

No. 747,558.

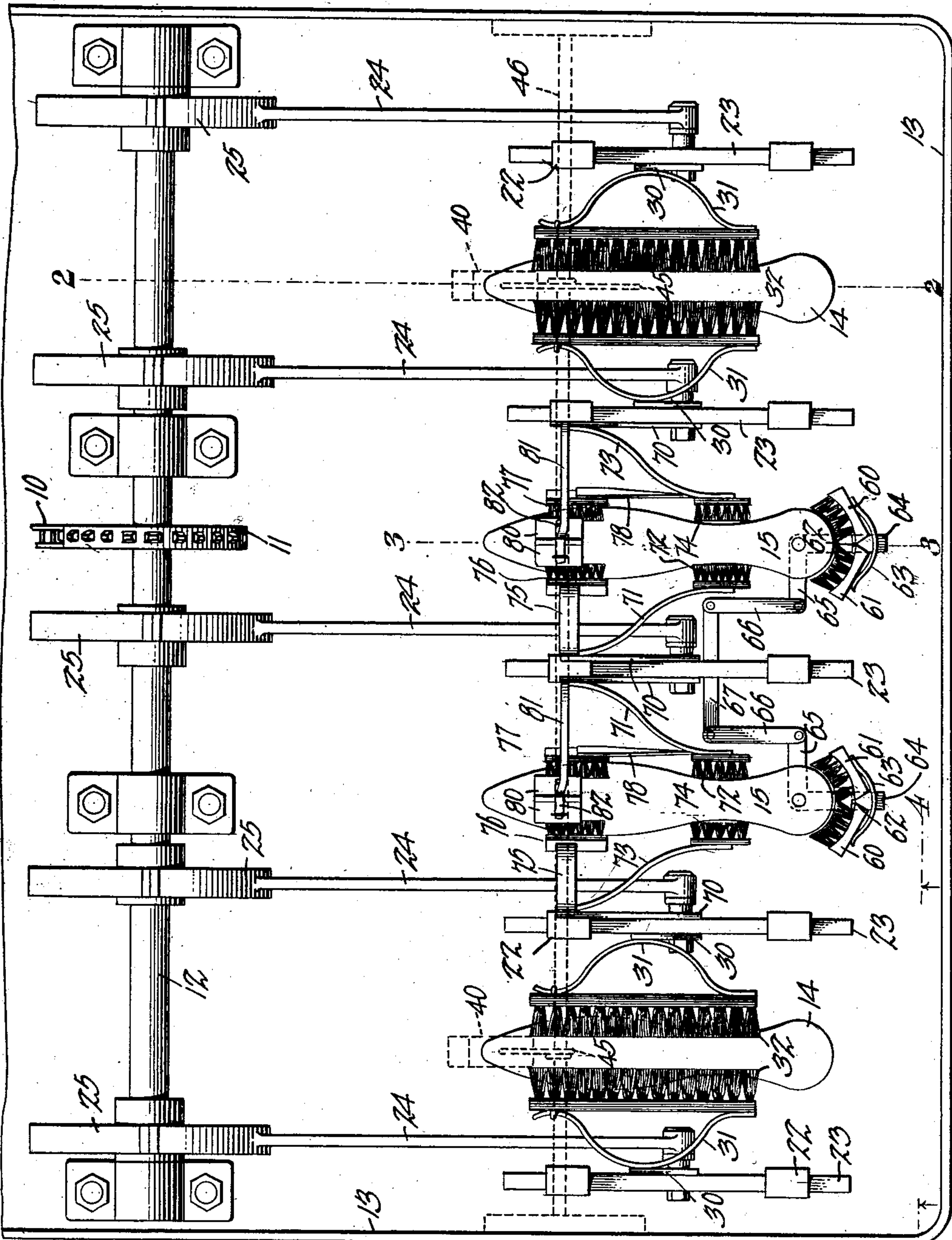
PATENTED DEC. 22, 1903.

C. W. MANNOOCH.
SHOE BLACKING AND POLISHING MACHINE.

APPLICATION FILED NOV. 21, 1902.

NO MODEL.

4 SHEETS—SHEET 1.



Witnesses
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John E. Carter
Fig. 1.

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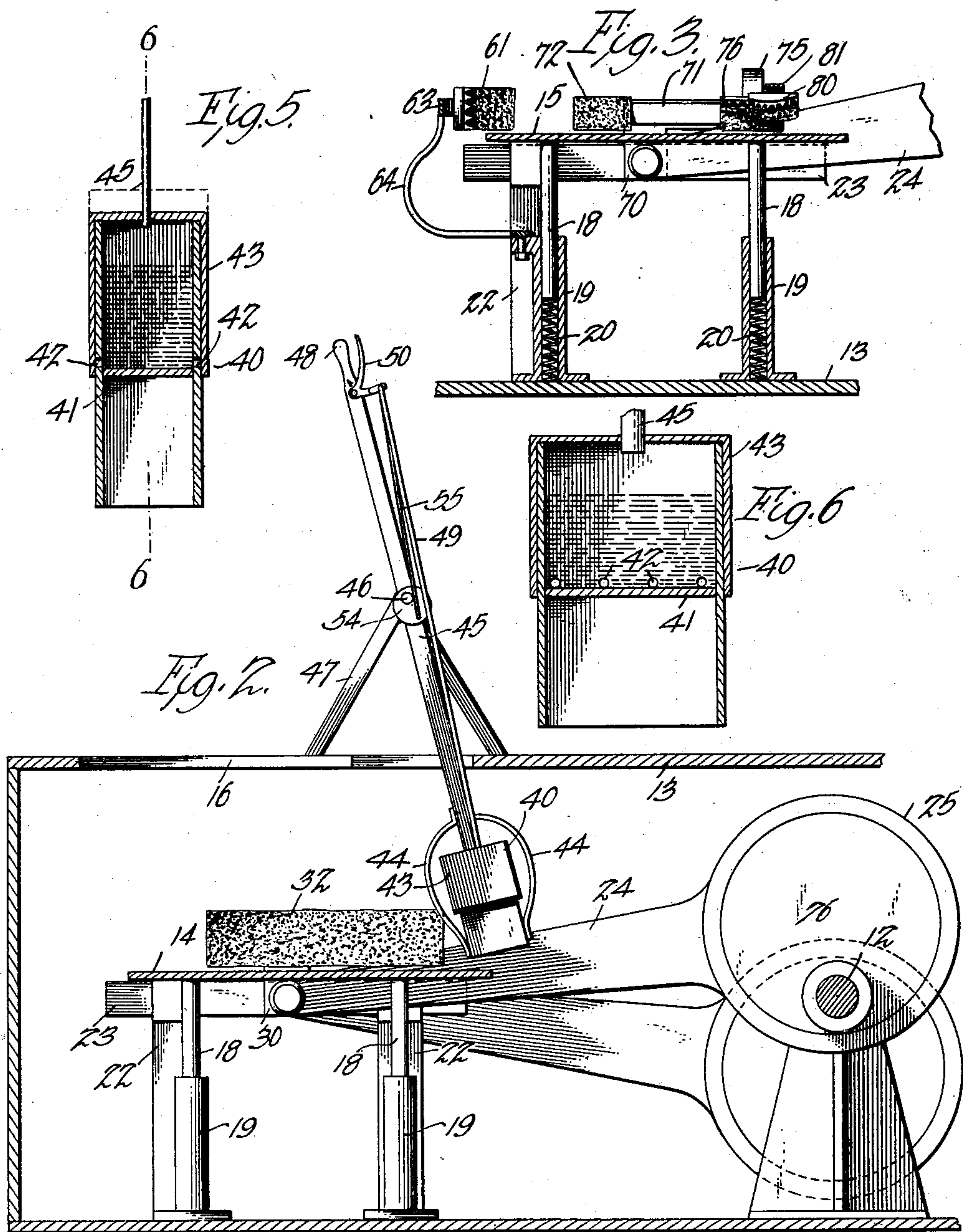
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4 SHEETS—SHEET 2.



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4 SHEETS—SHEET 3.

Fig. 4.

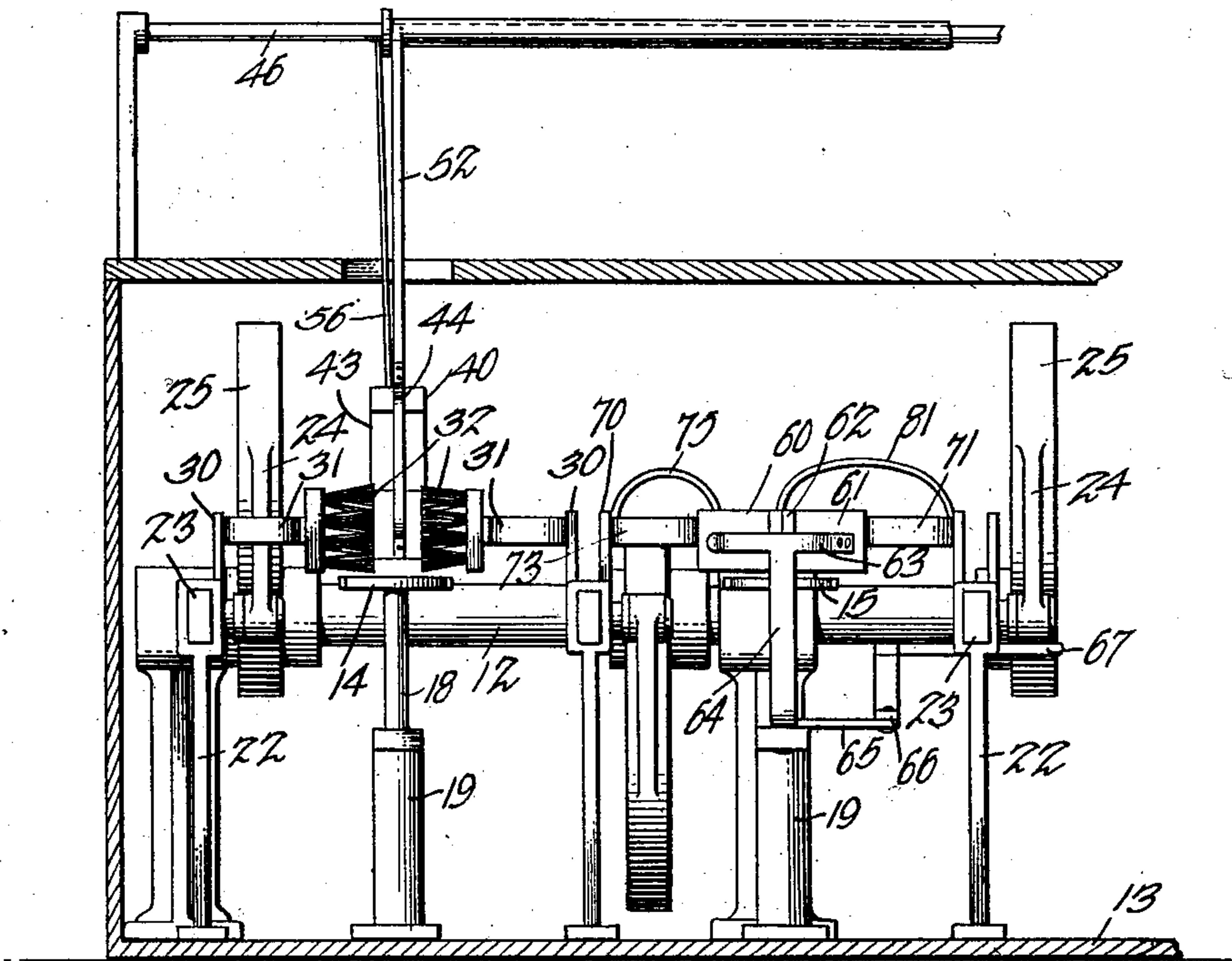
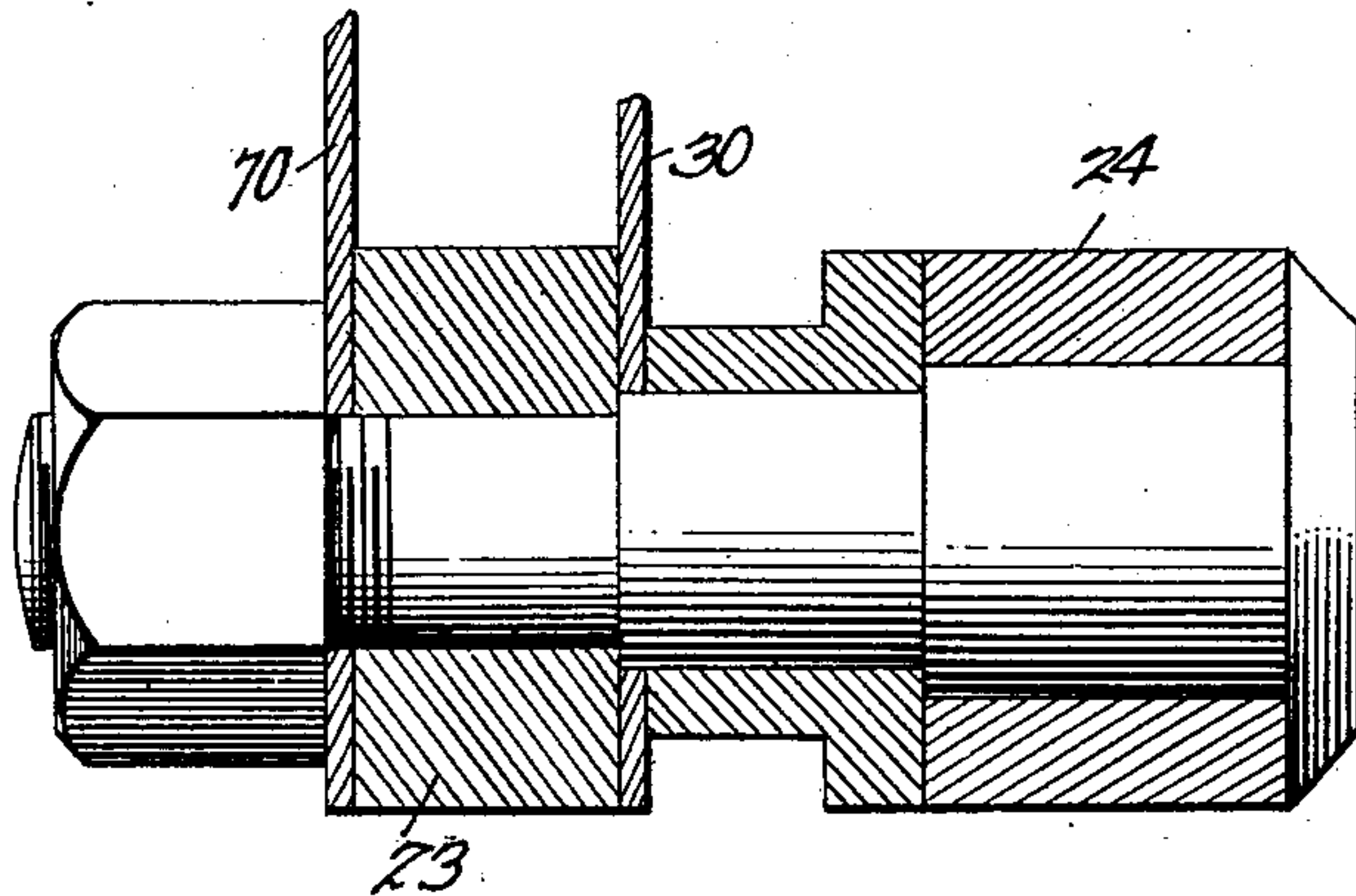


Fig. 7.



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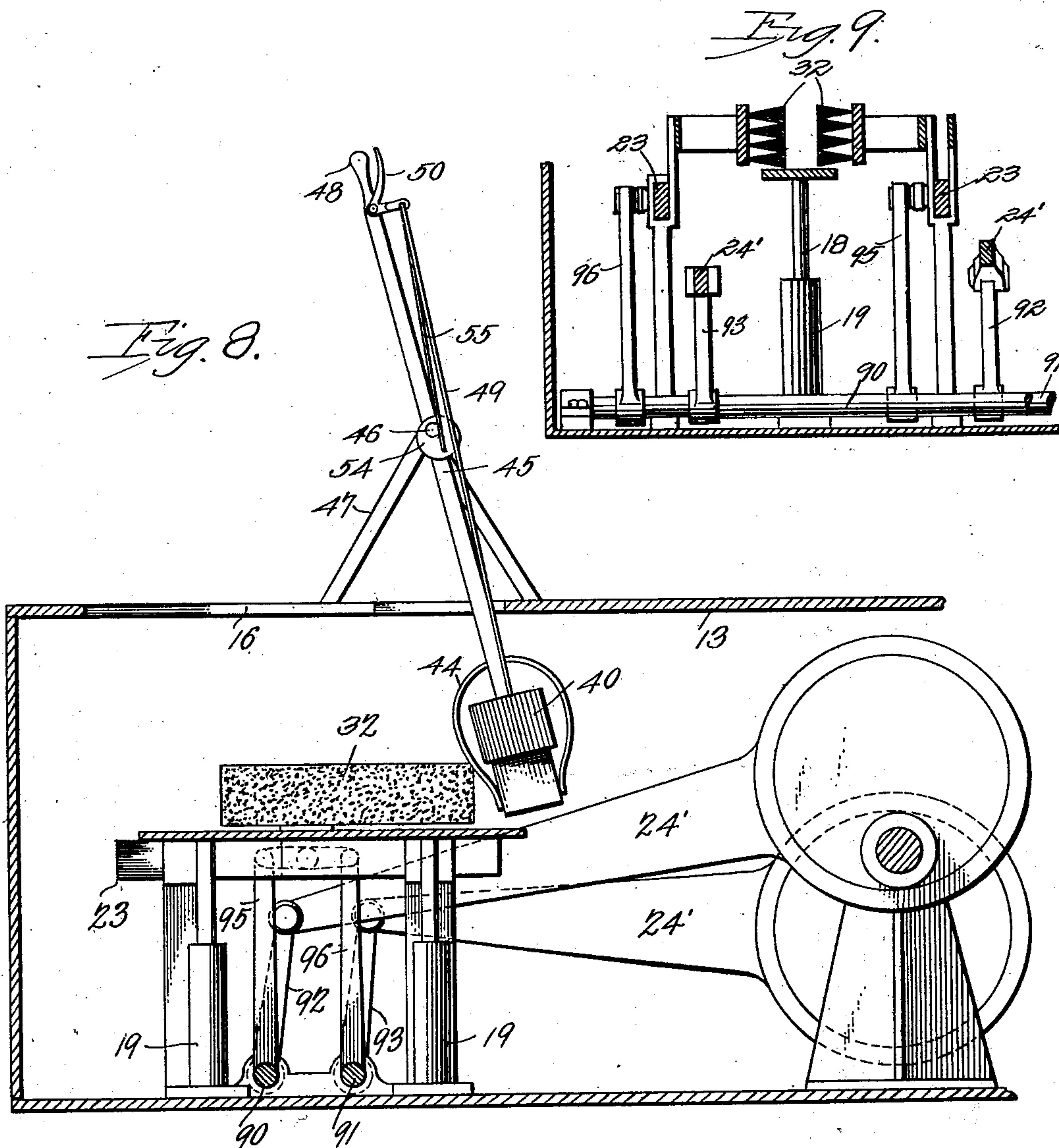
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4 SHEETS—SHEET 4.



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES W. MANNOOCH, OF PETERSBURG, VIRGINIA, ASSIGNOR OF FIFTY-FIVE ONE-HUNDREDTHS TO SAMUEL H. HOBBS, ROBERT CABANISS, AND FRANK R. RUSSELL, OF PETERSBURG, VIRGINIA.

SHOE BLACKING AND POLISHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 747,558, dated December 22, 1903.

Application filed November 21, 1902. Serial No. 132,302. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. MANNOOCH, a citizen of the United States, residing at Petersburg, in the county of Dinwiddie and State of Virginia, have invented a new and useful Shoe Blacking and Polishing Machine, of which the following is a specification.

The invention relates to certain improvements in that class of devices employed for cleaning and polishing boots and shoes, and has for its principal object to provide a mechanism driven from any suitable source of power and provided with independent sets of daubers and polishing-brushes for first placing the blacking on the shoe and subsequently polishing the same.

A further object of the invention is to provide a mechanism of this character in which the polishing-brushes may be forced into contact with the shoes with greater or less pressure, the degree of pressure being wholly under the control of the feet of the operator, and a still further object is to provide such a mechanism with a plurality of independent brushes, all of which are freely yieldable to conform to the varying contour of boots and shoes.

A still further object of the invention is to provide improved mechanism for supplying the daubers with blacking.

With these and other objects in view the invention consists in the novel construction and arrangement of parts hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, size, and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, Figure 1 is a plan view of a shoe blacking and polishing machine constructed in accordance with my invention, the lid of the inclosing box or casing being removed in order to more clearly illustrate the construction. Fig. 2 is a transverse sectional elevation of the same on the

line 2 2 of Fig. 1. Fig. 3 is a similar view on the line 3 3 of Fig. 1. Fig. 4 is a front elevation of a portion of the machine, the inclosing casing being shown in section on the line 4 4 of Fig. 1. Fig. 5 is a transverse sectional elevation of the blacking-reservoir, on which blacking is supplied to the daubers. Fig. 6 is a longitudinal sectional elevation of the same on the line 6 6 of Fig. 5. Fig. 7 is a detail sectional view, on an enlarged scale, of one of the connections between the operating mechanism and a brush-carrying slide. Fig. 8 is a sectional elevation of the machine, illustrating a slightly-modified construction. Fig. 9 is a detail of a portion of the structure illustrated in Fig. 8.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

The mechanism forming the subject of the present invention is designed to be supported and inclosed within a suitable box or casing containing an operating mechanism, such as an electric motor or the like, which may be set into operation in any desired manner, as by the closing of the motor-energizing circuit by means of an inserted coin, and this portion of the mechanism may be similar to that employed in phonographs and like machines having a coin-controlled actuating mechanism. It has not been deemed necessary to illustrate this portion of the mechanism, inasmuch as it forms no part of the present invention; but the motor, whatever its nature, is connected by a link belt 10 to a sprocket-wheel 11, carried by a shaft 12, adapted to suitable bearings within an inclosing casing 13 and forming the driving element of the machine.

In the casing are arranged two pairs of foot-rests 14 and 15, all of which are of the same construction and each arranged in vertical alinement with an opening 16 in the lid or cover of the casing and permitting the insertion of the shoes, the latter being first placed on the foot-rests 14 to receive the blacking and then on the foot-rests 15 to be subjected to the acting of the polishing-brushes.

The foot-rests are all of the same construc-

tion, comprising a substantially horizontal plate to receive the sole of the shoe, said plate having depending studs 18, Fig. 3, adapted to guiding-openings formed in vertical standards 19, carried by the base. In each guiding-opening is a helical compression-spring 20, against which bears the lower end of a stud 18, the springs yielding as the operator exerts greater or less pressure thereon and adjusting the position of the foot-rest plate and shoe as may be desired by the operator in order to permit contact of the brushes with all portions of the shoe and to regulate the pressure of the brushes thereon.

To the base-plate of the casing are secured a number of vertically-disposed standards 22, arranged in pairs between the several foot-rests and each provided at its upper end with a guiding-box for the reception of a horizontally-disposed slide-bar 23. The several bars 23 are connected by rods 24 to eccentric-straps 25, mounted on eccentrics 26, carried by the main shaft 12 and so arranged that three of the bars are reciprocated in one direction simultaneously, and the other two are moved in the opposite direction.

To the adjacent faces of the bars, on each side of the foot-rests 14, are secured upright arms 30, carrying leaf-springs 31, secured at a central point to the arm and connected at their opposite ends to the backs of daubing-brushes 32, a pair of such brushes being arranged in operative relation to each of the foot-rests 14, and the springs permitting yielding movement of the brushes as they follow the contour of the shoe, while the blacking may be applied to all portions of the shoe by the application of pressure to the foot-rest plates 14 or such slight sidewise movement of the shoe as may be necessary.

In order to supply the daubing-brushes with blacking, I employ reservoirs of the character illustrated in Figs. 5 and 6 and comprising, essentially, a rectangular casing 40, divided by a central partition 41, and at its upper portion forming a reservoir for liquid blacking of any desired character. The reservoir has discharge-openings 42 arranged in its opposite sides and normally covered by the vertical sides of a rectangular casing 43, which may be raised to uncover the openings and permit the liquid blacking to flow through said openings and down the opposite sides of the casing 40. The casing 40 is connected by yoke members or brackets 44 to the lower end of a lever 45, carried by a rock-shaft 46, the latter being held in suitable bearings in standards 47, arranged near each side of the casing of the machine, and at the upper end of said lever is a handle or grip portion 48 for convenience in manipulating the lever and forcing the casing 40 between the two daubing-brushes 32 in order to transfer the blacking from the sides of the casing to said brushes. The valve member 43 is connected to the lower end of a rod 49, depending from a latch-lever

50, which may be operated to raise the valve 43 to permit the discharge of the blacking. In order that the distributing-reservoirs at the opposite sides of the machine may be simultaneously operated, the rock-shaft 46 at that side of the machine opposite the lever 45 is provided with a rocker-arm 52, which is moved simultaneously with the lever, so that both reservoirs are traveled at the same time. To provide for the simultaneous opening and closing movement of the valve members 43, the rock-shaft is provided at each end with a crank-disk 54, the disk at the lever end of the shaft being connected to the latch 50 by a connecting-rod 55 and a disk at the opposite end of said shaft being connected to the subjacent valve member by a connecting-rod 56.

After the blacking has been applied the shoes are removed from foot-rests 14 and placed on the foot-rests 15 and subjected to the action of a number of polishing-brushes. The heel-brushes are each formed of two members 60 and 61, connected by a hinge 62 and shaped to conform to the general contour of the shoe-heel. The brush 60 is connected to one end of a leaf-spring 63, which is secured to or formed integral with a curved arm 64, pivoted at its lower end to a lug projecting from one of the standards 19. The opposite end of the spring 63 bears against the back of the brush member 61 and serves to permit free yielding movement of both members to conform to the contour of the shoe. The pivot-point of the arm 64 is arranged in a vertical plane concentric with what may be considered the axial line of the quarter or heel of the shoe, so that as the arm is oscillated the brushes will be traveled in a line approximating the curved lines of the quarter. Each of the arms 64 forms one arm of a bell-crank lever, of which the opposite horizontal arm 65 is connected by a link 66 to the outer end of a horizontal bar 67, projecting from the central bar 23, and as said bar is reciprocated the heel-brushes receive a rapid oscillatory movement, while the position of the brushes with respect to the heel portion of the shoe may be governed by exerting greater or less pressure on the foot-rest until the heel portion of the shoe is entirely polished.

Two of the guided bars 23 are provided with vertical arms 70, to which are connected reversely-curved leaf-springs 71, carrying at their opposite ends brushes 72, adapted for contact with the sides of the shoe, and similar springs 73 carry mating brushes 74. The arms 70 are also connected to one end of bowed springs 75, carrying brushes 76, adapted to engage with one side of the vamp, while the opposing vamp-brushes 77 are supported on the free ends of leaf-springs 78, carried by the springs 73, all of the brushes yielding freely to follow the contour of the shoe, and the degree of pressure exercised by the springs of said brushes being governed to some ex-

tent by the vertical position of the shoe as the operator exerts more or less pressure on the foot-rest plates.

For polishing the top of the vamp and toe portion of the shoe I employ a pair of pivotally-connected brush members 80, hinged together, as shown in Fig. 1, one of said members being connected to the free end of a bowed spring 81, carried by the upwardly-extending arms of the bar 23, and the two brush members are yieldably held against the shoe by small leaf-spring 82, which will permit free movement of either member in much the same manner as the heel-brushes are allowed to move.

The number of eccentrics employed for reciprocating the bars 23 may be materially reduced, as shown in Fig. 8, a single eccentric being operatively connected to three of the bars and another eccentric to the two remaining bars.

In the construction shown in Fig. 8 two rock-shafts 90 and 91 are arranged under the several bars between the tubular standards 19, said rock-shafts being respectively provided with crank-arms 92 and 93, which are connected to their eccentrics by rods 24'. The rock-shaft 90 has rocker-arms 95, connected to alternate brush-carrying bars, and the rock-shaft 91 is provided with rocker-arms 96, connected to the remaining brush-carrying arms, only one rocker-arm 95 and one arm 96 being shown in Fig. 9 of the drawings. The upper ends of the rocker-arms are preferably connected to the respective bars by means of small links to permit free movement, as indicated by dotted lines in Fig. 8.

Having thus described the invention, what is claimed is—

1. The combination with a brush member having a fixed plane of movement, of an independently-movable foot-rest, a plurality of pins depending from the foot-rest, standards having each a guiding-opening for one of the pins, and a spring disposed within each standard and tending to maintain the foot-rest in an elevated position.

2. The combination with a foot-rest, of a pair of reciprocatory brush-carriers, oscillatory brushes, an arm pivotally mounted at a point under the foot-rest, the pivot-point being approximately in the vertical line of the center of the heel portion of the foot-rest, said arm serving as a support for the oscillatory brushes, and means for connecting the arm to one of said reciprocatory brush-carriers.

3. The combination with a foot-rest, of a reciprocatory bar, a pivoted arm having an operative connection therewith, and a pair of pivotally-connected and independently-movable brush members carried by said arm.

4. The combination with a foot-rest, of a reciprocatory bar, a pivotally-mounted bell-crank lever having one arm operatively connected to said bar, a leaf-spring carried by the second arm of the bell-crank lever, a

brush member secured to the leaf-spring, and a second brush member pivotally connected to the first brush member and bearing against said leaf-spring.

5. The combination in a shoe-polishing machine, of a foot-rest, a pair of reciprocatory bars, brushes adapted for contact with the opposite sides of a shoe, reversely-curved springs connecting said brushes to the bars, an auxiliary two-part brush having a yielding connection with one of said bars, and an oscillatory brush also having a yielding connection with one of the bars and adapted for contact with the rear or heel portion of a shoe.

6. In a shoe-polishing machine, the combination with two pairs of foot-rests, of daubing-brushes disposed in operative relation to one pair of rests, polishing-brushes disposed in operative relation to the second pair of rests, a plurality of reciprocatory bars having yielding connections with said brushes, and a driving means connected to all of said bars.

7. The combination in a shoe-polishing machine, of a foot-rest, a pair of oppositely-disposed daubers, a blacking-reservoir, a valve for controlling the discharge of blacking from the reservoir, and means for moving the reservoirs to supply the daubers with blacking.

8. The combination in a shoe-polishing machine, of a foot-rest, a pair of oppositely-disposed daubers arranged in operative relation thereto, a casing forming a reservoir and provided with depending side portions for the accumulation of blacking discharged from said reservoir, and means for moving the reservoir to transfer the accumulated blacking to the daubers.

9. The combination in a shoe-polishing machine, of a foot-rest, a pair of oppositely-disposed daubers arranged in operative relation thereto, a casing forming a reservoir and provided with depending side portions for the accumulation of blacking discharged from said reservoir, discharge-ports arranged in the lower portion of the reservoir, a movable casing embracing the reservoir and forming a valve, means for raising and lowering said casing, and means for moving the reservoir to supply the daubers with blacking.

10. The combination in a shoe-polishing machine, of a pair of foot-rests, a pair of oppositely-disposed daubers arranged in operative relation to each foot-rest, blacking-reservoirs adapted for contact with the daubers, valves for controlling the flow of blacking from the reservoirs, a rock-shaft, rocker-arms depending therefrom and carrying the reservoirs, means for operating said rock-shaft, crank-disks, and means for connecting the same to the valves.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CHARLES W. MANNOCH.

Witnesses:

R. D. GILLIAM,
T. C. DIRKWATER.