

No. 771,861.

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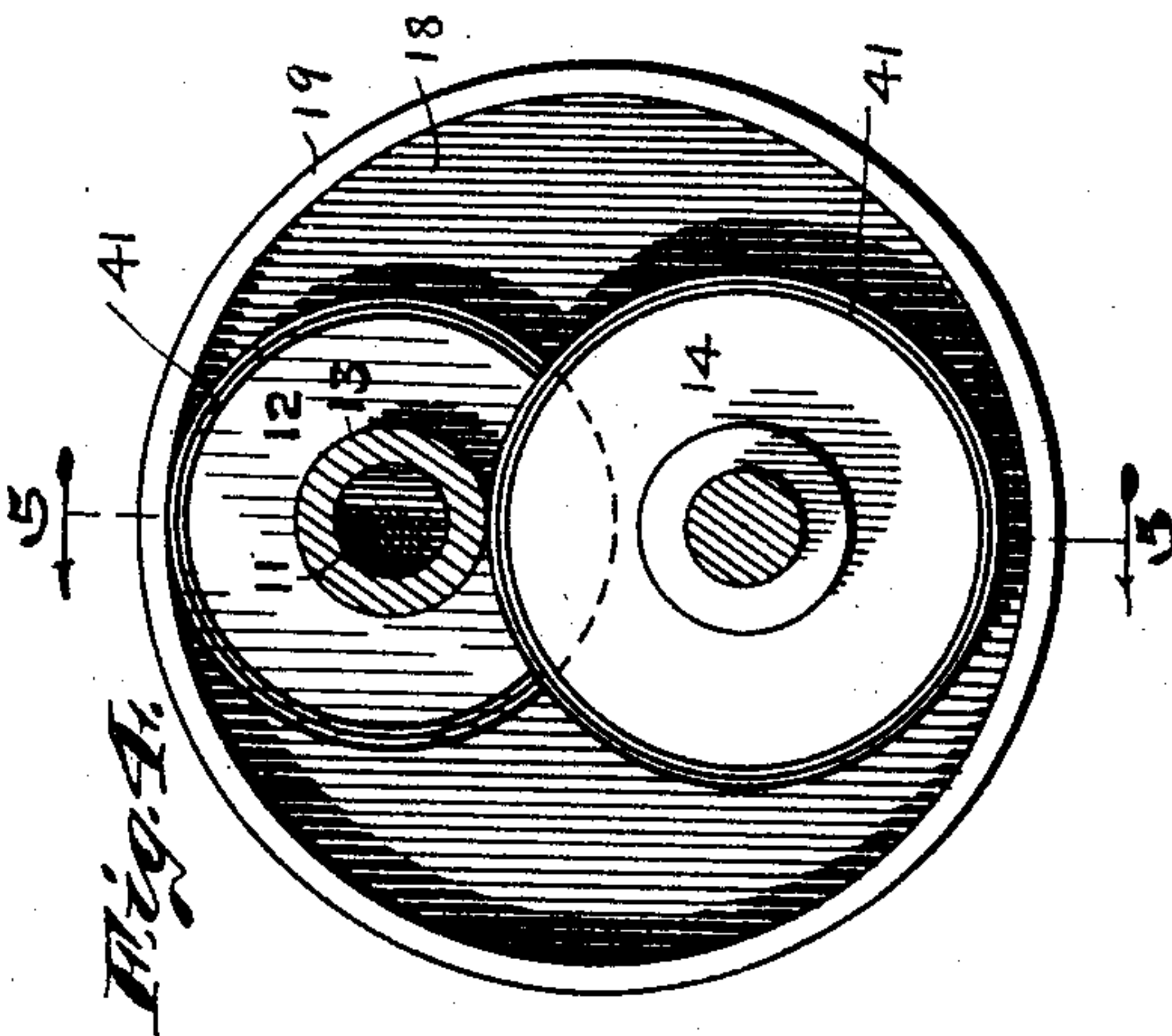
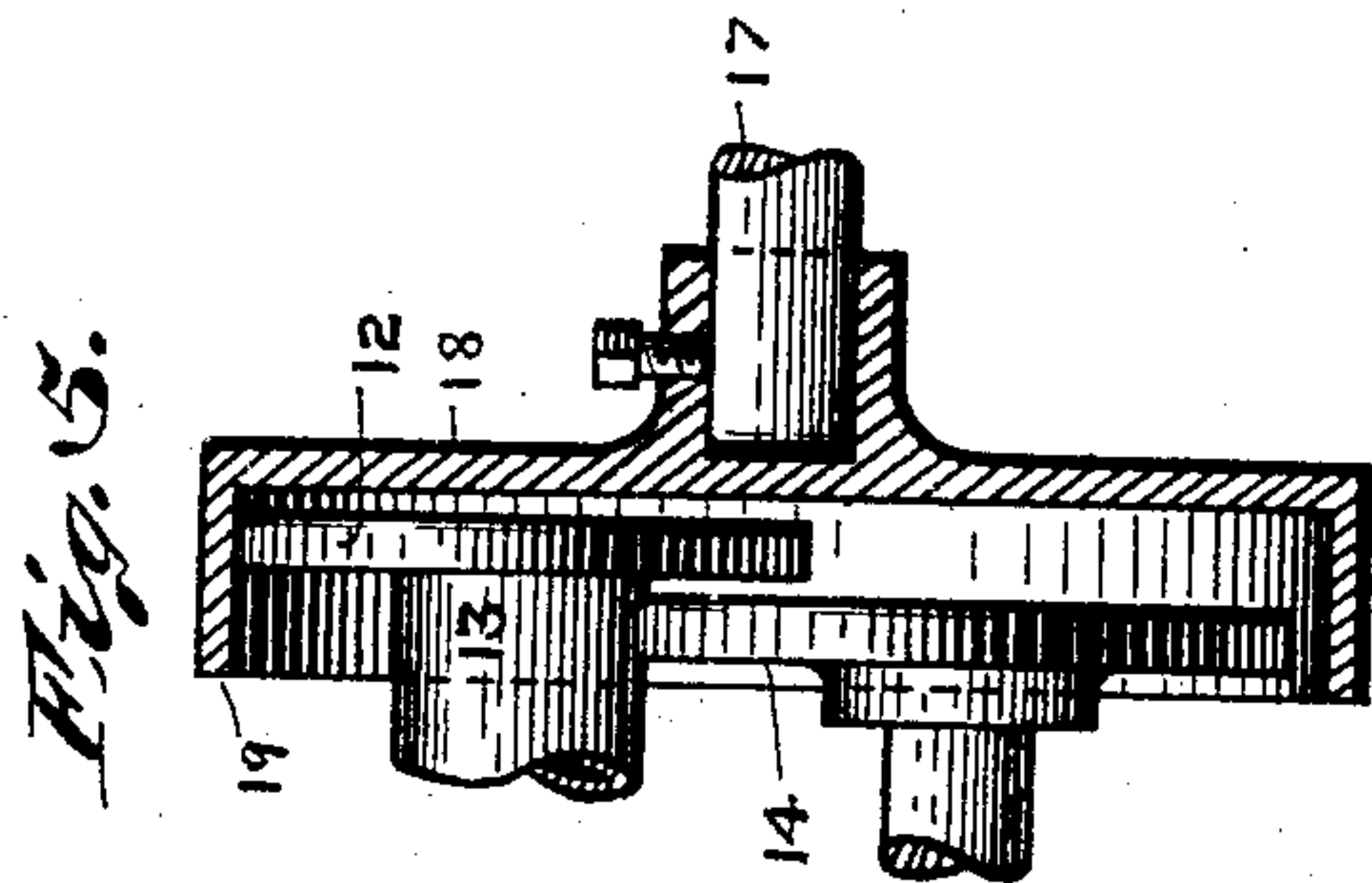
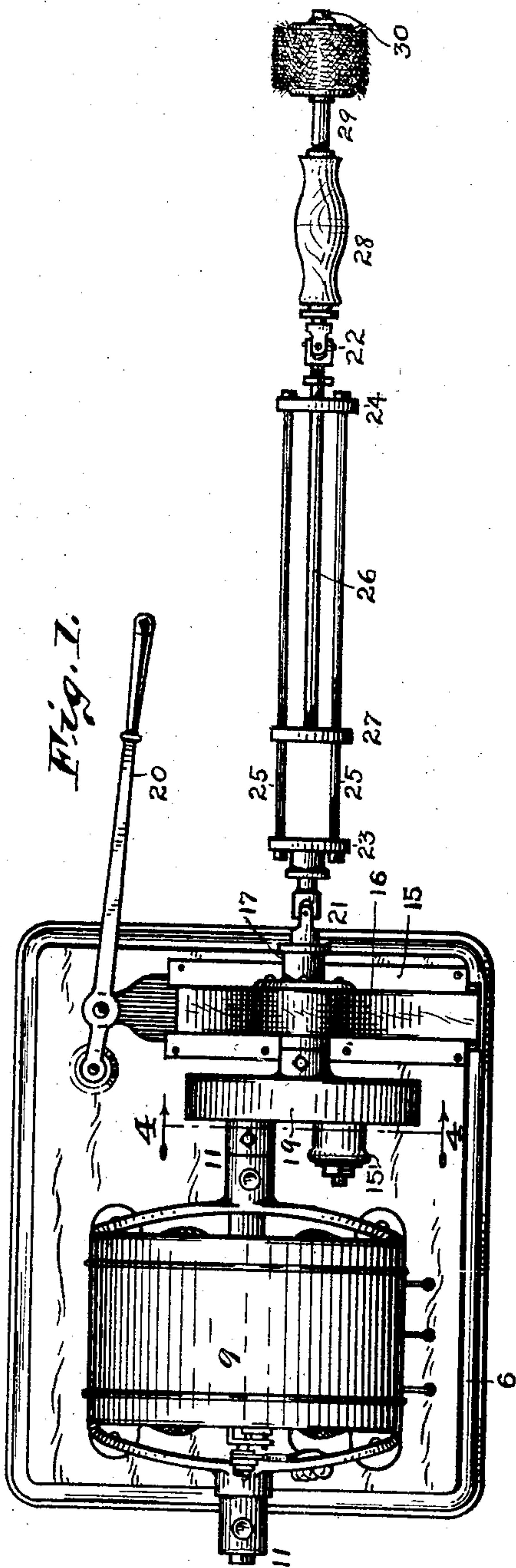
F. A. CURTIS.

GEAR MECHANISM FOR BOOT OR SHOE BLACKING AND POLISHING MACHINES.

APPLICATION FILED JAN. 13, 1903.

NO MODEL.

3 SHEETS—SHEET 1.



WITNESSES:

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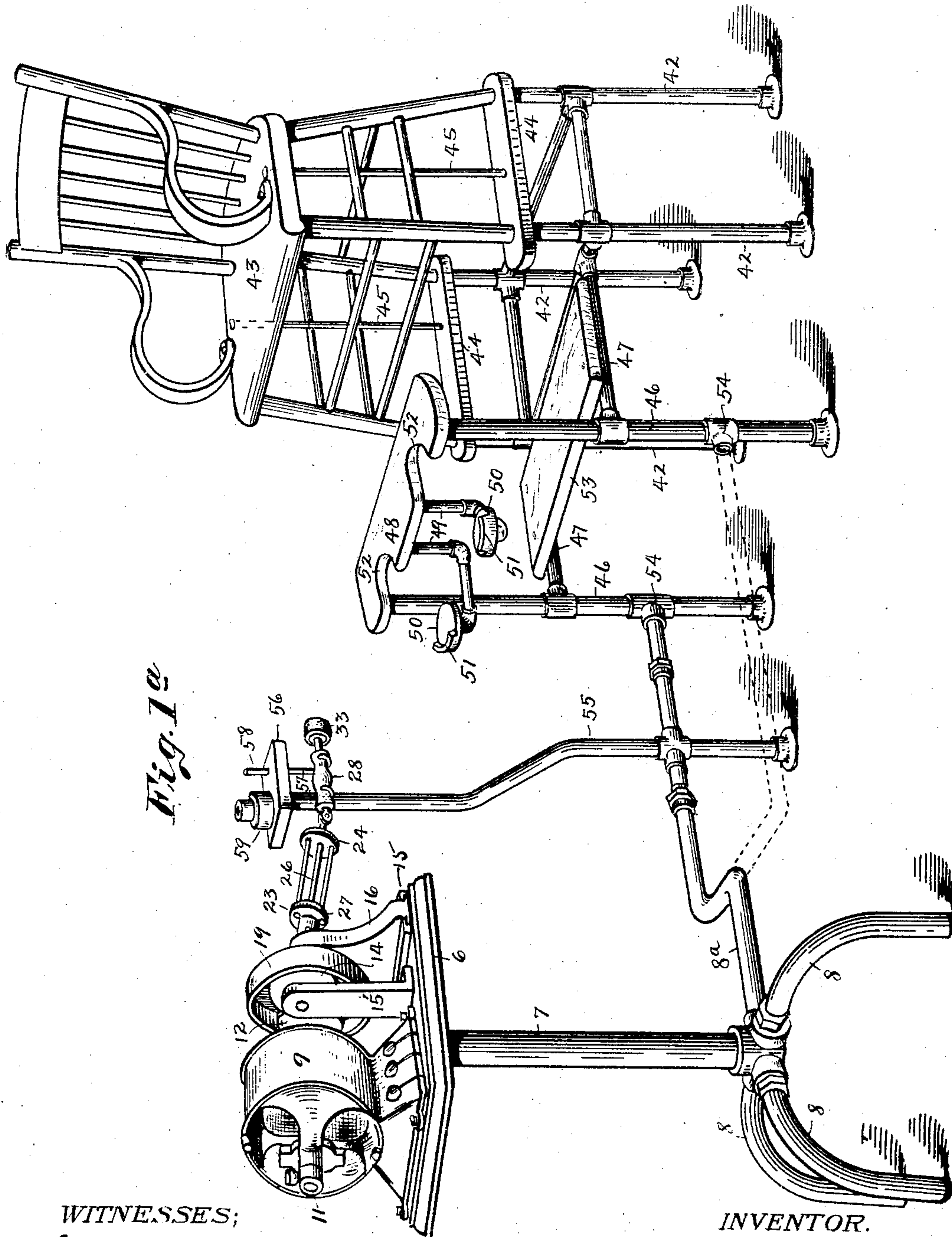


Fig. 1a

WITNESSES;

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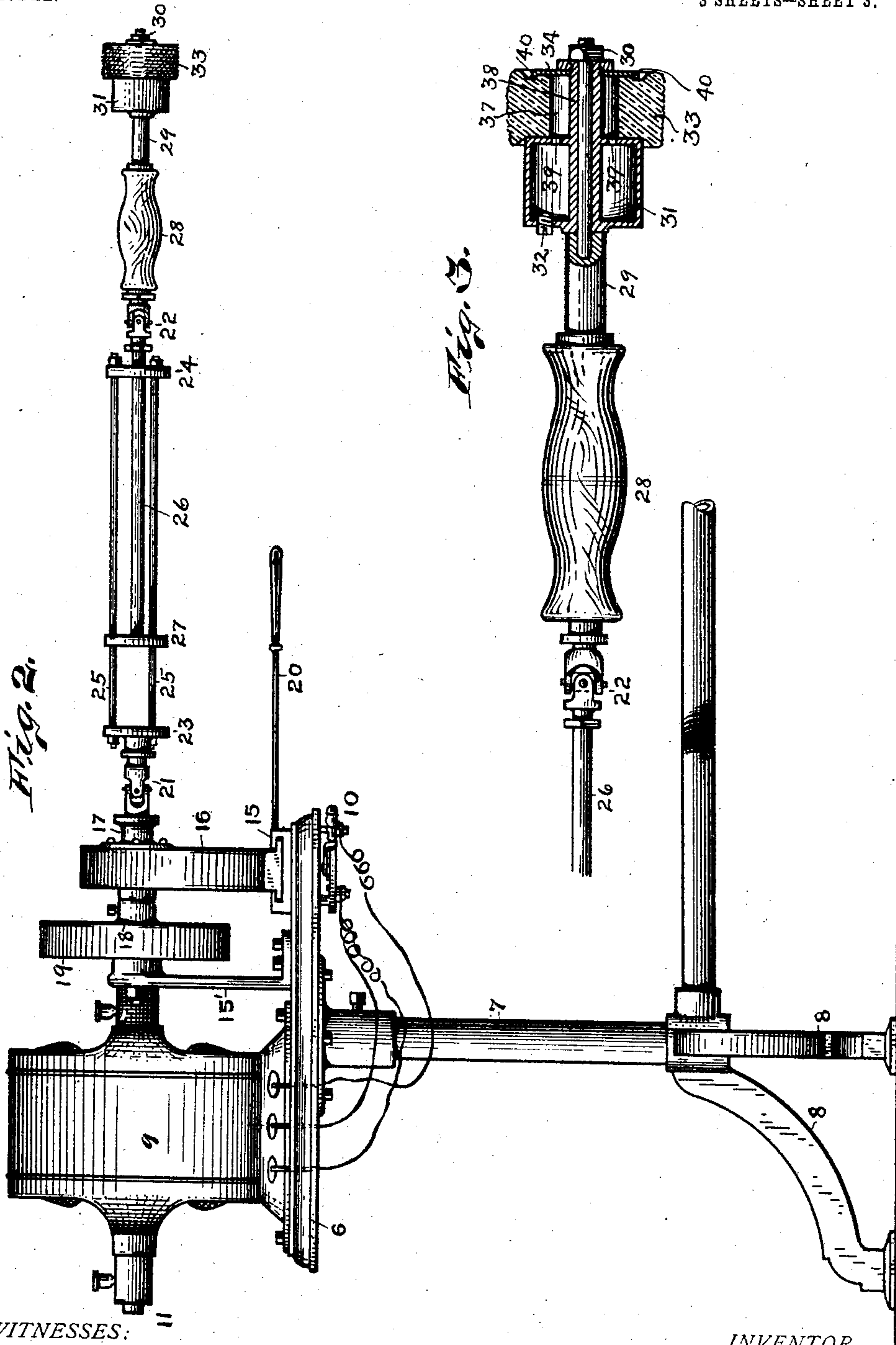
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NO MODEL.

3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

FREDERIC A. CURTIS, OF INDIANAPOLIS, INDIANA, ASSIGNOR OF ONE-HALF TO JOHN E. ELDER, OF NASHVILLE, TENNESSEE.

GEAR MECHANISM FOR BOOT OR SHOE BLACKING AND POLISHING MACHINES.

SPECIFICATION forming part of Letters Patent No. 771,861, dated October 11, 1904.

Application filed January 13, 1903. Serial No. 138,900. (No model.)

To all whom it may concern:

Be it known that I, FREDERIC A. CURTIS, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Gear Mechanism for Boot or Shoe Blacking and Polishing Machines, of which the following is a specification.

This invention relates to improvements in machines for cleaning, blacking, and polishing boots and shoes; and the object of the invention is to provide a rotary brush run by a suitable motor which will be convenient to operate in the way of reaching all parts of the boot or shoe, efficient in its operation, and which as a piece of mechanism will be simple and compact, so as to be inexpensive to construct, and occupying small space, and which may be easily operated by a person of limited experience and intelligence.

I accomplish the objects of the invention by the mechanism illustrated in the accompanying drawings, in which—

Figure 1^a is a perspective view of my entire invention in operative position; Fig. 1, a top plan view of the polisher and motor detached from the chair and brush stands; Fig. 2, a side elevation of Fig. 1 with the dauber or blacking-brush substituted in place of the cleaning and polishing brush; Fig. 3, a detail, on a larger scale, of the adjustable arm of the machine carrying the dauber, showing the latter in longitudinal section; Fig. 4, a section on the line 4 4 of Fig. 1, and Fig. 5, a section on the line 5 5 of Fig. 4.

Like characters of reference indicate like parts throughout the several views of the drawings.

6 is a table or platform attached to the top of a column 7, which is supported by the legs 8 and bar 8^a, the latter extending to a frame, hereinafter to be described, on which the customer or person whose shoes are to be polished is seated. Mounted on the table 6 is the electric motor 9, of usual construction, and 10 is the cut-off by means of which the current of electricity to operate the motor is controlled. Mounted on the shaft 11 of the motor is the friction-wheel 12, having the

hub 13, against which the periphery of a larger friction-wheel 14 bears, so as to be rotatably driven from said hub. The wheel 14 is supported by the standard 15', which is bolted to the top of the table, as shown in Fig. 2.

15 is a slideway mounted on top of the table at right angles to the motor-shaft 11, and mounted in this slideway is the standard 16, having a bearing-box in which the shaft 17 is mounted. The inner end of the shaft 17 has the disk 18, and the disk has the annular lateral flange 19 on its side next to the motor large enough in diameter and deep enough to receive both of the friction-wheels 12 and 14, with a margin over in diameter, whereby when one of the friction-wheels is in contact with the inside of the flange the other wheel will not be in contact with the flange on the opposite side of said disk. It will be noted that friction-wheel 14 rotates in an opposite direction to wheel 12, and it follows, therefore, that a change in the order of the contact of said friction-wheels with the flange 19 will cause a change in the direction of revolution of the disk of which said flange is a part. The difference in diameter of the two friction-wheels will produce a corresponding difference in the rate of travel of said disk 18, according to which of said friction-wheels is in driving contact with disk-flange 19. A middle position with neither of the friction-wheels in contact with flange 19 will leave the disk in a state of rest. The change in contact between the disk-flange and the friction-wheels is secured by shifting the standard 16 in the slideway 15 by means of the lever 20. When the lever is toward the left or in the position shown in Fig. 1, the large wheel 14 is driving the disk 18 at its minimum speed. When the lever is in a position parallel with the motor-shaft 11, neither friction-wheel will be in contact with the disk and the latter will be at rest, and when the lever is thrown to the right the smaller friction-wheel will be in contact with the disk-flange and the disk will move at its maximum speed.

At the outer end of shaft 17 is the universal joint 21, and between this joint and a similar

joint 22 is an extension device comprising a pair of heads 23 and 24, connected by the parallel bars 25 25. The outer head 24 has a central opening through which a rod 26 is passed, and the inner end of rod 26 is secured to the head 27, having perforations through which the rods 25 are passed, the latter making a close sliding fit in said perforations of head 27. The two joints 21 and 22 allow free lateral adjustment, and the extension device just described permits of free adjustment in the length of the arm of which shaft 17 is a part to allow the dauber or the brush on the end of said shaft to be moved freely to cover all parts of a shoe. The rod 26, which with shaft 17 form an extensible arm, has the handle 28 and a sleeve 29 to form a shoulder to stop the brush or dauber, which is slipped upon said end. The particular kind of a brush or polisher used at a given time will depend on the work in hand. For cleaning muddy shoes or for polishing a blacked shoe a brush of bristles radiating from a central core will be preferable, but for polishing the finer grade of shoes a rubber or felt will be preferable to the bristles. A nut 30, screwing on the threaded end of rod 26, permits of ready removal and addition of proper kind of brush or polisher. For cleaning and polishing the brush or rubber should revolve very rapidly and the high speed of the machine is used, but for applying the liquid blacking or polishing material by the aid of my dauber, (shown in Figs. 2 and 3,) wherein centrifugal motion of too great a velocity would cause the liquid to deliver too rapidly, I require a slower speed of the machine and have provided the above-described means for securing the slow speed which is needed.

My dauber comprises the hollow chamber 31, in which the liquid to be applied to the shoe is introduced through the opening closed by screw-plug 32. Against the outer end of this chamber is the felt or other absorbent body 33, secured between the end of the chamber and the disk 34. The central opening 37 of body 33 is larger than sleeve 38, which passes through it in order to afford a channel for the distribution of the liquid matter which issues from the chamber through openings 39. This disk 34 has lateral inside marginal flange 40 to sink in the body 33 to engage and hold said body in position.

The friction-wheels 12 and 14 have peripheral faces 41, of rubber or other suitable material, to increase the friction.

I will now describe the frame for holding the operating-chair. 42 represents four standards, preferably made out of gas-pipe of suitable length, to elevate the chair 43, so as to be convenient to the operator—that is, so the operator will not have to bend over in a manner that will be tiresome. The standards have the horizontal boards 44, on which the chair is set, and the chair is securely bolted to the

boards by means of the bolts 45. 46 represents a pair of standards connected by bars 47 with the standards 42. The standards 46 have the horizontal cap-bar 48, from which the brackets 49 49 are suspended. The bracket-plates 50 50 have upward extensions 51 to engage the heels of the customer's shoes. The legs of the customer will rest in the notches 52 of the cap-bar 48. The bars 47 afford support for the horizontal footboard 53.

The standards 46 both have the threaded T-irons 54 54, in one of which the threaded end of the bar 8^a is removably secured. The bar 8^a is cranked, as shown, so as to make room for the operator in front of the chair. By loosening the end of bar 8^a and turning same to the position shown in the dotted lines in Fig. 1^a the outfit will be adapted for the convenient use of a right-handed operator, the device as shown in the drawing being set for a left-handed person. Connected with the bar 8^a is the standard 55, the lower end of which extends down and rests upon the floor. The opposite or upper end has the horizontal plate 56, which gives support to a pair of hooks 57, in which the handle 28 of the polishing-shaft is laid when not in use. The top of the plate forms a convenient receptacle for the dauber or cleaning or polishing brush when not in use.

58 is a pin on which the cleaning or polishing brush is placed and 59 a cup in which the dauber is placed, the walls of the cup forming a protection to keep the dauber from drying out too rapidly.

Having thus fully described my invention, what I claim as new, and wish to secure by Letters Patent, is—

1. A pair of wheels revolving in opposite directions, a disk having an annular flange adapted to be engaged by either of said wheels, and a shaft having a universal adjustment connected with said disk and rotated thereby.

2. A pair of wheels revolving in opposite directions, a disk having an annular flange adapted to be engaged by either of said wheels, and an arm adjustable in its length having also universal lateral adjustment, connected with said disk and rotated thereby.

3. A pair of oppositely-revolving friction-wheels, a shaft adjustable in its length having universal lateral adjustment, a disk on the inner end of said shaft having an annular side flange, said friction-wheels being within said flange, and means for laterally adjusting said flanged disk.

4. A motor, a motor-shaft, a friction-wheel mounted on the motor-shaft, a second friction-wheel larger in diameter than the first mounted adjacent to said first wheel and operated by contact with the hub of said first wheel, a slideway, a standard mounted therein so as to have sliding adjustment, a lever for adjusting said standard, a second shaft revolubly mounted in the standard, an annularly-flanged disk

mounted on the shaft said flange surrounding the two friction-wheels and adapted to be brought into alternate frictional contact with said wheels, said second shaft having a pair of universal joints, an extension device between said joints and a portable support for said mechanism comprising a plurality of stands rigidly connected so as to be interdependent.

5. A revoluble friction-wheel, a second friction-wheel larger in diameter than the first mounted adjacent to said first wheel and operated by contact with the hub of said first wheel, a slideway, a standard mounted therein so as to have sliding adjustment, a lever for adjusting said standard, a second shaft revolubly mounted in the standard, an annularly-flanged

disk mounted on the shaft said flange surrounding the two friction-wheels and adapted to be brought into alternate frictional contact with said wheels, said second shaft having a pair of universal joints, an extension device between said joints, and a portable support for said mechanism comprising a plurality of stands rigidly connected together so as to be interdependent in forming said support.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 8th day of January, A. D. 1903.

FREDERIC A. CURTIS. [L. s.]

Witnesses:

F. W. WOERNER,
J. A. MINTURN.