

April 6, 1926.

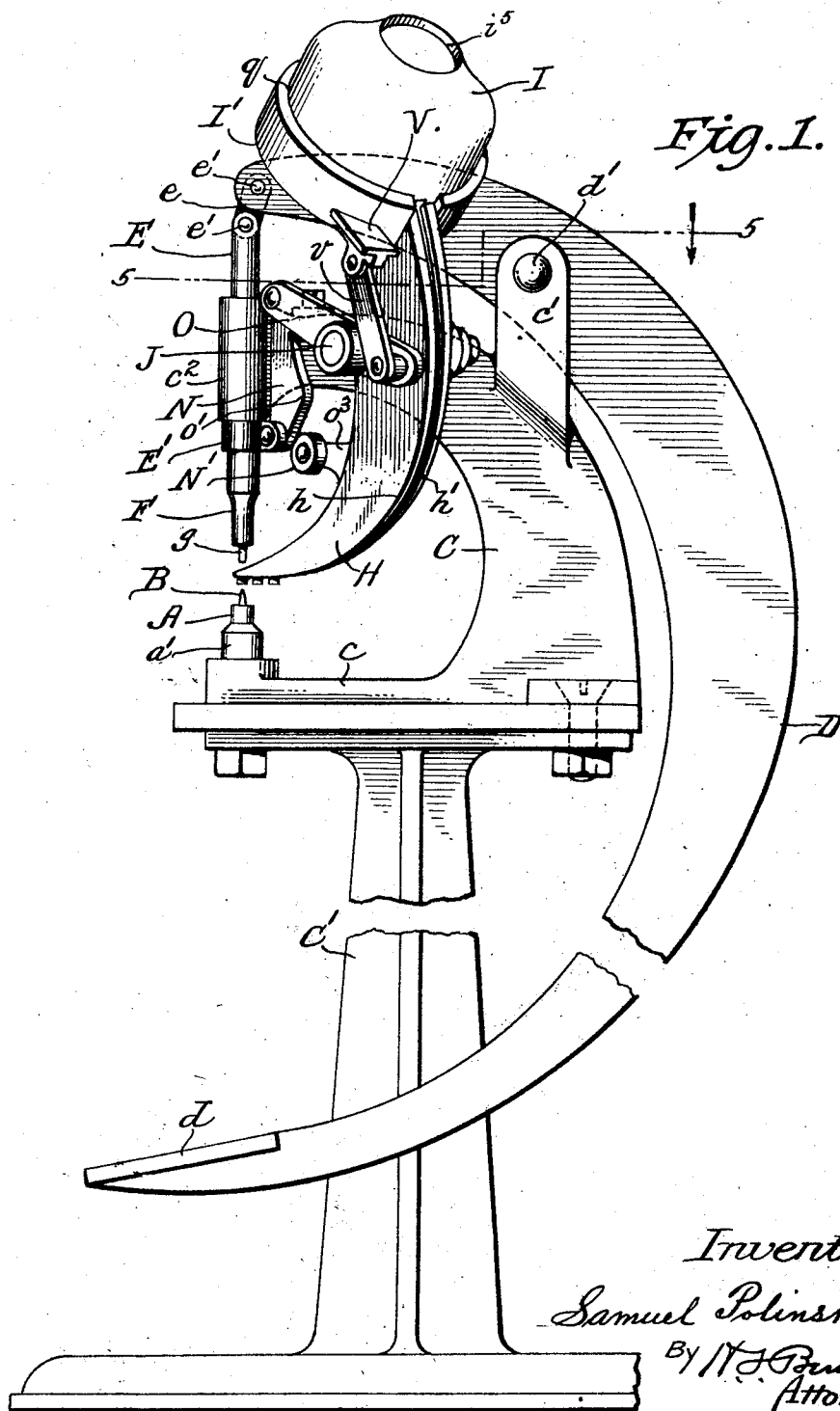
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S. POLINSKY

EYELET SETTING MACHINE

Filed May 12, 1922

3 Sheets-Sheet 1



Inventor,

Samuel Polinsky

By W. J. Bernhard
Attorney.

April 6 , 1926.

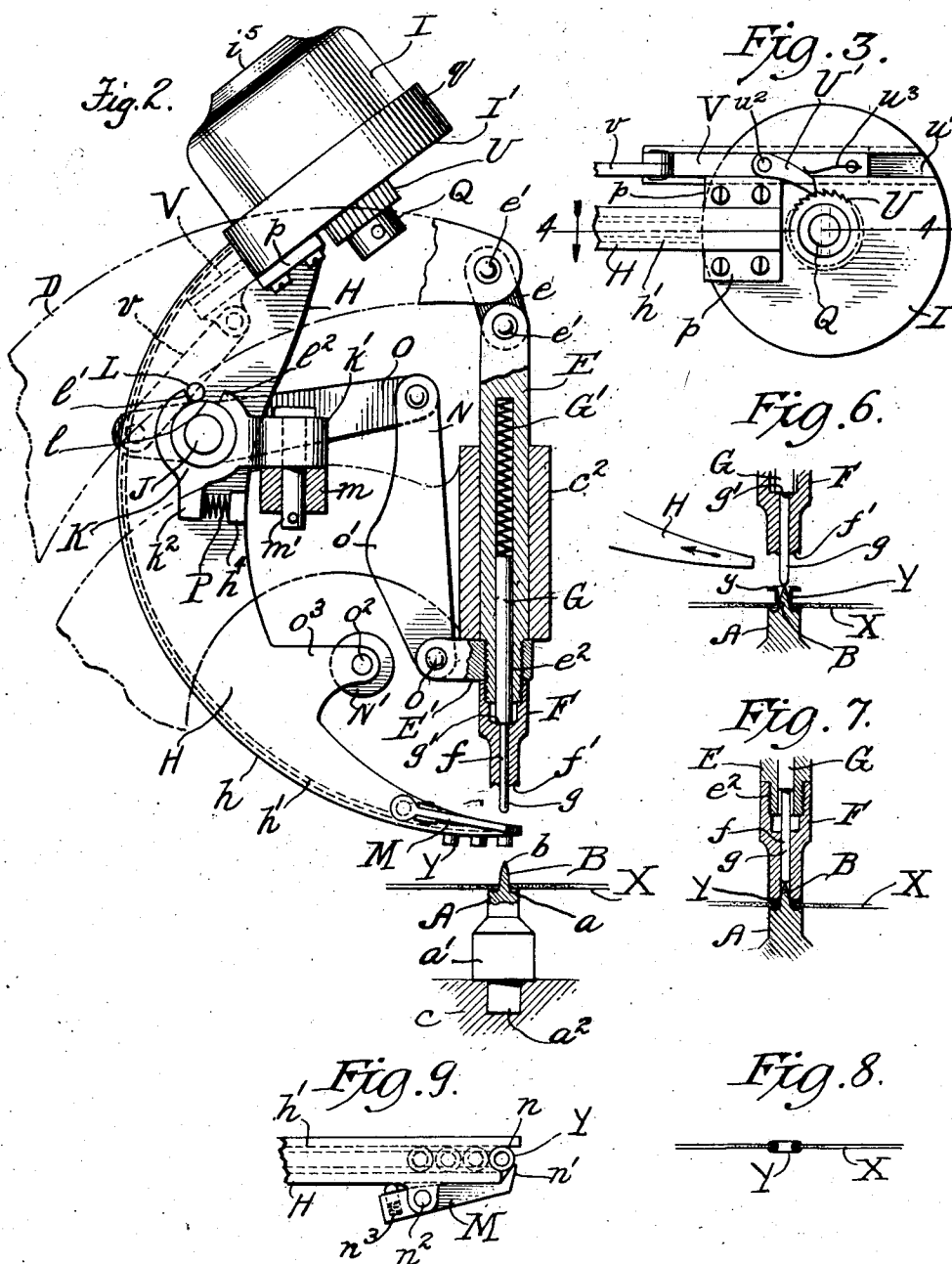
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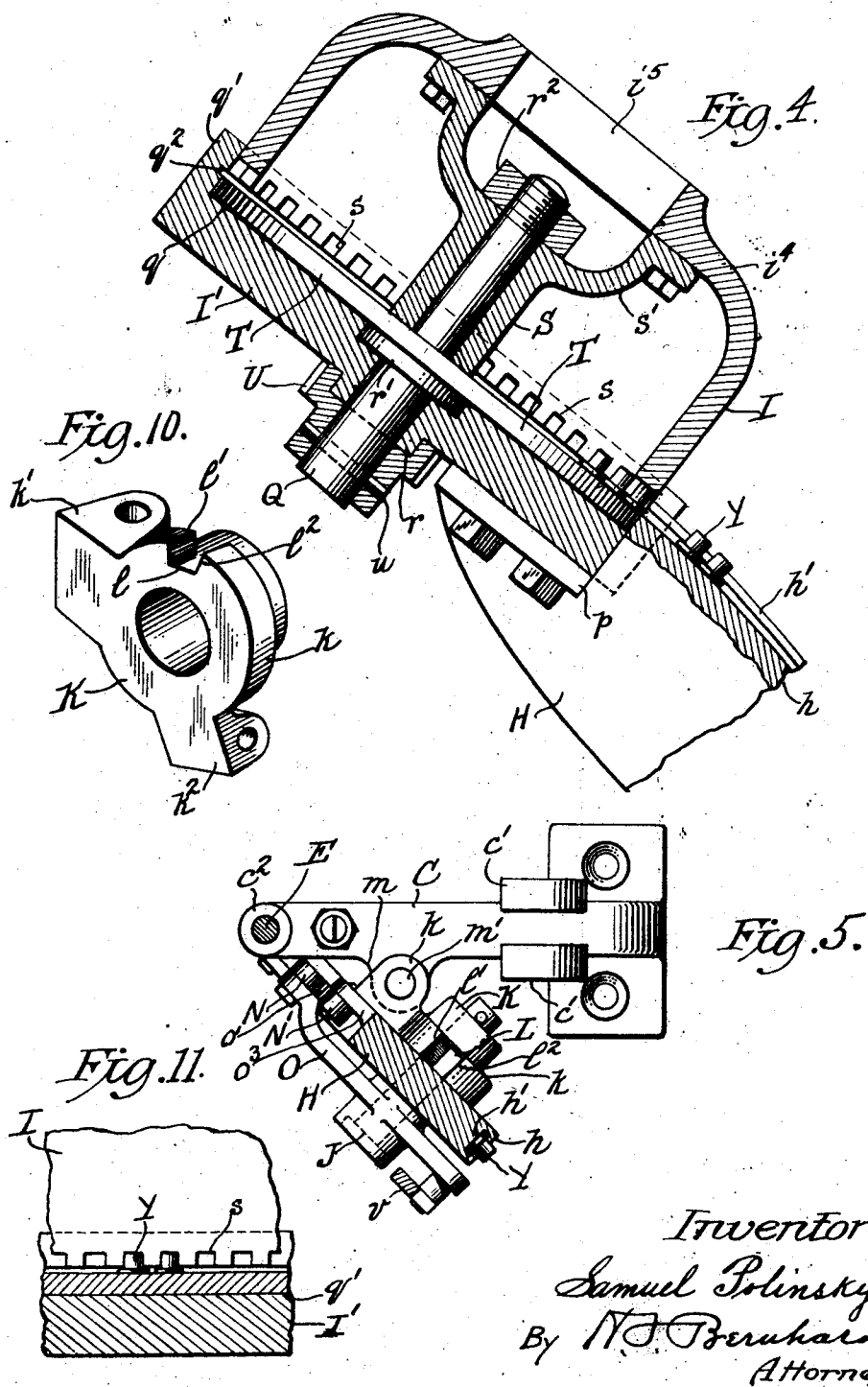
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S. POLINSKY

EYELET SETTING MACHINE

Filed May 12, 1922

3 Sheets-Sheet 3



UNITED STATES PATENT OFFICE.

SAMUEL POLINSKY, OF LONG ISLAND CITY, NEW YORK, ASSIGNOR TO DEFIANCE
BUTTON MACHINE CO., OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

EYELET-SETTING MACHINE.

Application filed May 12, 1922. Serial No. 560,283.

To all whom it may concern:

Be it known that I, SAMUEL POLINSKY, a subject of Russia, residing at Long Island City, county of Queens, and State of New York, have invented a certain new and useful Eyelet-Setting Machine, of which the following is a specification.

This invention is an eyelet setting machine, wherein provision is made for the automatic feeding of eyelets from a hopper in such manner as to present with certainty the flanged edge of said eyelets in the required relation to an upsetting means; further, to control the feed of the eyelets successively to said upsetting means; further, to position each eyelet in the required relation to an anvil die and to a plunger die constituting said upsetting means, as well as to retain each eyelet in said relation to the material during that movement of the parts necessary to effect the operation of upsetting or clenching said eyelet; and, further, to provide for the automatic operation of the several mechanisms by the movement of a single operating means which is adapted to be set into motion either by the efforts of an operator or by power.

Other functions and advantages of the invention will appear from the following description taken in connection with the drawings, wherein—

Figure 1 is a view of the machine in side elevation, with the eyelet feeding mechanism in perspective.

Figure 2 is an enlarged view partly in section and with the anvil die and the plunger die in section, illustrating the position of the material to which the eyelet is to be affixed and with the eyelet in the position to be fed from a runway to the material and to the upsetting dies.

Figure 3 is an inverted plan view looking at the bottom of the magazine, illustrating the ratchet mechanism by which a rotative step movement is given to said magazine.

Figure 4 is a sectional view partly in elevation, and on an enlarged scale, in the plane indicated by the dotted line 4—4 of Figure 3.

Figure 5 is a horizontal section taken in the plane indicated by the irregular line 5—5 of Figure 1.

Figure 6 is a sectional elevation of the anvil die and the plunger die with a retaining plunger in elevation, showing diagrammatically the eyelet and the material retained in position prior to upsetting said eyelet.

Figure 7 is a view similar to Figure 6 with the anvil die and the plunger die in closed relation for upsetting or clenching the eyelet, showing the position of the retaining plunger with respect to the eyelet during the clenching operation.

Figure 8 is a detail view of the eyelet clenched in the material.

Figure 9 is a detail plan view of the delivery end of the rockable eyelet feed member and the escapement by which the eyelets are successively positioned for the reception of the retaining plunger.

Figure 10 is an enlarged perspective view illustrating the stopping means for the rockable feed member.

Figure 11 is an enlarged fragmentary view partly in section and partly in elevation of the rotatable magazine and the table whereby the eyelets are positioned for properly feeding the same to the runway of the rockable feed member.

Referring more particularly to Figures 1, 2, 6 and 7, A is the anvil die provided on its upper face with a recess *a*, and B is a piercing member or needle extending upwardly from the recessed face of the anvil die, substantially centrally thereof. Said anvil die is shown as having an enlarged base *a'* and a depending stem *a''*, said die being imposed on a horizontal member *c* of an upright head or "goose neck" C, and said die being retained fixedly in place by the stem *a''* thereof being attached in a suitable manner to the member *c*. The piercing member or needle B may be of a desired form in cross section, such as cylindrical, triangular, etc., and the free end of said upstanding needle is pointed, at *b*, with a view to facilitating the operation of piercing the fabric, or other material, indicated at X, as consisting of one or more layers or plies of fabric. The head C is imposed upon, and attached fixedly to, the upper part of a pedestal C' by which the several working mechanisms are supported at a height convenient for the work of the operator stationed at the ma-

chine. Said head C is provided intermediate its ends with upstanding arms c' and at its otherwise free overhanging end with a sleeve c^2 . Extending between the arms c' is an operating device or member D herein shown as an elongated curved lever vertically positioned with reference to the pedestal C' and head C, with the upper part of said curved lever in a spaced and elevated relation to the sleeve c^2 , and with the lower part of the curved lever terminating close to the floor on which the machine is erected. Said lower end of the curved lever is provided with a pressure plate d on which the foot of the operator is adapted to be placed for the purpose of applying pressure to the lever and to impart movement thereto. The lever is mounted in the arms c' by a cross pin or bolt d' passing through said lever at a point some distance from the upper end portion thereof, whereby the lever is hung for the major part of the weight to lie below the fulcrum so that the lever returns by gravity to a normal position convenient to access by the operator.

E is a plunger positioned vertically over and in alignment with, the anvil die, said plunger being fitted for slidable movement within the guides c^2 (see Figure 2) and being operable by direct connections with the upper end portion of the operating treadle lever D, said connection being shown as a link e , the end portions of which are connected pivotally at e' to the upper end of lever D and the upper end of plunger E. Said plunger is hollow or of tubular formation, and the lower part of said plunger is reduced and threaded to produce a tubular threaded tenon e^2 , on which tenon is screwed a collar E' and a plunger die F. Said plunger die is shown as comprising a body member of hollow formation to produce a longitudinal passage f the upper part of which is enlarged in diameter and female threaded to adapt said die body for threaded connection with the tenon e^2 of the plunger whereby the die F is adapted for ready attachment to, and detachment from, the plunger. Said die F is provided in its lower face with a recess f' fashioned to accommodate the flange y of an eyelet Y adapted to be positioned in telescoping relation to the piercing member or needle B, see Figures 6 and 7.

G is a retaining member fitted slidably within the tubular plunger so as to partake of the vertical travel thereof, and to be capable also of a limited play or movement independently of the movement of the plunger; whereby the retaining member may be said to operate in a manner so as to warrant reference thereto as a "disappearing punch". The member G is reduced in diameter for a part of its length so as to produce a finger g and a shoulder g' , and said mem-

ber G is backed by a spring G' encased within the tubular plunger and in contact normally with the upper end portion of member G, see Figure 2, whereby said spring acts to depress the member G within the tubular plunger for the shoulder g' to rest upon the body member f of the plunger die and for the lower portion of finger g to be exposed normally below the recessed face f' of said plunger die.

H is a rockable feeder for the eyelets and I is a magazine carried by said feeder for movement therewith. The rockable feeder comprises a longitudinal curved body one face h of which is continuously curved in an arc of a desired radius, said arcuate face being provided with an eyelet runway h' , shown in Figure 5 as consisting of adjacent channels of different widths and in communication one with the other, whereby the bodies of the eyelets will be received partly within the narrower channel whereas the flanged portions of said eyelets will occupy the wider channel in a manner to preclude the eyelets from dropping out of the runway while at the same time permitting said eyelets to run or slide freely within the runway. Said feeder is vertically positioned with respect to the dies A F for the lower delivery end of the feeder to be in operative relation to said dies and to be movable relatively thereto whereby the feeder is operable to introduce the lowermost eyelet confined within the runway into a position intermediate the lower anvil die and the plunger die when the latter die is in an elevated position, see Figure 2. The rockable feeder is in a transverse plane inclined to the vertical plane of the head C, as shown in Figures 1 and 5, and said feeder is fulcrumed intermediate its ends by a horizontal bolt or spindle J which is supported by a bracket K of the head or "goose neck" C. Said bracket is shown in Figure 10 as comprising a casting in the form of a hub k with an attaching lug k' and a depending lug k^2 , said hub being axially pierced for the accommodation of the bolt or spindle J and said hub being provided with a notch l presenting spaced shoulders l' l^2 acting as abutments for a stop pin L on the rockable feeder H for arresting the pivotal movement of said feeder in either direction, see Figures 5 and 10. The head C is provided adjacent the sleeve c^2 with a lug m extending laterally from the head, and with this lug m co-operates the lug k' of the bracket so that a bolt m' will pass through the head-lug m and the bracket-lug k' for effecting the rigid attachment of the bracket K to head C, said bracket standing at a desired angle to the vertical plane of the head C, see Figure 5, and said bracket K being shiftable with the bolt m' as its axis of movement so that the angular relation of

the bracket to the head may be changed as found desirable, and, accordingly, provision is made for shifting the angular relation of the rockable feeder H to the plane of the head C.

Said rockable feeder is shown as a longitudinally tapering metallic part, with a narrow smaller end adapted to operate in the space separating the plunger die from the anvil die, whereas the wider or expanded upper part of the feeder is adapted for directly supporting the magazine I. The runway h' for the eyelets opens through the arcuate face h of said feeder and extends clear down to a notch n provided in the delivery face of said narrow end portion of said feeder, see Figure 9. Co-operating with the notched delivery end n of the feeder is an escapement M, shown in Figure 9 as a dog with a beveled nose n' , said dog being positioned on one side of the feeder H and pivoted thereto at n^2 , whereby the dog is mounted on the feeder for movement therewith relatively to the upsetting dies and is capable, also, of a limited independent movement under the impulse of a spring n^3 , indicated by dotted lines in Figure 9. Said spring acts on the dog to throw the nose n' thereof into contact with that eyelet which occupies the notched delivery end n of the feeder, as a result of which the dog retains the end eyelet of the series of eyelets within the notched delivery end of the feeder and thus precludes said eyelet from dropping out of the feeder, but when said foremost eyelet is engaged by the finger g of the retaining plunger G and the feeder is mechanically shifted away from position between dies A, F, then the dog M is yieldable to the pull of the eyelet in a manner for the eyelet to remain in position on the plunger finger during the recession of the feeder. When the eyelet is freed, the same slides by gravity along the finger g and drops into place over the piercing member or needle B and upon the material X, as depicted in Figure 6.

Movement is imparted to the rockable feeder by the travel of the plunger E in a manner to synchronize the action of the feeder with the plunger, and, to this end, I employ a cam link N and a cam driven roller N', see Figures 1 and 2, said cam link serving the additional function of imparting movement to a rocking arm O by which rotative step movement is given to the magazine, as will presently appear. The cam link is vertically positioned adjacent the sleeve c^2 of head C, the lower end of said cam link being pivoted at o to the collar E' fast on the plunger E. Said link N is shown as having a swell or cam o' , with which contacts the roller N' mounted to turn freely on a pin o^2 of a lug o^3 forming a part of the rockable feeder H, see Figure

2, whereby on the downstroke of the plunger the link N is drawn downwardly thereby causing cam o' to ride on the roller N' and thus the feeder is mechanically actuated by imparting pivotal movement for shifting the delivery end portion of said feeder out of the path of the plunger. Obviously, the plunger on its upstroke actuates the cam link to withdraw its cam or swell from the roller N', permitting the feeder to return by gravity to normal position wherein the notched delivery end is in a position intermediate the stationary anvil die and the movable plunger die, but the rocking movement of the feeder is arrested positively within certain limits by the stop L operating within the notch l of the fixed bracket K so as to coact with the shoulders l' , l^2 .

The throw or movement in one direction of the rockable feeder H under the pressure of the cam link is cushioned by a buffer shown in Figure 2 as a coiled spring P, one end of which is seated in contact with the lug k^2 of the fixed bracket K, whereas the other end of the spring is in contact with a shoulder h^4 of the rockable feeder H, see Figure 2, said shoulder h^4 being movable with said feeder in a manner to compress the spring P when the feeder is shifted by the cam link N riding upon the roller N' and said spring P co-operating with the shoulder h^4 for returning the feeder promptly to a position to deliver the next eyelet in the path of the retaining plunger G.

The upper end portion of the rockable feeder is provided with laterally extending flanges p on which is fitted a base member I' of magazine I, see Figures 2, 3 and 4, said base member being fixedly attached to said flanged end of the feeder. Said magazine base is recessed at q on the inner face thereof, and provided with a projecting peripheral flange q' , the inner surface of which is formed with an annular groove or channel q^2 extending in a plane intermediate the recess q and the edge of the peripheral flange q' , see Figure 4. The magazine base is provided with a bearing r for a stub shaft Q, the latter being adapted to receive a collar r' of a table T and the end portion of said stub shaft being threaded for the reception of a nut r^2 .

The magazine I is a shell of substantially cylindrical form, open at one end and partly closed at the other end by a head i^4 in which is provided an opening i^3 for the introduction of the eyelets. The inner edge of the magazine shell is fitted snugly within the flange q' of the stationary base member I' so that the magazine shell is free to rotate within the peripheral flange, and this free edge of the magazine shell is provided with a continuous series of notches s , the same being suitably spaced and each notch opening through the edge of the shell, see Figures 4

and 11. Said inner notched edge of the rotative magazine shell is so related to the peripheral flange q' of the base member I' that said edge is in a plane adjacent the annular groove q^2 of the flange, and these notches s of the shell are adapted to receive the tubular bodies of the eyelets whereas the groove q^2 accommodates the flanged rims of said eyelets, as shown in Figures 4 and 11, whereby the eyelets are positioned by the shell to enter the runway h' of the feeder. The magazine shell is rotatable with the stub shaft Q , and as one means for rigidly connecting said shell to the shaft I have shown a sleeve S fitted on the shaft and provided with a fork s' that is fixedly attached to the inside of the shell, whereby the nut n^2 is adapted to retain the sleeve S and the shell I in fixed relation to the stub shaft.

The rotatable table T is in the form of a disk which is provided with a collar r' by which the disk is made fast with the stub shaft. This table is of such dimensions as to substantially fill the recess q of the magazine base member I' , the exposed face of the table being in the plane of the annular groove q^2 and the face of the table being in opposing relation to the notched edge s of the rotatable shell and spaced relatively thereto so that the interval or space between the face of the table and the notched edge of the shell is equal substantially to the thickness of the flange q of the eyelets. The table thus co-operates with the shell in the assemblage of the eyelets for effecting the feed of said eyelets in successive order from the magazine to the runway of the feeder, and to attain this successive feed the table and the magazine are operated by a rotative step movement by the following mechanism:—A ratchet U is pinned at u to a protruding end of the stub shaft Q , and with the ratchet engages the nose of a pawl U' pivoted at u^2 to a slide V , said pawl being actuated by a spring u^3 , see Figure 3. Said slide is fitted in a guideway u' provided in the base member I' , and to one end of the slide is pivoted a link v , the other end of which link is pivoted to an end portion of the rocker arm O , see Figures 1, 2 and 3. Said arm O is mounted loosely on the bolt or pin J and connected as described with the cam link N , whereby the movement of the cam link imparts movement to the rocker arm O , slide V and pawl U' so as to turn the ratchet U and thereby impart the required rotative step movement to the magazine and the table from the stub shaft Q .

It will be noted that the magazine and its co-operating parts are carried by the rockable feeder H and that the rotative movement is communicated to the magazine and the table by the cam link N which is actuated by the travel of the plunger E operated directly by the lever member D . The eyelets

contained within the magazine are thus agitated or shaken by the movement of said magazine with the rockable feeder, so that the notched edge of the magazine and the table will coact in the proper assemblage of the eyelets within the notches s and for the flanges of said eyelets to occupy the channel q^2 , and in contact with the surface of the table T , whereby the step feed given to the magazine will act to feed said eyelets successively into the runway h' of the feeder, the said runway at the top end of the feeder being in the required relation to the groove q^2 of the stationary base member I' for the eyelets to pass from the table and the magazine shell directly into said runway, see Figure 4.

The operation will be understood from the foregoing description; but may be summarized as follows: The eyelets are poured or dumped into the hopper through the opening I^5 , and the operator places the material X over the needle and presses the material downwardly for the needle to pierce said material. The runway of the oscillatory feeder having been filled with eyelets, the delivery end of the feeder is presented to the space between the plunger die and the anvil die as in Figure 2, with the retaining finger g directly above the lowermost eyelet in the runway of the feeder. By applying pressure to the treadle lever, the several parts are set into motion. As the plunger E begins its downward travel the retaining finger moves with said plunger toward the needle so as to enter the eyelet before the cam o' acts on the roller N' ; and thus the finger detains the eyelet momentarily over the needle and in vertical alinement therewith at the period of contact of the cam o' with the roller, the result of which is to move the feeder and cause its delivery end to be withdrawn from the path of the plunger, at which time the eyelet is detained by the finger, as mentioned, and the escapement M moves with the feeder so as to be withdrawn from that eyelet which is detained by the finger, whereupon the escapement under the action of spring n^3 snaps back into the path of the next eyelet so as to preclude the free escape of the eyelets from the runway on the movement of the feeder caused by the action of the cam. The feeder is moved a limited distance sufficient for withdrawal of its delivery end from the path of the plunger die, and as the plunger die and the retaining finger continue to move downward, the eyelet fitted on the finger drops over the needle, being directed by the finger, and said eyelet being retained against displacement relatively to the needle by the contact of the finger g with said needle, see Figure 6. The plunger die completes its downward stroke to force the eyelet through the material and into

contact with the recessed face *a* of the anvil die so that the eyelet is upset or clenched by the co-operation of the plunger die with the anvil die, see Figure 7, and the eyelet is thus permanently affixed to the material, as in Figure 8. The downstroke of the plunger imparts movement to the cam link N, for the cam *o'* to act on the feeder as described, and the movement of said cam link operates rocker arm O and slide V so that the pawl U' rotates the ratchet U, shaft Q, magazine I, and table T, the effect of which is to feed the eyelets one at a time from the magazine to the runway of feeder H so as to keep said runway filled with the eyelets. With the eyelets deposited indiscriminately within the magazine, it is important to not only feed the eyelets successively to the runway, but to position the eyelets for the flanged ends thereof to properly enter the runway in a manner to preclude the eyelets from prematurely dropping out of the runway as they slide therein. This proper location of the eyelets is obtained by the novel construction of the magazine, the table and the flanged base. It will be apparent that the eyelets within the magazine are subject to agitation; first, by the bodily movement of said magazine with the rockable feeder, and, second, by the rotative step movement imparted to the magazine by the pawl and ratchet feed mechanism operable through the cam link and the plunger concurrently with the oscillation of the feeder. The loose eyelets within the magazine contact with the face of table T, and owing to the agitation, the eyelets, or some of them, enter the notches *s* of the magazine shell and the flanges enter the annular groove *q*² of the flange, so that on the rotative feed of said magazine shell the eyelets are properly positioned and fed to the runway *h'*, the entry of which is in the plane of the groove *q*² and for the notches *s* of the shell to aline with said entry. The eyelets are fed flange downward from the magazine to the runway (see Figure 4), and as the eyelets travel by gravity within the runway, they are inverted or placed flange upward by the time they reach the delivery end of the feeder, such inversion of the eyelets being due to the arcuate formation of the feeder and the runway, which follows the contour of the arcuate edge of the feeder, see Figure 2.

Upon relaxation of pressure on the treadle lever, it swings to a normal position, the plunger is raised, and the feeder swings back to the position wherein the lowermost eyelet is below and in line vertically with the retaining finger so as to be ready for the next operation.

My machine includes means wherein the eyelets are fed by gravity along the runway, the feed of eyelets from the hopper being

controlled so as to properly position said eyelets within the runway and the feed of the eyelets being controlled so as to supply them one after the other to said runway. The eyelets are detached from the runway by the finger co-operating with the feeder, and said finger directs each eyelet to the needle so that there is no improper placing of the eyelets in the path of the plunger. The parts are few in number, and each part is simple in construction so as to provide for economical manufacture and assemblage or repairs with ease and facility.

For certain classes of work it is desirable to use eyelets of different colors, and in my machine the hopper is demountable from the stub shaft with ease and facility to the end that a hopper containing eyelets of one color may be replaced with a hopper of similar form and charged with eyelets of a different color.

It will be noted that the retaining spindle G with the finger *g* performs the function of means for detaching the eyelet from the runway upon the movement of the feeder away from the path of the plunger, and of directing the eyelet to the needle at a period during the descent of the plunger, said finger and spindle being movable with the plunger during a part of the descent of said plunger and said finger spindle contacting with the needle during the continued downward movement of the plunger for clenching the eyelet, the finger spindle being pressed upwardly into the plunger by the resistance of the needle so as to compress the spring G'; but when the plunger is lifted for a certain part of its travel, the shoulder *g'* is engaged by the body of the spindle so as to lift the finger spindle by the upward movement of the plunger, thus restoring the finger spindle to its raised normal position.

Having thus fully described the invention, what I claim as new and desire to secure by Letters Patent is:

1. In an eyelet setting machine, the combination with eyelet setting means including members movable relatively one to the other, of a rockable feeder the delivery portion of which is movable with respect to the eyelet setting means, a feeder operating member co-operable with the feeder, a magazine rotatably mounted on said feeder, and means actuated by the feeder-operating member for imparting a rotative step motion to said magazine.

2. In an eyelet setting machine, the combination with eyelet setting means including members movable relatively one to the other, of a rockable feeder the delivery portion of which is movable with respect to the eyelet setting means, a feeder-actuating cam member co-operable with the feeder, said cam member being operated by the movable

member of the eyelet setting means, a magazine rotatably mounted on said feeder for movement therewith, and pawl and ratchet means for imparting a rotative step movement to said magazine, said pawl and ratchet means being actuated by the motion of said cam member.

3. In an eyelet setting machine, the combination with eyelet setting means including members movable relatively one to the other, of a rockable feeder the delivery portion of which is movable with respect to the eyelet setting means, a feeder-operating cam member co-operable with said feeder and actuated by the movable member of said eyelet setting means, a magazine rotatably mounted on the upper portion of said feeder for movement therewith, means for operating the magazine with a rotative step motion, and means operable by the motion of said cam member for imparting motion to said magazine operating means.

4. In an eyelet setting machine, the combination with eyelet setting means including a die and a plunger, and a rockable feeder, of a magazine carried by said feeder and rotatable relatively thereto, a feeder actuating member movable with the plunger and cooperating with the feeder for imparting movement thereto, and means operable by said feeder actuating member for imparting rotative movement intermittently to said magazine.

5. In an eyelet setting machine, the combination with eyelet setting means including a plunger, and a rockable feeder, of a cam member pivotally attached to the plunger and movable therewith for imparting rocking motion to the feeder, a rotatable magazine mounted on said feeder, and means for intermittently rotating said magazine relatively to the feeder, said magazine-rotating means having a linked connection with said cam member.

6. In an eyelet setting machine, the combination with setting means including a plunger, of a feeder pivoted intermediate its ends, a magazine rotatably mounted on said feeder adjacent the upper portion thereof, a cam member pivoted to the plunger and cooperating with the feeder, a lever pivoted to the cam member, and means operable by the lever for imparting rotative movement intermittently to said magazine.

7. In an eyelet setting machine, the combination with setting means including a plunger, and a rockable feeder pivoted intermediate its ends, of a magazine carried by said feeder and mounted for rotative movement relatively to an eyelet runway thereof, a cam member movable with the plunger and cooperating with the feeder for imparting rocking movement thereto, and means for imparting rotative movement to the magazine, said magazine-rotating means being

operated by the cam member for effecting the rotation of the magazine concurrently with the rocking motion of the feeder.

8. In an eyelet setting machine, a magazine embodying a relatively fixed base provided with a recess and with a projecting flange, said flange being provided on its inner face with an annular groove, a rotatable table positioned within the recess of said base, the face of said table being in the plane of said annular groove, a magazine having a notched edge rotatable within the flange of the base, said notched edge of the magazine being in facing and spaced relation to said table, a runway for receiving eyelets from the magazine, and means for conjointly rotating the magazine and the table with reference to said fixed base.

9. In an eyelet setting machine, a rockable feeder provided with a magazine base, said base having a flange the inner face of which is formed with an annular groove, a magazine provided with a notched edge, a rotatable table in spaced relation to said notched edge of the magazine, said table being positioned in the plane of one edge of said annular groove, means for imparting rotative movement to the magazine and the table conjointly, and a runway in loading relation to the notched edge of said magazine.

10. In an eyelet setting machine, a rockable feeder provided with a magazine base, said base having a projecting flange the inner face of which is formed with an annular groove, a shaft mounted on the feeder in axial relation to the magazine base, a magazine fixedly attached to said shaft, said magazine having a notched edge, a table fixedly attached to said shaft, said table being positioned in the plane of one edge of said annular groove and one face of said table lying in a facing relation to the notched edge and spaced relatively to the magazine, means for rotating said shaft and thereby imparting rotative motion conjointly to the magazine and the table, and a runway in receiving relation to the magazine.

11. In an eyelet setting machine, a magazine provided in one edge with a succession of eyelet-receiving notches, a table separate from the magazine, said table having a face in opposing relation to the notched edge and spaced relatively thereto, a member provided with an annular groove lying in a plane intermediate the notched edge and the aforesaid face of said table, means for imparting a conjoint rotative motion to the magazine and the table, and a runway in receiving relation to the notched edge of the magazine.

12. In an eyelet setting machine, the combination with a reciprocable member, of a rockable feeder provided with a runway, a magazine carried by said feeder to partake of the rocking movement thereof, said

magazine being mounted for rotation with respect to said feeder, a cam member connected with said reciprocable member to be actuated thereby, said cam member co-operating with said feed for imparting rocking movement thereto, and ratchet mechanism operable by said cam member for imparting a rotative step movement to said magazine.

13. In an eyelet setting machine, the combination with a reciprocable member, of a rockable feeder provided with a runway, a magazine carried by said feeder to partake of the rocking movement thereof, said magazine being mounted for rotation with respect to said feeder, a rockable arm mounted on said feeder and linked to the reciprocable member to be actuated thereby, a second reciprocable member linked to said rockable arm, and ratchet mechanism actuated by the second reciprocable member for imparting a rotative step movement to said magazine.

14. In an eyelet setting machine, the combination with a reciprocating member, of a rockable feeder provided with a runway, a

magazine base in fixed relation to the runway, a magazine mounted for rotation relatively to the base and the feeder, a slide fitted for reciprocating movement on said base, ratchet mechanism operated by the slide for imparting a rotative step movement to the magazine, and means actuated by the reciprocable member for imparting reciprocating movement to the slide.

15. In an eyelet setting machine, the combination with a plunger and upsetting dies, of a rockable feeder, a support for said feeder, said support having spaced stops, a stop member movable with the feeder and positioned for a limited play between said spaced stops, cam means operated by the plunger for imparting rocking movement to the feeder, and means for taking up the shock due to the impulse given to the feeder by said cam means.

In testimony whereof I have hereto signed my name this 8th day of May, 1922.

SAMUEL POLINSKY.