

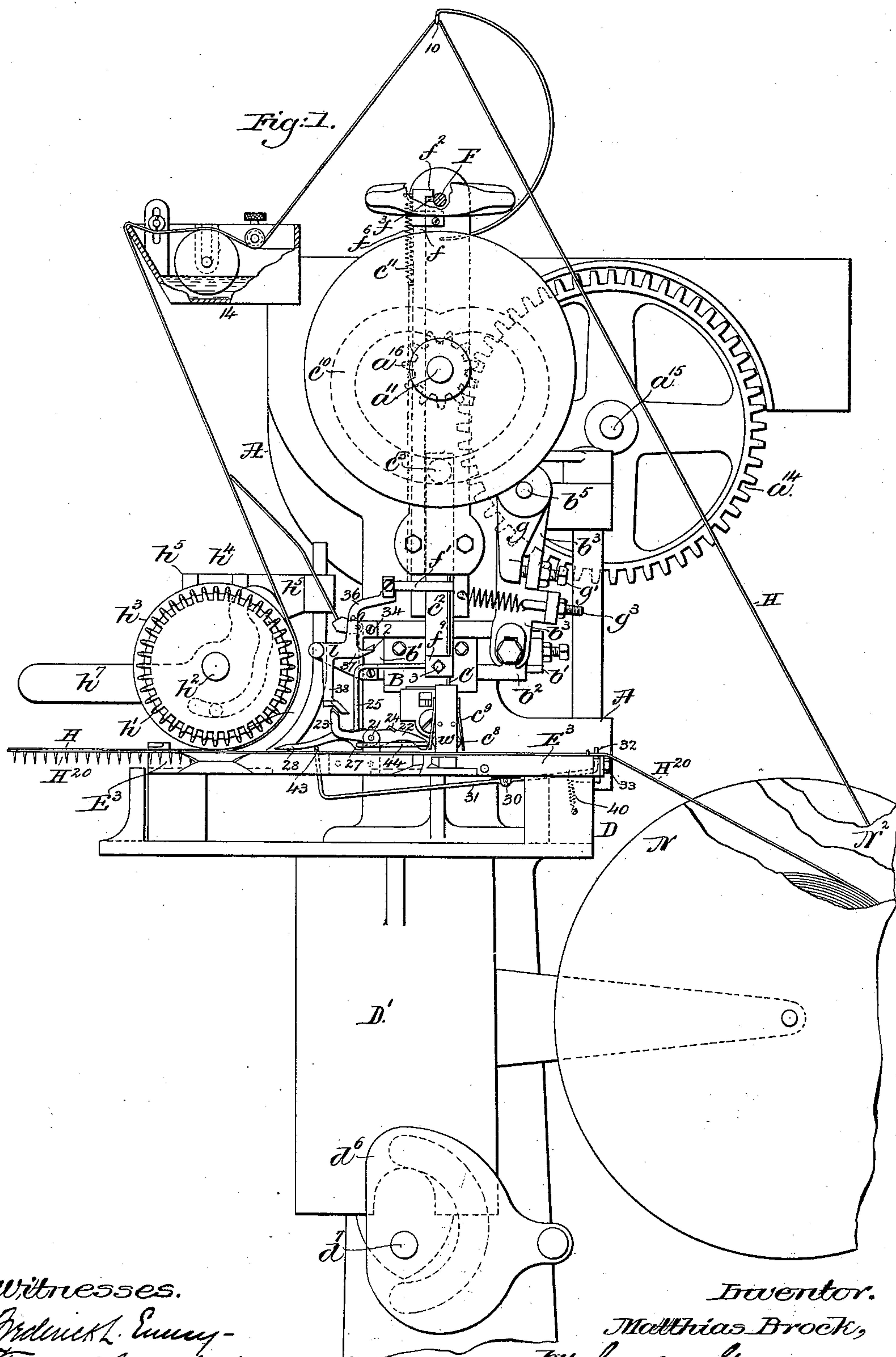
(No Model.)

2 Sheets—Sheet 1.

M. BROCK.
TACK STRIP SETTING MACHINE.

No. 431,549.

Patented July 8, 1890.



Witnesses.

Frederick L. Emery-
Fred. S. Greenleaf

Inventor.

Matthias Brock,
by Leroy & Gregory Attys.

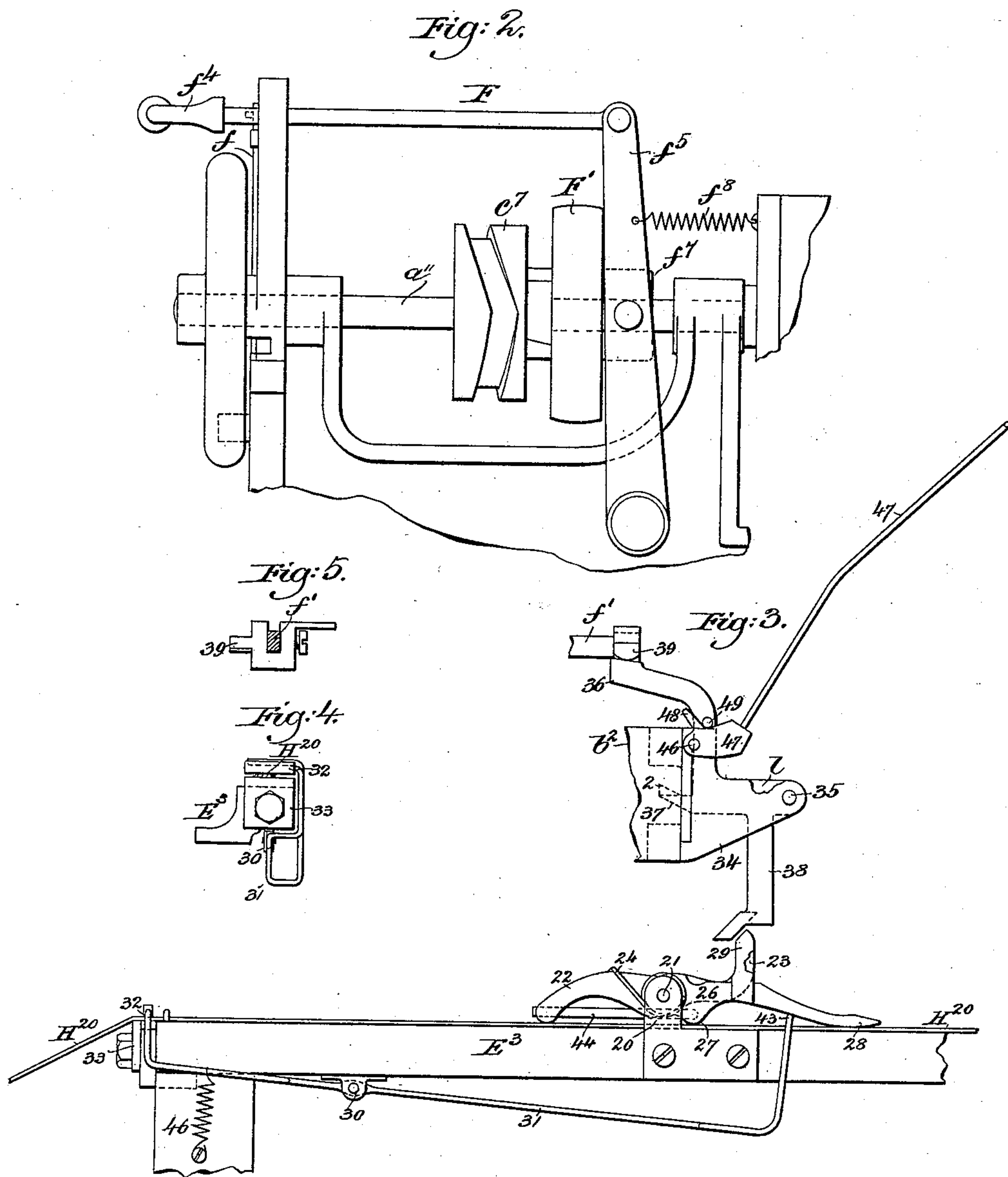
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Matthias Brock,
Fred. S. Gumbel

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UNITED STATES PATENT OFFICE

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

TACK-STRIP-SETTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 431,549, dated July 8, 1890.

Application filed April 8, 1890. Serial No. 347,032. (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 Tack-Strip-Setting Machine, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to provide a tack-strip-setting machine with means whereby the machine may be automatically stopped under various conditions—as, for instance, when the paper strip breaks between the usual delivery-reel and the roadway, or at or near the point at which the tacks are driven into the said strip, or when the paper bunches up between the point where the tacks are driven into it and the point where the head-covering strip is applied to the strip containing the tacks.

Prior to my invention certain feelers and devices for stopping the machine when the tack-strip breaks at or near the point where the tacks are being driven into it or when the said strip bunches up, have been carried by a rod parallel to the driver-bar, as in the machine represented in application Serial No. 334,070; but in such construction it is difficult to get at the parts, and the said feelers have to be made light and thin, and consequently they do not at all times have the necessary strength, and very considerable trouble is caused in getting at and removing the parts in case of breakage.

In accordance with this my invention I have provided the usual rising and falling table or bed carrying the raceway for receiving the bodies of the tacks and for supporting the body-strip with feelers, and between the said feelers and an arm connected with the usual tripping-bar I have interposed lifting devices actuated by the said feelers to lift the tripping-bar at the proper time. The driver-bar has a projecting finger, which, at each descent of the driver, acts upon the rear end of that feeler which bears upon the tack-strip close to the point where each tack is driven into it, the finger acting to lift the end of the said feeler when the body-strip is to be fed under it, the said feeler being the only one

which normally rests in contact with the body-strip. I have also provided the machine with a feeler which bears upon the head-covering strip and acts upon the lifting device described whenever the head-covering strip is broken.

Figure 1 is a front elevation of a sufficient portion of a tack-strip-setting machine of usual construction with my improvements added to enable my invention to be understood, the driver being shown in its lowest position. Fig. 2 is a partial side elevation of the machine shown in Fig. 1; Fig. 3, an enlarged inner side view of the feelers, the lifting device, the raceway, and part of the tripping-bar; Fig. 4, a left-hand end view of Fig. 3; Fig. 5, a detail of the end of the arm f' .

The frame-work A; the power-shaft a^{15} ; the gear a^{14} thereon and engaging a gear a^{16} (shown by dotted lines, Fig. 1) on the main shaft a^{11} ; the cam disk or wheel c^{11} , having the cam-groove c^{10} , (shown by dotted lines;) the roller-stud c^{13} , to enter the said cam-groove, the said stud being on the drive-rod bar c^{12} ; the drive-rod C, secured to the said drive-rod bar frictionally by or through a friction-block f^9 and a screw 3, (the friction on the drive-rod being sufficient to enable it to drive a tack and not slip on the bar c^{12} , but to slip if the drive-rod strikes any unusual obstruction;) the clutch-pulley F' , loose on the main shaft and having at its left-hand end suitable projections to engage suitable recesses in the right-hand end of the hub of a cam-wheel c^7 , fast on the said shaft, to thus form a clutch; the clutch-lever f^5 , having suitable studs to enter the grooved hub f^7 of the driver-clutch pulley F' ; the spring f^8 ; the clutch-rod F, having the handle f^4 and a projection f^3 , (see Figs. 1 and 5;) the vertical rod f , having a lip f^2 at its upper end to engage the projection f^3 of the rod F, and having at its lower end a block f' , which surrounds, or partially so, the drive-rod bar, which block is adapted to be struck by the upper end of the drive-rod in the next movement of the drive-rod bar after such drive-rod has struck an obstruction and its upper end has been pushed above the block f^9 to thus lift the rod f to release the projection f^3 ; the

spring f^6 ; the jaws c^8 in the nose or foot w , out between which jaws the tack is driven by the drive-rod C; the springs c^9 , to act on the said jaws; the sliding plate B; the carriage b' ; the way b^2 , in which the said carriage moves; the arm b^3 , to actuate the said carriage; the arm g ; the set-screw g' ; the hook g^3 ; the reel N, to contain the foundation-strip H^{20} , in which the tacks are to be driven; the longitudinally-slotted bed E^3 , upon which the said strip is laid and travels; the table-plate D; the vertically-movable plate D' ; the cam d^6 , pivoted at d^7 ; the axle h^2 ; the gear h' ; the feed-wheel h^3 , and the means for actuating the said parts are and may in practice be all as provided for in United States Patent No. 247,143. The machine shown in the drawings also contains a reel N^2 for the covering-strip H, a rest 10 for the strip, and a paste-box 14, having a paste-roll 13, as in United States Patent No. 402,058.

In accordance with this invention I have applied to the raceway E^3 a suitable upright 20, upon which I have pivoted at 21 a feeler 22, having a lug 23 extended upwardly from its rear end, the forward end of the said feeler being rounded and normally resting upon the body-strip H^{20} quite close to the point at which the tack is driven into the said strip. The right-hand end of the feeler 22 is normally kept upon the body-strip by a spring 24, one end of which is connected to the said stand; but just about as the strip is to be fed in usual manner by the action of some suitable feeding device against a tack driven into the body-strip, or in some other usual way, a finger 25, connected to the driver-bar c^{12} and rising and falling in unison therewith, strikes the rear end of the said feeler as the driver completes its descent and lifts its front end from the strip, so that the latter may be fed without any detention from the feeler. The stand referred to also has pivoted upon it an auxiliary feeler 26, having two projections 27 and 28 and an upright projection 29, the latter standing directly behind the projection 23 of the feeler 22.

The under side of the raceway E^3 is provided with a suitable stand 30, between or on which is pivoted a lever 31, having at one end a finger 32, which is extended over the body-strip near the right-hand end of the raceway where the said strip comes upon the raceway in going through the machine, the said finger lying on the strip between a plate 33 and the end of the raceway, the plate being between the reel from which the body-strip is taken and the raceway. The rear end of the lever 31 is also bent upwardly and provided with a finger 43, which is extended over across the raceway and the body-strip thereon and between the said strip and the projection 28 of the auxiliary feeler 26 at the rear of the point where the tacks are driven into the body-strip.

The guide b^2 , in which is reciprocated the usual carriage b' common to Patent No. 247,-

143, has attached to it a suitable stand 34, upon which is pivoted at 35 a peculiar lever, it being herein shown as having three arms 36 37 38. The lower arm 38 has its ends somewhat broadened to stand close to the projections 23 and 29 of the two feelers 22 and 26. The upper arm 36 normally stands close to a stud or projection 39 (see Fig. 3) at the rear side of the arm f' , connected to the lower end of the usual releasing-rod f , and the arm 37 is herein represented as tapered at its end to constitute a wedge.

The slide b' referred to has a wedge-shaped spur 2, which at each reciprocation of the said slide passes either above or below the wedge-shaped point of the arm 37, it passing above the said point when the body-strip is in proper condition and below the said point when either the body-strip has run out or been broken or is bunched up, or when a tack has been but partially driven therein and its head sticks up above the body-strip.

In operation, in case the body-strip breaks between the reel N and the raceway or is exhausted so as not to cover the raceway at its receiving end the finger 32 of the feeler 31 being no longer supported by the said body-strip descends under the action of the spring 40, connected thereto and to some fixed part of the machine, causing the finger 43 and the left-hand end of the feeler 31 to rise and lift the arm 28 of the auxiliary feeler 26, so that the projection 29 thereon hits the arm 38 of the lever l and turns it on its pivot, so that the projection 2 on the carriage b' strikes the under or wedge-shaped end of the arm 37, which causes the said lever l to be turned far enough to cause the arm 36 to strike the projection 39 of the arm f' and lift the releasing-rod f to effect the stopping of the machine in usual manner. This same auxiliary lever may be lifted either by a bunched-up portion of the body-strip striking against the projection 27 or against the projection 28. The auxiliary feeler 26 has a forwardly-extended arm 44, which (see Fig. 1) terminates close to the spring c^9 , attached to the nose w at that side next the said arm.

In case a tack is not driven down into the body-strip for the proper distance the upper end of the tack above the strip will in the movement of the strip act on the jaw c^8 , and the latter will push out the spring c^9 far enough to hit the arm 44 and turn the auxiliary feeler, as described, to effect the stopping of the machine.

In case the body-strip breaks at or under the right-hand end of the feeler 22 then the projection 23 of the said feeler rises and strikes the arm 38 of the said lever l and turns it, as before described, so that the wedge 2 again comes under the wedge-shaped point of the arm 37, which effects the further turning of the lever l , as before, to lift the releasing-bar f . The stand 34 has also pivoted upon it at 46 the head of the feeler 47, which bears upon the head-covering strip H, and when

the said covering-strip breaks the said feeler 47 drops, turning the head and causing a projection or finger 48 thereon to strike a pin 49, projecting from the rear side of the lever *l*, which
 5 acts to turn the said lever far enough to place the beveled end of the arm 37 in position to be acted upon by the projection 2 of the slide *b'*, to again turn the lever *l* sufficiently to stop the machine.

10 When the table-plate and raceway-bar are raised or lowered in usual manner by the cam *d*⁶, the feelers 22, 26, and 31 rise and fall in unison therewith.

15 I do not desire to limit my invention to the exact shape shown for the lever *l* or to the bevel of the arm 37.

I claim—

1. In a tack-strip-making machine, the raceway-bar, combined with a feeler 22, connected
 20 to and moving in unison therewith, substantially as described.

2. In a tack-strip-making machine, the raceway-bar, combined with the feeler 26, connected to and adapted to rise and fall in unison
 25 therewith, substantially as described.

3. In a tack-strip-making machine, the raceway-bar and a feeler having a finger 32 to bear against the body-strip near the end of said bar, and having a finger 43, combined
 30 with the auxiliary feeler actuated by it, substantially as described.

4. In a tack-strip-making machine, the raceway bar and feeler 26 connected thereto, combined with the arm 44, to operate substantially as described.

5. In a tack-strip-making machine, the lifting-bar *f*, a feeler movable with the raceway-bar, and a carriage having the projection 2, combined with a lever interposed between the said feeler and lifting-bar, the movement of
 40 the feeler due to a fault in the body-strip giving to the lever an initial movement which is completed by the said projection 2, substantially as described.

6. In a tack-strip-making machine, the lifting-bar and the carriage having a projection 2, combined with a lever having a cam or incline, and with one or more feelers which
 45 when moved by a fault in the operation of the machine causes the said lever to be turned 50 to place the said cam or incline in position to be struck by the said projection, the latter turning the said lever far enough to elevate the said lifting-bar and effect the stopping of the machine, substantially as described. 55

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

MATTHIAS BROCK.

Witnesses:

GEO. W. GREGORY,
 EMMA J. BENNETT.