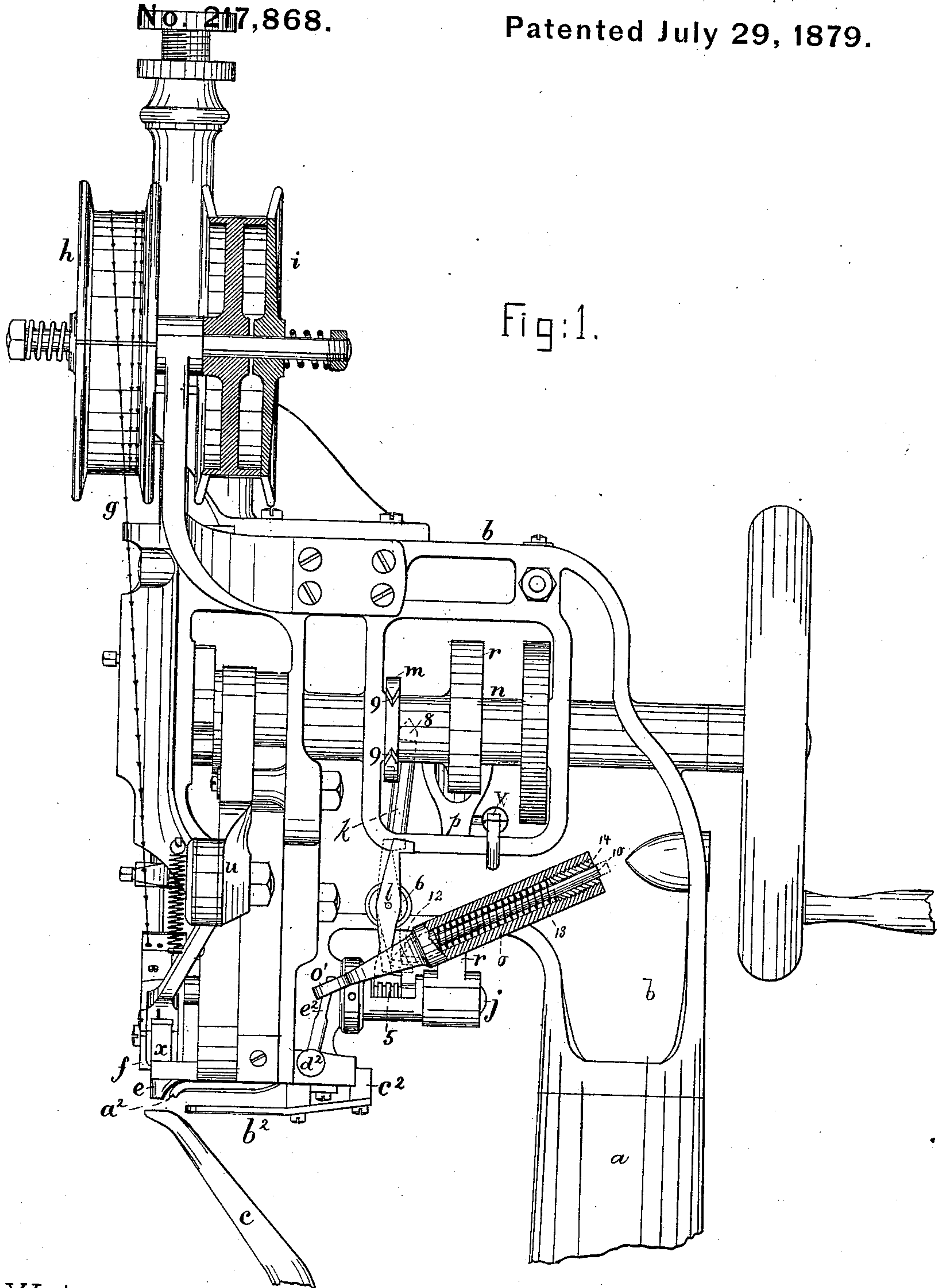


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Nailing-Machines.

No. 217,868.

Patented July 29, 1879.



Witnesses.  
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J. T. Cronin

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Fig:2.

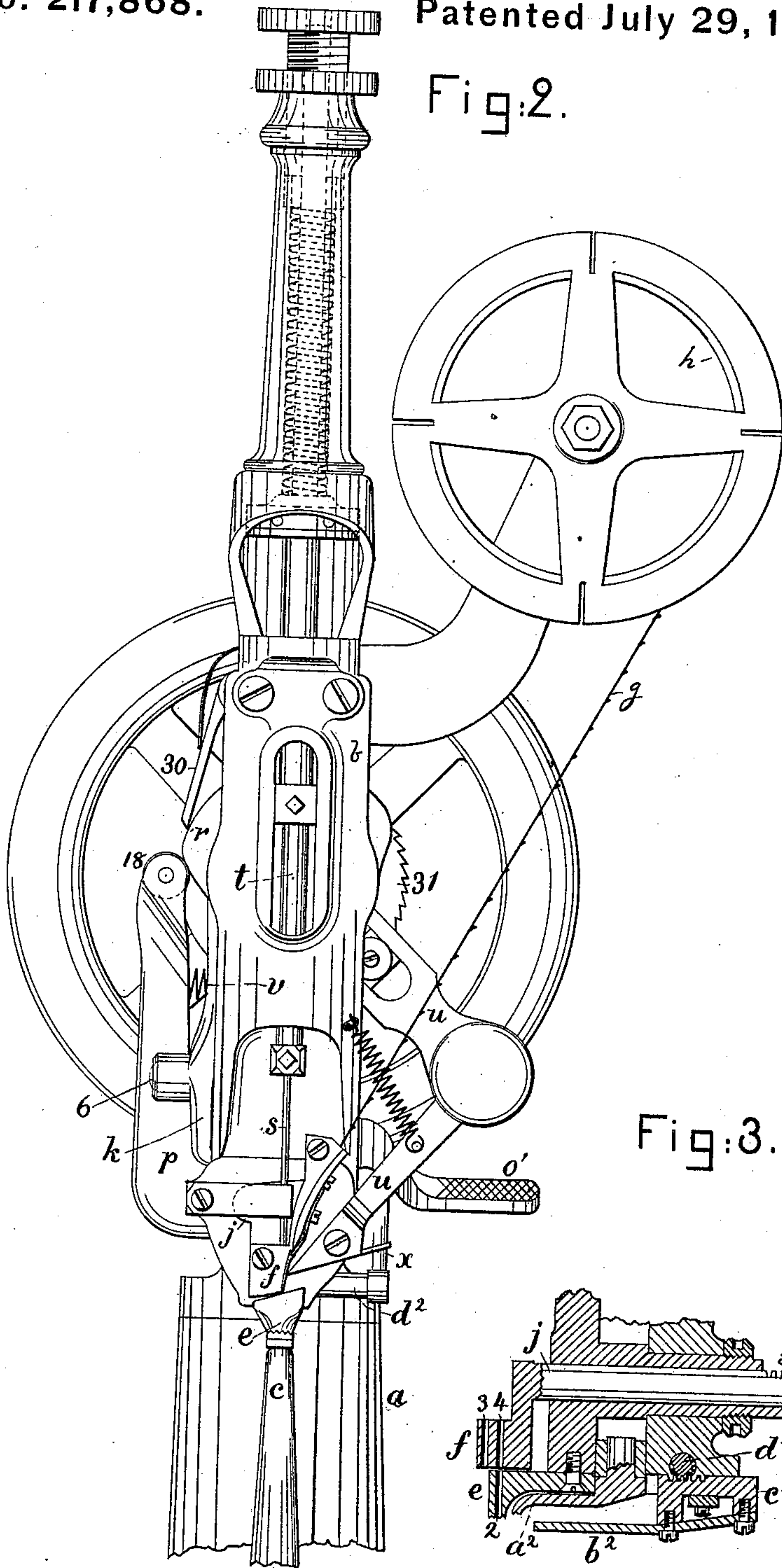
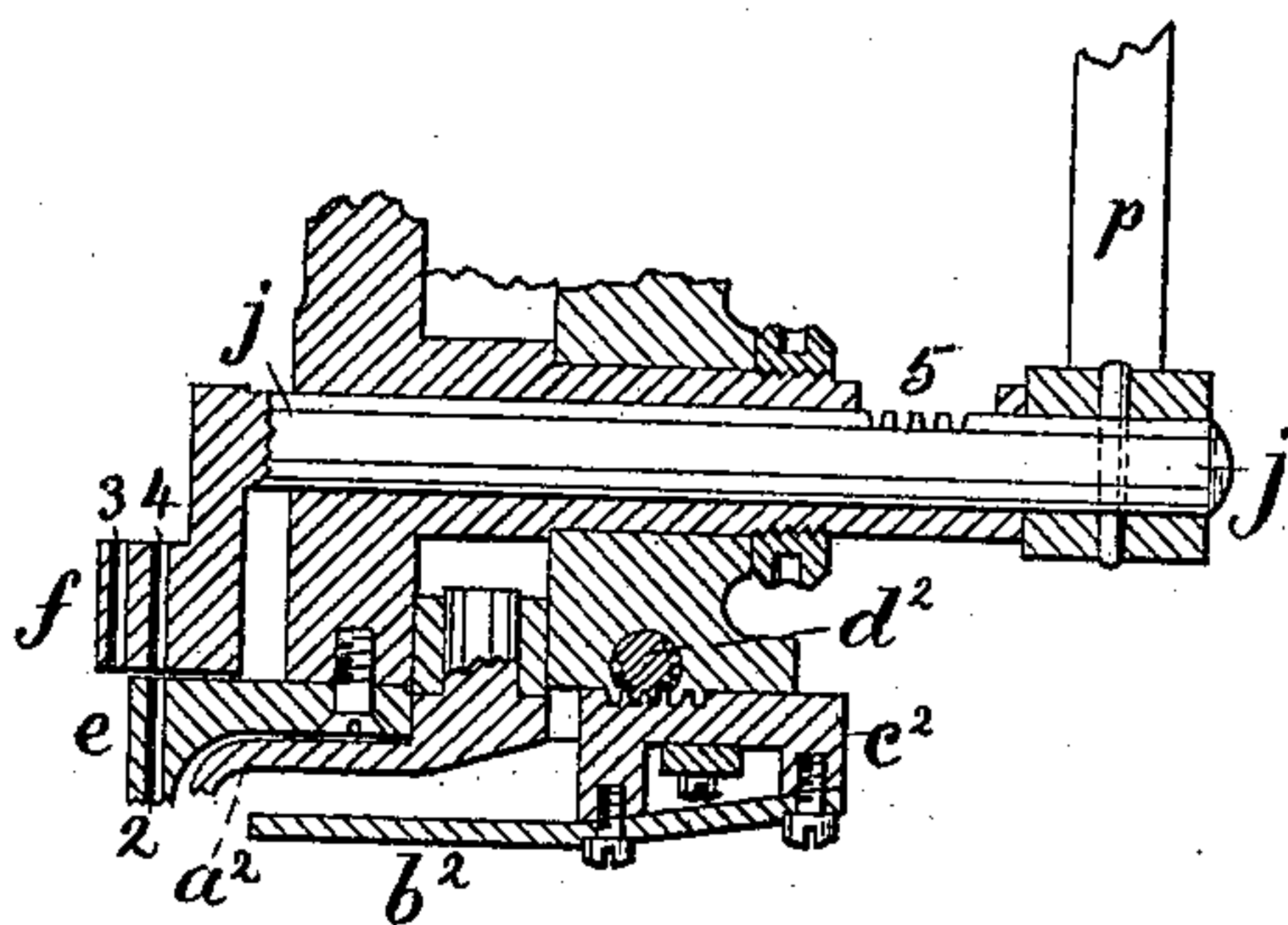


Fig:3.



Witnesses.

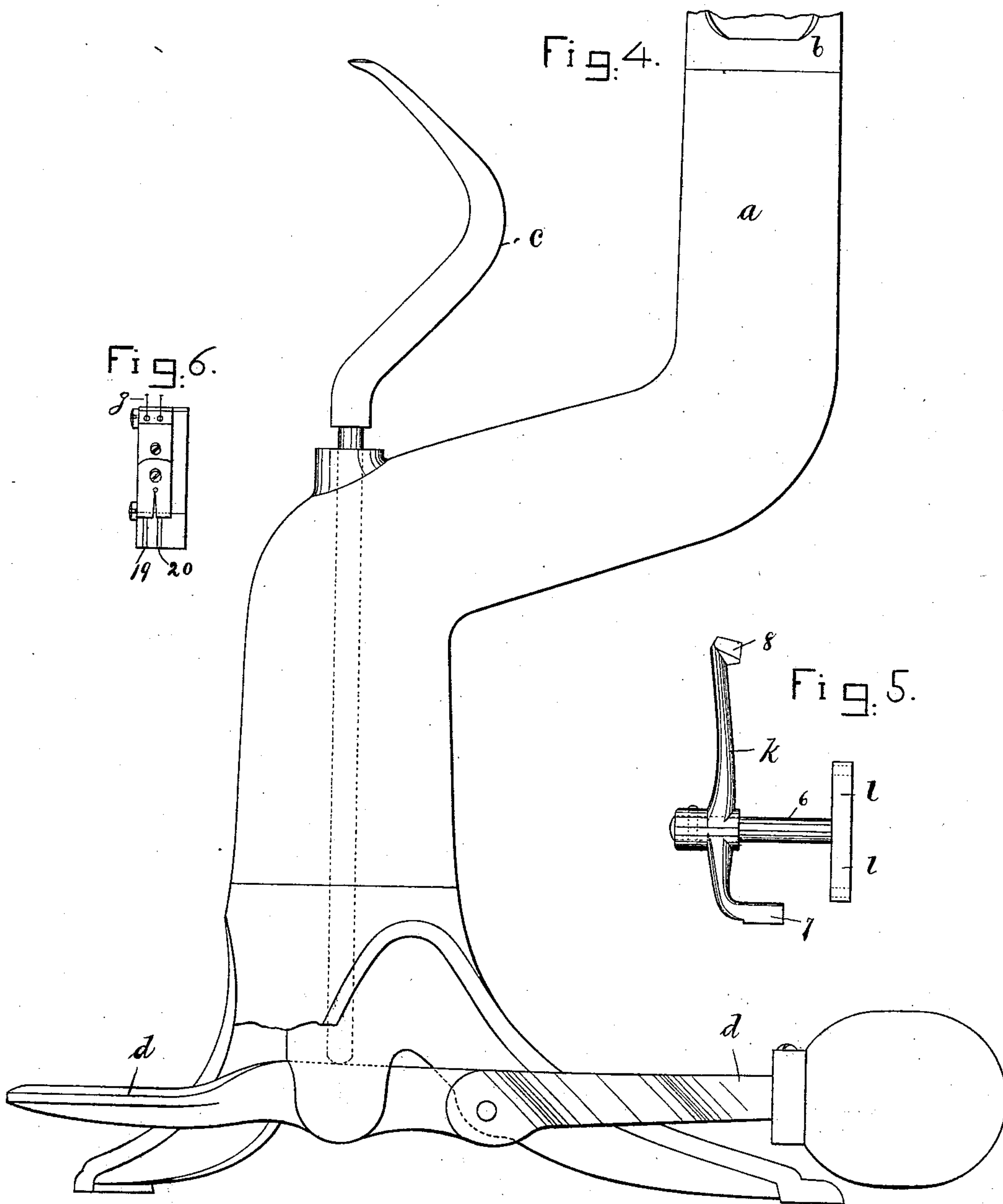
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*Louis Goddu*  
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*Atty*



# UNITED STATES PATENT OFFICE.

LOUIS GODDU, OF WINCHESTER, ASSIGNOR TO GORDON McKAY AND JAMES W. BROOKS, TRUSTEES FOR THE McKAY METALLIC FASTENING ASSOCIATION, OF BOSTON, MASSACHUSETTS.

## IMPROVEMENT IN NAILING-MACHINES.

Specification forming part of Letters Patent No. **217,868**, dated July 29, 1879; application filed June 16, 1879.

*To all whom it may concern:*

Be it known that I, LOUIS GODDU, of Winchester, county of Middlesex, State of Massachusetts, have invented an Improvement in Nailing-Machines, of which the following description, in connection with the accompanying drawings, is a specification.

This invention relates to mechanism for nailing boots; and the invention consists, among other things, in a nailing-machine provided with a horn or other usual shoe support, and with a shifting carrier having two or more passages for guiding and moving two or more strings of nails laterally, whereby said strings of nails, having nails of different length, may be presented between the driver and nose and be driven; also, in mechanism to automatically move this shifting carrier when the driver is elevated.

Figure 1 represents, in side elevation, the upper part of a nailing-machine provided with my improvements; Fig. 2, a front elevation of Fig. 1; Fig. 3, a sectional detail to be referred to. Fig. 4 is a side elevation of the lower part of the machine, not shown in Fig. 1; Fig. 5, a side elevation of the lever *k*, its shaft and connected arm removed from the frame-work; and Fig. 6, a detail of the carrier, showing the guideways for the string-nails.

The standard *a* has at its top the frame-work *b*, and it also receives and guides the rotating horn *c*, supported upon the weighted lever or treadle *d*, so as to rise and fall with relation to the stationary nose or foot *e*, provided with the nail-passage 2, and preferably serrated or pronged at its lower end, to assist in holding the shoe while the nail is being driven.

The shifting carrier *f* has two passages, 3 4, (shown in section, Fig. 3,) each to receive a string of nails, like *g*, proceeding from reels *h* *i*, of usual construction, provided with adjusting-nuts and springs or equivalent mechanism to regulate the tension of the said reels or the power required to turn them to unwind the string-nails.

In the drawings one reel is shown in section, to illustrate its construction.

The carrier *f* is attached to a rod, *j*, having

rack-teeth 5, adapted to be engaged by a lever, *k*, (see Fig. 5,) secured to one end of a shaft or pin, 6, which has its bearing in the frame-work *b*, and has at its other end the double arm *l*. The lower end of the said lever *k* has a foot, 7, provided with teeth to engage and move the said rod and carrier horizontally; and at its top has a triangular head or projection, 8, which is acted upon at proper intervals by the points 9 of a collar or switch-cam, *m*, secured to shaft *n*, the ends of the cam or collar being pointed, as shown in Fig. 1.

The head 8 rests at one or the other side of the said collar, according to the position of the carrier *f*.

If the nail-string held in guideway 4 is being used, the head 8 will rest at the right of the collar *m*, as shown in Fig. 1; and if the strip in guide 3 is being used, then at the left.

At the side of the frame *b* is the tipper *o*, composed, as herein shown, of a pivoted tube, having in it a rod, 10, having a head, 12, against which bears a spiral spring, 13, made variable as to its pressure by an adjusting-nut, 14, fitted to the tube. This tube has a handle or thumb-piece, *o'*, by which to move the tipper about its horizontal supporting-pin, so as to cause the head 12 to bear upon either the lower or upper end of the arm *l* at either side of the shaft or pin 6.

Just before the carrier is to be shifted the operator will move the tipper to place the head 12 at the bottom or top of the arm *l*, the spring 13, during the said movement of the tipper, being compressed, as the arm *l* will not then move, because the projection 8 then rides against one side of the switch-cam; but as soon as the open space of the switch-cam, in its rotation, comes opposite the projection 8, the latter, being no longer held by the cam *m*, slips through between the points 9 by the expansion of spring 13, and is acted upon by one of the points 9 to carry it to the opposite side of the cam *m*, and then hold the arm *k* and carrier until the tipper is again shifted, preparatory to again moving the carrier. As this lever *k* is vibrated its foot moves the rod longitudinally.



On the rod *j* is an arm, *p*, having at its upper end a roll, 18, operated upon by a cam, *r*, to rock the rod *j* and vibrate the carrier backward and forward while the driver *s* and rod *t* are elevated, to permit the carrier to be placed in such position that the nail-feeding device *u* may feed the string of nails then being used, place a nail in the nose-passage 2, and cut it off, and then to change its position axially, so as to place the opening 3 or 4 in line with the driver *s* and the nose-passage, that the driver may descend through one of said passages into the nose-passage and drive the nail into the shoe. A spring, *v*, keeps the roll 18 against the cam.

In Fig. 1 the arm *l* is shown in dotted lines in the position it will occupy when the head 8 of lever *k* is at the opposite side of cam *w*.

The nail-strings are fed and cut off all as in my Patent No. 215,116, May 6, 1879, to which reference may be had; but instead of the carrier having one driver-passage and one nail-string passage, as in the said patent, it has two, as at 19 20, (shown enlarged, Fig. 6,) the end of the feeding and cutting blade *x* being, however, only just wide enough to engage one nail-string at a time.

The feeder *a*<sup>2</sup> is of usual construction and operation.

The edge-gage *b*<sup>2</sup> is connected with a carriage, *c*<sup>2</sup>, provided with a rack, (see Fig. 3,) engaged by a pinion or toothed shaft, *d*<sup>2</sup>, controlled by a handle, *e*<sup>2</sup>, to slide the gage backward or forward.

Instead of the horn I may use any usual shoe-supporting device, such as a jack.

In this machine it is impossible for the carrier to be shifted except when the driver is withdrawn from it, notwithstanding the operator may move the tipper; and in the use of the machine it is intended that the operator shall move the tipper in advance of that ascent of the driver which at its next descent or feed-stroke is to drive a nail of different length, and thereby store up power to shift the carrier

at just the proper time without stopping the machine or watching the motion of the machine so as to shaft it at the right time.

Back movement of the shaft *n* is prevented by a pawl, 30, which engages the ratchet 31 on the said shaft.

I claim—

1. In a nailing-machine, a shifting carrier provided with two or more passages to guide two or more strings of nails, a driver, and a nose to enable a nail of the desired length to be presented to and driven from the nose, the carrier being arranged between the driver and nose, substantially as described.

2. In a nailing-machine, two or more reels, a driver, a nose, a shifting-carrier between the driver and nose to guide two or more nail-strings, composed of nails of different length, a feeding mechanism to engage and move one of the nail-strings, and a horn, substantially as described.

3. The shifting-carrier provided with two guideways for two strings of nails, two driver-passages, and mechanism to automatically move the carrier laterally only when the driver is lifted from the carrier.

4. In a nailing-machine, the shifting carrier to guide two or more nail-strings, and its moving-lever and switch-cam, and the arm connected with the said lever, and a tripper to start the lever to pass its head through to the opposite side of the switch-cam to shift the carrier, substantially as described.

5. The shifting-carrier, its rod and teeth, combined with the lever *k*, provided with teeth to engage and move the said rod, and a lever and cam to rock the rod and vibrate the carrier, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LOUIS GODDU.

Witnesses:

G. W. GREGORY,  
N. E. WHITNEY.