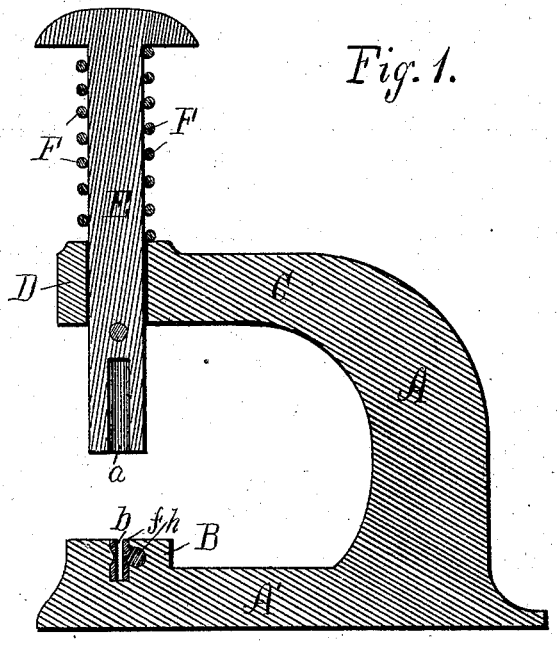
W. A. ROLLINS.

Machine for Setting Eyelet Paper-Clips.

No. 216,895. Patented June 24, 1879.

Fig. 1.



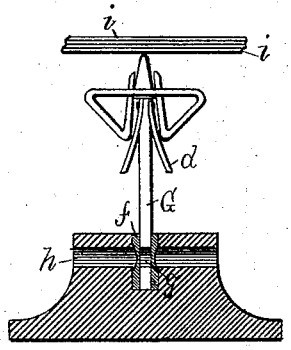


Fig. 2.

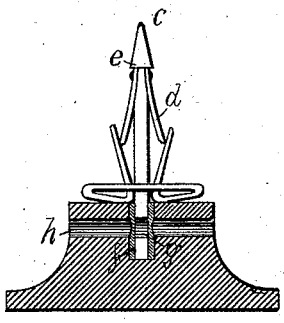


Fig. 3.

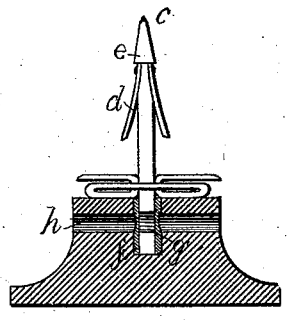


Fig. 4.

Section of paper and clip.

Witnesses.
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UNITED STATES PATENT OFFICE.

WALTER A. ROLLINS, OF LONDON, ENGLAND, ASSIGNOR OF ONE-HALF HIS RIGHT TO E. HERBERT WHITNEY, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR SETTING EYELET PAPER-CLIPS.

Specification forming part of Letters Patent No. **216,895**, dated June 24, 1879; application filed May 24, 1879.

To all whom it may concern:

Be it known that I, WALTER A. ROLLINS, of the city of London, England, have invented a certain new and useful Machine or Implement for Setting Eyelet Paper-Clips, of which the following is a specification.

My invention relates to means for setting paper-clips of a class composed of a strip of metal having a central orifice, through which the bent ends of the clip are passed, such clip, when set, constituting not only a fastener to bind together the paper or other material to which it is attached, but an eyelet or hole through which a cord or other object may be passed; and my invention relates to means for accomplishing the setting of the clip at one operation by two continuous blows of the hand.

To effect this result I employ a machine composed of a curved standard or frame, carrying in its upper part a vertically-sliding plunger with a knife-edged post, provided with oblique yielding wings, and the base of the machine-frame upon which such post is erected, to first, by one descent of the plunger, spread apart the points of the prongs of the clip, and, by the second descent, to flatten the prongs down upon the material to be bound, thus completing the operation without necessity of removing or touching the clip or material.

The drawings accompanying this represent, in Figure 1, a vertical section of the machine without the spreader. Fig. 2 is a section of the spreader and operating-bed, with the clip in position preparatory to the first descent of the plunger. Fig. 3 is a like view after the first descent of the plunger, and Fig. 4 a like view after the second and last descent of the plunger.

Reference being had to these drawings, it will be seen that A represents the frame of the machine, the same consisting of a flat base, A′, having a slightly-raised operating table or bed, B, at front, and a curved standard or goose-neck, C, in the tubular head D of which an upright plunger, E, plays, and is maintained at its maximum height by a coiled spring, F, which encircles its upper part and exerts its stress between the head of such plunger and the top of the head D, before named. The lower end of the plunger E is recessed, as shown at *a*, and the top of the bed B is likewise recessed, as shown at *b*, the two recesses or pockets *a b* being coincident with each other in a vertical plane, and so that the plunger, in its descent toward the bed, shall inclose the spreader, to be hereinafter explained. This spreader is shown at G as a thin bar of steel, adapted to fit within the socket *b* of the bed B in such manner as to stand firmly in an erect position, and is of such maximum width as to readily enter the pocket *a* of the plunger.

The upper end of the spreader bar or post G is reduced to a knife-edge, as shown at *c*, to readily puncture and force its way through the material, while somewhat below the edge I affix to each side of such spreader an obliquely-disposed flexible or spring wing, *d*, such wings being secured at their upper ends to or within a rabbet, *e*, of the post, and flaring outward at their lower ends. Within the socket *b* of the bed B, I place a holder, *f*, which is a short cylindrical rod, filling the socket, and slotted to receive the post or bar G. The lower end of the bar G has notches *g g* in opposite edges, which operate, in connection with projections *h* in the lower part of the socket, to prevent the bar from being removed from the socket while in a certain position, and permit of its ready withdrawal while in another position.

In the present instance the post or bar G, when locked within the socket of the bed B, stands with its longest plane in horizontal section parallel with the longest plane of the base A′, and when free to be removed it stands at right angles to this plane.

In setting paper-clips with this machine, the post G is introduced into the slotted holder *f* so as to stand in an upright position, with its edge *c* uppermost, and turned with the holder to the right or left to the extent of ninety degrees of a circle, which locks it to the bed B. The clip, with its points uppermost, is next passed over the post, with the latter extending through its eye.

The various sheets *i i*, &c., of paper or other material to be fastened or bound together are now placed over the post G, (the knife-edge of the latter serving to readily puncture the material,) as shown in Fig. 2 of the drawings.

The plunger is now lowered by a sharp blow

of the hand, and with sufficient power to puncture and push down the sheets of paper about the post G, and compress or flatten the clip between it and the anvil or bed B, as shown in Fig. 3 of the drawings, the prongs of the clip being inclosed within the socket *a* of the plunger, and prevented from spreading by the latter.

The pressure of the hand is now removed and the plunger permitted to rise to its highest point, and as the prongs of the clip emerge from the socket of the plunger, such prongs are spread outward or crowded apart by the stress of the springs *d* to a distance greater than the diameter of the said socket; consequently, when the plunger is driven down a second time, these prongs are flattened down upon the upper side of the papers, as shown in Fig. 4 of the drawings, and the operation is completed.

The papers, with the clip adhering to them, are now turned to the right or left ninety degrees of a circle, which releases the post G, and permits it to be taken from the machine adhering to the clip, from which it is to be removed and in readiness to be returned to the machine for a second operation.

The object in combining the part G with the bed of the machine in manner as stated is to prevent its being drawn upward with the plunger as the latter is elevated.

I claim—

1. The combination, with the plunger, of a bar or post provided with a knife-edge to enter the orifice and between the prongs of an eyelet paper-clip, and oblique flexible wings to crowd such prongs apart.

2. The combination, with the socketed plunger and the bar or post adapted to receive and separate the prongs of an eyelet paper-clip, of a rotary or changeable support for the said bar or post, whereby the latter is adapted to be locked to the bed of the machine-frame, for purposes stated.

3. The combination of the bed B, the socketed plunger, and the bar or post with its device for spreading the prongs of the clip, under the arrangement substantially as described, whereby the post and prongs are admitted together into the socket of the plunger and the body of the clip flattened by the first action of the plunger, while by the second descent of the plunger the post alone enters the said socket and the prongs are flattened down upon the material.

4. The spreader bar or post as adapted to support and steady the clips, crowd its prongs apart, and puncture the paper or other material to be fastened.

5. The combination, with the spreader bar or post and the bed in which it is supported, of a rotary carrier slotted or recessed to receive the said post, and adapted when turned to one position to permit the post to be removed from said bed, and when turned to another point to be locked to the bed.

6. The combination, with the plunger, of the spreader bar or post, with its oblique wings, and the rotary or movable carrier which receives such post.

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