2 Sheets—Sheet 1.

A. KOMP.

EYELETING MACHINE.

No. 110,767. Patented Jan. 3, 1871.

Fig. 2.

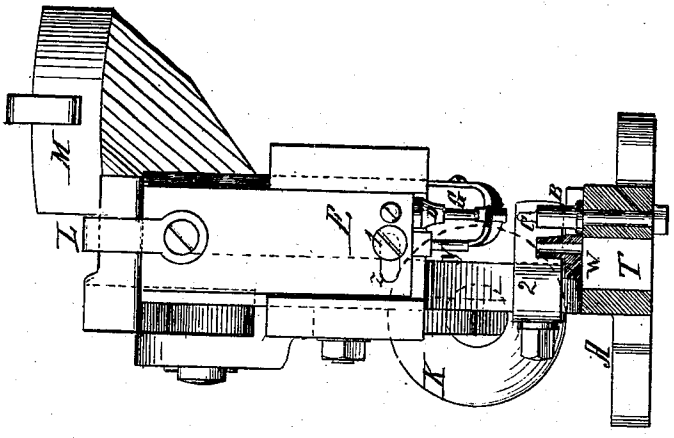
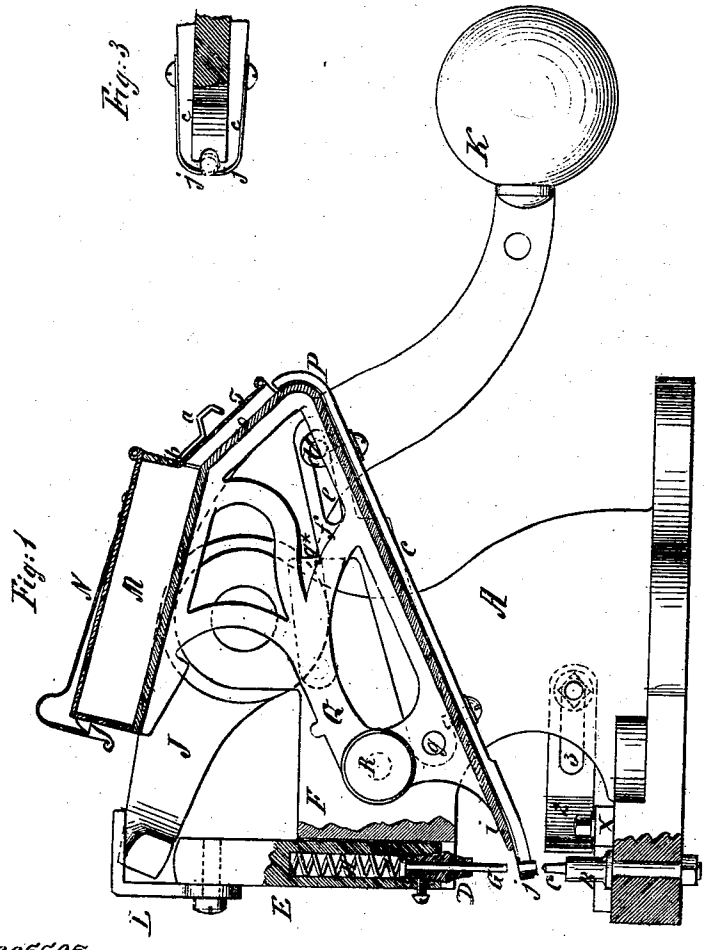


Fig. 3

Fig. 1



Witnesses.

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C. Wahlers

Inventor.

A. Komp

per Van Santvoord & Hall

Attys

2 Sheets—Sheet 2.

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Fig: 4.

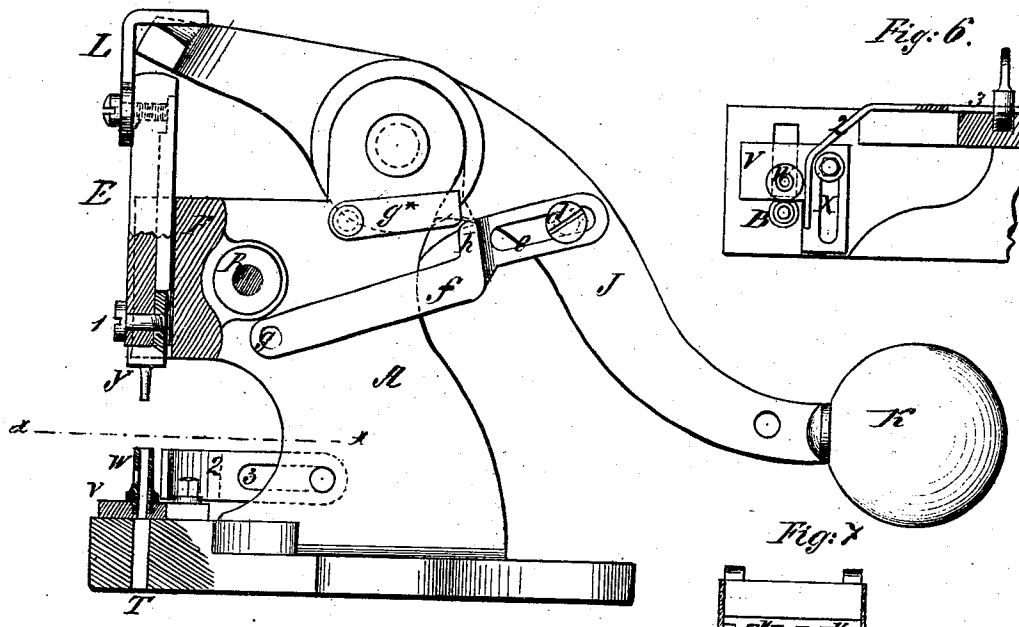


Fig: 6.

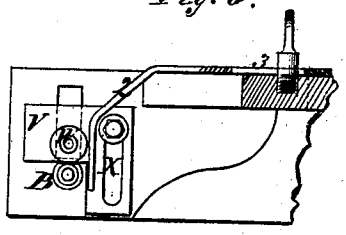


Fig: 7.

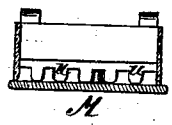
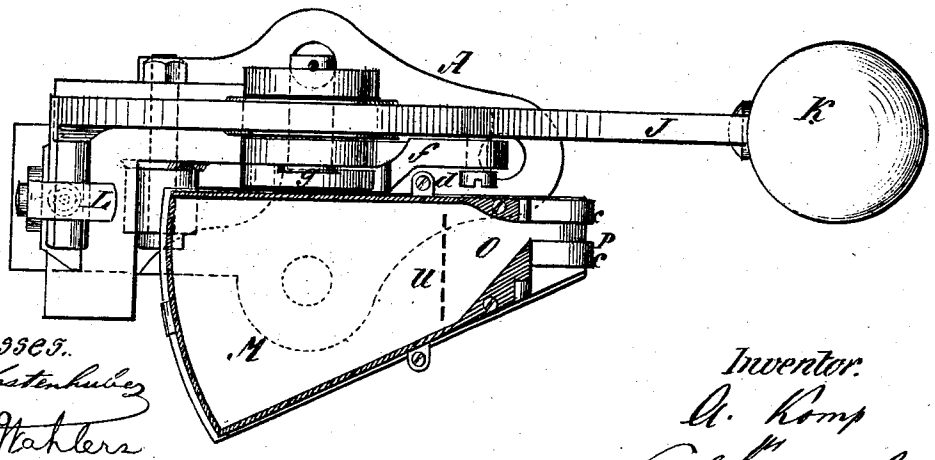


Fig: 5.



Witnesses.
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UNITED STATES PATENT OFFICE.

ALBERT KOMP, OF NEW YORK, N. Y.

IMPROVEMENT IN EYELETING-MACHINES.

Specification forming part of Letters Patent No. **110,767**, dated January 3, 1871.

To all whom it may concern:

Be it known that I, ALBERT KOMP, of the city, county, and State of New York, have invented a new and useful Improvement in Eyeleting-Machines; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical section taken through the supplier of an eyeleting-machine made according to my invention. Fig. 2 is a front elevation. Fig. 3 is a detached view of the end of the supplier. Fig. 4 is a vertical section of the machine, taken in the line of the punching device. This view shows more clearly some of the parts which are between the hopper-frame Q and the main frame A. Fig. 5 is a top or plan view, the hopper and feed compartment being shown uncovered. Fig. 6 is a horizontal section of a portion of the machine, taken in the line *x x* of Fig. 4. Fig. 7 is a cross-section of the lower end of the hopper, showing the feed-passages.

Similar letters indicate corresponding parts.

This invention relates to machinery for applying eyelets and cylindrical fastenings to paper, cloth, or other articles on which such fastenings can be used.

The letter A designates the frame of the machine, which may be secured to a table or other article on which it is placed for operation. The bottom of the frame, at its front, has a fixed die, B, from whose core or central part rises a guide-pin, C, which extends above the level of the fixed die B to a distance about equal to the length of the eyelet or fastening to be used.

The letter D designates the upper die, whose stock E moves in guides formed in a projecting part, F, of the frame of the machine. The upper part of the stock is hollow, and contains a spring, H, which bears against the head of a movable pin, G, whose stem is fitted to move through the center of the die D, its end projecting below it, as shown in the drawings. The face of the pin G is made concave to fit over the pointed end of pin C. The yielding pin G takes an eyelet from the end of the supplier and brings it to and holds it in a correct position to enable it to pass down over the fixed pin C, on which it is held while being acted on by the dies D and B. The die or plunger D is moved by a lever, J, which is pivoted to the frame, and which is provided with a weighted handle, K. The lever J and die-stock E are connected by means of a bent arm, L, that projects from the stock and extends over the top of the lever in such a manner as to hold the lever to the die-stock loosely, as is represented in the drawings, the top of the stock E being rounded to allow a free movement of the joint.

The letter M designates a vibrating hopper covered by a hinged lid, N. The lower side or end of the hopper is provided with a number of feed-passages through which the eyelets are allowed to pass into a feed-compartment, O, which conducts them into the supplier P. The hopper, feed-compartment, and supplier are all connected to a single frame, Q, so that they move together as one piece, and the frame Q is pivoted to the frame A of the machine at R, so that it can vibrate thereon when it is operated by the lever J. The feed-compartment O has a depth about equal to the height of an eyelet, so that an eyelet can only enter it through one of the feed-passages U, the depth of the compartment being less than the diameter of the eyelet across its flanged end. The eyelets are caused to present themselves at the feed-passages U with their flanged ends down by reason of the agitation of the hopper. Both the hopper and the feed-compartment are arranged so as to incline downward toward the supplier, and the feed-compartment is made with converging sides, which guide the eyelets to the mouth of the supplier P at the lower end of the compartment. The feed-compartment O has a movable or hinged cover, S, which is locked by a spring-holder, *a*, whose end is sprung into a hole, *b*, in the lower side of the hopper. This cover enables me to get access to and to inspect the feed-compartment and correct any misarrangement or clogging of the eyelets. The supplier P is made with a channel whose edges *c* (one of which is shown in Fig. 1) support the flanges of the eyelet while its body projects through the bottom of the supplier in the same manner in which screws, blanks, tacks, and pins are fed, and the supplier is curved or bent so as to re-

verse the position of the eyelets during their passage through it.

Motion is imparted to the hopper-frame Q by the lever J through the agency of a stud, *d*, that projects from the inner side of said lever and enters an elongated slot, *e*, formed in the adjacent end of a link, *f*, whose other end is pivoted to frame Q at the point *g**. When the stud *d*, during the upward movement of the lever J, when it is clinching an eyelet, comes against the outer or right hand end of the slot *e*, it causes the frame Q to swing upward until at the completion of the movement the hopper is brought to a horizontal position, which will naturally be accompanied by a jerk or jar sufficient to throw the eyelets on their broad ends and disengage any eyelets that have clogged in the feed-passages U, so that they will be ready on the next descent of the lever to present themselves in good position at said passage. The hopper-frame Q descends by gravity when the lever J falls; but its descent is controlled during the first part of the downward movement of the lever by a hinged stop, *g*, whose free end is arranged to fall in front of a shoulder, *h*, of the link *f* when the link has been drawn back by the lever so as to raise the hopper-frame to its highest position. The object of thus controlling the descent of the hopper-frame is to keep the bottom of the supplier P up out of the way of the plunger or die D and its pin G while they are rising for another operation. The supplier P is arranged on an incline, so as to allow the eyelets to slide down through it of their own accord, and it is bent during its course sufficiently to reverse the position of the eyelets and bring their smaller ends down, and its length and its construction are such as to bring its lower end below the die or plunger D and its pin G when said die has been raised, at which time the stud *d* of lever J will be out of contact with the end of the slot *e*. The lower end of the supplier has its back plate, *i*, cut away, so as to expose from above that eyelet whose flange is at the bottom or end of the supplier, said eyelet being prevented from sliding out of the supplier by two spring-plates, *j j*, which are secured to the outer edges of the supplier, and whose forward ends are bent around its lower end until they almost meet in front of the channel-way of the supplier, where they arrest the flow of the eyelets. When the plunger-pin G descends and goes through the lowermost eyelet, the supplier is drawn back by the lever J, and the pin G strips or draws the eyelet through the springs, which immediately close again, and check the flow of the eyelets remaining in the supplier.

Fig. 1 represents the machine when the plunger or die D has begun its descent, and its pin G is about to engage an eyelet, which operation takes place in the earlier part of the upward movement of the lever J, and before its stud *d* has come to the end of the slot *e*. When the stud *d* strikes the end of that slot, the hopper-frame Q begins its upward movement, and the supplier P is drawn away from the plunger or die D, leaving an eyelet on the pin G, which pin comes down and passes through the eyelet which is at the end of the supplier, and descends until it meets the top of pin C, with which it articulates, when the plunger or die D continues to descend, being allowed to do so by the yielding of the spring H of the pin G, and said die D then acts upon the eyelet and compels it to enter the hole made in the material and to pass over the pin C until it meets the die B, when the eyelet becomes clinched between the lower die, B, and the upper die, D. The passages U, whereof there may be one or more, are made of a form symmetrical with the eyelets when standing upon their broad ends, and such passages are slightly larger than the eyelets, so as to allow of their movement through them, but the eyelets cannot pass except when they present themselves with their flanges downward.

My invention consists, further, in the arrangement of a punching apparatus for punching a hole in cloth or other material with an apparatus for applying the eyelets, as will be next explained. The front part of the bed-plate is perforated at T at one side of the die B, and over the perforation I arrange an adjustable block, V, containing a female die, W. The block V is secured to the bed-plate by a screw-bolt which passes through a slot, X, in the block and screws into a hole tapped in the bed-plate, so that the block and female die can be adjusted at the required distance from the die B.

The female die W constitutes part of a punch for punching a hole in the leather, cloth, or other material to which it is desired to apply the eyelets, the male portion, Y, of the punch being attached to the moving die-stock E, and being made adjustable thereon by means of a horizontal slot, Z, in said stock, which receives a binding-screw, 1, whose body passes through said slot and screws into a hole tapped in the shank of said male die Y. The form of the shank of the die Y and the manner of connecting it to the stock E is represented in the sectional Fig. 4.

My invention also embraces an adjustable gage, 2, which extends behind the punching and clinching dies, and is adjusted in proper position in regard to them by means of a slot, 3, through which passes a screw that enters a hole tapped in the side of the frame A.

The punching device can be removed at pleasure from the machine, and in that case the machine can be used for supplying and clinching eyelets in work already punched.

I adjust the punching device at a proper distance from the clinching device, according to the distance at which it is desired to place the eyelets apart, and having punched the first hole in the work I advance the work to the clinching-dies, when the operation of the machine in clinching an eyelet causes a new hole

to be punched at the proper distance from the first one, and in that manner the work proceeds, so that the eyelet-holes are properly spaced without any special guide or gage for that purpose.

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

1. The combination of the stud *d* of lever J and the elongated slot *e* of link *f*, whereby the hopper-frame Q is allowed to remain stationary while the pin G is engaging an eyelet, substantially as described.

2. The combination of the movable stop *g* with the link *f* and hopper-frame Q, whereby the stop acting against the shoulder *h* of said link arrests the descent of the supplier and the hopper-frame until the plunger D has ascended far enough to clear the end of the supplier, substantially as described.

A. KOMP.

Witnesses:
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C. WAHLERS.