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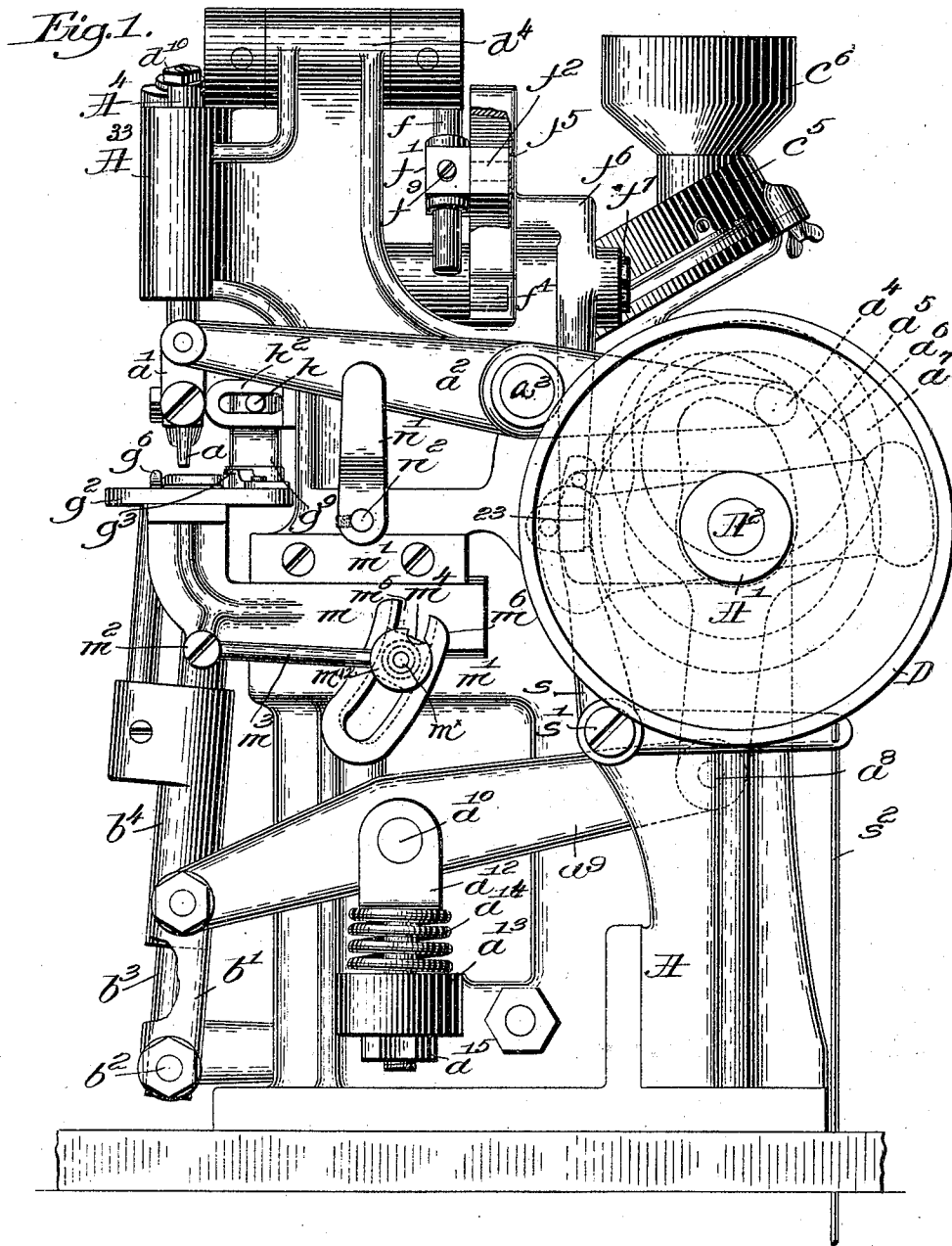
Patented Mar. 6, 1900.

L. C. EMERSON.
EYELETING MACHINE.

(Application filed May 27, 1897.)

(No Model.)

4 Sheets—Sheet 1.



witnesses:

Fred S. Grunkel.
Thomas J. Drummond.

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No. 645,048.

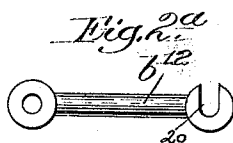
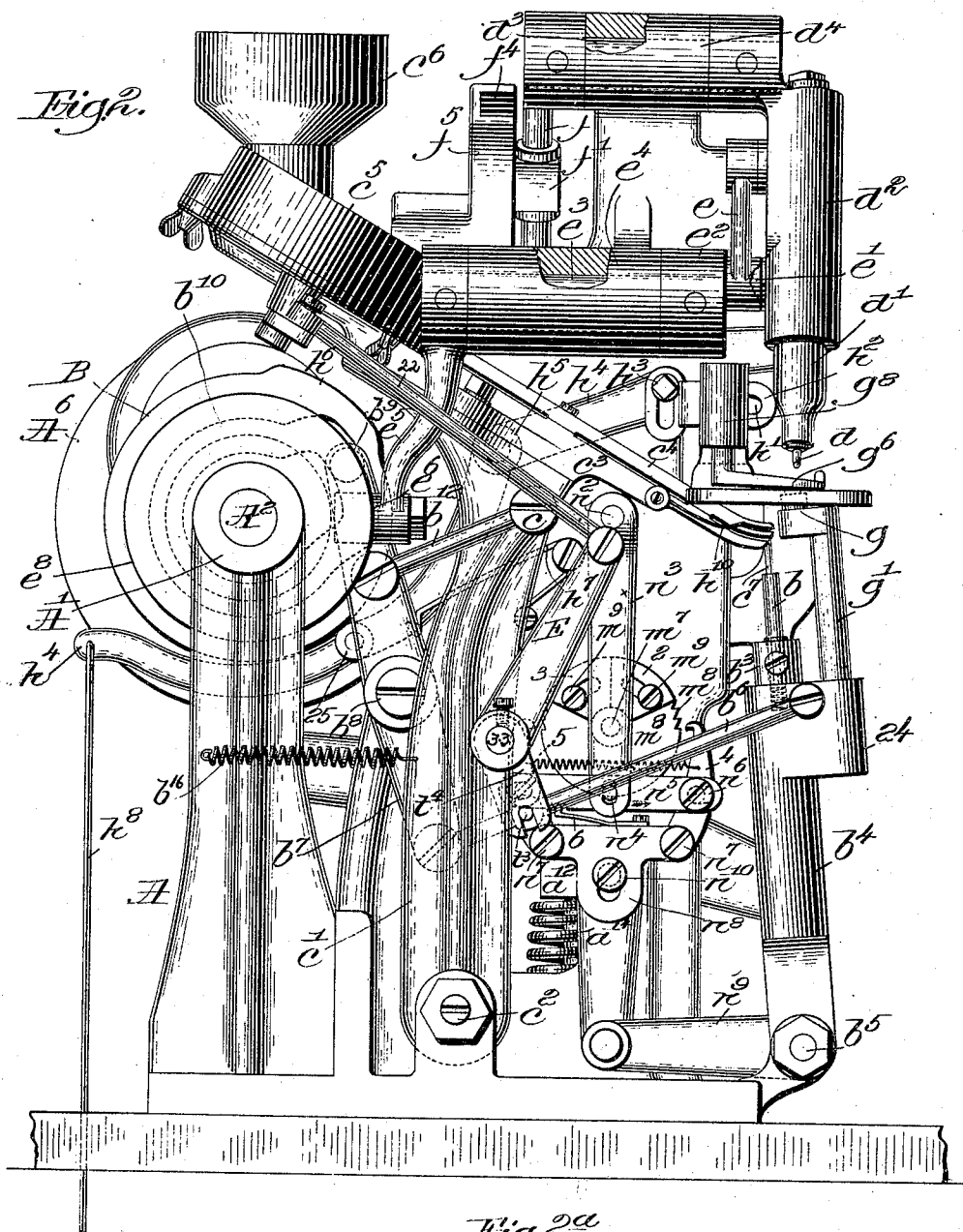
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(No Model.)

(Application filed May 27, 1897.)

4 Sheets—Sheet 2.



Witnesses:

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No. 645,048.

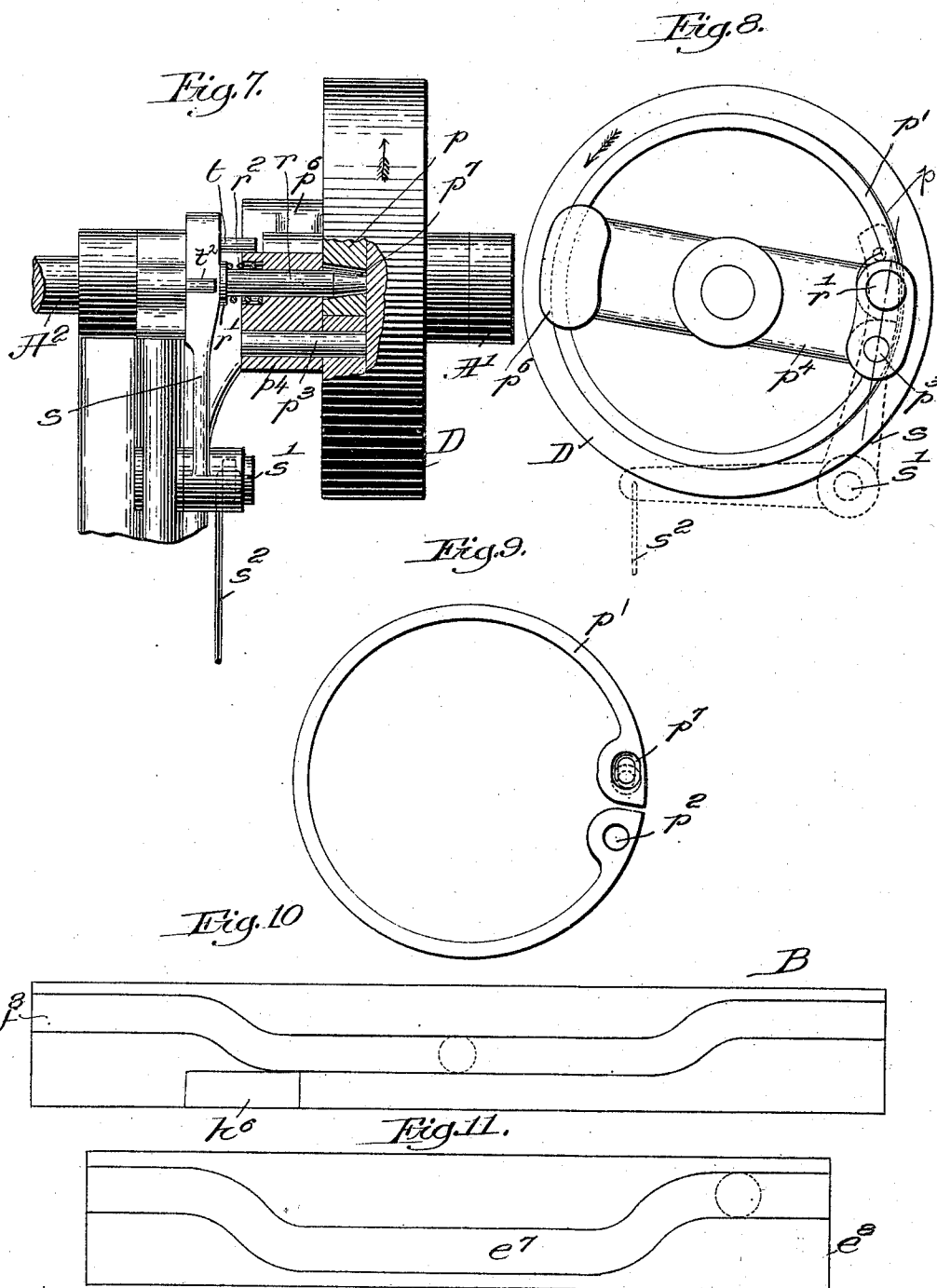
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EYELETING MACHINE.

(Application filed May 27, 1897.)

(No Model.)

4 Sheets—Sheet 4.



Witnesses:
Fred S. Grunke
Thomas L. Drummond

Inventor:
Lander C. Emerson.
by Crosby & Company

UNITED STATES PATENT OFFICE.

LOENDER C. EMERSON, OF GRAFTON, MASSACHUSETTS.

EYELETING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 645,048, dated March 6, 1900.

Application filed May 27, 1897. Serial No. 638,322. (No model.)

To all whom it may concern:

Be it known that I, LOENDER C. EMERSON, of Grafton, in the county of Worcester 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 and figures on the drawings representing like parts.

This invention has for its object the production of a novel eyeletting-machine, provision having been made for automatically spacing or setting back from the edge the eyelets at the lower end of each series of eyelets in the eyelet-pieces of the shoe.

In accordance with my invention I have devised means whereby I am enabled to impart to the work-support on which the eyelet-piece rests when the eyelets are being set into it a variable throw, it taking place when one or more of the lowermost eyelets of the series are being set, and this throw may be variable from one to another eyelet. I have also provided means whereby this varying spacing may be changed at will and be made more or less. I have also devised means whereby the punching to form the eyelet-holes is made variable in the manner above described.

The special features included in this invention will be hereinafter set forth in the specification and in the claims at the end thereof.

Figure 1 is a right-hand side elevation of an eyeletting-machine containing my improvements. Fig. 2 is a left-hand end elevation. Fig. 2^a shows the link b^{12} detached. Fig. 3 is a partial front elevation, some of the parts being shown in section to better represent other parts within the same. Fig. 4 is a detail of the connections with the upper-set carrier. Fig. 4^a shows the screw d^8 detached. Fig. 5 is a detail showing the work-support in plan view, together with part of the race-way and the edge-gage. Fig. 6 is a detail showing devices instrumental in controlling the spacing for the eyelets back from the edge of the eyelet-piece. Figs. 7, 8, and 9 are details referring to the clutch mechanism, and Figs. 10 and 11 show forms to be described laid out flat.

The framework A of the machine is of suitable shape to contain the working parts. This frame has suitable bearings A' for the recep-

tion of the main shaft A², which is provided with a series of cams, to be described, said cams actuating the working parts to be referred to. This frame has at its upper front right-hand end a cylindrical bearing A³⁸ for the reception of a shank A⁴, to which is attached a punch a , said shank having a vertical movement imparted to it through a link a' , connected to a lever a^2 , mounted on a pivot a^3 and having at its opposite end a roller or other stud a^4 , which enters a cam-groove a^5 , made at the outer side of the first cam-hub A⁸, fast on the main shaft A², from its right-hand end. This cam-hub has fast on its inner side an eccentric a^6 , (see Fig. 1,) which is surrounded by an eccentric-strap a^7 , jointed at a^8 to a lever a^9 , pivoted at a^{10} , said pivot being mounted in ears of a yoke a^{12} , the shank of said yoke being extended through a boss a^{13} , extended from the frame, said shank also passing through a spiral spring a^{14} , the shank having applied to its lower end a nut a^{15} , the adjustment of said nut on said shank determining the actual working ascent of the bottom set b , to be described, said spring also enabling the ascent of the bottom set to be arrested in case of any undue obstruction which the said bottom set meets in rising.

The lever a^9 has pivoted to its outer end a link b' , partially broken away in Fig. 1, the opposite end of said link being attached to a stud-screw b^2 , inserted in the lower end of the bottom-set carrier or plunger b^3 , said plunger being guided by and free to be reciprocated in a tubular arm b^4 , said arm being herein shown as part of an elbow-lever pivoted at b^5 . This lever is swung about the pivot b^5 by means of a link b^6 , (see Fig. 2,) the opposite end of said link being attached to the lower end of a lever b^7 , pivoted at b^8 , said lever having at its upper end a roller or other stud b^9 , which enters a cam-groove b^{10} (see dotted lines, Fig. 2) in a cam-hub B, also fast on the main shaft next to the hub A⁶, and the lever b^7 has also jointed to it a second link b^{12} .

The link b^{12} embraces at its front end a stud c , extended from a lever c' , having its fulcrum at c^2 , the upper end of said lever carrying the eyelet-receiving raceway c^3 , it being provided in usual manner with guides c^4 at its upper surface, which serve to keep the eyelets properly seated right side up in

the raceway, said raceway having cooperating with its upper end a hopper c^5 , which is fed with eyelets from a feeder c^6 . This hopper and feeder may be of usual construction and so need not be herein further described except to say that the hopper may contain any usual means for agitating or keeping in motion the eyelets contained in it, so that said eyelets will properly enter the raceway proper side up.

The lever b^7 in its movements actuates both the raceway, sliding it backward and forward, and also the bottom set, and the raceway and bottom set are moved simultaneously, but in opposite directions, so that when the bottom set is lifted, as will be described, the raceway being then in its forward position, the usual spring-supported plunger c^7 , (see Fig. 2,) contained within the bottom set, may enter the endmost eyelet in the raceway, and thereafter, as the lever b^7 is moved outwardly and the raceway in an opposite direction, the plunger standing in the eyelet takes it from the raceway, the bottom set finally arriving in vertical position directly under the top set d , the latter, which when this operation commenced stood at one side of the line of vertical movement of the bottom set, having by this time been brought also into vertical position. When the top and the bottom sets are in vertical positions, the bottom set is raised and the top set, to be described, is lowered and the eyelet is put into a hole previously made in the stock by the punch, the plunger disappears in the bottom set in usual manner, and the action of the two sets curls and flanges the eyelet outwardly, setting it firmly in the work.

The end of the link b^{13} , where it fits over the stud c , is slotted at 20, (see Fig. 2^a,) so that when desired the said link may be readily detached from said stud without removing the stud, thus temporarily stopping the movement of the raceway, and at such time a suitable spring b^{16} (see Fig. 2) may act to hold the lever c^7 , carrying the raceway so far back to the left, viewing Fig. 2, that the eyelet in the end of the raceway cannot be reached by the plunger of the bottom set, this being done only when it is desired to use the punch a for punching holes to receive the shanks of lacing-studs rather than holes for receiving eyelets. The top set d is attached to the lower end of a top-set-carrying bar d' , fitted to be reciprocated in a swinging sleeve d^2 , pivoted on a rock-shaft d^3 , mounted in a bearing d^4 , rising from the framework. The top-set-carrying bar is bored for part of its length, (see Fig. 4,) as at 21, and is slotted, as at 22, and the bored part of the bar is provided with screw-threads. The slot 22 receives in it a shoulder-stud d^6 , having a screw-threaded hole d^7 , and said hole, located inside the bore of the bar d' , receives in it a screw d^8 , having a collar d^9 , and the inner end of said screw bottoms in the bottom of the said bore. This screw is of such length that its upper shouldered end (see Fig. 4^a) extends above the top of said bore, and it passes through a hollow nut d^{10} , which is screwed into the threads cut in the upper end of the bar d' , the inner end of said nut acting on the collar d^9 of the said screw to retain it in any position in which it may be left.

The stud d^6 , connected with the screw d^8 , receives about it one end of a link e , (see Fig. 2,) the opposite end of which embraces a stud e' , mounted in one end of an arm e^2 , fast on one end of a rock-shaft e^3 , mounted in a suitable bearing e^4 of the framework, the said rock-shaft having fixed to its opposite end an arm e^5 , provided with a roller or other stud e^6 , which enters a cam-groove e^7 (see Fig. 11) in a cam-hub e^8 , said hub lying next the cam B on the main shaft, the rock-shaft referred to being employed to reciprocate the top set at the proper times, while the bottom set is rising, and the said top set has also imparted to it an oscillating movement. This oscillating movement of the top set is to enable it to also act to feed the material—an eyelet-piece—for the distance desired between one and the next eyelet to be set therein, it being so moved to feed the eyelet-piece after the eyelet has been set into it. To impart this feeding movement to the top set, the rock-shaft d^3 (see Figs. 2 and 3) at its end farthest from the sleeve d^2 has adjustably attached to it the hub of an arm f , which enters loosely a block f' , having a stud (see dotted lines, Figs. 1 and 2) extended therefrom on which is mounted loosely a slide-block f^2 , said slide-block entering loosely and sliding in a groove f^4 of an arm f^5 , said arm being carried by one end of a lever f^6 , pivoted at f^7 on a stud of the framework, the lower end of said lever (see Fig. 1) being provided with a roller or other stud 23, which enters a cam-groove f^8 (see Fig. 10) in the face of the cam-hub B. To control the length of the feeding-stroke of the top set, it is only necessary to, by the set-screw f^9 , adjust the foot f^2 on the arm f . The punch a cooperates with a punch-block g , mounted on a standard g' , adjustably secured in an extension 24 of the sleeve b^4 .

The eyelet-pieces to receive the eyelets are laid upon a table g^2 , provided with an edge gage g^3 , which is adjustable thereon, and said table is slotted at g^4 g^5 , (see Fig. 5,) so that the bottom set and its plunger and the punch-block may be moved laterally. The work is also acted upon by a suitable presser-foot g^6 , which is fitted into a sleeve g^8 , the said sleeve having a foot g^9 , which rests upon and is connected with the work-support by a suitable screw g^{10} . The shank g^7 of this presser-foot has extended from one side of it through a slot in the sleeve g^8 a stud h , which also enters a slot h' in an end piece h^2 , connected adjustably by a set-screw h^3 with one end of a lever h^4 , having its fulcrum at h^5 , the inner end of said lever having a roller or other stud 25, which is acted upon by a cam projection

The eyelet-pieces to receive the eyelets are laid upon a table g^2 , provided with an edge gage g^3 , which is adjustable thereon, and said table is slotted at g^4 g^5 , (see Fig. 5,) so that the bottom set and its plunger and the punch-block may be moved laterally. The work is also acted upon by a suitable presser-foot g^6 , which is fitted into a sleeve g^8 , the said sleeve having a foot g^9 , which rests upon and is connected with the work-support by a suitable screw g^{10} . The shank g^7 of this presser-foot has extended from one side of it through a slot in the sleeve g^8 a stud h , which also enters a slot h' in an end piece h^2 , connected adjustably by a set-screw h^3 with one end of a lever h^4 , having its fulcrum at h^5 , the inner end of said lever having a roller or other stud 25, which is acted upon by a cam projection

h^5 , (see Fig. 2,) extended from cam B, said cam acting to raise said presser to permit the work to be fed over the work-support; but at all other times the presser-foot clamps the work on the work-support, the extent of the clamping action being controlled by a suitable spring h^7 .

The end of the lever h^4 is extended to the rear side of the machine, so that it may be either engaged by hand when it is desired to lift the presser-foot for the removal or insertion of the work, or said lever may have connected with it a suitable treadle-rod h^8 , to which may be jointed any suitable treadle at the floor. The screw h^3 is tapped into the end of the lever h^4 , and when it is loosened the presser-guide may be adjusted to adapt the presser-foot to the particular thickness of the work being operated upon.

The raceway has a stop-spring h^{10} , which holds temporarily the endmost eyelet in place therein, said stop-spring being all as usual.

With the devices so far described the eyelets will be spaced or set uniformly from the edge of the eyelet-piece; but in practice one or two of the eyelets, or it may be three, are to be spaced or set back from the edge of said eyelet-piece farther than the eyelets farther up on said piece, and so to provide for this spacing I have attached to the machine spacing mechanism, which I will now describe. The work-support forms a part of this spacing mechanism, and it is attached to one end of a slide-bar m , fitted in a suitable guideway m' of the framework, said slide-bar m having attached to it a stud m^2 , over which is placed one end of a link m^3 , the opposite end of said link receiving the threaded shank m^x of a block m^4 , which enters and is made adjustable by a nut m^{12} in a groove m^5 of a rocking arm m^5 , fast on a rock-shaft m^7 , (see Fig. 2,) the opposite end of said rock-shaft having fast upon it (see Figs. 2 and 6) a ratchet-toothed disk m^8 , said disk having fixed adjustably to it by suitable screws m^9 m^{9x} two masking-plates 2 and 3, said masking-plates being capable of adjustment so as to cover or mask any desired number of the teeth cut in the edge of the disk. These masking-plates are herein so set as to leave three teeth uncovered, and in such condition three of the lowermost eyelets in the eyelet-piece will be spaced or set farther back or in from the edge of the eyelet-piece, as stated; but if only one or if only two eyelets were to be so spaced back from the edge then the masking-plates would be correspondingly adjusted to leave one or two teeth uncovered to be engaged by one of the pawls 4 or 5, that depending upon whether the eyelet-piece is to go into the right or left hand side of the shoe.

The pawls 4 and 5 will generally be used only as the endmost eyelets nearest the cam are being set. Suppose that the eyelets are being set into an eyelet-piece from its upper toward its lower end and that these eyelets are to be spaced or set back from the edge.

The operator just after the fourth eyelet from the lower end of the piece has been set engages by hand and turns the short lever n' , (see Fig. 1,) moving it toward the right, and in so doing turns the rock-shaft n^2 , and with it the arm n^3 , (see Fig. 2,) causing the latter, it embracing a stud n^4 in a bar n^5 , to move said bar in the direction of the arrow upon it in Fig. 2, the bar so moved throwing the pawl 5 into position to engage the teeth of the ratchet-plate m^8 when the pawl-carrier n^8 next descends, as it will do when the bottom set is returned into position to enter the eyelet to be set—viz., the third eyelet from the end—it being spaced or set back, and at this same time the pawl 4 will be still farther removed from said ratchet-wheel. The link n^5 is slotted at its ends to receive like set-screws n^6 , which enter, respectively, the said pawls 4 and 5, said slots enabling the said pawls to be vibrated somewhat about their pivots n^7 , as is necessary to enable the same to engage and actuate one tooth after another of the said ratchet-wheel. The link n^5 must be held in the position in which it is put by the arms n' and n^3 , and this is done by a locking device 6, shown as a spring entering one or another of a series of notches in the under side of the said link. The pivots n^7 are mounted on the pawl-carrier n^8 , and the latter is jointed at its lower end to an arm n^9 , extended backwardly from and is herein shown as forming a part of the sleeve b^4 , said pawl-carrier being shown as slotted to receive a guiding-stud n^{10} . It will be understood that the sleeve b^4 is turned over toward the right from the position Fig. 2, when an eyelet is being set, and, as it has been stated, let it be supposed that the said machine is next to take and set the third eyelet from the lower end of the eyelet-piece. When the sleeve b^4 was so moved to the right to set the fourth eyelet from the end, the operator, while the pawls 4 and 5 were elevated and out of contact with the ratchet-plate, turned the lever n' , as stated, and moved the link n^5 , thereby moving the pawls, putting pawl 5 in position to engage a ratchet-tooth, so that when the sleeve b^4 , carrying the bottom set, is moved back to the left to put the bottom set and its plunger in position for the plunger in its next position to enter the eyelet thereof taken from the raceway and to be set as the third eyelet from the end of the eyelet-piece, said pawl 5 in the descent of the pawl-carrier will engage the lowermost ratchet-tooth of the series of ratchet-teeth with which it coöperates and will turn the shaft m^7 , and with it the grooved arm m^6 , and so pull back the slide-bar m , and with it the work-support and the work resting thereon, with its edge against the edge gage g^3 . In this position the punch a will act to punch a hole farther back from the edge, and thereafter as the bottom and top sets approach each other to set the eyelet taken from the raceway at the next rise of the bottom set said eyelet will be set in said punched hole as the third

eyelet from the lower end of the eyelet-piece, and it will be set or spaced back from the edge of the eyelet-piece farther than the eyelets previously set. At its next operation the pawl 5 will act upon another tooth and further turn the shaft m^7 to effect a further movement of the work-support and place the work thereon in a position such that the punch will again act and punch a hole through it at a distance back from its edge farther than the hole made for the reception of the said third eyelet from the end, and the bottom set as it rises will by its plunger again enter and take from the raceway an eyelet and will set it in said hole, &c., for as many teeth as may be exposed to the action of said pawls. The lowermost eyelet having been set in one eyelet-piece, the eyelets must be set in the opposite piece—i. e., there are right and left hand pieces in each shoe—and to do this the setting is commenced at the lower end of the eyelet-piece; but just before starting the machine to set the eyelets in the second piece the operator will pull the lever n way over to the left, thus putting the pawl 4 into operative position with relation to the ratchet-plate, so that it will act as described on pawl 5 and put the work-support back step by step into its normal position.

The main shaft A^2 has loosely mounted upon it a belt-pulley D, provided at one edge with a space to leave walls p inside this space, and against this circular wall I have placed an open split ring p' . One end of this ring has a hole p^2 , which receives a stud p^3 , said stud being carried by a lever p^4 , having a hole to fit over a part of the main shaft, said lever having at its opposite end a counterbalancing-weight p^6 . The opposite end of the split ring p' is provided with an elongated tapering hole p^7 , in which may enter the end of a sliding pin r , said pin having a head r' , which is acted upon by a spring r^2 , surrounding the pin and contained partially within a chamber formed in one side of the lever p^4 .

The machine-frame has mounted upon it a starting-lever s , shown as an elbow-lever, mounted upon a set-screw s' , the said lever having attached to it a link s^2 , which is connected with any suitable treadle at the floor. When the lever s occupies a position opposite and against the head r' of the said pin, it will be forced sufficiently far through the lever p^4 and into the tapered hole p^7 to contract the split ring p' and cause it to release its hold upon the inner wall p of the belt-pulley D, so that said pulley may then run loosely on the main shaft; but when the lever s is turned to remove it from contact with the head of the said pin then the spring r^2 retracts the pin entirely from the tapering hole p^7 and lets the ring expand. The lever S has a projection t extended from it, which when in the position, Figs. 7 and 8 rests over the enlarged end of the lever p^4 and acts to prevent the rotation of the said lever; but when

said lever is moved to carry the projection away from said enlarged end the said lever is free to be started by the friction between the said pulley and ring. The lever S when the machine is at rest bears against a stop t^2 .

The rod or link b^6 has a stud t^3 , which enters a slot in an arm t^4 of a rock-shaft 33, turning it and a second arm E, having a link 22, which is attached to any suitable agitator to keep the eyelets in motion in the hopper c^5 .

The normal extent of the lateral movement of the work-support may be made more or less by adjusting the block m^4 more or less in the slot m^5 of the rocking arm m^6 .

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an eyeleting-machine, the following instrumentalities, viz: a top set, a bottom set; means to actuate them; a work-support slotted for the said top and bottom set to enter therein, said support having an attached edge-gage and presser-foot; combined with means for feeding the work relatively to the work-support, means connected with the presser-foot to lift it when the eyelet-piece has to be fed with relation to the work-support; and means to move the work-support with its attached edge-gage and presser-foot laterally at the proper times to position the eyelet-piece held between said foot and said work-support, that eyelets may be set at varying distances back from the edge of the eyelet-piece, substantially as described.

2. In an eyeleting-machine the following instrumentalities, viz: a punch, means to operate it, a top and bottom set, means to actuate them, a slotted work-support having an edge-gage and a presser-foot, and means to move the work-support with its edge-gage and presser-foot laterally at the proper times between said top and bottom sets, to so position the work held by the said presser-foot on the said work-support that eyelets may be set farther back from the edge of an eyelet-piece, substantially as described.

3. In an eyeleting-machine, a slotted work-support having attached to it an edge-gage and a presser-foot, means to move the said work-support laterally to enable the eyelets to be set in the material under the presser-foot at different distances back from the edge of the said material, means to clamp and unclamp the material, and a top set, combined with means to feed the material over said work-support when the said presser-foot is raised to unclamp the material, substantially as described.

4. A slotted work-support having an attached edge-gage and a presser-foot, and a top and a bottom set; combined with a shaft m^7 , connections between it and said work-support, a ratchet-plate attached to said shaft, and means to actuate said ratchet-plate intermittingly to thereby control step by step the position of the work-support and effect

the spacing of the eyelets back farther from the edge of the eyelet-pieces, substantially as described.

5 The work-support having an attached shank and connected link m^3 , the rock-shaft m^7 having an arm m^6 with which the said link is adjustably connected, the ratchet-plate attached to said shaft, a pawl-carrier and two pawls carried thereby, combined
10 with a link connecting said pawls, and means for moving said link to put one and then the other of said pawls into operative position with relation to said ratchet-plate, to operate, substantially as described.

15 6. A top set, means to actuate it to effect the feeding of the material from one to the next eyelet-hole, a bottom set, its carrier, a pivoted sleeve in which said bottom-set carrier is mounted loosely, means to move said
20 carrier vertically in said sleeve, a raceway, a lever, a cam to move said lever, connections between said lever and said sleeve to move it positively backward and forward to enable the bottom set to enter the endmost eyelet of the raceway and carry it into position in line
25 with the top set preparatory to setting the eyelet to operate substantially as and for the purpose set forth.

7. In an eyeletting-machine, the following
30 instrumentalities, viz: a top set, means to actuate said top set to effect the feeding of the work from one to the next eyelet-hole, a bottom set, a carrier for said bottom set, means for operating said bottom set, a punch,
35 means to reciprocate it vertically, a punch-block, a pivoted standard carrying said punch-block, means to move said standard and punch-block horizontally back and forth for a
40 uniform distance, combined with a slotted work-support having attached to it an edge-gage and a presser-foot, and means to automatically move said work-support variably to place it and the work thereon under the
45 work on said punch that the latter coöperating with said punch-block may work automatically to cut holes in the eyelet-piece at different distances back from its edge, substantially as described.

8. In an eyeletting-machine the following
50 instrumentalities, viz: pivoted sleeve b^4 , a bottom-set carrier mounted in said sleeve and provided with a bottom set; means to move said bottom-set carrier in said sleeve; a punching-block g also carried by said sleeve, a
55 punch, means to move it vertically; a top set, means to move it vertically and laterally; a raceway, a lever c' carrying said raceway, a lever b^7 and connections between said lever and said sleeve and the lever carrying the
60 raceway, and means to operate the said lever b^7 to vibrate said sleeve at the proper times, substantially as described.

9. The pivoted sleeve b^4 , the under-set carrier b^3 mounted therein and provided with an
65 under set, means to vibrate said sleeve, a lever a^9 , connections between it and said bottom-set carrier, a spring to support the fulcrum

of said lever, and means to actuate said lever, the said spring yielding to any unnatural obstructions which may be encountered
70 by the bottom set, substantially as described.

10. In an eyeletting-machine, a work-support having an attached edge-gage, and a
75 presser-foot, a lever connected with the shank of said presser-foot, combined with means to move said lever to raise and lower said presser-foot, and with means to at times change the position of the said work-support its edge-gage and presser-foot laterally, as when eye-
80 lets are being set or spaced back farther from the edge of the eyelet-piece, substantially as described.

11. The sleeve d^2 , the top-set carrier or bar located therein and provided with a top set, a rock-shaft supporting said sleeve and pro-
85 vided with an arm f , a block having a stud and adjustable on said arm, said stud having mounted on it loosely a slide-block, a lever provided with a block having a groove f^4 , and means to move said lever whereby the
90 top set may be moved laterally to effect the feeding of the material after the setting of an eyelet therein, substantially as described.

12. In an eyeletting-machine the following
95 instrumentalities, viz: a punch, means to actuate it, a top and bottom set, means to actuate them, a slotted work-support having an attached slotted edge-gage, automatic means to gradually move the work-support with its
100 attached edge-gage laterally at the proper time with relation to said punch and top and bottom set, to thereby position the work resting on the said work-support with its edge against said edge-gage, that holes may be
105 punched and eyelets may be set at any desired distance back from the edge of the eyelet-piece in which holes are to be punched and the eyelets set, substantially as described.

13. In an eyeletting-machine, the following
110 instrumentalities, viz: a top set, a bottom set, means to actuate them a work-support having a longitudinal and a lateral slot in which may work the said top and bottom sets, and an edge-gage attached to said work-sup-
115 port, combined with automatic means to gradually move said work-support and its edge-gage to place the edge of the eyelet-piece in changed position with relation to the said sets, that the said eyelet-piece may receive
120 eyelets therein at different distances from its edge, substantially as described.

14. In a machine for setting eyelets, rivets, and the like, the combination with the setting
125 devices; of a gage for determining the position of the stock with relation thereto; an automatic device for progressively shifting the position of said gage between successive setting operations; and thereby causing the line of work to deviate from a course parallel
130 to the edge of the stock; and means whereby said device is caused to operate during a portion only of a series of operations of the setting devices, the position of said gage with relation to the setting devices remaining un-

changed during the remainder of the series, substantially as described.

15. The combination with the stock-feeding device, of a gage for the stock, actuating mechanism for said gage to produce a movement thereof with relation to the said feeding device, said actuating mechanism being normally disconnected from said gage, and means for connecting said gage with its actuating

mechanism to produce a movement thereof, substantially as described.

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

LOENDER C. EMERSON.

Witnesses:

JOHN B. CAMPBELL,
H. L. GARRETSON.