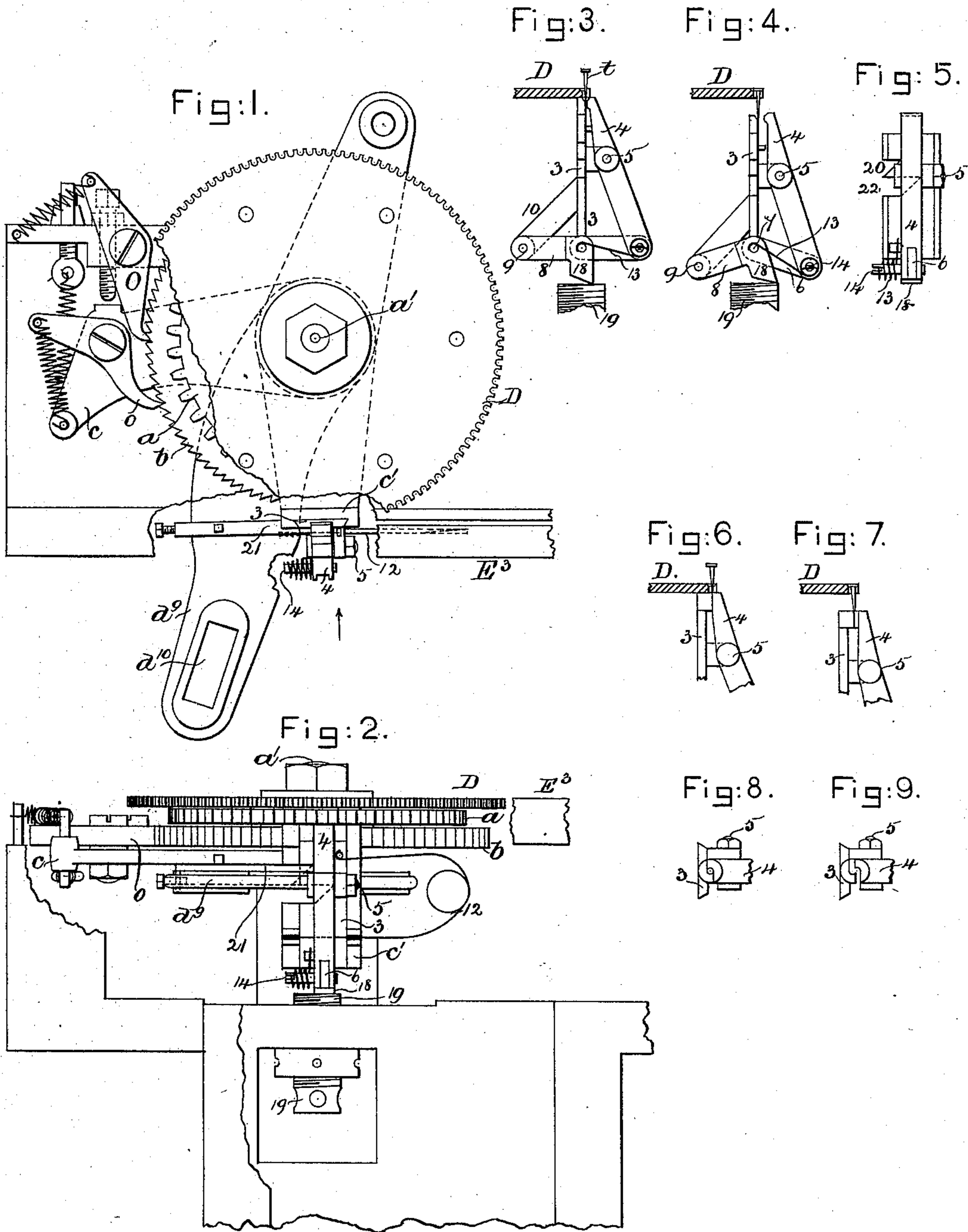


(No Model.)

M. BROCK.  
MACHINE FOR SETTING TACK STRIPS.

No. 402,059.

Patented Apr. 23, 1889.



Witnesses:  
Edgar A. Godkin.  
Howard F. Eaton.

Inventor:  
Matthias Brock.  
by Leroy & Gregory attys.



# UNITED STATES PATENT OFFICE.

MATTHIAS BROCK, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE MCKAY & COPELAND LASTING MACHINE COMPANY, OF PORTLAND, MAINE.

## MACHINE FOR SETTING TACK-STRIPS.

SPECIFICATION forming part of Letters Patent No. 402,059, dated April 23, 1889.

Application filed September 7, 1888. Serial No. 284,783. (No model.)

*To all whom it may concern:*

Be it known that I, MATTHIAS BROCK, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Machines for Setting Tack-Strips, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

10 This invention has for its object to improve the machines described in United States Patents Nos. 230,386 and 247,143, to which reference may be had. In the patents referred to a series of tacks are driven into a strip of paper, and the feed-movement of the paper is made dependent upon the insertion of a tack at the proper time. In these machines referred to the point of each tack is made to depress a spring-supported latch, and thereafter the feed-wheel is rotated; but if the latch is not depressed the feed-wheel stands still. In practice it often happens that the needle-points of tacks being inserted in the strip are blunted by striking the said latch or a part thereof to depress the latch, as stated.

The object of this invention is to prevent the blunting of the tacks.

30 In this my invention the point and body of the tack below the usual feed-wheel enters a narrow space between inclined or wedging faces of a pair of jaws, one member of which, as herein represented, is stationary, while the other is pivoted and thus movable, both members, however, of the jaws being capable of rising and falling in unison through the action of the pressure of the body of the tack against the faces of the said jaws.

40 My invention consists, essentially, in the combination, with the feed-wheel of a tack-setting machine, of jaws between which enters the body of the tack after it has been driven through the strip, the said tack while pressed between the faces of the said jaws serving to depress the jaws, thereby actuating devices to automatically turn the pivoted jaw on its pivot away from the vertically-movable jaw, to leave an open space for the lateral movement from between the said jaws of the body of the driven tack, the depression of the

jaws by a tack acting to turn a pawl-carrying lever and cause a pawl on the said lever to rotate the feed-wheel one step, the absence of a tack failing to depress the said lever, thus leaving the feed-wheel at rest.

55 Figure 1 is a top or plan view of a sufficient portion of a tack-setting machine to enable my invention to be understood; Fig. 2, an elevation of the devices shown in Fig. 1, looking in the direction of the arrow. Figs. 3, 4, 60 and 5 are details of the jaws in different positions. Figs. 6 and 7 are partial side elevations of a modified form of jaw and feed-wheel; and Figs. 8 and 9, plan views of the parts shown in Figs. 6 and 7, but with the feed-wheel and tack omitted.

The feed-wheel D, pawl o, detent-pawl O, lever  $d^9$ , having the slot  $d^{10}$ , and the roadway  $E^3$  are and may be all as in United States Patent No. 247,143, wherein like letters are used to designate like parts.

70 The feed-wheel D next its under side has fastened to it a gear,  $a$ , and the said gear has fixed to it a ratchet-wheel,  $b$ , the feed-wheel, gear, and ratchet-wheels being free to rotate in unison about the stud  $a'$ . The gear  $a$  and the ratchet  $b$  are shown, but not lettered, in the said patent. These parts, with the exception of the pawl o, are all to be actuated as provided for in the said patent.

80 The pawl o is mounted upon a bell-crank lever,  $c c'$ , (shown partially by dotted lines, Fig. 1,) having its fulcrum on the stud  $a'$ , the end  $c'$  of the said lever being downward and provided with a dovetailed groove, (see Fig. 1,) in which is fitted loosely to slide vertically a dovetailed bar, 3, forming one member of the jaws, to be described, the other member, 4, being pivoted on an ear of the said bar at 5, the lower end of the pivoted jaw 4 being pivoted to a link, 6, pivoted at 7 to an elbow-shaped link, 8, pivoted at 9 to a lug extended backwardly from the bar 3, as best shown in Figs. 3 and 4.

95 The inner beveled or inclined faces of the upper ends of the bar 3 and jaw 4 are normally somewhat separated, sufficiently so to enable the point of the tack  $t$ , below the feed-wheel D, to pass between the said faces, the body of the tack just beyond the sharp point 100



contacting with the said faces, and by pressure of the opposite sides of the said body against the said faces cause the descent of the said jaws in unison, the slide 3 being normally held up, with its upper end close to the under side of the feed-wheel, by a very slight spring, 12, preferably of U shape and of considerable length.

The pivot 7, between the links 6 and 8, is acted upon by the free end of a spring, 13, the opposite end of which is fixed to the pivot 14, connecting the link 6 and jaw 4, the said spring 13 being of sufficient strength to throw the levers 6 and 8 into the position Fig. 3, and normally keep the upper ends of the jaw members nearly touching.

As the tack is forced down from the position Fig. 3 into the position Fig. 4 the jaws are also depressed against the spring 12, and in their descent the foot 18 of the elbow-shaped toggle-link 8 meets the adjustable stop 19, (shown as a screw held in the framework,) and springs the said toggle-joint, thus automatically opening the jaws and keeping them open, as shown in Fig. 4, while the feed-wheel D is operated the distance of one tooth.

In practice, as in the Patent No. 247,143 referred to, the lever  $d^9$  is vibrated constantly, and in its vibration it acts to turn the pawl-carrying lever  $c c'$ , provided the bar 3 has been forced down by the body of a tack, so as to bring the notched portion 20 at the edge of the bar 3 in the range of movement of the projection or finger 21, adjustably attached to the lever  $d^9$ ; but if the bar 3 is not depressed by the body of a tack, as described, the projection or finger 21 enters the deeper notch, 22, at the edge of the bar 3, and as a result thereof does not strike the said bar and move it and the pawl-carrier  $c c'$ , as when the said finger or projection 21 enters the notch of less depth, and consequently the feed of the wheel D takes place only when the said finger or projection 21 enters the notch 20.

In Figs. 6 to 9, showing a modified form of jaw, it will be noticed, especially in Fig. 8, showing a top view, that the jaws touch each other except at about their center line, where

each jaw has a semicircular groove or score, forming a hole when the two jaws are closed, into which may pass the point of the tack, the said hole being closed on all sides; but when the jaws have been depressed, as stated, the toggle-levers connected to them, as described of the jaws shown in Figs. 3 and 4, act to open the jaws, as in Fig. 9, thus leaving a clear space or slot for the passage from between the said jaws of the body of the tack.

I do not desire to limit my invention to the faces of the jaws touching or not touching, nor do I desire to limit my invention to the exact form of jaws shown, as I consider as within the scope of my invention any form of jaws which are adapted to freely receive the sharp point of the tack between them and the action of the opposite sides of the body of the tack to depress the jaws, and thus determine whether or not the feeding mechanism for actuating the feed-wheel shall operate to move the feed-wheel and feed the usual paper or other strips.

I claim—

1. In a tack-setting machine, a feeding-wheel for the strip and actuating devices to move the said feeding-wheel, combined with jaws between which to force the body of a tack, as described, the presence of the body of a tack between the faces of the said jaws insuring the action of the said actuating mechanism to move the feed-wheel, substantially as described.

2. The feed-wheel and the vertically-movable jaws and their connecting spring-actuated toggle-links, combined with a stop to spring the said links and open the said jaws for the passage laterally from between them of the body of a driven tack, substantially as described.

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

MATTHIAS BROCK.

Witnesses:

G. W. GREGORY,  
B. DEWAR.