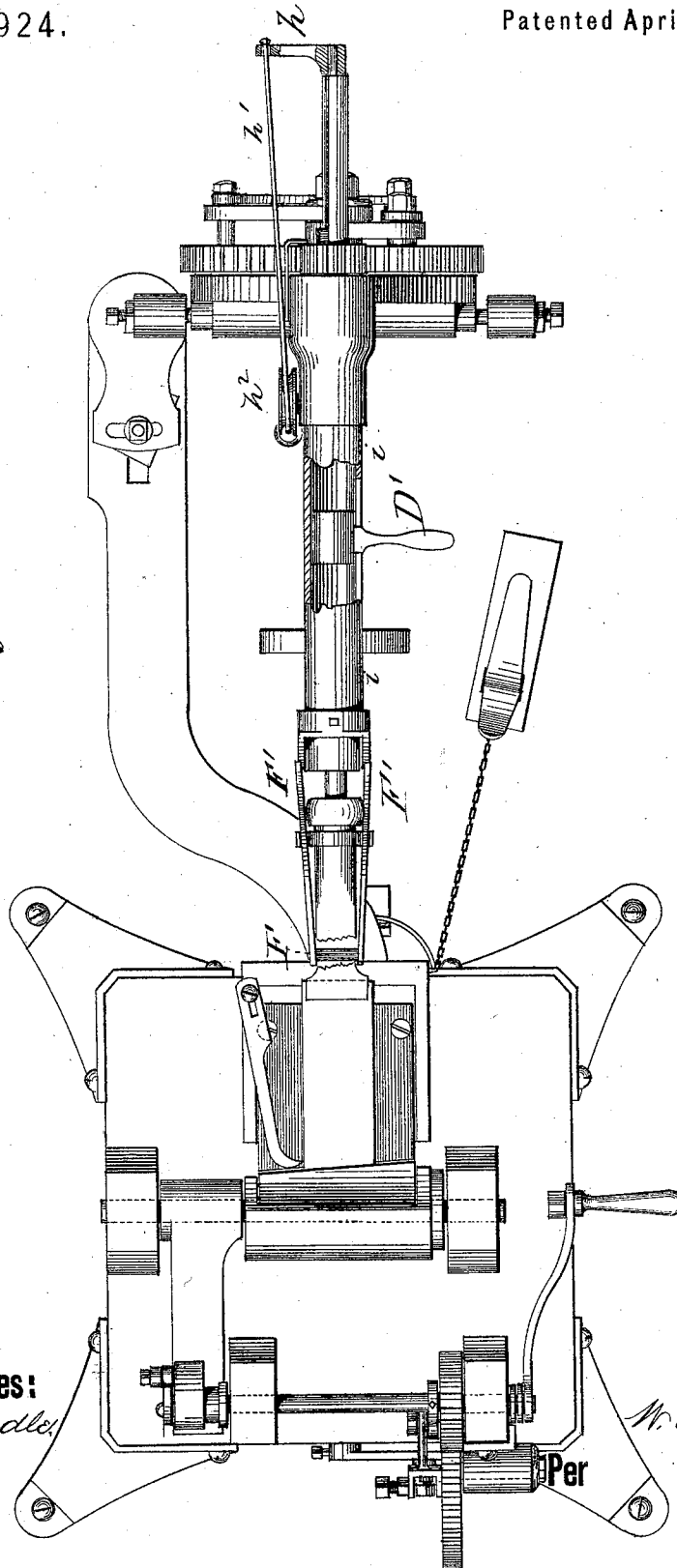


W. H. FIELD.
Nail-Plate Feeders.

No. 149,924.

Patented April 21, 1874.

Fig. 1.



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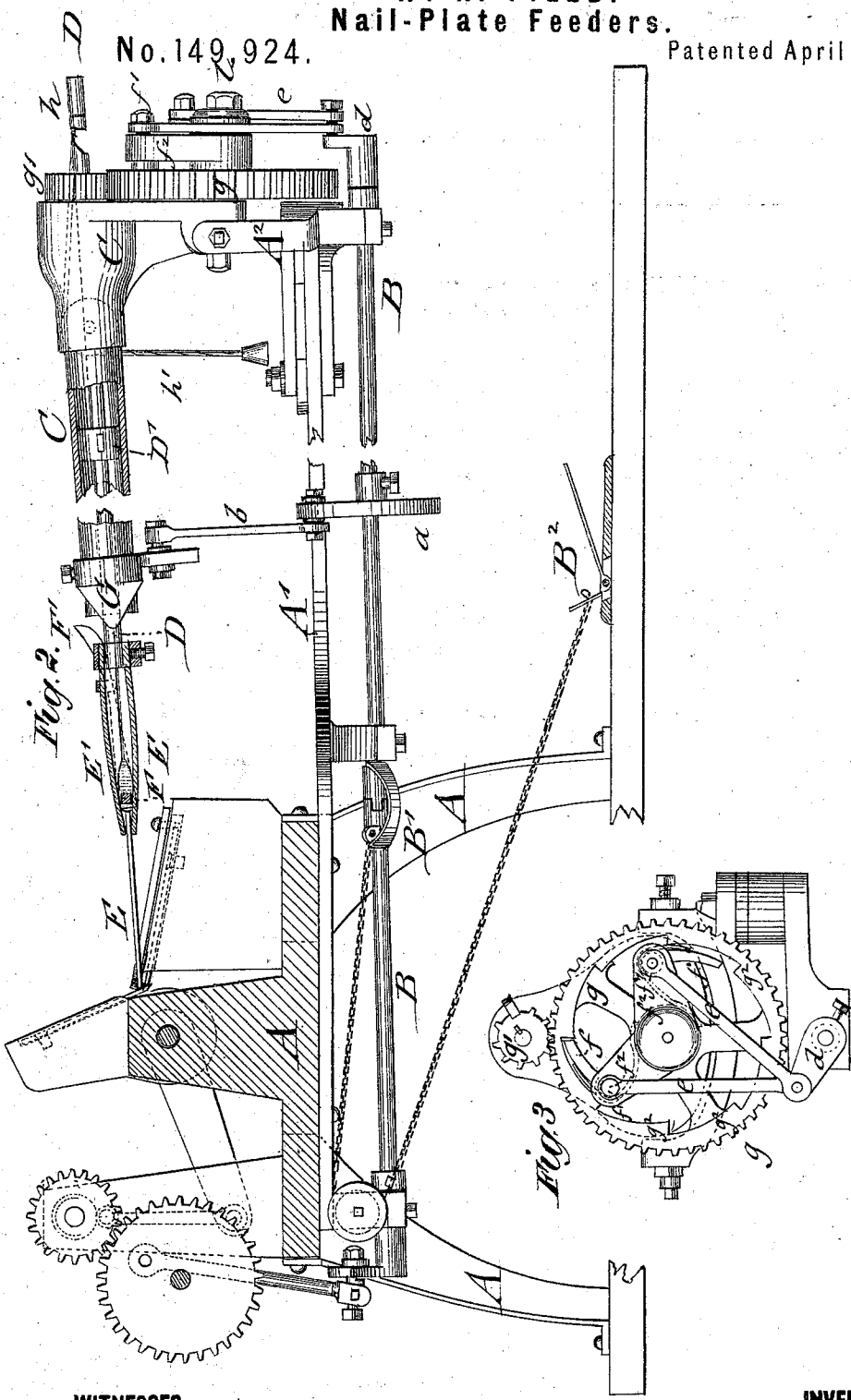
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UNITED STATES PATENT OFFICE.

WILLIAM H. FIELD, OF TAUNTON, MASSACHUSETTS.

IMPROVEMENT IN NAIL-PLATE FEEDERS.

Specification forming part of Letters Patent No. **149,924**, dated April 21, 1874; application filed January 24, 1874.

To all whom it may concern:

Be it known that I, WILLIAM H. FIELD, of Taunton, in the county of Bristol and State of Massachusetts, have invented a new and Improved Machine for Feeding Nail-Plates, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a sectional top view of my improved machine for feeding nail-plates; Fig. 2, a sectional side elevation of the same; and Fig. 3, a detail end view, showing mechanism for turning the nipper-rod with the nail-plate.

Similar letters of reference indicate corresponding parts.

My invention relates to improvements in nail-plate feeders, by which the rapidity of handling of nail-plates is facilitated. It relates to the construction and arrangement of devices, as specifically indicated in the claims, and as hereinafter described in a general way.

In the drawing, A represents the main supporting-frame, on which the oblique cutters, and the gear-wheels for imparting the necessary motion to the feeding and cutting mechanisms, are arranged. The main shaft B turns in suitable bearings of the main frame and of the feed-supporting frame A¹, which extends forward and carries at its end the lateral standard A², to which the guide-barrel, with the rotating mechanism of the nipper-rod, is pivoted. The main shaft B may be thrown out of gear by means of a spring clutch, B¹, which is operated by a treadle chain and pulley, B². The driving-shaft imparts in a suitable manner circular reciprocating motion to the main shaft B, which transmits again, by crank-disk *a* and pivoted connecting-rod *b*, reciprocating motion to the pivoted nipper-rod barrel C, and also, by its end crank *d* and levers *e*, spring-pawls *f*, ratchet cog-wheel *g*, and pinion *g'*, rotary motion to the nipper-rod D. The forward feeding of the nipper-rod D is produced by an end swivel, *h*, which is connected by a rope or chain, *h'*, passing over a loose pulley, *h''*, of barrel C, with a weight of sufficient size, in the manner generally in use in nail-plate-feeding machines. For the purpose of inserting the nail-plate E into the nippers or jaws E' at the front end of nipper-rod D, the attendant works the treadle B², releasing the spring-clutch and throwing the main shaft

out of gear. The nipper-rod D is simultaneously carried back by its handle D', which runs in a longitudinal side slot, *i*, of the guide-barrel C. A wedge piece or bar, F, is crosswise inserted between the nippers E', and provided with curved levers or tongs F', which extend at one or both sides of the jaws toward the end of barrel C, to be brought with their curved ends in contact with the V-shaped collar or friction-rollers G, applied adjustably at the front end of barrel C. The action of bar F on the nippers E' causes, by the pressure of the levers F' on collar G, the opening of the nippers, and allows the ready insertion of a new nail-plate in place of the one fed to the cutters. The V-shaped form of collar G admits of the opening of the nippers, whether the bar-levers are in the upper or lower position, so that no time is lost in adjusting them. The treadle is then released, the spring-clutch engages instantly the main shaft, and the weight carries the nipper-rod and nail-plate forward, and feeds the latter to the cutter-knives. The intermittent rotary motion of the nail-plate, required for giving the same a semicircular turn for the regular cutting of the tapering nails in alternate direction, is obtained by cog-wheel *g*, which turns on a rearward-projecting shaft, *l*, of the lower part of the barrel-standard, and gears with the pinion *g'*, keyed to the nipper-rod E. Cog-wheel *g* is cut at the inner circumference or face with ratchet-teeth *g''*, into which the spring pawls or dogs *f* catch alternately, producing the rotation of wheel *g* in one direction. Spring-pawls *f* are pivoted to cross-pins *f'* at the outer ends of arms *f''*, which turn on shaft *l*, to which arms motion is imparted by the connecting lever-rods *e*, which are pivoted to crank *d* of the main shaft and cross-pins *f'*.

The inserting and rotating of the nail-plate, and its feeding toward the knives, are thus accomplished by very neat effective mechanism, which is fully within the control of the attendant, and allows a rapid working of the machine.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In nail-plate-feeding machines, the plate-holding nippers or jaws at end of nipper-rod, having a cross-bar with curved lever-arms or

tongs, in combination with the V-shaped collar or friction-rollers at front end of nipper-rod barrel, for producing the opening of the nippers and ready insertion of a new nail-plate, substantially as and for the purposes described.

2. The combination of the nipper-rod having side-projecting handle with slotted guide-barrel, plate-holding nippers E', and V-shaped collar G, substantially as shown and described.

3. The combination of the main shaft B, by means of end crank *d*, lever-rods *e*, arms *f*², spring-pawls *f*, ratchet cog-wheel *g*² *g*, and pinion *g*¹ with the nipper-rod, to produce intermittent semi-rotary motion of the nipper-plate, in the manner described.

4. The combination of the main shaft B, nipper-rod D, pivoted guide-barrel C, crank-disk *a*, rod *b*, crank *d*, levers *e*, ratchet cog-wheel *g*, and pinion *g*¹, to produce simultaneously the turning of the nipper-rod and the reciprocating motion of the latter, and thus the regular unobstructed feeding of the nail-plate, as shown and described.

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