

D. L. HUDSON.  
SHOE POLISHING MACHINE.  
APPLICATION FILED MAR. 8, 1909.

958,400.

Patented May 17, 1910.

3 SHEETS-SHEET 1.

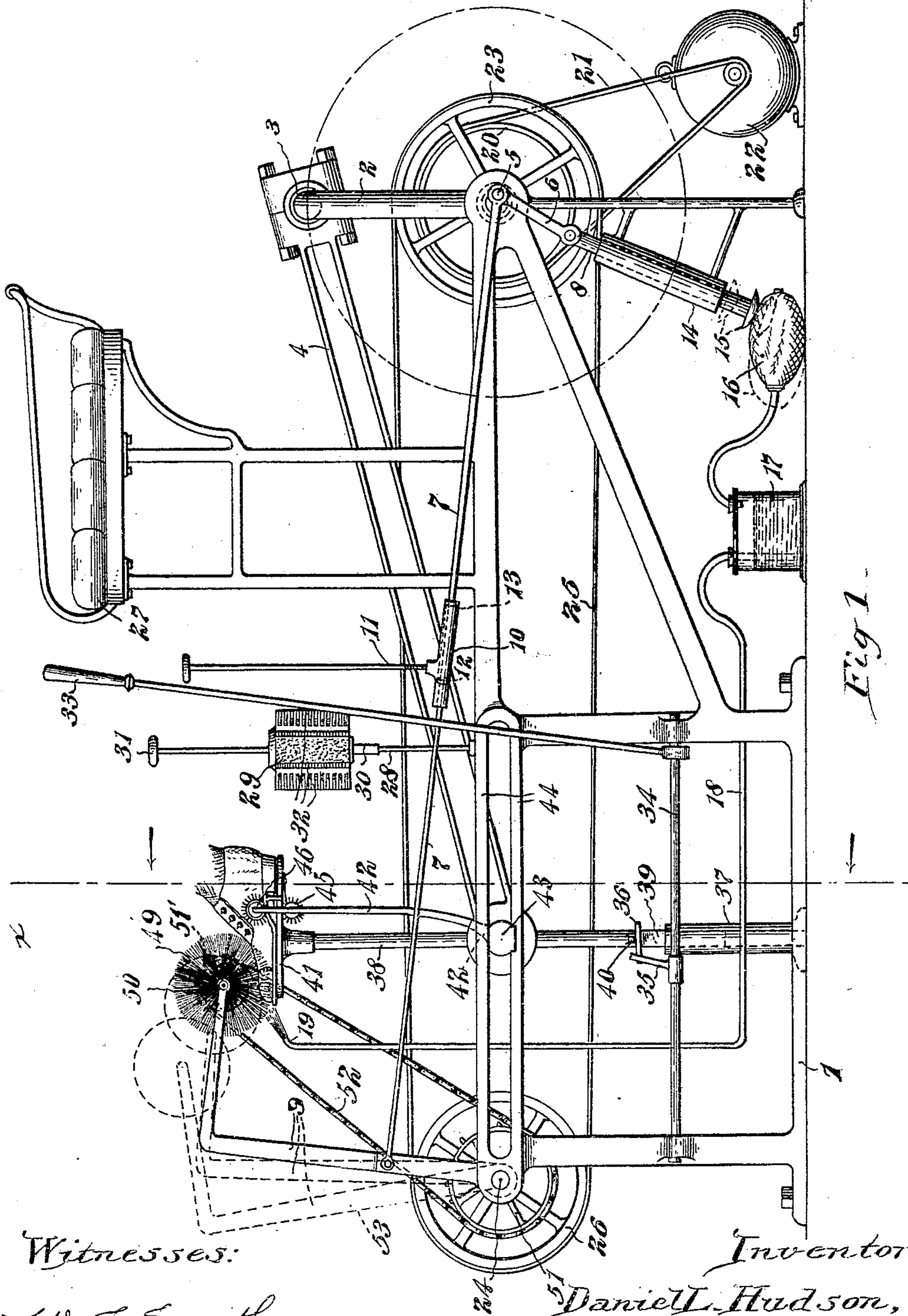


Fig. 1.

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Inventor:

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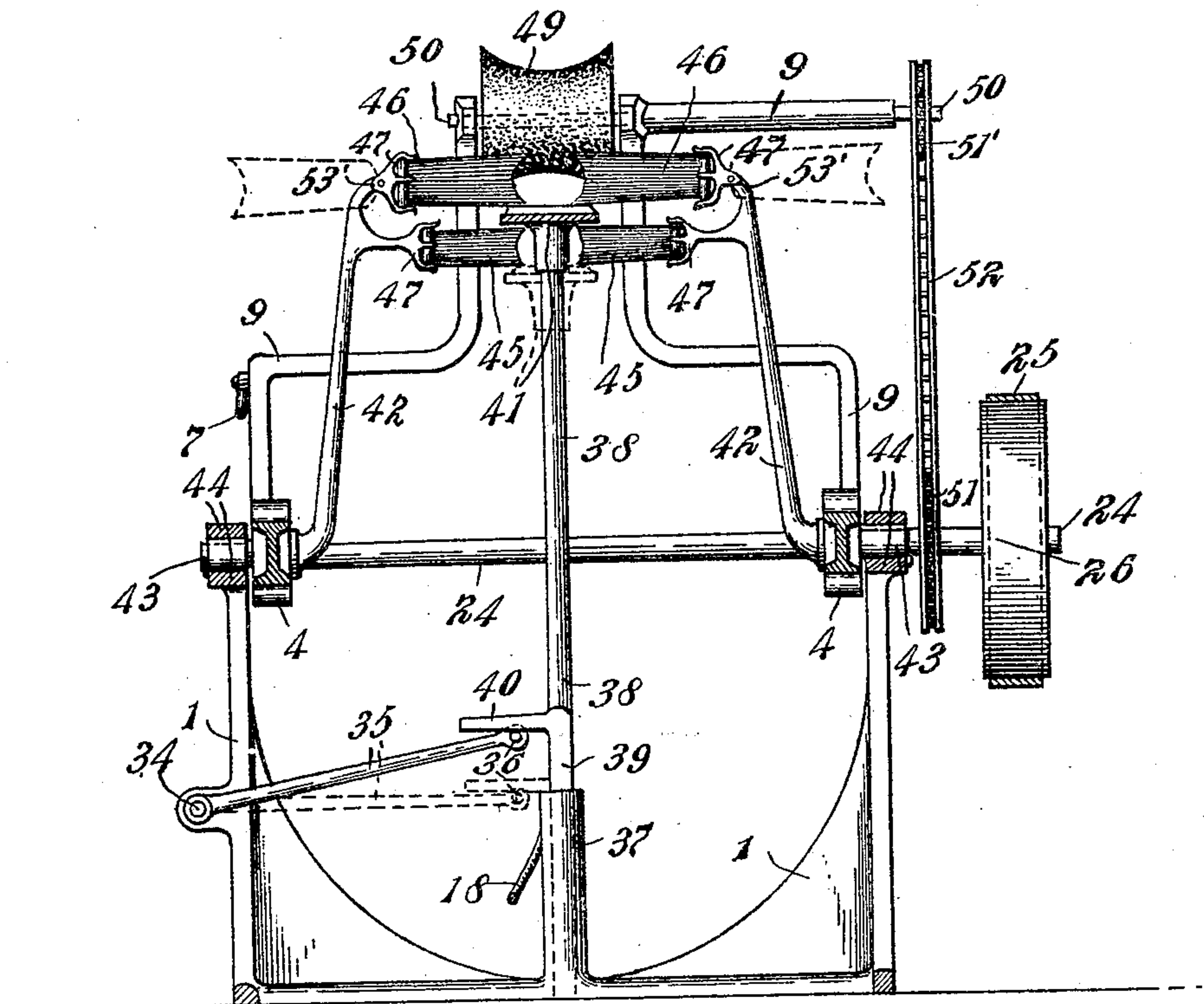


Fig. 2

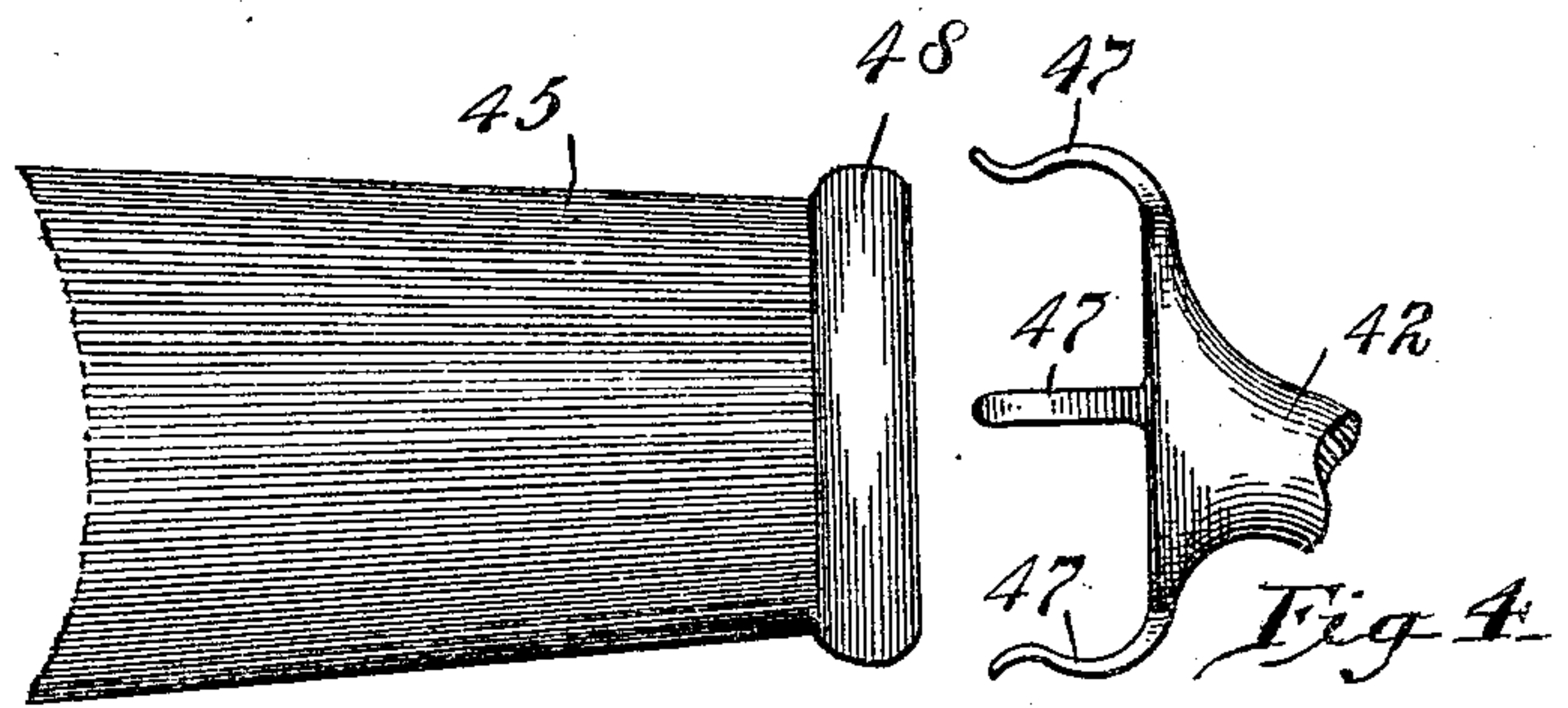


Fig. 3

Fig. 4

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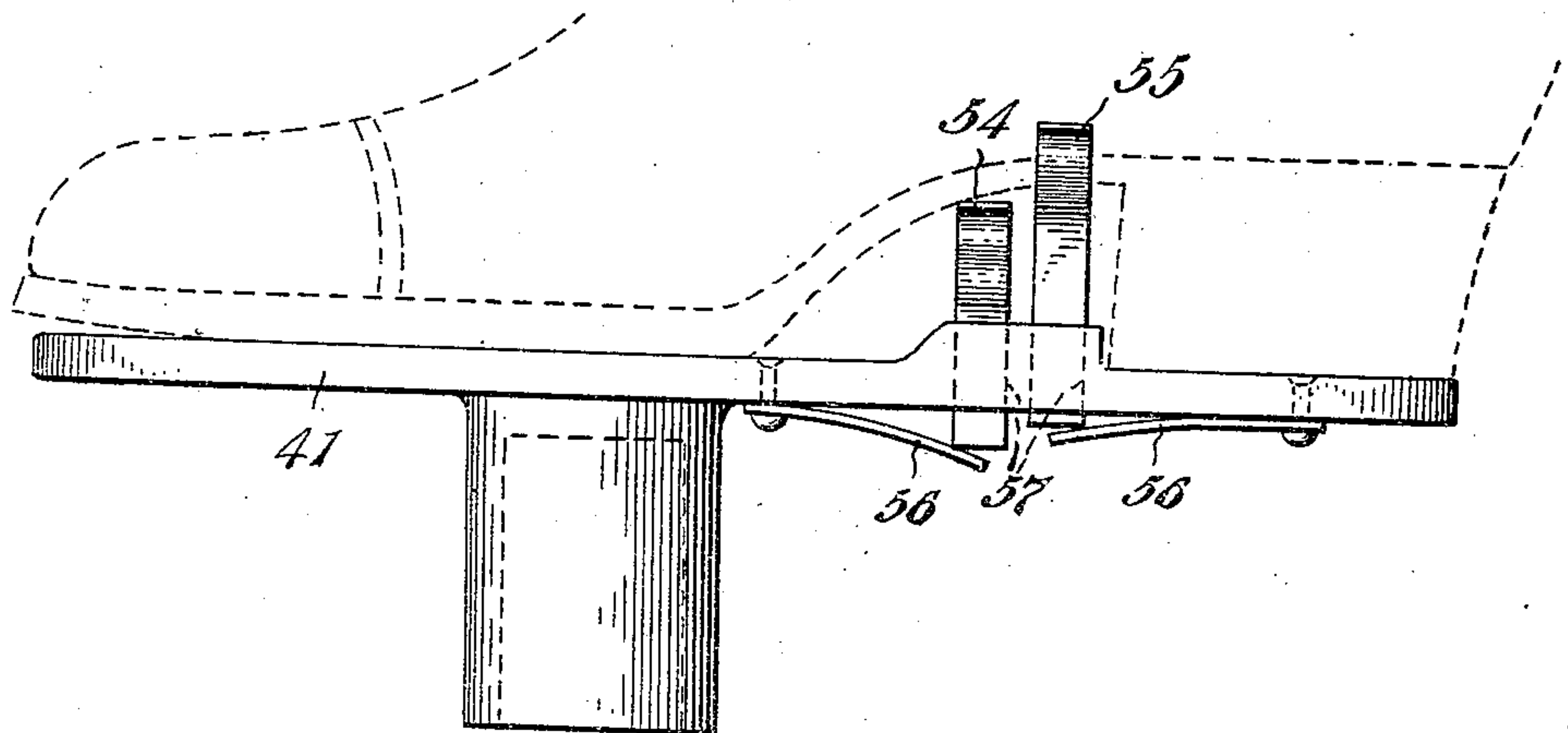


Fig. 5.

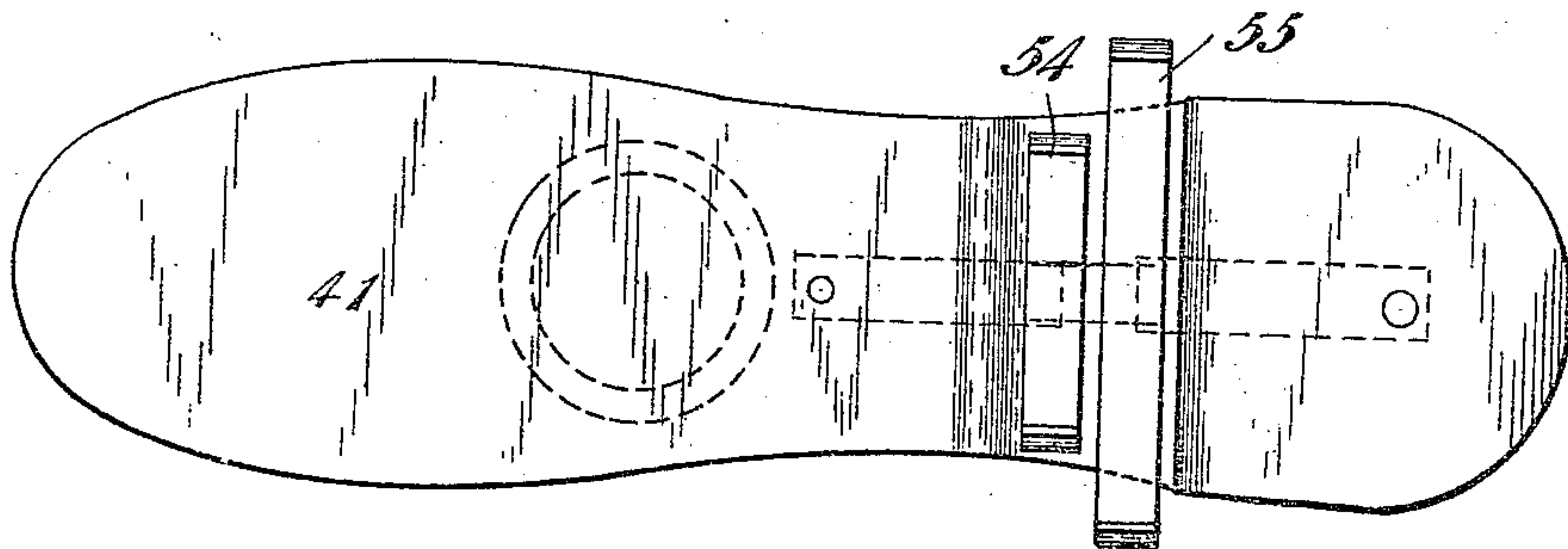


Fig. 6.

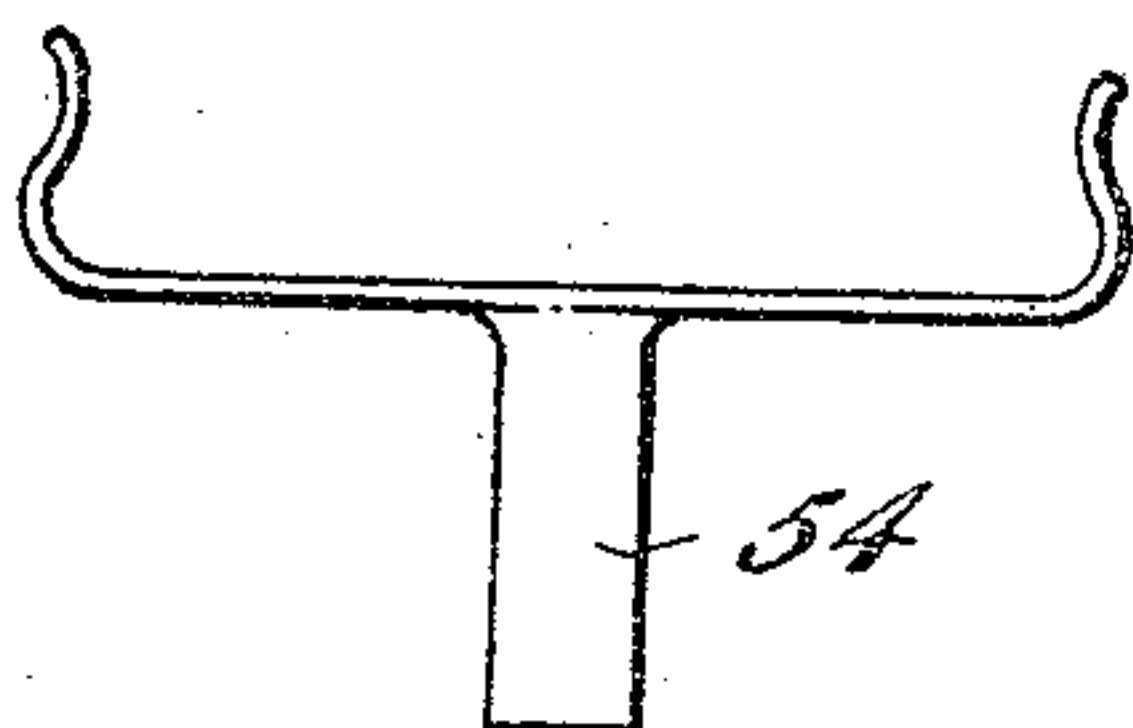


Fig. 7.

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# UNITED STATES PATENT OFFICE.

DANIEL L. HUDSON, OF CHICAGO, ILLINOIS.

SHOE-POLISHING MACHINE.

958,400.

Specification of Letters Patent.

Patented May 17, 1910.

Application filed March 8, 1909. Serial No. 482,140.

*To all whom it may concern:*

Be it known that I, DANIEL L. HUDSON, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Shoe-Polishing Machines, of which the following is a specification.

My invention relates to improvements in shoe-polishing machines, the object being to provide a machine of this character which will be inexpensive in construction and efficient in use.

A further object of my invention is to provide a mechanism which may be shifted in order that the shoe-polish applying and the polishing brushes may operate alternately.

A further object is to provide means for using any of several kinds of shoe-polish, and a further object is to provide removable brushes.

Other objects will appear hereinafter.

The invention consists in the combination and arrangement of parts hereinafter described and claimed.

My invention will be more readily understood by reference to the accompanying drawings forming a part of this specification, and in which,

Figure 1 is a side elevation of my improved shoe-polishing machine in its preferred form, Fig. 2 is a vertical transverse section taken on the line  $x-x$  of Fig. 1, Fig. 3 is a detail elevation of a brush, Fig. 4 is a detail elevation of a brush-holder, Figs. 5 and 6 are, respectively, detail side and top elevations of a foot-rest, and Fig. 7 is a detail elevation of a shoe-holder or clamp.

Referring now to the drawings, 1 indicates a main frame and 2 a crank-shaft journaled therein. The crank-pin 3 in the shaft 2 is adapted to carry two connecting rods 4. A second crank-pin 5 at one extremity of the shaft 2 is adapted to carry the connecting rods 6 and 7, the former being adapted to reciprocate a plunger 8, and the latter to move the rocking frame 9. The connecting rod 7 is preferably provided with a telescopic joint 10 and a threaded rod 11 adapted to hold the parts of the rod 7 in their adjusted positions. A shoulder 12 and an internal flange 13 are provided in the joint to prevent the parts of the rod 7 from separating when not secured by the rod 11. The plunger 8 is slidably mounted in the

cylinder 14 and is provided with a head 15 which is adapted to act on a bulb 16. It is obvious that when the bulb 16 is moved to one side the head 15 ceases to act on same. The bulb 16 is piped to a liquid blacking receptacle 17 and a pipe 18 leading from said receptacle is provided with a suitable nozzle 19 for emitting a spray of the liquid blacking which is forced through the pipe 18 by means of the air pressure caused by the bulb 16. A pulley 20 is secured to the shaft 2 and is driven by a belt 21 which connects with the motor 22. A pulley 23 also secured to the shaft 2 is adapted to rotate the shaft 24 by means of the belt 25 and the pulley 26 secured to the shaft 24.

A seat 27 is provided on the frame 1 and a vertical standard 28 is threaded and screwed into the frame 1. A shoe-polish receptacle 29 is provided with a tubular boss 30 rotatably mounted on the standard 28. A knob 31 is connected with the receptacle 29 and by means of which the latter may be rotated at the will of the operator. The receptacle 29 comprises a series of sets of vertical parallel combs 32 between which the blacking is placed, the combs permitting access of the brushing bristles to said blacking as its outer surface gradually recedes.

Several kinds of shoe-polish may be provided in the receptacle 29 and separated by means of the radial combs 32. The polish employed must have sufficient consistency to stick to said receptacle between said combs.

An operating lever 33 is rigidly secured to the shaft 34, the latter being journaled in the frame 1. A lever 35 is also rigidly secured to the shaft 34 and is provided with a lateral extension 36. A tubular standard 37 integral with the frame 1 is adapted to receive the vertical shaft 38 which is slidably mounted therein. The portion of the shaft 38 which is adapted to slide in the standard 37 is squared as shown at 39 in order to prevent rotation. A lateral projection 40 in the shaft 38 is adapted to engage the extension 36, and to be supported by the same. Secured to the shaft 38 at its upper extremity is a foot-rest 41 which is adapted to be moved vertically by means of the lever 33 under the control of the operator. The arms 42 are integral extensions of the cross-heads 43 which are adapted to reciprocate on the ways 44 by means of the connecting rods 4. Shoe-polish applying



brushes 45 and polishing brushes 46 are detachably mounted on the arms 42 by means of flexible holders 47. The holders 47 are adapted to engage the body portions 48 of the brushes as shown. Thus the polishing brushes 46 are adapted to polish the shoe when in the position shown in the drawings, but when the foot-rest 41 is lowered, the shoe-polish applying brushes 45 will act on the shoe.

A rotary polishing brush 49 is secured to the shaft 50 which is journaled in the rocking frame 9. A sprocket 51 secured to the shaft 24 is adapted to drive a sprocket 51' on the shaft 50 by means of the chain 52.

It is obvious that the rocking frame 9 may assume the dotted line position 53 when the rod 11 is loosened in the telescopic joint 10.

The radial combs 32 in the receptacle 29 are located in the path of the shoe-polish applying brushes 45 so that the bristles of the brushes may pass through the teeth of the combs and collect shoe-polish. Joints 53' are provided in the arms 42 in order that the polishing brushes 45 may be thrown into the dotted line positions. In order that shoes of different sizes may be held securely on the foot-rest 41, clamps 54 and 55 are provided. Springs 56 are adapted to support the clamps 54 and 55 which are adapted to pass through perforations 57 provided in the foot-rest 41.

While I have shown what I deem to be the preferable form of my device, I do not wish to be limited thereto, as there might be many changes made in the details of construction and arrangement of parts without departing from the spirit of my invention.

Having described my invention what I claim as new, and desire to secure by Letters Patent, is:

1. In a shoe-polishing machine, a main frame, a crank-shaft journaled therein, a frame being provided with guide-ways, a cross-head adapted to travel in said guide-ways, a connecting rod connecting said crank-shaft and said cross-head, an upwardly extending arm integral with said cross-head, a brush fixedly attached to said arm, and a brush pivotally attached to said arm, substantially as described.

2. In a shoe-polishing machine, in combination with a main frame and a rocking frame pivoted thereto, a rotary brush mounted on said rocking frame, means for rocking said frame, a crank-shaft journaled in said main frame, a cross-head, a connecting rod between said crank-shaft and said

cross-head, and a brush-carrying arm integral with said cross-head, substantially as described.

3. In a shoe-polishing machine, a main frame and a seat secured thereto, a crank-shaft journaled in said frame, said crank-shaft being provided with a driving and a driven pulley, said driven pulley being belted to a motor, said driving pulley being belted to a pulley secured to a shaft journaled in said main frame, a sprocket secured to said last-named shaft, a rocking frame pivoted on said last-named shaft and connected with the crank of said crank-shaft, a rotary brush-shaft journaled in said rocking frame, and said last-named shaft being provided with a sprocket adapted to be driven by a chain driven by said first-named sprocket, substantially as described.

4. In a shoe-polishing machine, a main frame and a rocking frame pivoted thereto, a rotary brush mounted in said rocking frame, a crank-shaft journaled in said main frame, a crank at one extremity of said crank-shaft, connecting means between said crank and said rocking frame, a second crank in said crank-shaft, a cross-head provided with a brush-carrying arm, and connecting means between said cross-head and said second crank, substantially as described.

5. In a shoe-polishing machine, in combination with a main frame, a horizontally disposed shaft journaled in said frame, an upwardly extending operating arm secured to said shaft, an inwardly extending arm also secured to said shaft, a lateral extension on said last-named arm, a tubular standard integral with said main frame, a vertically disposed foot-rest carrying rod slidably mounted in said standard, a lateral projection on said last-named rod, and said projection adapted to engage and be supported by said extension, substantially as described.

6. In a shoe-polishing machine, in combination with a main frame and a crank-shaft journaled therein, a cross-head slidably mounted in said frame, a connecting rod between said crank-shaft and said cross-head, an upwardly extending arm on said cross-head, and a shoe-polish applying brush suitably attached to said arm, substantially as described.

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

DANIEL L. HUDSON.

Witnesses:

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