

No. 677,315.

Patented June 25, 1901.

E. E. WINKLEY.
SOLE LEVELING MACHINE.

(Application filed Nov. 3, 1900.)

(No Model.)

3 Sheets—Sheet 1.

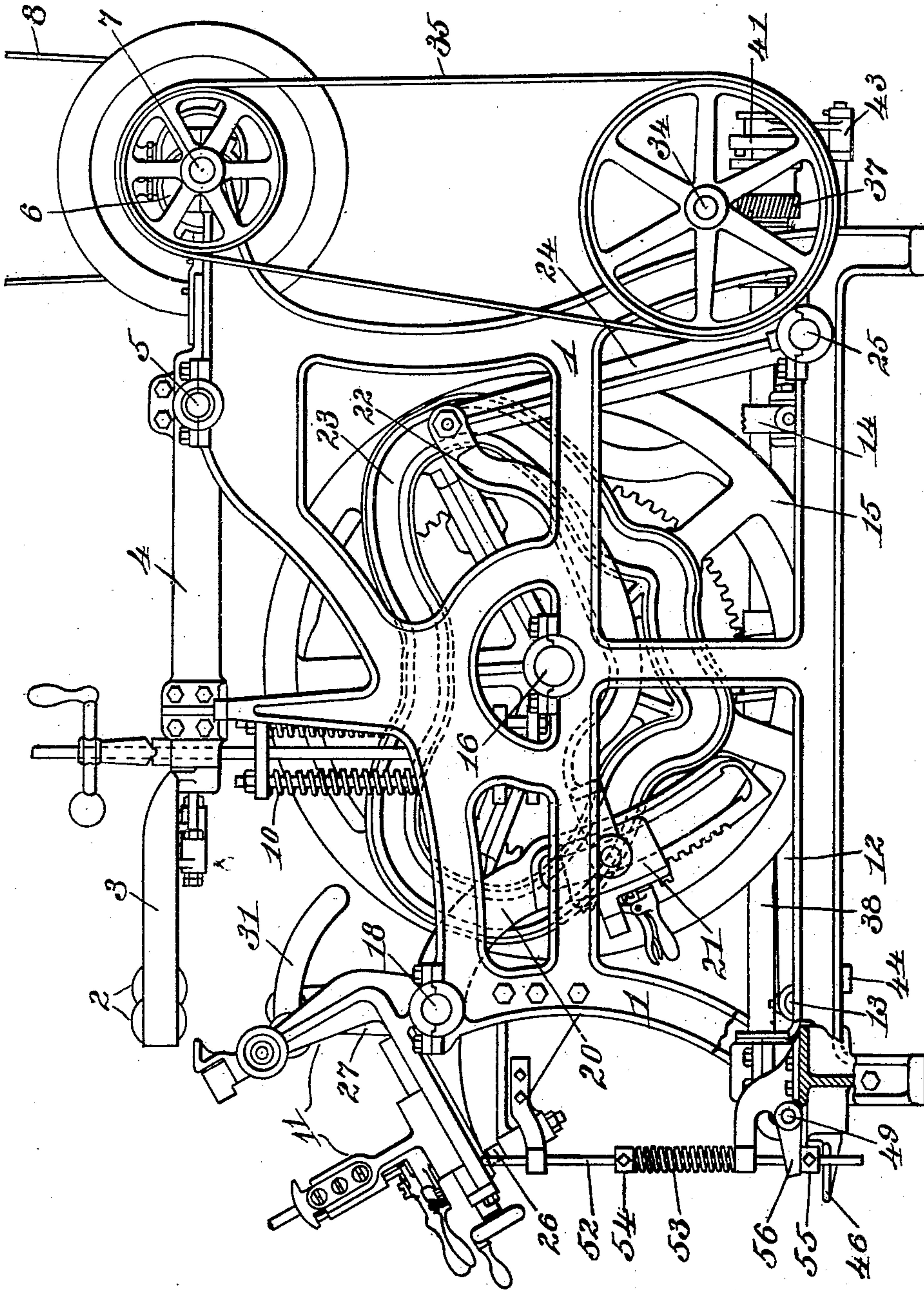


Fig. 1.

WITNESSES

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Horace Van Euren

INVENTOR

Erastus E. Winkley
by his Attorney
Benjamin Phillips

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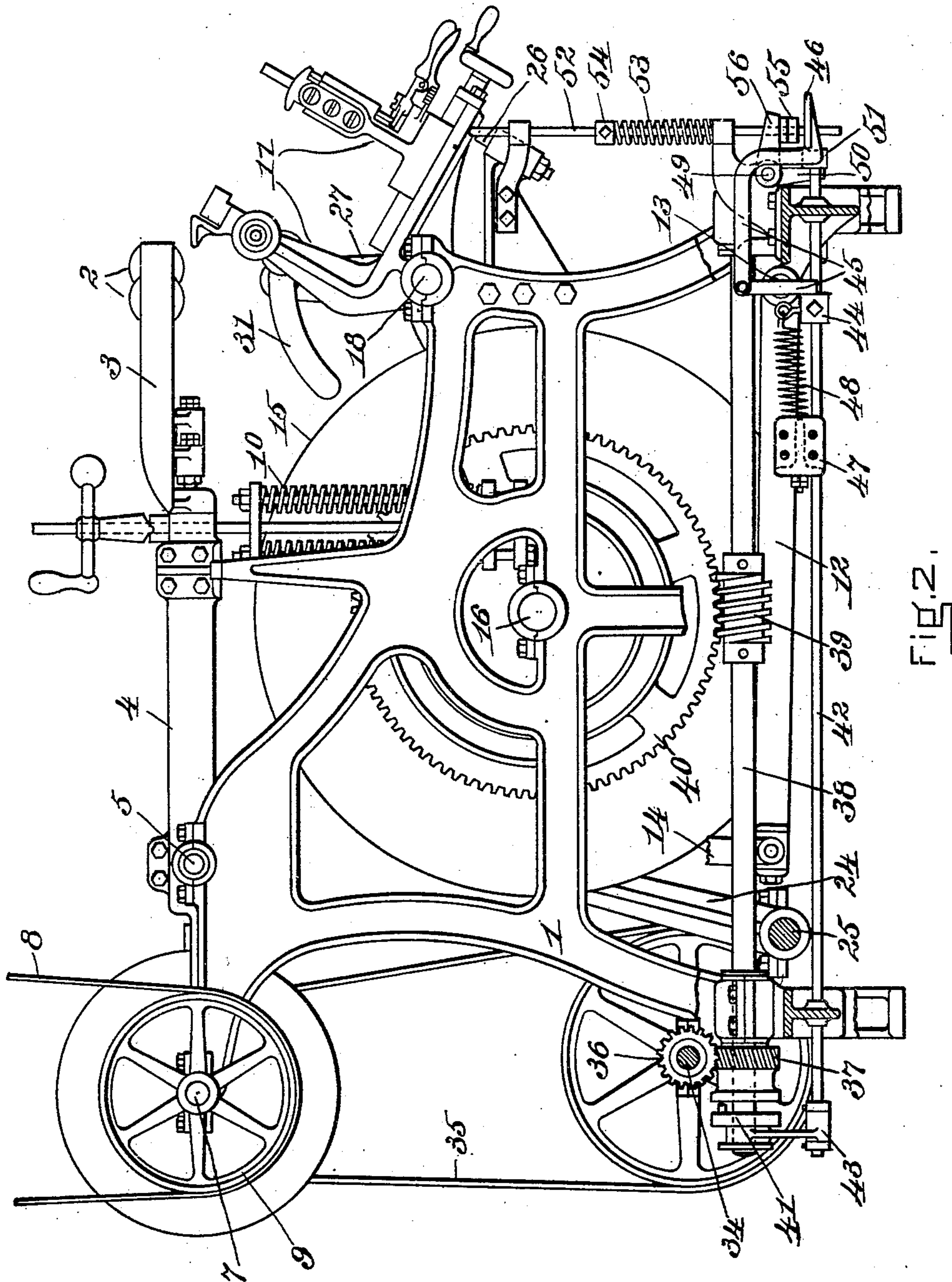


Fig. 2.

WITNESSES

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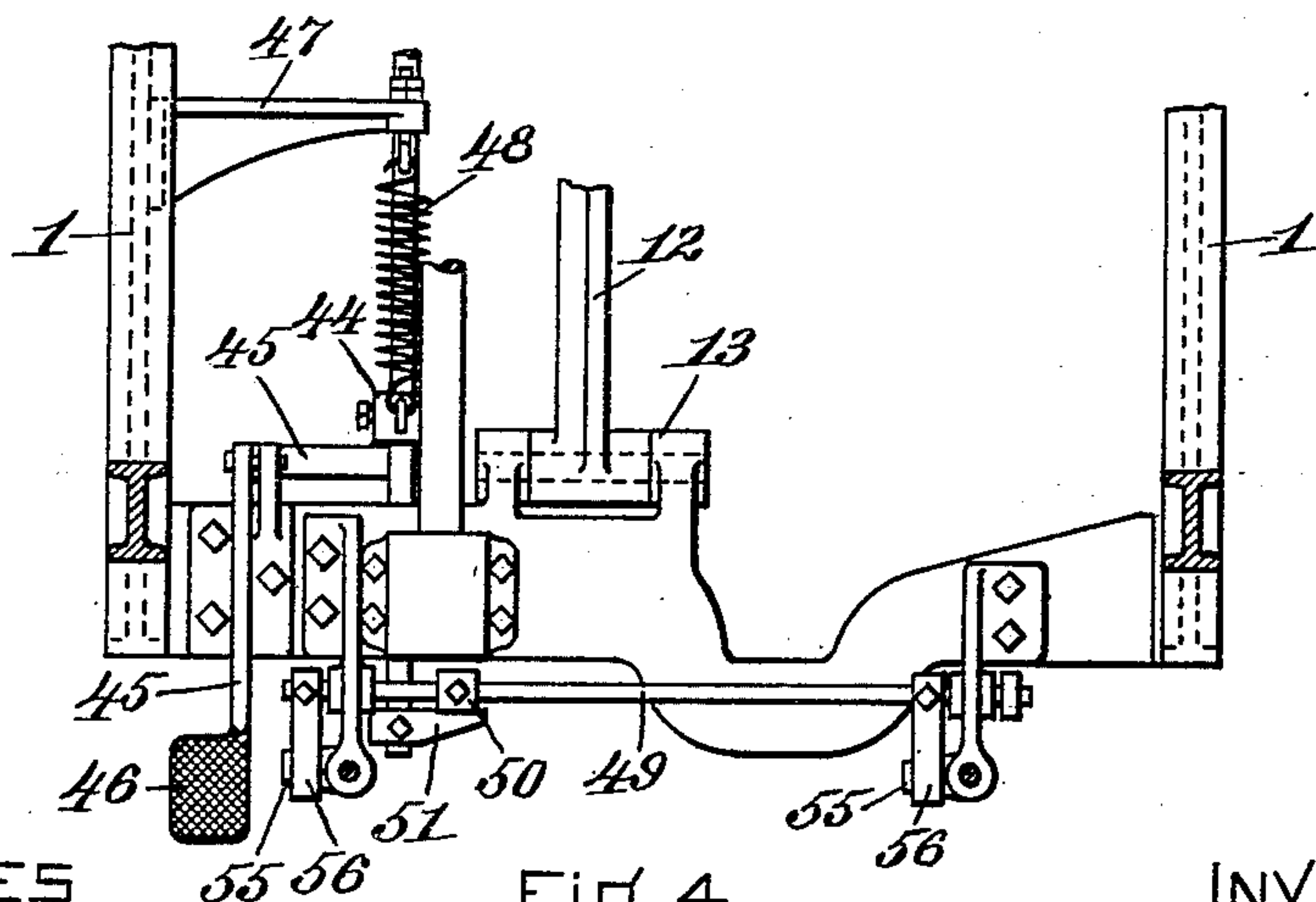
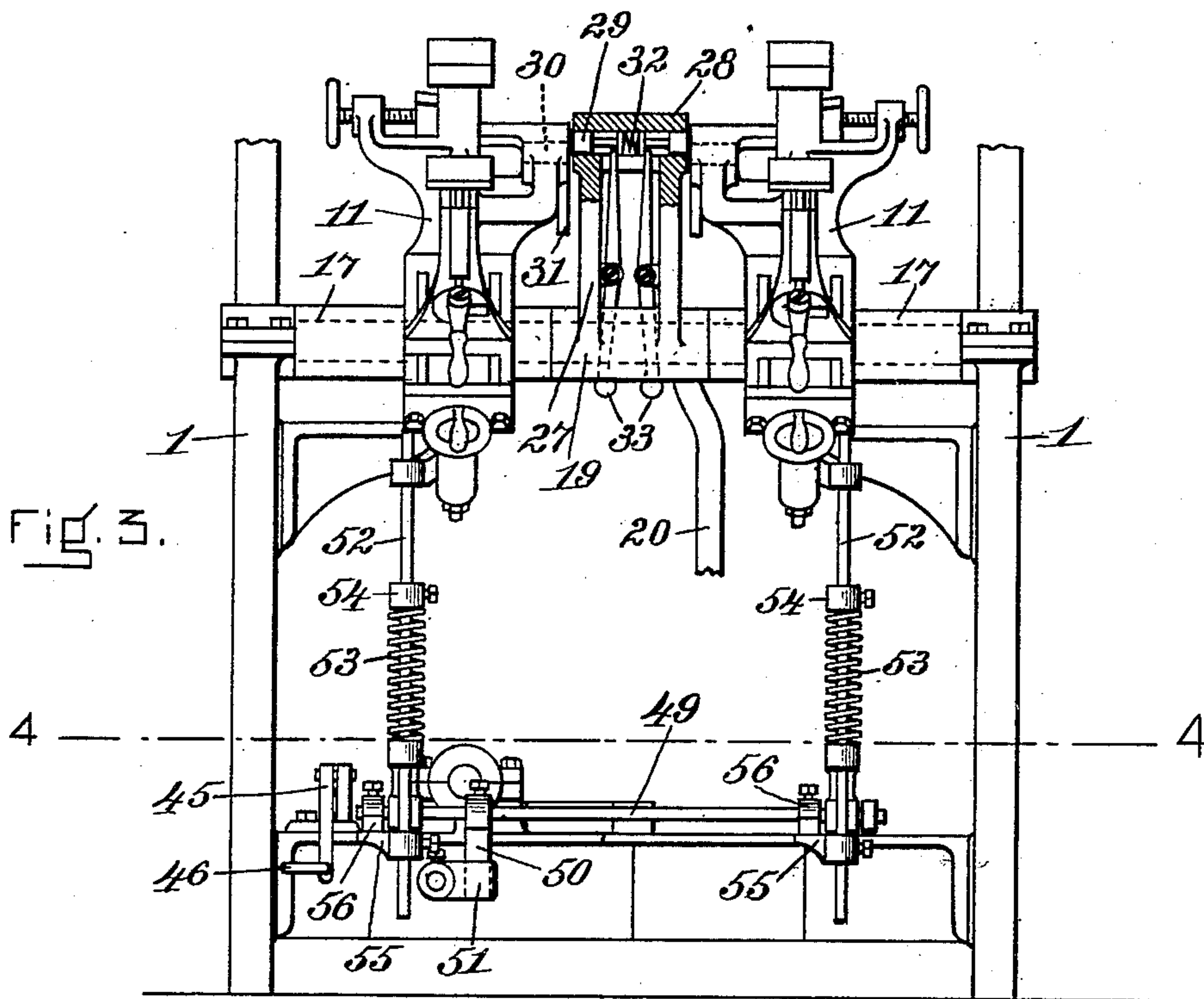
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3 Sheets—Sheet 3.



WITNESSES

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Fig. 4.

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UNITED STATES PATENT OFFICE.

ERASTUS EDWIN WINKLEY, OF LYNN, MASSACHUSETTS, ASSIGNOR TO THE
GOODYEAR SHOE MACHINERY COMPANY, OF PORTLAND, MAINE.

SOLE-LEVELING MACHINE.

SPECIFICATION forming part of Letters Patent No. 677,315, dated June 25, 1901.

Application filed November 3, 1900. Serial No. 35,324. (No model.)

To all whom it may concern:

Be it known that I, ERASTUS EDWIN WINKLEY, a citizen of the United States, residing at Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Sole-Leveling Machines; 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.

The present invention relates to sole-leveling machines, and more particularly to sole-leveling machines provided with two or more shoe-supporting jacks which are actuated successively to level the soles of shoes supported on the jacks.

The present invention is intended as an improvement on the sole-leveling machine disclosed in Letters Patent No. 555,548, granted to me March 3, 1896, although it is not limited to such machine, but may be applied to other machines for performing the same or analogous functions. The machine disclosed in said patent is provided with two jacks, a common actuating mechanism for the jacks, and with means for connecting either jack to said actuating mechanism. In said machine when both jacks are disconnected from their actuating mechanism said mechanism is at rest and is thrown into operation after one of the jacks has been connected thereto by means of a foot-treadle and suitable connections. A separate operation is therefore required after a jack has been connected to its actuating mechanism in order to throw said mechanism into operation.

The object of my invention is to eliminate this separate operation from the patented machine and from other similar or analogous machines, and thereby reduce the number of operations to be performed by the operator and render the machines more completely automatic in their action; and with this object in view my invention consists in means whereby the act of connecting one of the jacks to its actuating mechanism throws the actuating mechanism into operation.

In the accompanying drawings, wherein I have illustrated a preferred form of my invention as applied to the sole-leveling ma-

chine disclosed in Patent No. 555,548, Figure 1 is a view in side elevation of said patented machine with my invention applied thereto. Fig. 2 is a view in elevation of the opposite side of the machine to that shown in Fig. 1 with the lower portion of the frame broken away. Fig. 3 is a view in front elevation of so much of the machine as is necessary to show the connection of my invention thereto, and Fig. 4 is a partial plan view on the line 4 4 of Fig. 3.

Referring to the drawings, in which like characters of reference indicate like parts, 1 represents the frame of the machine; 2, the leveling-rolls; 3, the roll-carriers, and 4 the roll-carrier beds, pivotally mounted at 5 on the frame of the machine, so as to be free to tip longitudinally. The rolls 2 are given rapid reciprocating or vibrating movements in the roll-carriers 3 through suitable connections by means of eccentrics 6, secured to a driving-shaft 7, mounted in bearings in the upper rear portion of the machine-frame and constantly rotated by means of a belt 8, passing over a driving-pulley 9, secured to the shaft. The carrier-beds are acted upon by springs 10 to swing the beds on their pivot 5 and press the leveling-rolls against the soles of the shoes on the shoe-supporting jacks. The shoe-supporting jacks are represented at 11 and are arranged to oscillate beneath the leveling-rolls, as will be described. During the movements of the jacks under the rolls the roll-carriers 3 are tipped to change the lateral inclination of the rolls by suitable mechanism, a portion only of which is shown in the drawings. That portion of the mechanism for tipping the roll-carriers 3 shown in the drawings comprises a lever 12, pivoted at one end to the frame of the machine at 13 and at the other end pivotally connected with a rod or link 14. Intermediate its ends the lever 12 is provided with a roll (not shown) which engages a path-cam carried by a wheel or disk 15, secured to a shaft 16, journaled in the machine-frame. Each of the jacks 11 is loosely pivoted, by means of a sleeve 17, upon a shaft 18, journaled in the front portion of the machine-frame. Situated between the sleeves 17 on the shaft 18 and either rigidly secured to the shaft or loosely mounted

thereon is a sleeve 19, to which is secured a downwardly-extending arm 20. Adjustably mounted in an arc-shaped slot in the arm 20 is a block 21, to which is pivotally connected a link 22, the other end of which is provided with a roll engaging a path-cam 23, secured to the wheel or disk 15, and which is pivotally connected to the upper end of an arm or lever 24, pivoted at 25 in the rear lower portion of the machine-frame. By this construction as the shaft 16 is rotated the sleeve 19 and the shaft 18, if the sleeve is connected to the shaft, will be oscillated, and if either jack is connected to the sleeve or shaft the jack will be oscillated beneath its corresponding leveling-roll. When the jacks are disconnected from the sleeve 19, they fall back of their own weight and rest against stops 26, carried by brackets extending forwardly from the machine-frame. For connecting either jack to the sleeve 19, so as to be oscillated thereby beneath its corresponding leveling-roll, the sleeve 19 is provided with radially-extending arms 27, the outer ends of which are connected by a hollow rod 28, in which are seated spring-pressed pins 29, adapted to enter holes 30 in the jack-frames when the jacks are moved into a position in which the holes register with the pins. Each jack-frame is provided with a segmental guard-plate 31, which prevents the pins 29 from being forced outwardly except when the holes 30 register with the pins. The spring 32 for pressing the pins outwardly is interposed between the ends of the pins, and for withdrawing the pins and disconnecting the jacks after the leveling operation has been completed pawls 33 are pivoted to the brackets 27, the inner ends of which engage the pins and the outer ends of which extend into the path of movement of a wedge-shaped cam (not shown) secured to the periphery of the wheel or disk 15. The sleeve 19 and the mechanism for oscillating it, above described, constitute a common actuating mechanism for the jacks, to which either jack can be connected by being moved into operative relation thereto—that is, by being moved into a position in which the hole 30 in the jack-frame registers with a pin 29.

The mechanism above described and all other mechanism shown in the drawings and not hereinafter described is the same in all essential particulars as that disclosed in the patent hereinbefore referred to, to which reference may be had for a full description of the construction and mode of operation.

The embodiment of my invention shown in the accompanying drawings by which the jack-actuating mechanism is thrown into operation by the act of connecting the jack thereto will now be described.

Mounted in the lower rear portion of the machine-frame is a transverse shaft 34, constantly driven from the shaft 7 by means of a belt 35, passing over pulleys secured to the shafts. The shaft 34 has secured thereto a worm 36, meshing with a worm 37, loosely

mounted upon a shaft 38, extending longitudinally of the machine-frame. The shaft 38 is provided with a worm 39, which meshes with a large worm-gear 40, secured to the shaft 16, so that when the shaft 38 is rotated the shaft 16 will be rotated and the jack-actuating mechanism operated. The worm 37 is provided with an extended hub adapted to be engaged by a clutch member 41, splined on the shaft 38, so as to revolve therewith, but free to move longitudinally thereon. For moving the clutch member 41, into and out of engagement with the hub of worm-gear 37, to thereby throw the jack-actuating mechanism into and out of operation, the clutch-actuating member 42 is provided, consisting of a rod mounted so as to reciprocate in the machine-frame, provided with an arm 43, engaging a groove of the clutch member 41. To the rod 42 is secured a block 44, which is engaged by one end of a lever 45, pivoted to a bracket extending upwardly from the cross-bar at the lower front portion of the machine-frame. The other end of the lever 45 is provided with a foot-treadle 46, by means of which the lever can be actuated to move the rod 42 to the left, as viewed in Fig. 2, and thereby throw the jack-actuating mechanism out of operation. By this construction the operator is enabled to stop the movement of the jack at any desired point under the leveling-roll, and thereby allow the leveling-roll, which continues to vibrate, to dwell on any desired portion of the shoe until such portion is reduced to the proper contour. I desire to state in this connection that the driving and clutch mechanism so far described is the same as that disclosed in the patent above referred to and in and of itself forms no part of the present invention. Secured at one end to the block 44 and at the other end to a bracket 47 on the frame of the machine is a spring 48, the tendency of which is to move the clutch-actuating member 42 in a direction to disconnect the clutch. Suitably journaled in brackets secured to the lower cross-bar at the front of the machine-frame is a rock-shaft 49, to which is secured a downwardly-extending arm 50, arranged to engage an arm or block 51, secured to the forward end of the clutch-actuating member 42. Mounted in brackets secured to the frame of the machine and free to reciprocate vertically therein are two spring-pressed rods 52, the upper ends of which extend into the path of movement of the jacks, respectively, and which are arranged to be depressed by the jacks when the jacks are disconnected from their actuating mechanism and to be raised when the jacks are moved into operative relation with their actuating mechanism. A spring 53 surrounds each rod, being interposed between a collar 54, secured to the rod, and the lower bracket, in which the rod is mounted, and serves to raise the rod when released by the movement of the jack. To the lower end of each rod is secured a block or

arm 55, which extends beneath an arm 56, secured to the shaft 49 and extending laterally therefrom. Each of the springs 53 is stronger than the spring 48, so that when either spring 53 is allowed to act when either jack is moved into operative relation with its actuating mechanism a rod 52 will be raised and through the engagement of an arm 55 with an arm 56 rock the shaft 49 and through the arms 50 and 51 move the clutch-actuating member 42 against the tension of spring 48 to throw the clutch member 41 into engagement with the worm-gear 37, and thereby throw the jack-actuating mechanism into operation. It will be evident that the rock-shaft 49 will be actuated when either rod 52 is raised, although the other rod remains depressed, since the arms 55 and 56 are not positively connected. It will also be evident that when both rods 52 are depressed the spring 48 will be allowed to move the jack-actuating member to disconnect the clutch.

The operation of the construction above described has been sufficiently indicated to be readily understood, and further description thereof is deemed unnecessary.

It is to be understood that I have disclosed my invention as applied to the sole-leveling machine of Patent No. 555,548 for convenience of illustration only and that the invention is in no wise limited to such machine, nor is it limited to the specific embodiment thereof illustrated and described, as it may be embodied in many different constructions without departing from the spirit thereof.

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

1. A sole-leveling machine, having, in combination, a plurality of shoe-supporting jacks, actuating mechanism therefor, means for connecting each jack to said actuating mechanism when moved into operative relation thereto, and connections between each jack and the jack-actuating mechanism whereby such movement of the jack throws the jack-actuating mechanism into operation, substantially as described.

2. A sole-leveling machine, having, in combination, a plurality of pivotally-mounted shoe-supporting jacks, mechanism for oscillating the jacks, means for connecting each

jack to said oscillating mechanism when moved into operative relation thereto, and means controlled by the weight of the jack for throwing said mechanism into operation when the jack is moved into operative relation thereto, substantially as described.

3. A sole-leveling machine, having, in combination, a plurality of jacks, actuating mechanism therefor, means for connecting each jack to said mechanism when moved into operative relation thereto, a driving-shaft, a clutch for connecting said shaft and jack-actuating mechanism, a spring-pressed rod bearing against each jack when disconnected from its actuating mechanism, and connections between the clutch and said rods for actuating the clutch to connect said shaft and jack-actuating mechanism when a jack is moved into operative relation to said actuating mechanism, substantially as described.

4. A sole-leveling machine, having, in combination, a plurality of jacks, actuating mechanism therefor, means for connecting each jack to said mechanism when moved into operative relation thereto, a driving-shaft, a clutch for connecting said shaft and jack-actuating mechanism, a clutch-actuating member, a spring acting to move said member to disengage the shaft and jack-actuating mechanism, a spring-pressed rod bearing against each jack when disconnected from its actuating mechanism, and connections between the clutch-actuating member and said rods for actuating said member to connect said shaft and jack-actuating mechanism when a jack is moved into operative relation to its actuating mechanism, substantially as described.

5. A sole-leveling machine, having, in combination, an oscillating jack, actuating mechanism therefor, and connections between the jack and its actuating mechanism whereby a partial oscillation of the jack throws its actuating mechanism into operation, substantially as described.

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

ERASTUS EDWIN WINKLEY.

Witnesses:

FRED O. FISH,

ALFRED H. HILDRETH.