W. KOPLIN.

Nail-Plate Feeder.

No. 211,025. Patented Dec. 17, 1878.

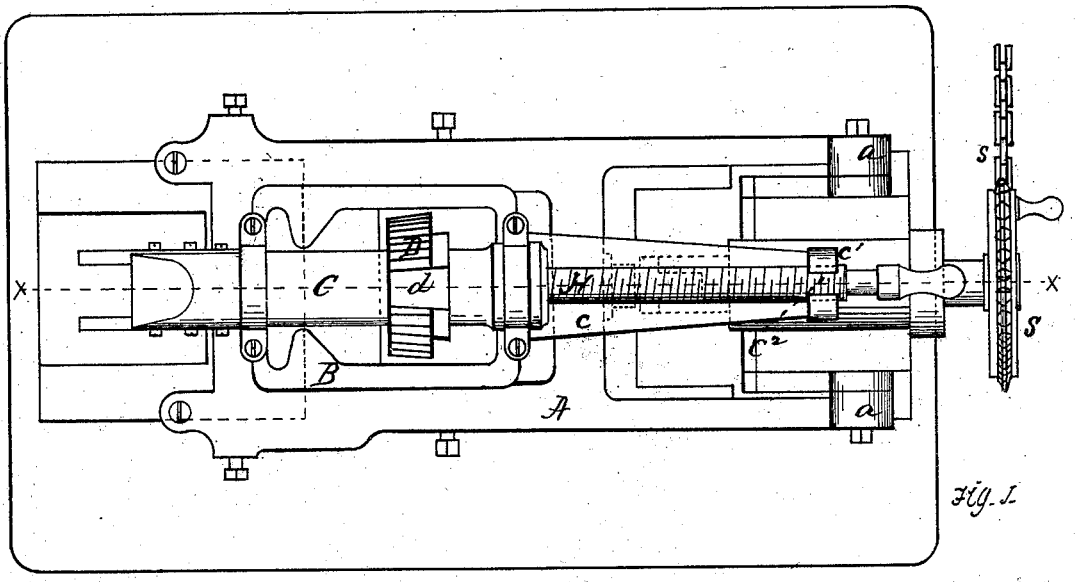

Fig. 1.

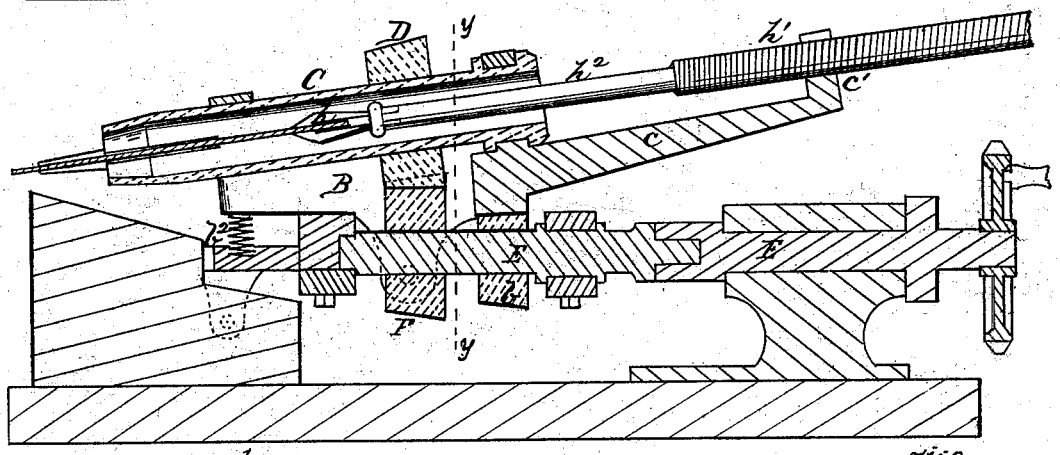

Fig. 2.

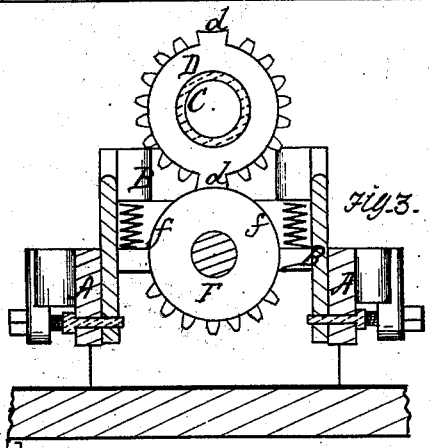

Fig. 3.

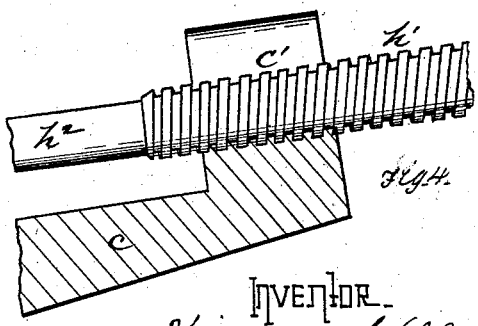

Fig. 4.

WITNESSES.

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UNITED STATES PATENT OFFICE.

WILLIAM KOPLIN, OF NEWCASTLE, PENNSYLVANIA.

IMPROVEMENT IN NAIL-PLATE FEEDERS.

Specification forming part of Letters Patent No. **211,025**, dated December 17, 1878; application filed November 15, 1878.

To all whom it may concern:

Be it known that I, WILLIAM KOPLIN, of Newcastle, in the county of Lawrence and State of Pennsylvania, have invented a new and useful Improvement in Nail-Plate Feeders; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 is a plan view of devices embodying my invention. Fig. 2 is a longitudinal central section. Fig. 3 is a transverse section on the line *y y*, Fig. 2. Fig. 4 is a detached view of the feed-rod and its rest.

Like letters refer to like parts wherever they occur.

My invention relates to the construction and operation of devices for automatically feeding nail-plates.

The object of the present invention is to obtain a direct screw-feed, to dispense with all intermediate mechanism, greatly simplify the devices, and render them very effective and durable.

I will now proceed to describe my invention, so that others skilled in the art to which it appertains may apply the same.

In the drawing, A indicates the main frame, pivoted at its rear, as at *a*, so that the devices may be turned up out of the way, when desired, for grinding the knives of the nail-machine, or for other purposes. B indicates the rocking feed-barrel frame, so pivoted on the main frame A as to insure sufficient rise for the nose of the feed-barrel, that the same, together with the projecting portion of the nail-plate, shall clear the bed (or bed-knife) of the nail-machine at each half revolution or whole revolution of the feed-barrel, as required. The rocking motion of the feed-barrel frame B is caused by cam *b* on the driving-shaft, which holds the frame forward and fixed during the cutting of the nail and a spring or springs, b^2, which rock the frame back, or cause the feel-barrel to rise during its rotary movement. C indicates the feed-barrel, journaled in the rocking frame B, and revolved therein by means of cog-wheels D and F, the one D on the barrel having blind teeth *d*, while the one F on the driving-shaft is mutilated, as shown at *f*, so that the feed-barrel C will be revolved as such times as the gearing on the wheels D F mesh, and will remain stationary while the blind gearing *d* rests on the mutilated portion *f*. In the present instance the feed-barrel will make one-half revolution for every complete revolution of the driving-shaft. E indicates the driving-shaft, composed of two parts or sections, tongued and grooved, so as to separate readily when the pivoted main frame A is turned up, as before specified.

Thus far I have only described devices for controlling and imparting motion to the feed-barrel, and mainly such as are embraced in former patents granted to me in 1876 and 1877; but, as in lieu thereof many different devices could be employed and would suggest themselves to the skillful mechanic, I do not expect or intend to be understood as limiting myself thereto, only to the extent that equivalent elements or mechanism must be employed with those hereinafter described.

I extend the rocking feed-barrel frame or secure a bracket thereto, as at *c*, and thereon in the axial line of the feed-barrel I form or secure a fixed feed-nut, c^1, usually slotting the same, as at c^2, to admit of the ready introduction of the threaded feed-rod, and otherwise shaping the nut *c*, so that the feed-rod cannot escape when once its threaded portion has entered the nut.

H indicates a feed-rod provided at one end with a suitable nipper, *h*, to hold a nail-plate, and threaded, as at h^1, to engage with the fixed feed-nut c^1, the intermediate portion, h^2, of the feed-rod being reduced to permit of the ready introduction of the feed-rod through the slot in nut c^1. The pitch of the thread formed on the feed-rod and in the fixed nut will of course determine the feed or size of the nail.

In order to drive the shaft E, a sprocket-wheel, S, and chain *s* are by preference used.

The devices being substantially those above described, they will operate as follows: A plate of suitable size is inserted in the nipper on the end of the feed-rod. Said plate is then pushed into the barrel, and the feed-rod inserted in the feed-nut and pushed forward until its threaded portion engages in the feed-nut. Power being applied to revolve the feed-bar-

rel, the nail-plate and rod will revolve therewith, and as the feed-nut is fixed with relation to the barrel, or at all times preserves its position with relation thereto, a direct and unvarying feed of the nail-plate will be obtained.

The essentials of the present invention are a threaded feed-rod, a rocking frame, and a fixed feed-nut on the rocking frame, acting directly on the feed-rod, and which preserves at all times the same position with relation to the axis of the feed-barrel.

The advantages of the invention are simplicity and durability of the devices and accuracy of feed.

Having thus described the nature and operation of my devices, what I claim, and desire to secure by Letters Patent, is—

1. The combination, in a nail-plate feeder, of a rocking frame carrying a revolving feed-barrel or nail-plate guide, a threaded feed-rod, and a fixed feed-nut arranged on the rocking frame and in line with the axis of the feed-barrel or guide, said feed-nut acting directly on the threaded feed-rod, substantially as and for the purpose specified.

2. The combination, in a nail-plate feeder, of a rocking frame carrying a revolving nail-plate guide or feed-barrel, a pinion with blind teeth, and a mutilated pinion for operating the feed-barrel, a threaded feed-rod, and a fixed feed-nut arranged in the axis of the feed-barrel and on the rocking frame, substantially as and for the purpose specified.

In testimony whereof I, the said WILLIAM KOPLIN, have hereunto set my hand.

WILLIAM KOPLIN.

Witnesses:
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R. H. WHITTLESEY.

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