like those shown in Figs. 10, 11 and 12, comprising a die-body 65, having a yielding member 66, held in position by an encircling spring 67, and mounted in the die-holder described, and the punch 68, Fig. 14, has a teat 69 on which a washer like that shown at 70, Fig. 17, may be mounted and over which the tubular end or eyelet 71 of the stud is clenched. But, as is well-known, some studs are not provided with attached eyelets, but are secured by a separate eyelet, and this invention obviously is adapted for use in connection with such studs.

It is to be understood, that this invention is not limited to use in setting glove fasteners, but may be used for setting a great variety of fasteners. And it is to be noted also that the title given to this invention herein and in the claims is not intended to be or to be understood to be a limitation of the invention, but is merely descriptive of the principle of the invention.

As already sufficiently indicated, the machine could be arranged to operate upon one eyelet and one cap, or upon two or more, and hence the claims herein made are to be understood as covering the use of the machine with one or more setting mechanisms.

Some of the features herein shown, described and claimed, are common to another machine of this same general character and forming the subject of another case filed of even date herewith.

What we claim is:

1. In a machine for attaching glove fasteners, the combination of a clamping device for clamping the glove to which the fasteners are to be applied and thereafter automatically releasing it, as many eyelet-supporting pins as there are eyelets to be inserted at one operation, provided with means for accurately supporting said eyelets, means to feed the eyelets to said pins, detachable needles applicable to said pins above the

eyelets supported thereon, and means to move the pins toward the clamping device and cause the needles to displace without cutting the threads of the glove and insert the eyelets in the openings so made.

2. In a machine for attaching glove fasteners, the combination of means to clamp the glove, a slide arranged beneath and in line with said means, means to reciprocate said slide toward and from said clamping means, a pin arranged in said slide and provided with an eyelet-receiving projection, means to deposit eyelets periodically upon said pin, and a removable needle having a shank adapted to be inserted in the pin in line with the eyelet thereon.

3. In a machine for attaching glove fasteners, the combination of an eyelet-feeding mechanism, means to control the passage of eyelets from said feeding mechanism, a plurality of pins, and means to move them vertically and to aline them with the discharge end of said feeding mechanism, and each having an eyelet-receiving projection, fabric piercing needles on said pins and above the eyelets thereon, and means to support a glove above the pins, so as to effect the piercing of the glove and the depositing of the eyelets in the holes in the glove resulting from such piercing.

4. In a machine for attaching glove fasteners, a vertically movable glove piercing and eyelet-inserting mechanism, and a glove clamping mechanism having a fixed jaw and a movable jaw, a common operating mechanism comprising a main rock-lever, a spring tension rod connecting the movable jaw of the clamping device and the rock-lever, and a rock-lever for actuating the glove-piercing and eyelet-inserting mechanism also connected with the said main rock-lever.

In testimony whereof we have hereunto set our hands this 26th day of June A. D. 1909.

JOHN H. GOSS.
GEORGE R. LEGGETT.

Witnesses:

HENRY FEHL,
G. F. HODGES.