(No Model.) 2 Sheets—Sheet 1.

E. WOODWARD & H. WEEKS.

PEGGING MACHINE.

No. 301,464. Patented July 1, 1884.

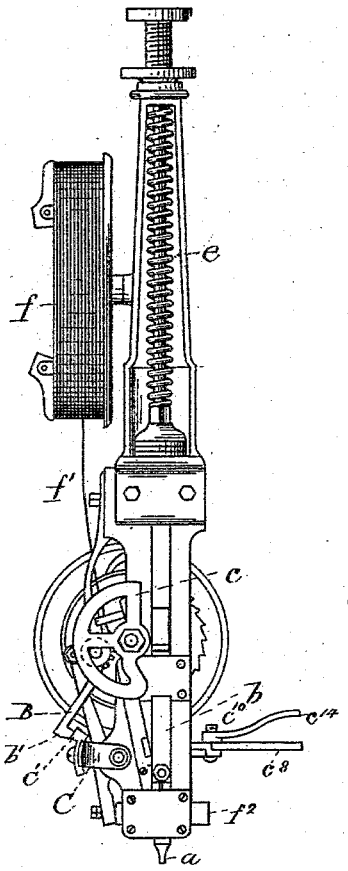

Fig. 1.

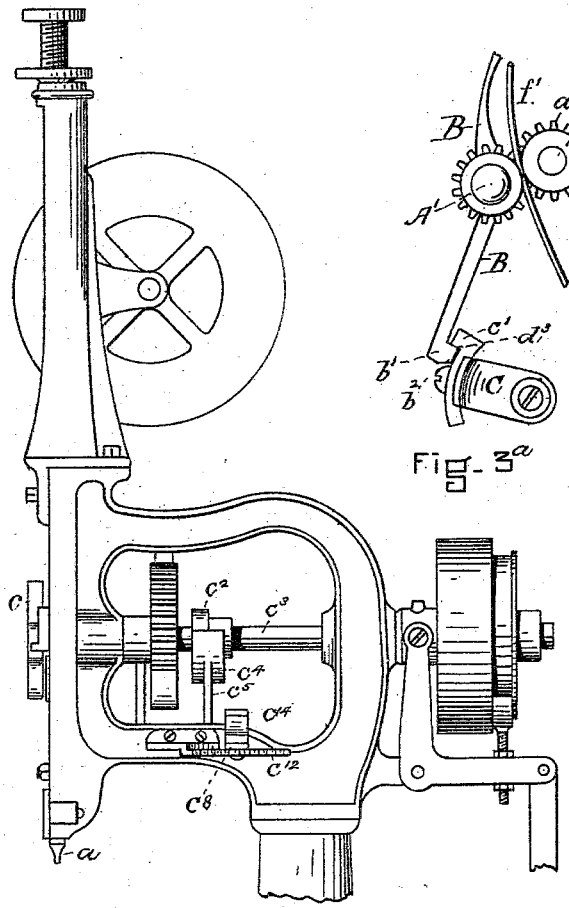

Fig. 2.

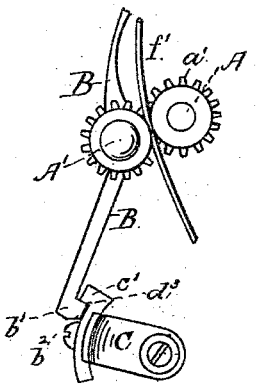

Fig. 3ª

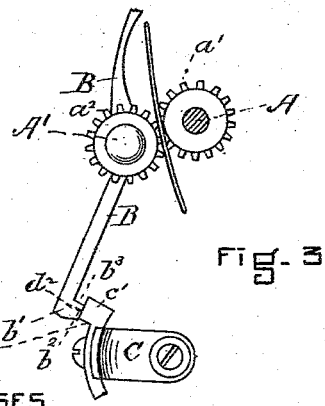

Fig. 3.

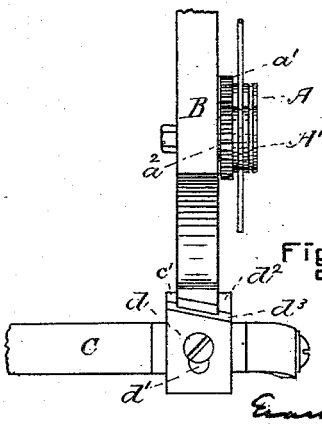

Fig. 4.

WITNESSES

Bowdoin S. Parker

Fred. B. Dolan.

INVENTORS

Erastus Woodward

Horace Weeks

by their attys

Clarke & Raymond

(No Model.) 2 Sheets—Sheet 2.

E. WOODWARD & H. WEEKS.

PEGGING MACHINE.

No. 301,464. Patented July 1, 1884.

Fig-7-

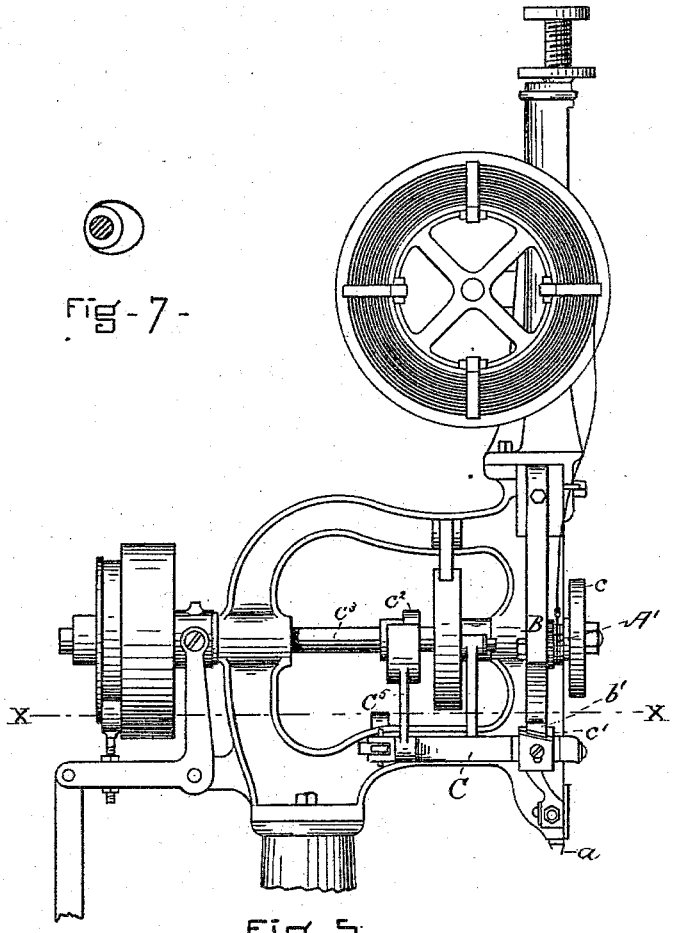

Fig-5-

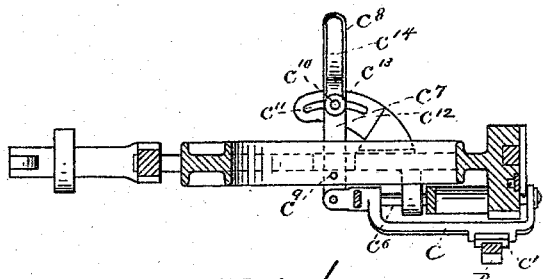

Fig-6-

WITNESSES

Bowdoin S. Parker

Fred. B. Dolan.

INVENTORS

Erastus Woodward

Hiram Weeks

by his attys

Clarke & Raymond

UNITED STATES PATENT OFFICE.

ERASTUS WOODWARD, OF SOMERVILLE, AND HORACE WEEKS, OF BOSTON, ASSIGNORS, BY DIRECT AND MESNE ASSIGNMENTS, TO THE CORRUGATED WIRE FASTENING COMPANY, OF BOSTON, MASSACHUSETTS.

PEGGING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 301,464, dated July 1, 1884.

Application filed April 21, 1884. (No model.)

To all whom it may concern:

Be it known that we, ERASTUS WOODWARD, of Somerville, in the county of Middlesex, and HORACE WEEKS, of Boston, in the county of Suffolk, both in the State of Massachusetts, citizens of the United States, have invented a new and useful Improvement in Nail-Holders, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification in explaining its nature, in which—

Figure 1 is a front elevation of a nailing-machine containing our invention. Fig. 2 is a side elevation thereof at the right of the front. Figs. 3 and 4 are detail views hereinafter especially referred to. Fig. 5 is a view in elevation of the left side of the machine. Fig. 6 is a horizontal section upon the line *x x* of Fig. 5. Figs. 3ª and 7 are detail views, further illustrating the construction of the machine.

The invention relates especially to mechanism for varying the length of the nail, which is also adapted to be operated while the machine is in motion, and it is an improvement upon that described in Letters Patent No. 241,550. In said patent there is described a wire-feeding mechanism, which consists of two feed-rolls adapted to be moved automatically into and out of contact with each other at given intervals by a cam and suitable connecting devices, and by varying the size of the working-surface of this cam the duration of time in which the rolls are in contact can be varied so that a greater or less length of wire is fed. This cam, however, is somewhat expensive to make and does not permit of the very finest adjustments, and cannot readily be adjusted to vary the length of time of feeding while the machine is in operation. In this invention we have succeeded in obtaining a construction which is cheaper than that described in said patent, and which readily permits adjustment while the machine is in operation.

Referring to the drawings, *a* is the nozzle of the nailing-machine. *b* is the drive-bar. *c* is the cam for lifting the drive-bar in opposition to the driving-spring *e*. *f* is the reel; *f'*, the wire. f^2 is a nail cutting and transferring plate, which severs the nail from the end of the wire and feeds it into position to be driven. All these parts, with the exception of the reel, are fully described in said patent and Patent No. 225,527.

A is a feed-roll positively revolved in stationary bearings, as described in said Patent No. 225,527. It has a spur-gear, *a'*.

A' is a feed-roll supported by the spring-arm B, and free to revolve thereon, and having a movement to and from the feed-roll A. It also has a spur-gear, a^2, which meshes with the spur-gear *a'*. This arm B has at its lower end the inward projection or extension *b'*, which bears the relation to the projection *c'* upon the arm C hereinafter described. This arm C has an oscillating movement of uniform length given it by means of the cam c^3 on the main shaft, the yoke c^4, and connecting-rod c^5, and it is secured to the frame-work of the machine by the long pivot c^6. The arm C is also movable in a horizontal direction by means of the lever c^7, which has a handle, c^8, and is pivoted at c^9. The handle is locked in place by means of the bolt c^{10}, which passes through the slot c^{11} on the curved arm c^{12} and nut c^{13}. An arm, c^{14}, attached to this nut, permits the same to be turned and the handle to be moved and locked in any new position. The upper surface of the arm c^{12} has a scale, to indicate where to set the handle for feeding the various lengths of wire.

From what has been said it will be seen that the block C' has two movements in relation to the projection *b'* on the spring-arm B: First, it has an oscillating movement which vibrates the arm B, and moves the feed-roll A' out or away from the feed-roll A, the spring-arm B returning it; and, second, it has a sidewise movement. The first or oscillating movement is an automatic movement, and is continuous during the operation of the machine. The sidewise movement or horizontal movement is regulated by means of the handle c^8. It will also be seen that while the two faces of the blocks *c' b'* are in contact, the roll A' is held away from the roll A, and there is consequently no feeding of the wire; but after the face of the block *c'* has cleared the face of the

block b' upon the upward movement of the oscillating arm C, the roll A′ is permitted by the force of the spring to be moved against the roll A with force sufficient to grasp and feed the wire, and of course this feed will continue so long as the faces of the blocks b' c' are not in contact. Consequently when the face of the block c' is narrow it clears the face of the block b' sooner, and consequently the roll A′ is brought into operative position sooner than when the face of the block is wider, and there is a longer travel of the face of the block c' upon the face of the block b' before the block c' clears the block b', and permits the roll A′ to be moved into operative position. It will also be seen that by making the face of the block b' tapering upon its under surface, so that one end shall be quite narrow and the other end shall be quite broad, and there is a regular taper from one end to the other, if said block be moved in relation to the block b', the length of time which the face of block b' is in contact with the face of block c' may be indefinitely varied, and that any length of wire, from a very short to a very long piece, can be cut simply by moving this block c' horizontally, so that the desired section shall be brought in line with the block b'. The face of the block b' is the surface indicated by b^2, and the face of the block c' is indicated by d^2. The block b' projects from the arm B, so that its upper edge, b^3, shall close or move by the projecting portion of the block c' when the edge d^3 of the said block shall come in line with said edge b^3, and upon the reverse movement of the block c' its edge d^3 will come in contact with the edge b^3, and will ride upon the same and throw out the lever, so that the face of the block b' shall be brought against the face of the block c'. In Fig. 3 we show the two faces d^2 b^2 in contact, and in Fig. 3ª we show the block c' moved away from the block b'. The block c' is secured to the oscillating arm C by means of a screw or bolt, d; and by means of the slot d' in the arm projecting down from the block the block can be adjusted vertically in relation to said oscillating arm C. By means of the lever c^8 the block c' can be moved while the machine is running.

The advantages of this invention are apparent from the foregoing description.

If desired, the lever c^8 or arm C can be moved by a treadle and connecting-lever.

Having thus fully described our invention, we claim and desire to secure by Letters Patent of the United States—

1. In a nailing-machine, the combination of the feed-roll A, the feed-roll A′, its arm B, having the block b', shaped substantially as described, and the oscillating block c', also shaped substantially as described, all substantially as and for the purposes set forth.

2. The combination of the feed-roll A, feed-roll A′, arm B, the block b', and block c', shaped as specified, its arm C, cam c^2, and connecting devices, all substantially as and for the purposes described.

3. The combination, in a nailing-machine, of the feed-roll A, feed-roll A′, the arm B, block b', and oscillating block c', shaped as specified, the handle c^8, and connecting mechanism for moving the same horizontally, all substantially as and for the purposes described.

4. In a nailing-machine, as a means of varying the movement of an arm operating a portion of the feeding mechanism, the block b', attached to said arm, and the oscillating block c', shaped as specified, and adapted to have a horizontal movement imparted to it, all substantially as and for the purposes described.

5. The combination of the block c', having the slot d' in its downward-extending portion, with the supporting-block C and screw or bolt d, all substantially as and for the purposes described.

6. The combination, in a nailing-machine, of the feed-arm B, the block b', shaped as described, the oscillating block c', shaped as specified, and adapted to have a horizontal movement provided it, the lever c^8, the arm c^{12}, and means for locking the lever to said arm, all substantially as and for the purposes set forth.

7. The combination of the oscillating feed-regulating block c', the lever c^8, and the arm c^{12}, bearing a scale adapted to be used in connection with the handle, and indicating the varying lengths of the feed, all substantially as and for the purposes described.

ERASTUS WOODWARD.
HORACE WEEKS.

Witnesses:
F. F. RAYMOND, 2d,
FRED. B. DOLAN.