(No Model.) 2 Sheets—Sheet 1.

# J. F. HAMMOND.

## NAIL PLATE FEEDER.

No. 296,747. Patented Apr. 15, 1884.

Fig. 1

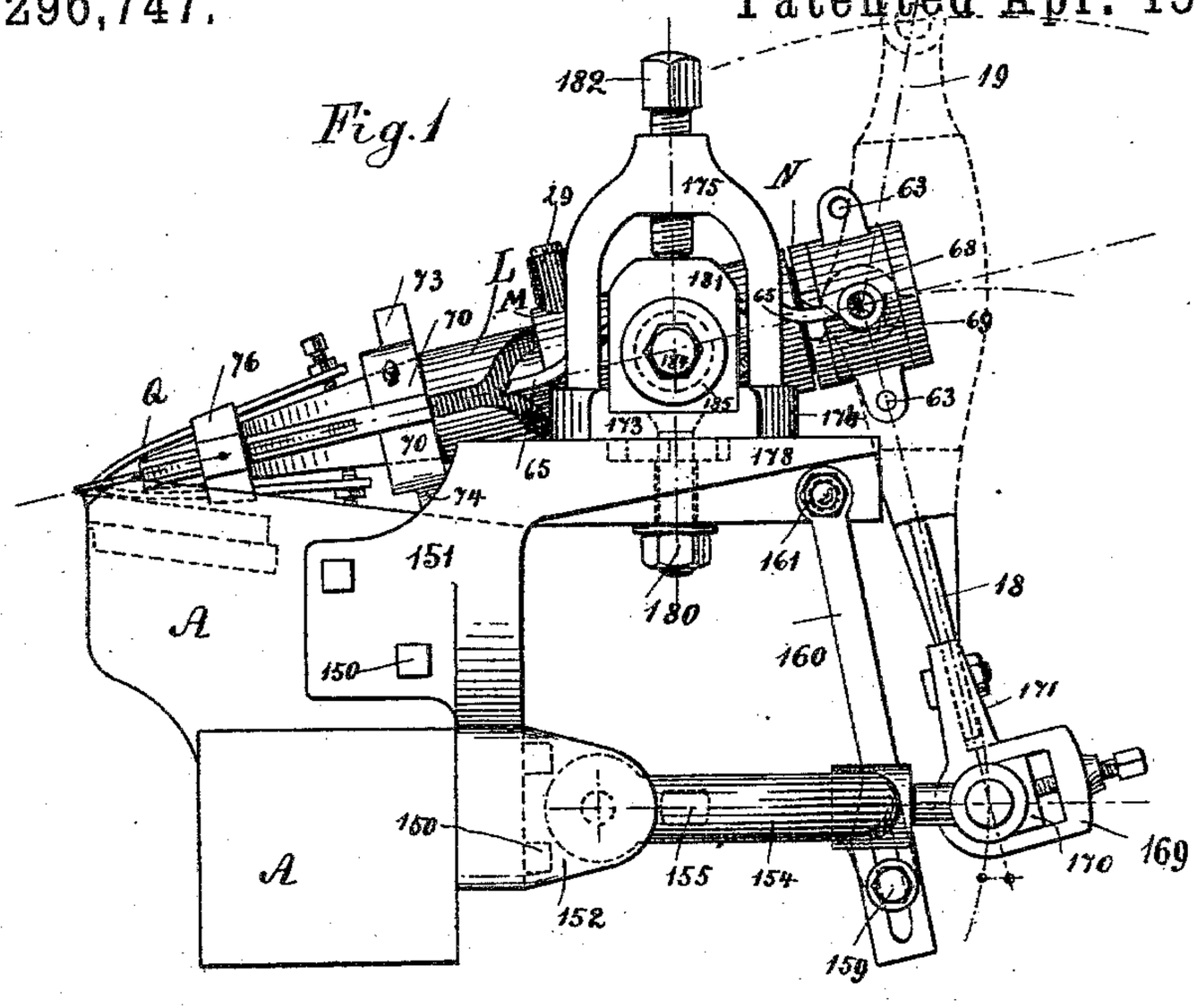
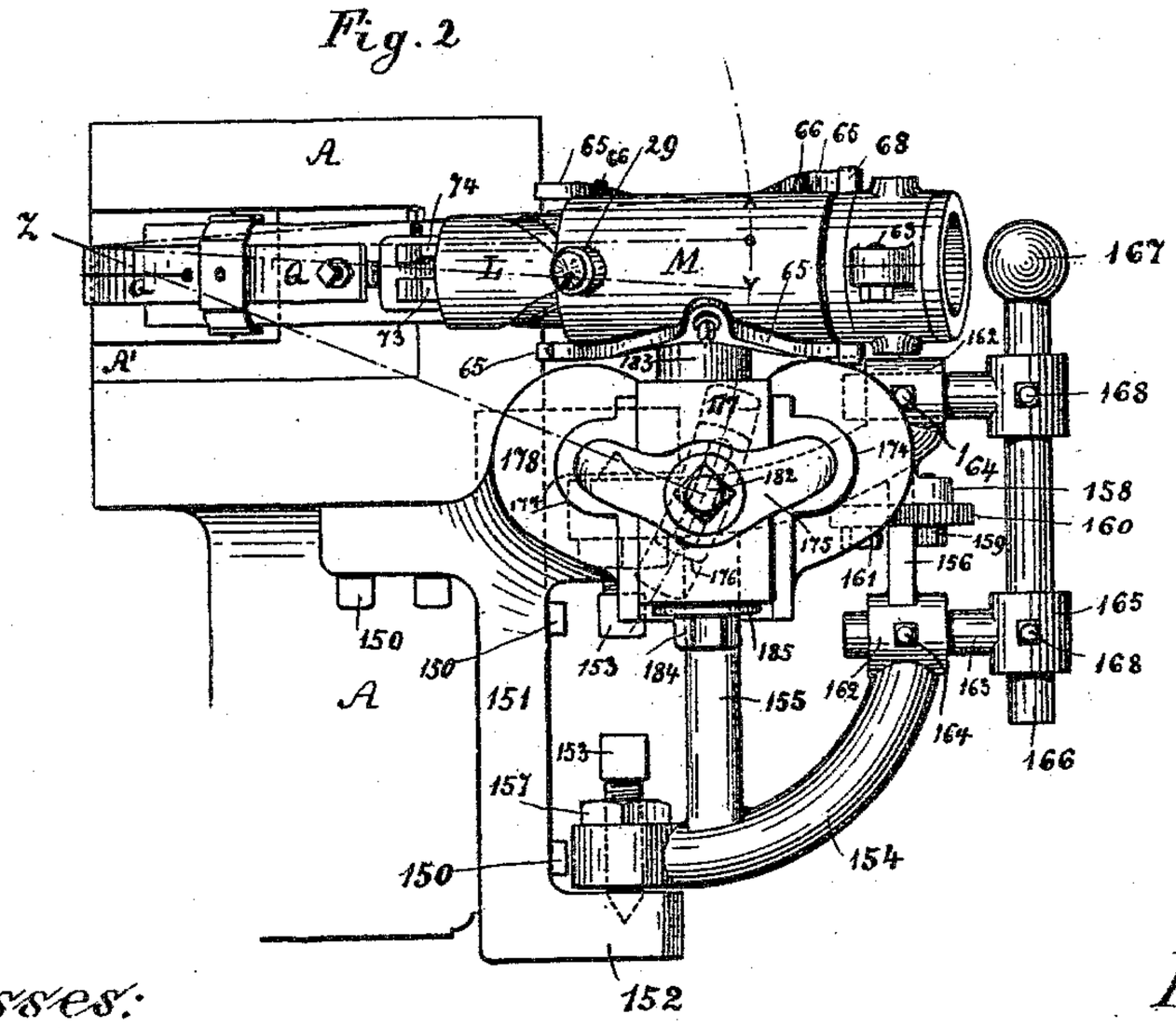



Fig. 2




Witnesses:
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Inventor:
John F. Hammond
By Prince Fisher
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(No Model.) 2 Sheets—Sheet 2.

# J. F. HAMMOND.

## NAIL PLATE FEEDER.

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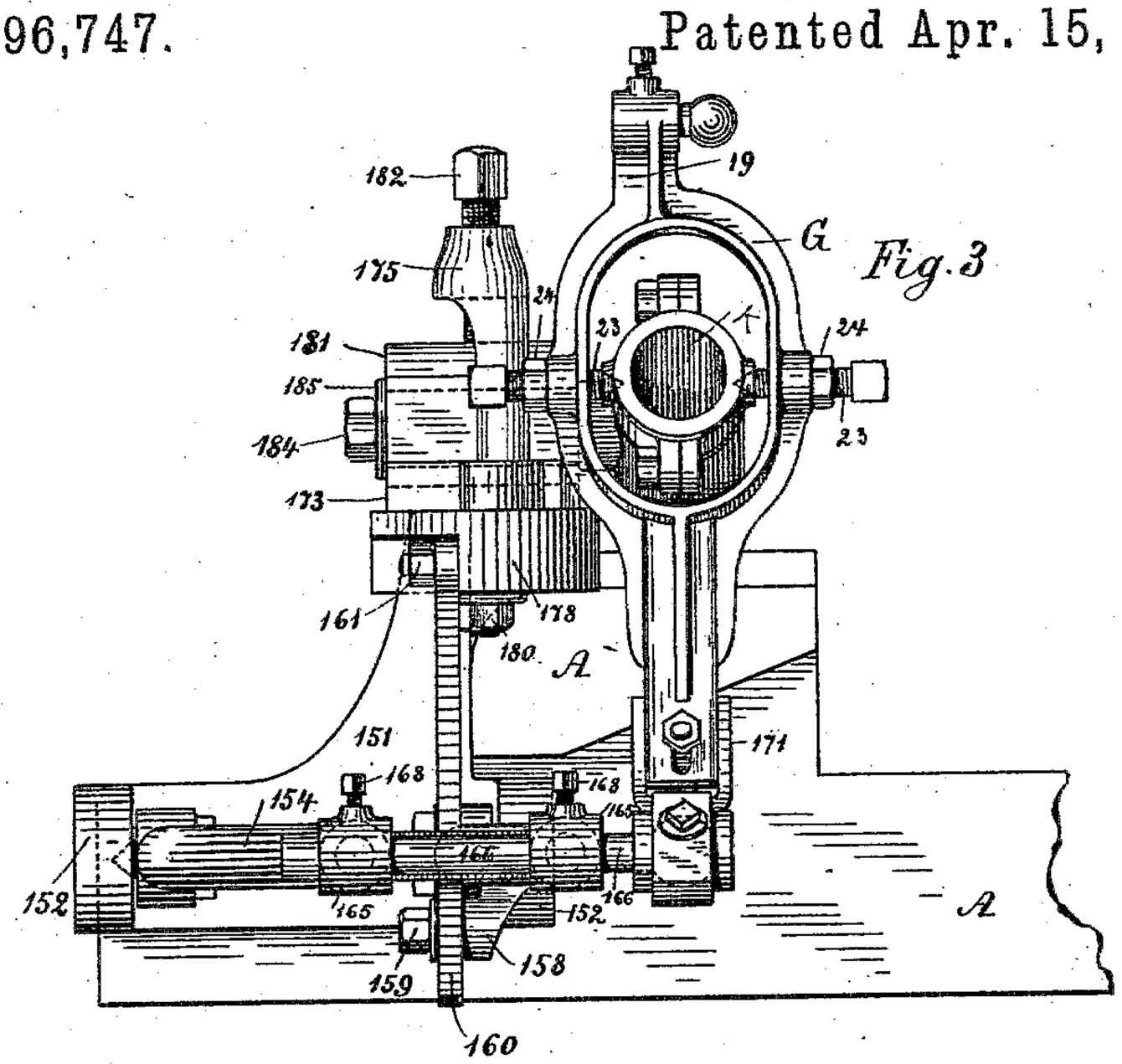



Fig. 3

Fig. 4

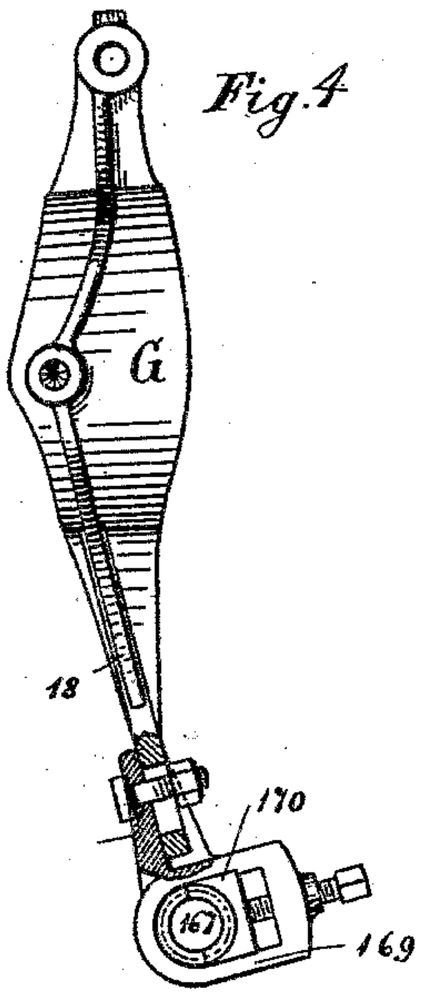



Fig. 5

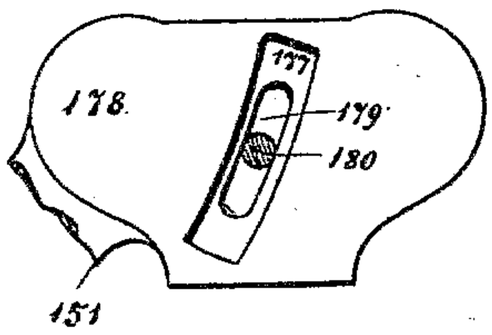



Fig 6

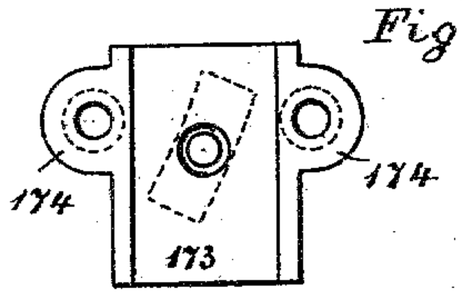
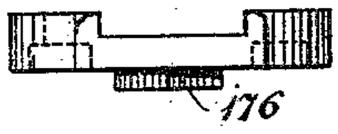



Fig. 7

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# UNITED STATES PATENT OFFICE.

JOHN F. HAMMOND, OF OMAHA, NEBRASKA.

## NAIL-PLATE FEEDER.

SPECIFICATION forming part of Letters Patent No. 296,747, dated April 15, 1884.

Application filed June 11, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN F. HAMMOND, a citizen of the United States, residing at Omaha, in the county of Douglas and State of Nebraska, have invented certain new and useful Improvements in Nail-Plate Feeders, of which the following is a full, clear, and exact description, sufficient to enable any one skilled in the art to construct and use the same.

In machines of the class to which my present invention relates the nail-plate is fed in successive portions sufficient to make the nail by co-operation of the cutting-knives with the plate-holding barrel, which latter, immediately that the plate is in the bite of the knives, recedes or slips backward so far as to expose enough in width of the plate to form the next nail.

The present invention is designed more particularly to simplify the construction of the machine parts set forth in my Letters Patent No. 265,599, issued October 10, 1882, and No. 278,943, issued June 5, 1883; and said invention consists of certain modifications in construction of a nail-plate feeder, the nature of which will be first fully described, and hereinafter defined in claims.

Referring to the drawings, wherein like letters of reference denote like parts—

Figure 1 is a view in side elevation, Fig. 2 a plan view, and Fig. 3 a view in front elevation, of the improved machine. Fig. 4 is a side view of the barrel-yoke detached. Fig. 5 is a top view of the bracket or frame to sustain the journal-box of the barrel. Figs. 6 and 7 are top and side views, respectively, of the base-plate to the box-yoke.

In so far as the present invention has the same parts in common with what are found in the prior Letters Patent referred to, or in an application to be filed contemporaneously herewith, like designating-letters are employed, and reference is made to said patents and contemporaneous application for fuller description thereof, the purpose herein being merely to set forth in detail those peculiarities of structure which are distinctive of the improved machine, made the subject of the present application.

Bolted rigidly, as at 150, to the machine-bed A, and constituting practically an extension or a part thereof, is the irregular-shaped bracket-frame 151, having the projecting lugs, as at 152, which serve as pivot-seats to the center screws, 153. Said center screws pass through suitable threaded eyes in the ends of curved parallel arms 154, which arms, together with the cross-braces 155 156, constitute a stout light frame turning upon screws 153 as pivots. The jam-nuts 157 hold the center screws in adjustment. A short arm, 158, depends from the inner one of the curved arms 154, and has an eye at its end to receive the bolt 159, which latter engages with the slot in the lower end of a link-bar, 160, pivoted above, as at 161, to the under side of the bracket-frame 151. So long as short arm 158 is securely bolted to the link-bar 160 the arms 154 are rigidly held from turning about their pivot-bearings 153; but if the upward or downward movement of said arms about pivots 153 is desired, in order to effect new adjustment thereof and of the parts which they sustain, (as will hereinafter appear,) then by loosening nut of bolt 159 the arms 154 can be swung to desired position and there held by screwing down the nut. The slot in link-bar 160 and the pivotal connection thereof, as at 161, enable the readjustment to be effected without difficulty. There are expanded lugs or journal-eyes 162 at the outer ends of arms 154, which eyes smoothly receive the spindles 163, secured at proper place therein by set-screws, as at 164.

At the outer ends of the spindles 163 there are formed journal-eyes 165, to receive the long shank or spindle 166, having chilled ball, as at 167, thereon. Said ball-spindle 166 is susceptible of horizontal movement in eyes 165, and is retained by clamp-screws, as at 168.

Upon the chilled ball 167 freely oscillates the journal-box 169, having movable block, as at 170, to insure nice adjustment, the projecting flanges 171 of said box being planed true to receive the depending portion 18 of barrel-yoke G. There is a slot in this portion 18 of the barrel-yoke, through which passes a set-bolt, 172, engaging with back plate of box 169, and designed to permit barrel-yoke G to be lengthened or shortened with reference to its center of oscillation, (the chilled ball 167.) The

journal-box 169 of barrel-yoke G manifestly dispenses with the rocking bar and cupped centers heretofore employed, though at its upper end said yoke, as usual, has the center screws, 23, to pivot the box-bearing I, which encompasses the barrel K. The upper expanded face, 178, of bracket-frame 151 is perfectly smooth and plane, and upon said face rests a base-plate, 173, having perforated seats, as at 174, in which are fastened the ends of yoke 175. The base-plate 173 has a curved lug, 176, projecting from its under face, which snugly fits and moves in a groove, 177, made below the face 178 of the bracket-frame. A smaller slot, 179, of like contour with the groove 177, is cut entirely through the face 178, and receives the strong bolt 180, having set-nut thereon, the head of said bolt being countersunk in a hole of base-plate 173, to securely hold said plate to bracket. Seated in ways of the base-plate is the long bearing-box 181, movable therein and retained in place by set-screw 182 passing through yoke 175 and pressing upon the top of said box. The box 181 affords bearing for the long journal 183, projecting from collar M, whereof it forms a part. A bolt tapped into the end of the journal 183 has set-nut 184 thereon, which clamps washer 185 against the bearing-box 181 and holds the journal from endwise play. The journal 183 serves in lieu of the cupped centers 34 on yoke-bar C (Patent No. 278,943) as a pivot-like support for the collar M, which latter, as usual, is provided with the steel pins 30, engaging the grooves 27 28 of barrel K and effecting rotation of said barrel during its longitudinal movement.

By noting the assumed point *z* on the edge of bed-knife A′ it will be perceived that the curvature of lug 176, groove 177, and slot 179 is defined with respect to said point as a center. If clamp-screw 182 be tight, then by loosening set-bolt 180 it is plain that base-plate 173 can be freely moved over the face of bracket-frame 151, along the curved groove 177, and about point *z* as a center. Journal-box 181, and in consequence the collar M and barrel K, are necessarliy shifted thereby, and become radially adjustable about and upon the machine-bed, so that a greater or lesser taper is given to the cut nail, according as the barrel is made to advance toward or recede from the edge of bed-knife A′ about point *z* as a center.

To adjust the barrel so that the nail shall have a greater or less head, it is necessary to slack the set-screw 182 (bolt 180 being tight in its seat) and to slide the journal-box 181 back and forth over base-plate 173 until the point is reached which shall give proper cut for the desired head. It is manifest that in these adjustments the box-bearing I carries the barrel-yoke G back and forth along with the barrel K, said yoke easily adapting itself to the shift by reason of center screws, 23, and oscillatory bearing upon chilled ball 167.

To adjust the point of the barrel up or down with respect to the bed-knife, it is merely necessary to slacken bolt 159 in its seat, whereupon slot in link-bar 160 allows curved arms 154 to turn upon pivot-screws 153, and thus to move barrel-yoke G and barrel as desired, the bolt 159 being thereafter tightened, so that bar 160 holds the parts rigidly in new position.

That the proper angle may be secured between centers of oscillation 167 23 and 183 to effect the parallel (or straight) pulling of the nail-plate, as explained in my prior patent, it is merely necessary to slacken set-screws 164 and shift spindles 163 in journal-eyes 162.

Any lateral shift of barrel-yoke G necessary to avoid binding may be accomplished by loosening screws 168, so that spindle 166 can be moved in journal-eyes 165.

Without restricting myself to the precise details of structure herein set forth, and having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the machine-bed and with the reciprocating barrel, of the encompassing-collar, means, substantially as described, whereby said collar is sustained and made radially adjustable upon the machine-bed, and the rocking barrel-yoke, to reciprocate said barrel, substantially as set forth.

2. The combination, with the machine-bed and with the reciprocating barrel, of the encompassing-collar, means, substantially as described, whereby said collar is sustained and made radially adjustable upon the machine-bed, the rocking barrel-yoke, and the pivoted frame to sustain said yoke, substantially as set forth.

3. The combination, with the machine-bed, the reciprocating barrel, and the encompassing-collar journaled upon the machine-bed, of the rocking barrel-yoke and the pivoted frame which sustains said yoke, substantially as described.

4. The combination, with the machine-bed and with the reciprocating barrel, of the encompassing collar having lateral journal-extension thereon, means, substantially as described, whereby said collar is sustained and made radially adjustable upon the machine-bed, the rocking barrel-yoke, and the pivoted frame about which said yoke journals, substantially as set forth.

5. The combination, with the reciprocating barrel and the rocking barrel-yoke, of the pivoted frame upon which said yoke is sustained, and mechanism, substantially as described, to hold the pivoted frame adjustably and rigidly in position, substantially as set forth.

6. The combination, with the machine-bed and the reciprocating barrel, of the rocking barrel-yoke sustained in ball-and-socket journal, whereby said yoke may easily adapt itself to the radial adjustment of the barrel about the machine-bed, substantially as described.

7. The combination, with the reciprocating barrel and the rocking barrel-yoke, of the pivoted frame upon which said yoke journals, and a link-bar to hold said frame adjustably and rigidly in position about the machine-bed, substantially as described.

8. The combination, with the reciprocating barrel and the rocking barrel-yoke, of the pivoted frame upon which said yoke journals, an arm extending therefrom, and a link-bar adjustably secured to said arm, substantially as described.

9. The combination, with the arms 154, having journal-eyes 162 thereon, of the adjustable spindle 163, which sustains the rocking barrel-yoke, substantially as described, so that its center of oscillation may be shifted in angular relation to the pivot-centers 23 and 183, substantially as set forth.

10. The combination, with the reciprocating barrel and the barrel-yoke, of the adjustable spindle, between which and said yoke there is a ball-and-socket joint, to permit of free oscillations of the yoke, substantially as described.

11. The combination, with the pivoted frame having movable spindles 163, of the ball-spindle 166, adjustable therein, the rocking barrel-yoke socketed to said ball-spindle, and the reciprocating barrel, substantially as described.

12. The combination, with the reciprocating barrel K, and with the barrel-yoke joined pivotally thereto, of the ball-bearing to freely sustain yoke G in oscillating position, substantially as described.

13. The combination, with the reciprocating barrel, of the rocking barrel-yoke having journal-box 169 and adjusting-block 170, and the ball-bearing 167, constituting with said box and block a ball-and-socket joint to sustain the barrel-yoke in manner free to oscillate, substantially as described.

14. The combination, with the machine-bed and with the reciprocating barrel, of the encompassing-collar, and means, substantially as described, whereby said collar is sustained and made radially adjustable upon the machine-bed, substantially as set forth.

15. The combination, with the machine-bed and with the reciprocating barrel, of the encompassing-collar, and means, substantially as described, whereby said collar is sustained and made radially and laterally adjustable upon the machine-bed, substantially as set forth.

16. The combination, with the machine-bed and with the reciprocating barrel, of the encompassing-collar having long journal-extension thereon, the bearing-box to receive said journal, and means, substantially as described, whereby said box is retained in radial adjustment upon the machine-bed, substantially as set forth.

17. The combination, with the machine-bed and the reciprocating barrel, of the encompassing-collar and the laterally-adjustable bearing-box to sustain said collar, substantially as described.

18. The combination, with the machine-bed and with the reciprocating barrel, of the encompassing-collar, the laterally-adjustable bearing-box to sustain said collar, and the yoke and clamp-screw to retain said box in desired adjustment, substantially as set forth.

19. The combination, with the machine-bed and with the reciprocating barrel, of the encompassing-collar, the bearing-box to sustain said collar, the base-plate, and a curved lug located between and co-operating with said base-plate and machine-bed to permit the radial adjustment of the reciprocating barrel, substantially as described.

In testimony whereof witness my hand this 5th day of June, A. D. 1883.

JOHN F. HAMMOND.

Witnesses:
W. SIMERAL,
EDWARD W. SIMERAL.