

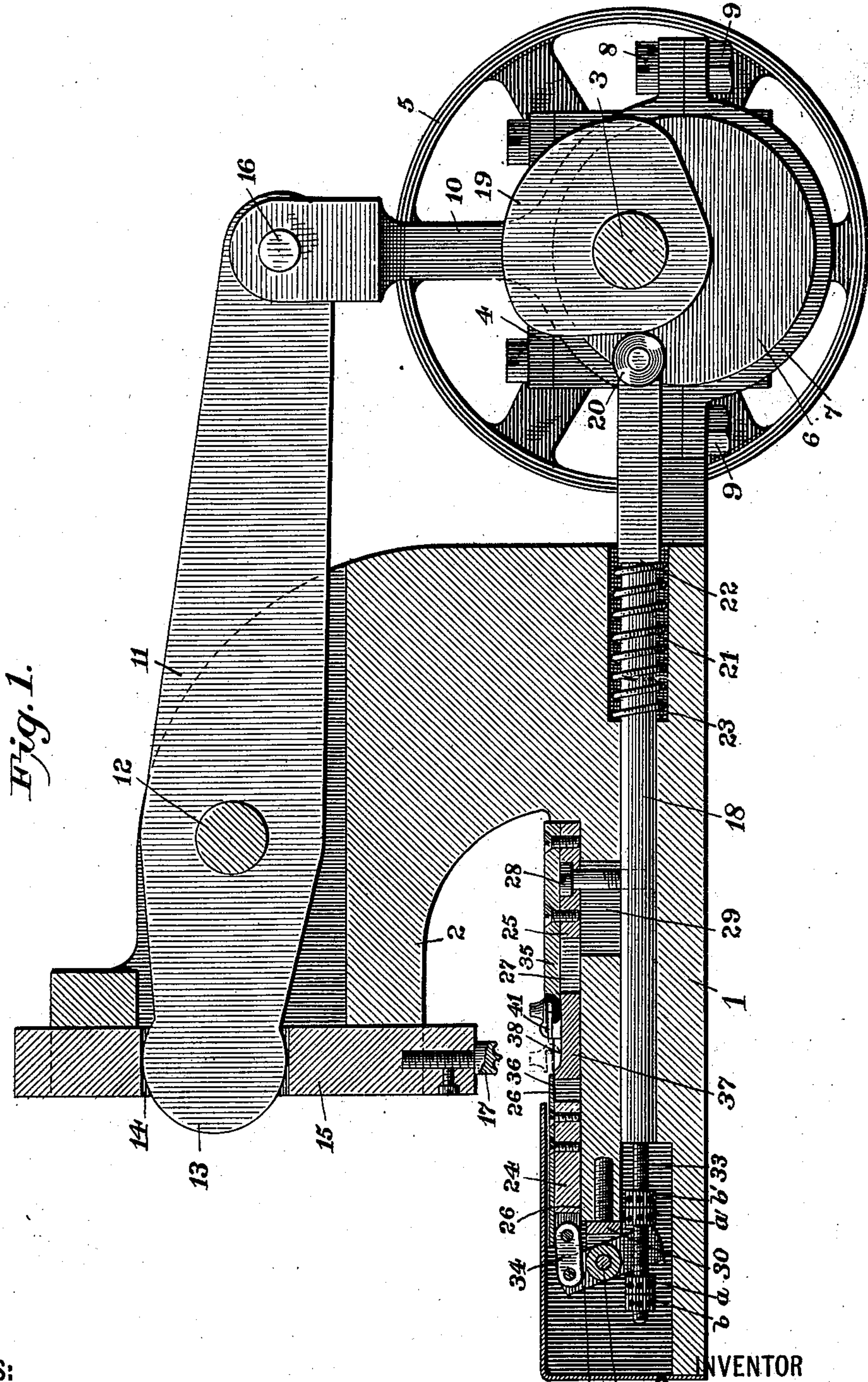
(No Model.)

3 Sheets—Sheet 1.

J. J. NORWELL.
MACHINE FOR SETTING LACING HOOKS.

No. 506,333.

Patented Oct. 10, 1893.



WITNESSES:

H. H. H. H.
A. S. Meloy.

INVENTOR

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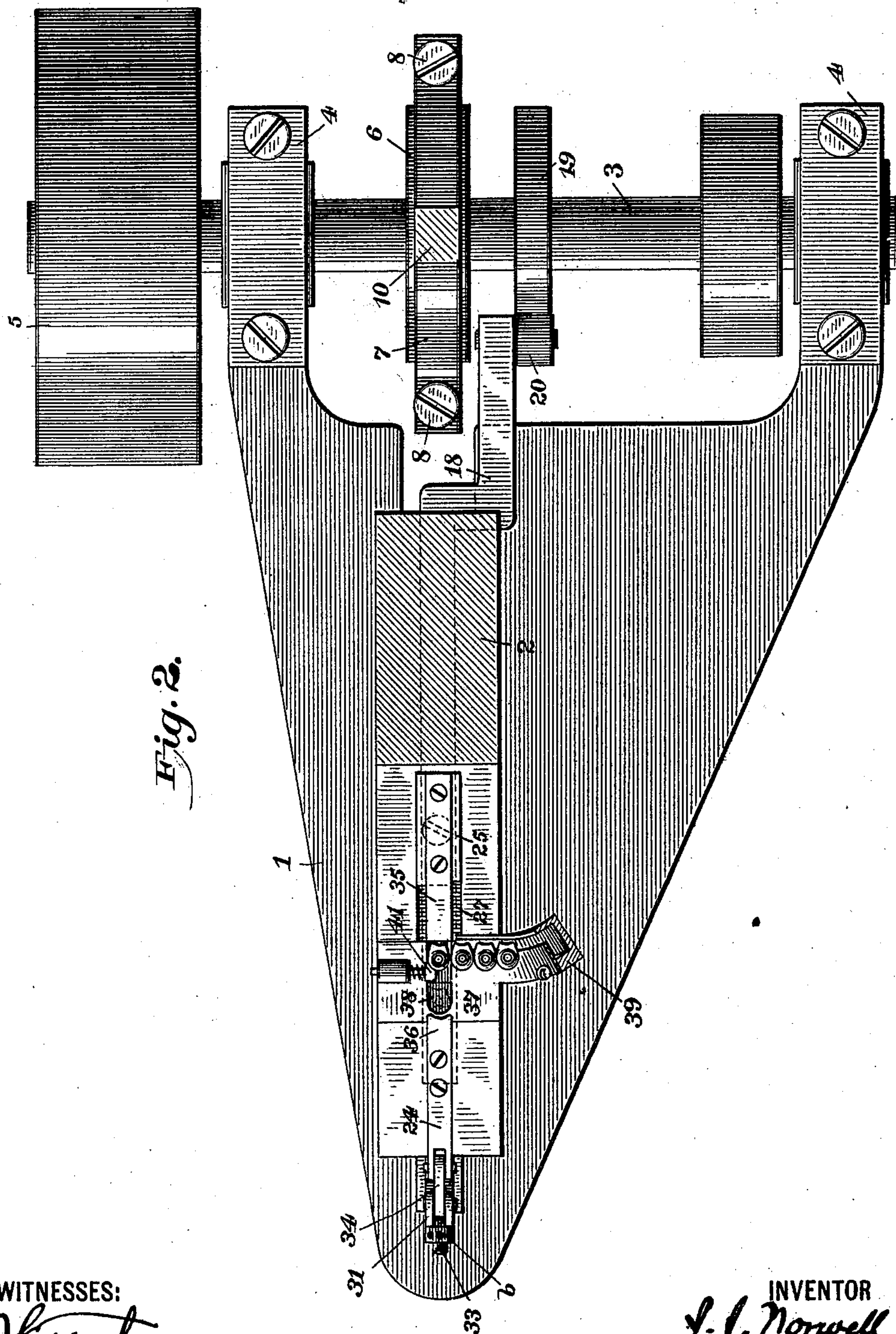


Fig. 2.

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INVENTOR

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(No Model.)

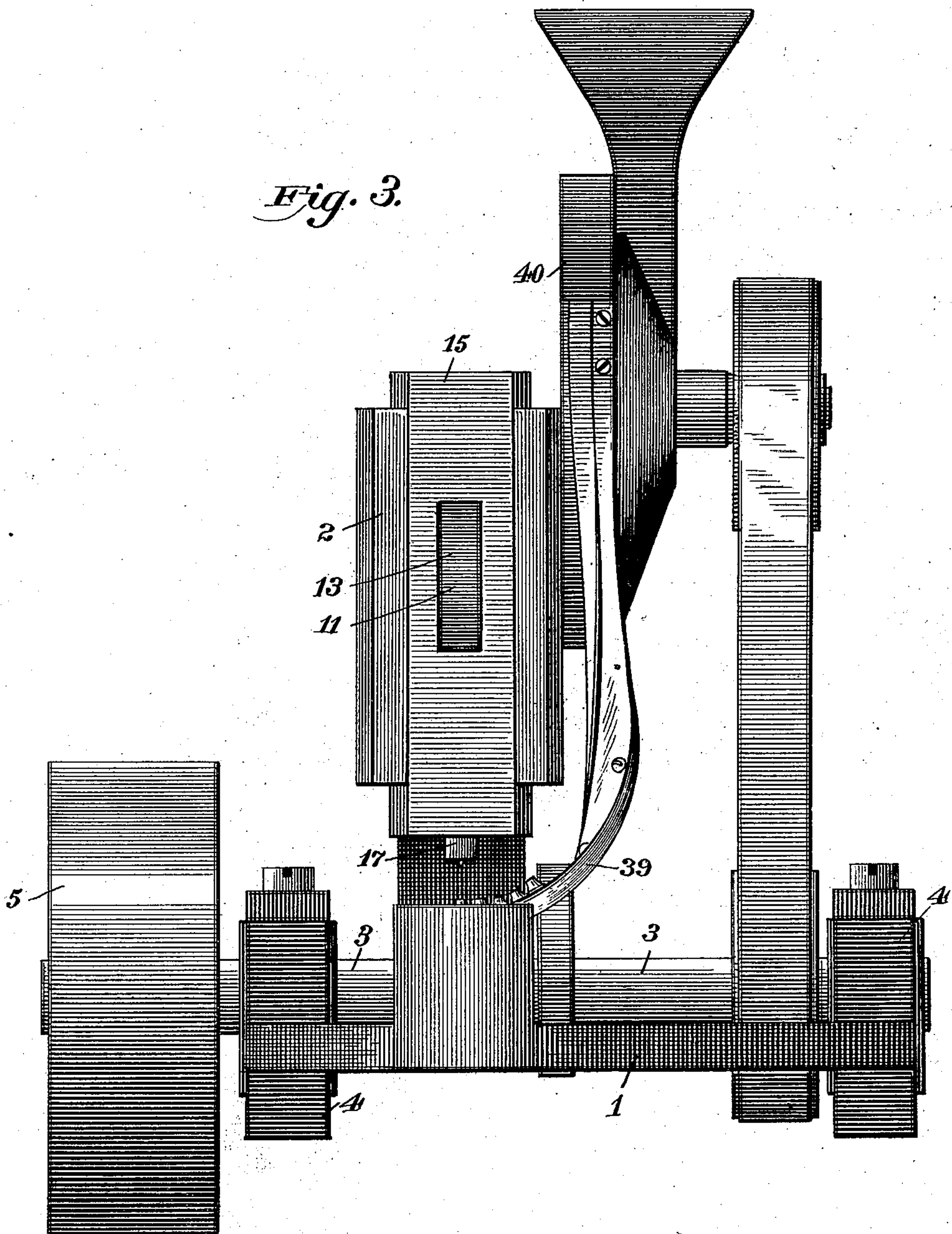
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Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN J. NORWELL, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO THE
SMITH & EGGE MANUFACTURING COMPANY, OF SAME PLACE.

MACHINE FOR SETTING LACING-HOOKS.

SPECIFICATION forming part of Letters Patent No. 506,333, dated October 10, 1893.

Application filed January 18, 1893. Serial No. 458,881. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. NORWELL, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Machines for Setting Lacing-Hooks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain new and useful improvements in machines for setting lacing hooks to shoe uppers and the like, and will be best understood from the following description, reference being had to the accompanying drawings, in which—

Figure 1, is a sectional elevation of my newly invented machine; Fig. 2, a plan view, the chute, head and strap pitman appearing in section, and Fig. 3, a front elevation.

Similar numbers and letters denote like parts in the several figures of the drawings.

1 is the bed of the machine which may be secured to a bench or standard in the usual manner.

2 is a head rising from and overhanging said bed.

3 is a shaft journaled in bearings 4 at the rear end of the bed and 5 the power pulley mounted on said shaft.

6 is an eccentric on said shaft, and 7 a strap secured around this eccentric in the usual manner by bolts 8 and nuts 9. Rising from this strap is a pitman 10 for the purpose presently explained.

11 is an arm pivoted at 12 within said head so as to be capable of a free swinging movement, the forward extremity of said arm being ball-shaped, as seen at 13, and extending at that point within a socket 14 in the gate 15 which latter is capable of vertical reciprocation within suitable ways in said head. The rear end of this arm 11 is pivoted at 16 to the pitman 10, so that it will be readily understood that, when the shaft 3 is revolved, the eccentric 6 will operate to effect the vertical reciprocation of the gate 15.

17 is the setting stud secured to the bottom of the gate in any ordinary manner as shown.

18 is a rod extending loosely through the bed from front to rear.

19 is a cam on the shaft 3 and 20 a friction roll on the rear of said rod against which roll this cam bears.

21 is a coil spring behind a shoulder 22 on this rod and confined within a recess 23 in the bed, the object of this spring being to keep the roll 20 always against the cam 19.

24, 25 are slides guided in suitable ways 26, 27, in the bed. The slide 25 is secured to the rod 18 by a screw 28, the bed being cut away at 29 to allow the play of said screw during the movements of the rod.

30 is a screw bracket secured to the rear end of the bed, and 31 a lever pivoted at or about its center 32 to said bracket, the bottom of which lever is confined between nuts *a*, *a'*, and *b*, *b'*, on a threaded extension 33 from the rod 18, while a link 34 is pivoted at its ends to the top of said lever and the rear end of the slide respectively.

35 is a push-bar secured to the top of the slide 25, and 36 is a finger secured on top of the slide 24 and projecting inwardly beyond the latter.

37 is the anvil block having a depressed upper surface 38 and secured to the bed.

39 is the chute whereby the hooks are conveyed from an ordinary hopper 40 with their eyelets projecting upwardly. This chute terminates at this block and leads into this depression 38, so that it will be readily understood that the hooks will slide from said chute into said depression. The normal position of the push-bar 35 in the immediate rear of a hook which has entered this depression, (as in the instance of the hook shown in solid lines at Fig. 1,) and when the rod 18 is thrown forward by the cam 19, said push-bar will advance and drive the hook, and, at the same time the finger 36 will advance toward the hook, these movements of the bar and finger being so predetermined by the action of the cam that the hook will be brought to a position immediately below the setting stud 17, while the finger will have entered the gate of the hook (as in the instance of the hook shown in dotted lines at Fig. 1). The push-bar in advancing blocks the mouth of the chute and pre-

vents the discharge of succeeding hooks from the chute. Now when the hook is in the position beneath the setting stud, said hook will be securely held by the bar 35 which abuts
5 against the same. The depression in the anvil and the nose of the push-bar are so shaped as to conform closely to the head of the hook when held as above, while the finger fills up
10 the gate of the hook to reinforce the same and prevent any distortion of the latter during the operation of the setting stud. A shoe upper, perforated to admit the eyelet, is placed over the latter, and said eyelet is clinched to the upper by the action of the setting stud.
15 I have shown a resilient toe 41 extending over the depression 38 in a horizontal plane in line with the gate of a hook, so that as the latter is driven by the push-bar there can be no wobbling or disarrangement of said hook,
20 the toe yielding to allow the hook to pass along and maintaining its grip upon the same until the finger 36 has commenced to enter the hook gate. I do not however, consider this toe device necessary, since the hooks never
25 get displaced as they are driven along, except when they are themselves irregular and lacking in proper finish and uniformity.

I claim—

1. In a machine for setting lacing hooks, the
30 combination of the anvil block having a de-

pression in its upper face, means for feeding the hooks one by one into said depression, a push-bar for driving the hooks throughout said depression to the point at which they are
35 to be set, a finger which enters the gates in the hooks to reinforce the latter during the setting, and means for effecting the sliding movements of said bar and finger toward and away from each other, whereby said hooks are
40 successively delivered, reinforced and held preparatory to setting, substantially as shown and described.

2. In a machine for setting lacing hooks, the combination of the reciprocatory slides 24, and
45 25 having respectively secured thereon the reinforce finger and push-bar, the rod 18 capable of a sliding movement, and rigidly connected with the slide 25, the pivoted lever 31 having its lower end loosely connected to said
50 rod to move in harmony therewith, the link 34 whose ends are respectively pivoted to the top of said lever and the rear of the slide 24, and means for reciprocating said rod, substantially as shown and described.

In testimony whereof I affix my signature in
55 presence of two witnesses.

JOHN J. NORWELL.

Witnesses:

F. W. SMITH, Jr.,

J. S. FINCH.