A. H. TYRRELL & S. EVANS.

Nail-Plate Feeder.

No. 196,513. Patented Oct. 23, 1877.

Fig. 1

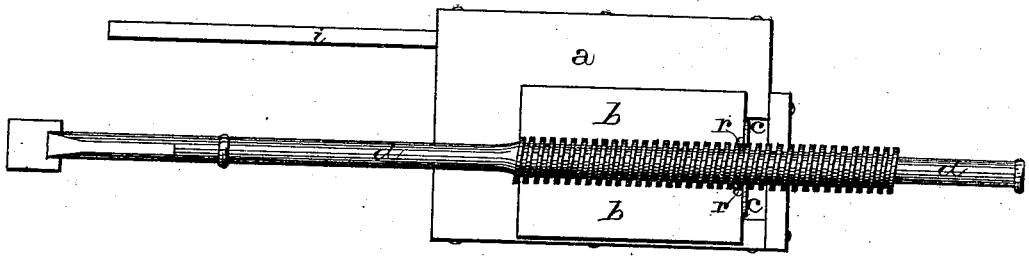


Fig. 2.

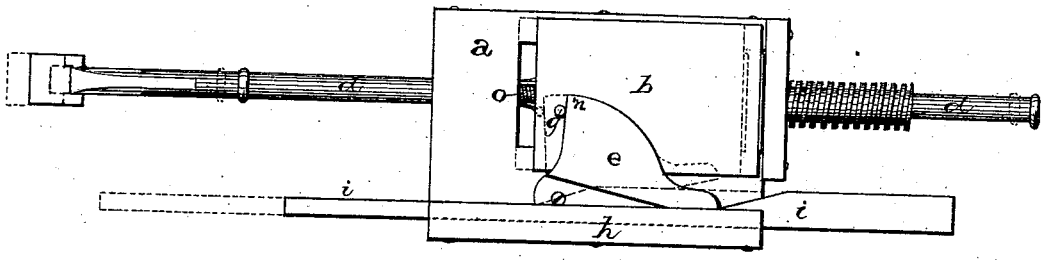
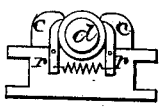


Fig. 3.



WITNESSES.

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ASAHEL H. TYRRELL AND SAMUEL EVANS, OF FOWLER TOWNSHIP, TRUMBULL COUNTY, OHIO.

IMPROVEMENT IN NAIL-PLATE FEEDERS.

Specification forming part of Letters Patent No. **196,513**, dated October 23, 1877; application filed October 17, 1877.

To all whom it may concern:

Be it known that we, ASAHEL H. TYRRELL and SAML. EVANS, of Fowler township, in the county of Trumbull and State of Ohio, have invented certain new and useful Improvements in Nail-Plate Feeders; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Our invention relates to an improvement in nail-plate feeders; and it consists in the combination of a cross-head, a feed-rod having a screw-thread cut in its outer end, a cam, and a cam-rod, whereby, as the feed-rod revolves, the cross-head is moved backward, away from the knives, so as to give the rod time to turn half around, and then is moved forward again by the action of the cam-rod against the cam, as will be more fully described hereinafter, as an improvement upon our Patent No. 193,577.

Figure 1 is a plan view of our invention. Fig. 2 is an inverted view of the same. Fig. 3 is a detail view of the stays.

a represents the stationary bed-plate of our improved nail-plate feeder, which has a portion cut out to form guides, upon which the sliding cross-head *b* moves horizontally back and forth. Upon the outer end of this cross-head is secured the thread *c*, which catches in the thread of the screw cut in the surface of the outer end of the feed-rod *d*. This rod is placed inside the working barrel, and is revolved by it; and as the rod revolves, the cross-head moves backward away from the knives, and after the rod has been turned nearly half-way around, the cam-rod *i*, operated by suitable mechanism, feeds it forward again. Although the rod is revolved, the head, in moving backward, does not affect the front end of the rod, the plate in the nippers thereon being held by springs in the nose-piece of the feed-barrel until the head moves forward, when it carries the rod forward with it.

Pivoted to the under side of the bed-plate is the cam *e*, the outer corner of which strikes against a stud or projection, *g*, on the under side of the sliding head *b*. Moving back and forth, between the inner curved side of the cam *e* and a flange, *h*, on the edge of the bed-plate *a*, is the cam-rod *i*. Between the inner edge of the sliding head and the frame is a suitable spring, *o*, which moves the head back while the rod is being turned and after the head has been forced forward by the cam. The rod *d* is supported at the outer end of the cross-head in the spring-stays *r*, which allow the rod to be raised freely upward, and yet hold it firmly in position while the machine is at work.

The operation of our machine is as follows: The cam-rod *i* is forced or drawn inward so that its thicker part shall strike against the end of the cam *e;* and in moving this end outward, the corner *n* is made to strike against the stud or projection *g* on the sliding cross-head *b*, so as to move it forward. As the head moves forward it carries the feed-rod *d* forward, so as to feed the plate to the knives. After the knives have cut a nail the cam-rod is forced or drawn backward, when the spring at once forces the head *b* backward away from the knives. As the head moves back, the barrel turns the rod partially around, and by the time the head again moves the rod forward it has turned just half around, thereby reversing the corners of the plate to the knives. If desired, the head may be made to carry the rod backward with it, so that the plate can be freely reversed without touching the knives. The rod is revolved, and at the same time that the head *b* moves backward; and as the head also moves it forward, it will be seen that the rod has two motions. Were it not for the spring-stays *r* the rod would be displaced by the up-and-down motion of the working barrel.

The cam-rod and cam, as a means of moving the cross-head back and forth, and the working barrel, are shown in our patent of July 24, 1877, No. 193,577, and are not here claimed as new. Although these devices are here shown, it is evident that other devices may be employed to effect the same purpose without departing from the spirit of our invention, which is revolving the feed-rod with-

out moving it forward, and then moving it forward at its proper time.

Having thus described our invention, we claim—

The feed-rod *d*, provided with screw-thread, held in position by the stays *r* and cross-head, having screw-thread *c*, in combination with cam *e* and cam-rod *i*, substantially as and for the purpose set forth.

In testimony that we claim the foregoing we hereunto affix our signatures.

A. H. TYRRELL.
SAMUEL EVANS.

In presence of—
M. J. SLOAN,
SEXTUS SLOAN.