

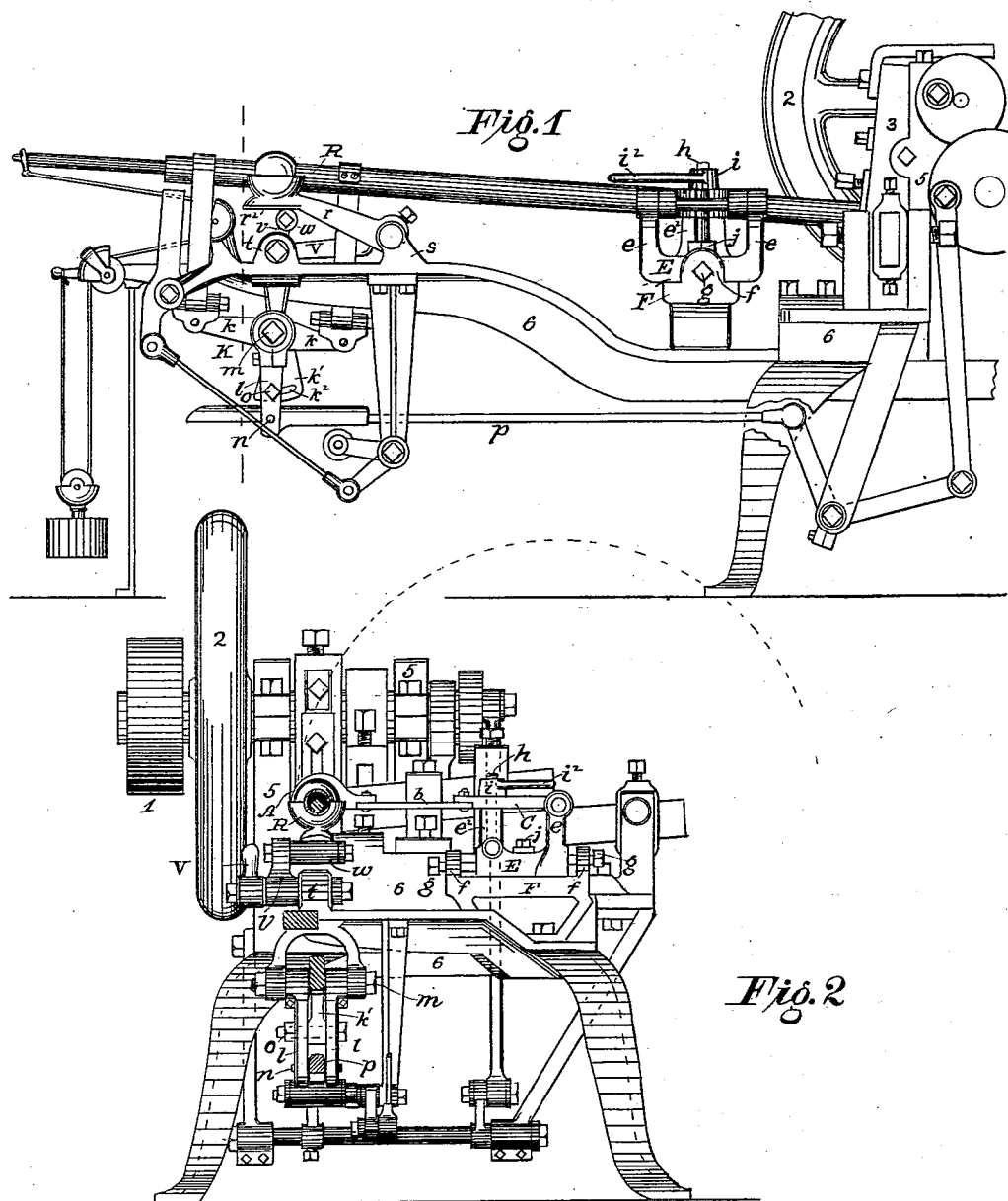
(No Model.)

2 Sheets—Sheet 1.

A. E. CONVERS.
TACK MACHINE.

No. 563,017.

Patented June 30, 1896.



WITNESSES

Sam. Smith

W. G. Taylor

INVENTOR

Albert E. Convers

by C. M. Worce

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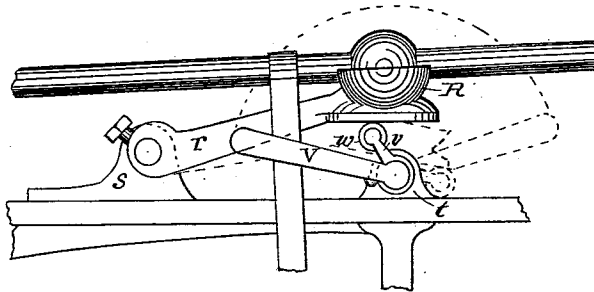
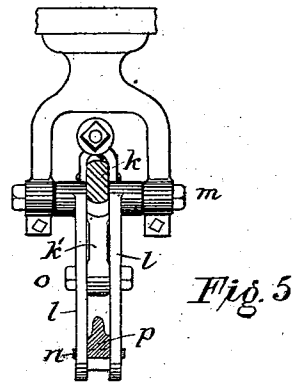
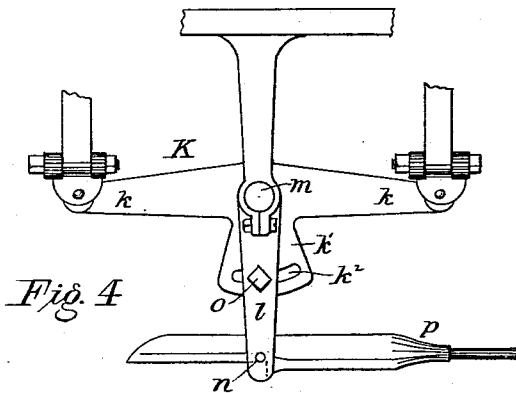
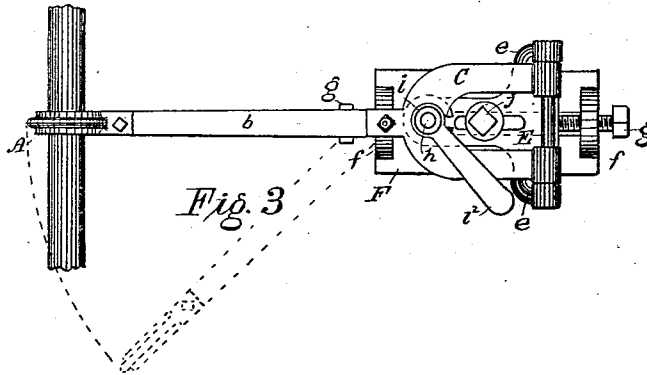
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2 Sheets—Sheet 2.

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WITNESSES
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Fig. 6

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UNITED STATES PATENT OFFICE.

ALBERT E. CONVERS, OF CLEVELAND, OHIO.

TACK-MACHINE.

SPECIFICATION forming part of Letters Patent No. 563,017, dated June 30, 1896.

Application filed March 15, 1893. Serial No. 466,135. (No model.)

To all whom it may concern:

Be it known that I, ALBERT E. CONVERS, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Tack-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in machines for making tacks from flat strips.

The object is to increase the efficiency of the machine and to facilitate its use and adjustment, thereby improving the quality and also increasing the quantity of the product; and it consists in the combination and arrangement of parts hereinafter described, and specifically pointed out in the claims.

In the drawings, Figure 1 represents in side elevation a tack-machine embodying my improvements. Fig. 2 represents the same in front elevation, partly in section. Fig. 3 is a plan view of the working-barrel guide. Fig. 4 is a detached view in side elevation, and Fig. 5 is a like view in front elevation, partly in section, of the adjustable rocker for leveling the working barrel. Fig. 6 is a detached view in side elevation of the adjustable bearing for the working barrel, showing the side opposite that exhibited in Fig. 1.

The driving-gear, fly-wheel, dies, cams, working barrel, bed, and frame of the machine are like those in common use and do not require specific description.

1 is the driving-pulley; 2, the fly-wheel; 3 4, the dies; 5 6, portions of the bed and frame.

The working-barrel guide consists of a hook A, fitting over the barrel and affixed to a spring *b*, the other end of which is pivotally secured to a hinged fork C, which, with the spring *b*, forms the shank of the hook A. The fork C is pivoted to upright stems *e e* upon a saddle-piece E, which slides upon a guiding way or groove in the bed-piece F and is adjustable thereon by screws *g g*, tapped through lugs *f* on the bed-piece F, which is suitably secured to the bed of the machine, or may form part thereof. The fork C rests upon a pillow *e*² on the saddle E, which pillow is recessed on one side to receive a swing-bolt *h*, pivoted in the lower part of the recess and

extending up through the same and between the prongs of the fork C, above which it is provided with a tail-nut *i*, having a firm and rather broad bearing upon the fork C when firmly set down by means of its handle *i*². These parts are seen in side view in Fig. 2 and in end view in Fig. 1, as they are disposed transversely to the line of feed of the machine, and it will be seen that by loosening the nut *i* the bolt *h* can be turned down on its pivot, swinging back between the prongs of the fork C, and hook A can be swung up on its pivots in *e e*, as indicated by a dotted segment of a circle in Fig. 2, leaving the working barrel free. The hook A can also, when lifted clear of the working barrel, be turned on the pivotal attachment of spring *b* to the fork C, as shown by dotted lines in Fig. 3, without being turned entirely back. When again turned down upon the working barrel, the hook A will return to exactly the position it occupied at first, and will of course bring the working barrel exactly to its proper place and in correct relation to the dies.

Heretofore the adjustment of the guide-hook has been by a slot and bolts, and whenever the bolts were loosened to permit lifting of the hook it was a difficult matter, consuming much time, to again secure just the proper adjustment of the hook, and often considerable imperfect work was done before exact adjustment was again secured. By my invention this is entirely obviated, and the hook can be removed from and replaced upon the working barrel in less time than was required for the mere removal of the hook by the means previously in use.

To effect the adjustment of the hook A in the first place, the saddle-piece E is moved upon its guiding way in the bed-piece F by means of the bolts *g g*, and when correctly adjusted is clamped in place by a strong collar-bolt *j*, passing through a slot in E and into the bed-piece F.

A second improvement is in the construction of the rocking mechanism which works the barrel, whereby the adjustment of the barrel for exact timing with the dies is more easily and certainly effected. Heretofore it has been necessary in accomplishing this adjustment known as "leveling" the barrel to loosen both the straps which turn the barrel,

and after placing the barrel level to rewind and refasten the straps, which operation requires considerable time, and it is also difficult to get the straps equally strained when they are adjusted separately. To avoid this, I have devised the construction shown in side view in Fig. 1, and on a large scale in Fig. 4, and in end view in Fig. 5.

K represents the ordinary three-armed rocker, to the arms k k of which are attached the straps which work the barrel, in the usual way. Ordinarily the depending arm of the rocker K engages directly with the connecting-rod p , by which the rocking motion is given. Instead of this I construct the depending arm in the form of a segment-shaped plate k' , provided with a segment-slot k^2 , and I arrange on one or both sides of the arm k' a second arm l , pivoted on the bolt m , which forms the pivot of the rocker, and extending far enough below the arm k' to carry the pin n , with which the rod p engages to rock the arm l . A bolt o passes through the arm l and slot k^2 and clamps the arms l and k' securely together, so that they rock as one piece. In order to level the barrel, it is only necessary to loosen the bolt o and to turn the barrel by hand until it is level, then tighten the bolt o again, and the adjustment will be complete. By this means the necessity for rewinding the straps is wholly obviated, no matter how unequally they may stretch or wear in use, and as the leveling of the barrel requires to be frequently attended to the saving of time by my invention is of considerable importance.

A third improvement is in the means of disengaging the working barrel when it is necessary to displace the same in order to get at the dies or other parts of the machine for readjusting or replacing the same. Heretofore the cupped bearing in which the ball of the working barrel plays has been made vertically adjustable by a sliding bearing, and held in position by a set-screw. My improvement (shown in Fig. 1 and on a larger scale in Fig. 6) is constructed as follows: The cupped bearing R, in which the ball of the working barrel plays, is formed on an arm r , pivoted to an ear s on a projection of the frame of the machine. To another lug or ear t on the frame below the bearing R is pivoted a short arm v , carrying a roller w , bearing against a flat face r^2 on the under side of the arm r . A handle V is rigidly affixed to the pivot of arm v at such an angle to the latter that when the handle is turned down against a stop t^2 on the frame the arm v will be carried slightly past the vertical line and toward the pivotal end of the arm r , by which means the possibility of the roller w being jarred out of place during the working of the machine is prevented.

In order to disengage the working barrel, hook A is lifted, as described, the handle V is turned to the reverse position, (shown by dotted lines in Fig. 6,) which carries the roller w nearly out from under the arm r , allowing

the latter to drop down and rest upon the roller, and leaving the working barrel free from its bearing. On throwing back the handle V to the position shown in full lines in Fig. 6, the arm r is lifted and the ball of the working barrel brought instantly into bearing.

By the means hereinabove described the guide-hook A can be lifted and turned back, the bearing R dropped, and the working barrel put aside out of the way in less than the time usually required to loosen a set-screw. Similarly the barrel can be laid back into place, the guide-hook turned down upon it and clamped, and the bearing R thrown into place, not only with a like saving of time, but with the certainty of being in exact adjustment.

I do not herein claim the means shown for effecting the throw-off of the connecting-rod p from the pin n , as this forms the subject-matter of my pending application, Serial No. 466,136, filed March 15, 1893; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. In a tack-machine the combination with the working barrel of a swinging guide-hook and a swinging bolt located between the barrel and the pivot of the hook and adapted to clamp the hook in place on the barrel, substantially as described.

2. In a tack-machine the combination with the working barrel of a guide-hook pivoted to a rigid support and a swing-bolt having a nut adapted to bear upon the hook between its pivot and the working barrel to clamp the hook in place, substantially as described.

3. The combination of the guide-hook having its shank pivoted to a rigid support on the frame of the machine, the swing-bolt pivoted intermediate of the hook and its pivot and adapted to swing against the shank of the hook, and a nut on said bolt adapted to bear upon the shank of the hook and hold the same in place, substantially as described.

4. The combination of the guide-hook having a forked shank pivoted to a rigid support, a swing-bolt pivoted below the shank and rising between the forks thereof, and a nut on said bolt adapted to bear upon the shank and clamp said hook in place, substantially as described.

5. In a tack-machine the combination with the working barrel of a vertically-swinging guide-hook having a spring-shank pivoted intermediate of its length to permit of laterally swinging the hook end of the shank, a rest for the shank, and a clamping-bolt between the vertical and lateral pivots to clamp the shank upon its rest, substantially as described.

6. The combination of a saddle-piece adjustably supported on a bed-piece and having pivoted thereto the forked shank of the guide-hook, the hook, and a swing-bolt pivoted to the saddle-piece and adapted to swing between the forks of the hook-shank and having

a nut adapted to bear upon the shank and clamp the hook in place, substantially as described.

5 7. The combination of the saddle-piece adjustably supported on a bed-piece and having the stems *ee* and the pillow *e*³, the guide-hook with forked shank pivoted to the stems *ee*, and the swing-bolt pivoted to the saddle-piece and adapted to swing between the forks of
10 the shank and having a nut adapted to clamp the shank upon the pillow, substantially as described.

15 8. The combination of the bed-piece having lugs *f* and adjusting-screws *g*, the saddle-piece fitting upon the bed-piece and movable between the lugs thereof, the guide-hook having its forked shank pivoted to stems on the saddle-piece and adapted to rest on a pillow thereon, a swing-bolt pivoted to the saddle-piece
20 and rising between the prongs of the fork and having a nut adapted to bear upon the shank and clamp the same upon the pillow, substantially as described.

9. The combination of the pivoted rocker having a depending flat arm with a transverse
25 segmental slot therein, the depending arm pivoted on the same pivot as the rocker and extending below the slotted arm thereof, and having a pivot-pin for the connecting-rod, and a bolt passing through the depending arm and
30 said slot in the rocker-arm, to clamp the arms together, whereby the barrel may be leveled without changing the throw of the rocker, substantially as described.

10. The combination of the cupped bearing
35 on a pivoted arm, the roller carried upon an arm pivoted below the bearing, and a handle affixed to the arm carrying the roller, substantially as described.

In testimony whereof I hereto affix my signature
40 nature in presence of two witnesses.

ALBERT E. CONVERS.

Witnesses:

LOREN PRENTISS,
WM. G. TAYLOR.