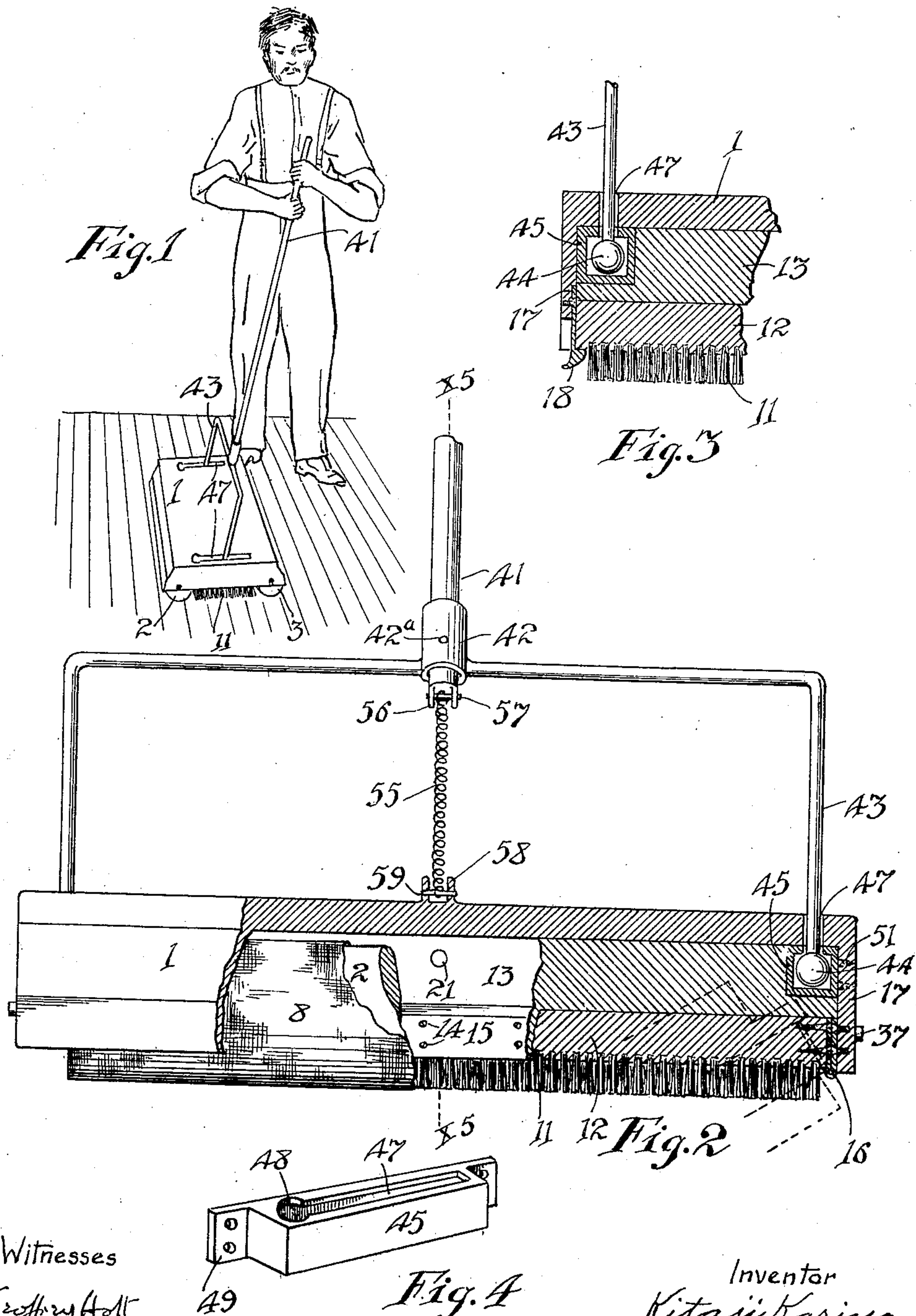


K. KARIYA.  
FLOOR WAXER AND POLISHER.  
APPLICATION FILED NOV. 23, 1908.

922,148.

Patented May 18, 1909.

2 SHEETS—SHEET 1.



Witnesses  
Geoffrey Holt  
w. J. Clinton

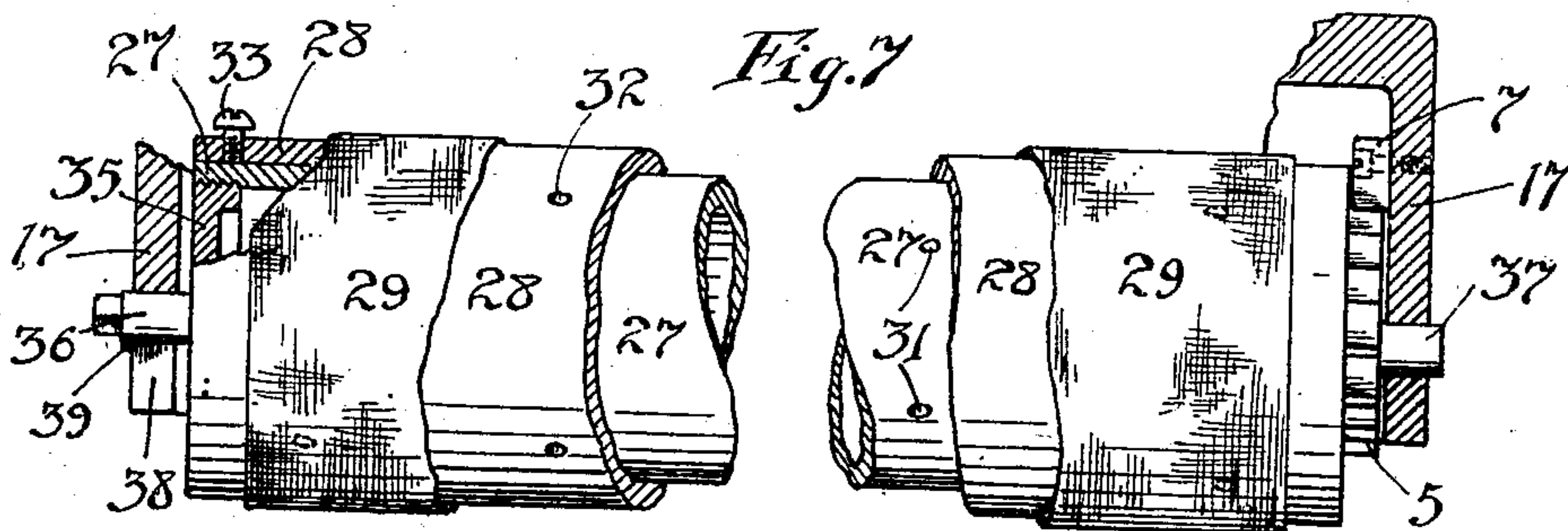
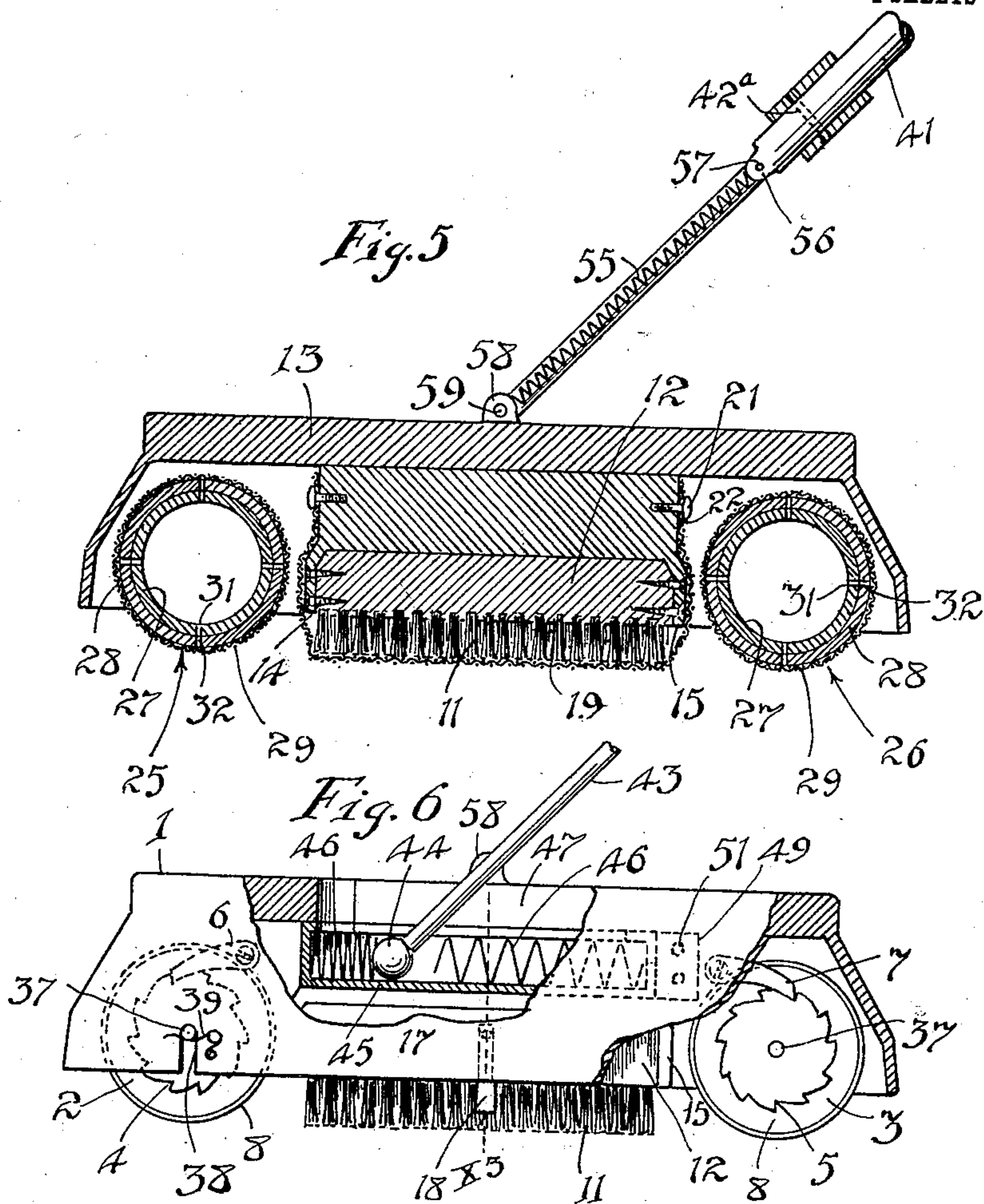
Inventor  
Kitaji Kariya  
By Albert H. Merrill  
Attorney.

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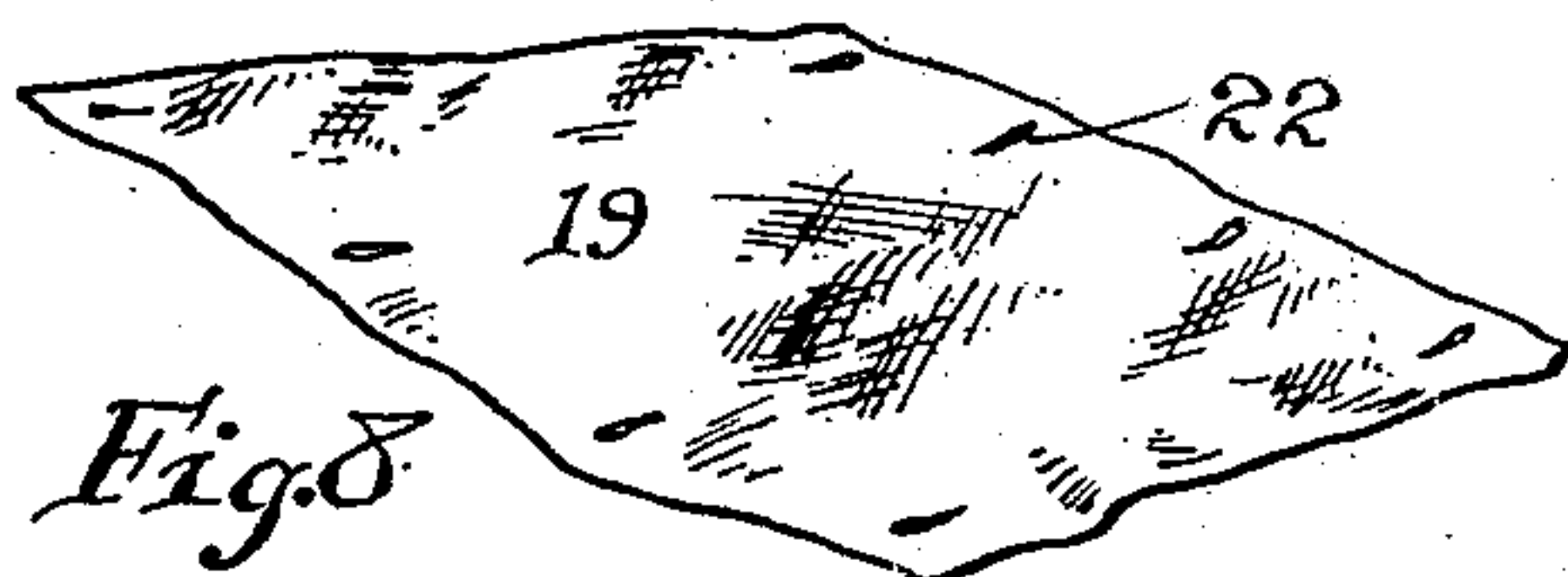
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2 SHEETS—SHEET 2.



Witnesses  
Geoffrey Holt.  
W. L. Cleveland



Inventor  
Kitaji Kariya  
By Albert H. Merrill  
Attorney



# UNITED STATES PATENT OFFICE.

KITAJI KARIYA, OF LOS ANGELES, CALIFORNIA.

## FLOOR WAXER AND POLISHER.

No. 922,148.

Specification of Letters Patent.

Patented May 18, 1909.

Application filed November 23, 1908. Serial No. 464,190.

*To all whom it may concern:*

Be it known that I, KITAJI KARIYA, a subject of the Emperor of Japan, residing in the city of Los Angeles, county of Los Angeles, State of California, have invented a new and useful Floor Waxer and Polisher, of which the following is a specification.

This invention relates to a combined waxing and polishing device for waxing and polishing the surfaces of floors and is adapted for being manually operated in a convenient manner.

Among the objects of the invention are to provide means for attaching the operating handle in a manner to admit of the appliance being effectively operated without unnecessary expenditure of the operator's strength, to provide a simple appliance with means for conveniently attaching or detaching either waxing or polishing parts at will; to provide means for changing the polishing fabric to a material possessing a finer texture as the polishing of a floor progresses, and to provide means for evenly distributing the wear upon the surface of the polishing rollers.

With the foregoing and other objects in view, the invention consists in the various features, combinations of parts, and details of construction hereinafter described in connection with the accompanying drawings, and then more particularly pointed out and defined in the claims.

Referring to the accompanying drawings, which illustrate the invention in the embodiment thereof at present deemed preferable,—  
Figure 1 is a perspective view of the appliance illustrating the method of operating the same. Fig. 2 is a view thereof partly in side elevation and partly broken away, the greater number of parts being removed from the right hand portion of the view. Fig. 3 is a fragmental sectional detail on line  $x^3$  of Fig. 6 illustrating the catch for holding the brush-carrying member in closed position.  
Fig. 4 is a perspective detail of a portion of the means for attaching the operating handle. Fig. 5 is a transverse section on line  $x^5$  of Fig. 2. Fig. 6 is an end elevation partly broken away. Fig. 7 is a broken side elevation showing the structure of one of the waxing rollers. Fig. 8 is a perspective of the polishing cloth.

Referring first to Fig. 6 of the drawings,—within a downwardly opening shell or frame 1, are mounted polishing rollers 2 and 3 provided with reverse ratchets 4 and 5 fastened,

desirably, to one end of each roller, said ratchets being engaged by reverse pawls 6 and 7, by reason of which arrangement one roller is rendered non-revoluble and the other rotary whichever way the polisher is moved across the floor. The polishing is done partly by the carpeted or cloth-covered portion 8 of whichever roller is held non-rotatable by its pawl and ratchet. As the pawls will seldom drop back of the same teeth twice in succession, a new portion of the periphery of each roller is nearly always brought into contact with the floor when the direction of movement of the appliance is reversed. The entire peripheral surface of each roller is therefore subjected to substantially the same amount of wear.

In order to assist in the polishing, a brush 11 is provided. Said brush is furnished with a backing 12 fastened to a brush-carrying member 13, desirably by means of screws 14 which pass through downwardly extending flanges 15, one at each side of said member 13. The brush-back 12 and member 13 thus fastened together form a body which is hinged at one end thereof by hinges 16 (see Fig. 2) to the inner side of one of the end flanges 17 of the shell 1. The other end of said body is releasably held by a catch 18, shown in Fig. 3. The brush may, therefore, be swung out of the shell to allow a polishing cloth 19 to be fastened over the brush by means of attaching means such as the buttons 21 with which the brush-carrying member is provided.

22 designates button-holes through the polishing cloth.

The waxing rollers 25 and 26 each comprise an inner tube 27, an outer tube 28 and a cloth covering 29 through which the melted wax may percolate and by which it is distributed. The inner tubes 25 are provided with longitudinal rows of wax-distributing perforations 31 adapted to register with corresponding perforations 32 in the outer tubes 28.

33 is a set screw for holding the tubes in the circumferential position to which it is desired to adjust them with relation to each other.

35 is a screw closure cap applied to one end of each inner tube 27. Said cap may be turned by applying a wrench to the squared end of trunnion 36 which is formed as a part of the cap. It is necessary to remove and replace the cap when the roller is supplied



with the liquid wax. 37 designates the trunnion at the other end of the roller.

38 are slots cut into the lower edges of the end wall 17 at one end of the appliance to provide for removing and replacing the various rollers.

39 are retaining springs to prevent accidental displacement of the rollers.

The operating handle 41 is fastened to a yoke or bifurcated member 42 by means of a pin 42<sup>a</sup>. Said yoke has arms 43 provided with knobbed ends 44. Each knob 44 plays within a tubular guide 45 between springs 46 which tend to maintain said knob at the center of said guide. The upper wall of the guide is provided with a slot 47 having an enlargement 48 at one end to provide for insertion of the knob. Each end of the guide may be provided with an ear 49 through which extend screws 51 to fasten the guides to the inner sides of the end walls 17. The lower end of handle 41 is connected between its branches with frame 1 by a tension spring 55 made fast to the handle by upper lugs 56 and a pin 57, and held to the frame 1 by lugs 58 and a pin 59.

The framework of the device is preferably made of metal excepting the backing 12 of the brush.

In assembling the parts, the guides are fastened in place before the other inside parts are attached.

To fill a waxing roller with wax or other coating material, remove the roller by forcing the trunnion 37 past the retaining-spring 39. Then apply a wrench to the squared end of the trunnion and unscrew cap 35. This done, insert the coating material through the open end of the roller and then replace the cap. After the cap has been screwed tightly in place within the end of the inner tube and set-screw 33 loosened, the wrench can be used to adjust the inner and outer tubes circumferentially with relation to each other to regulate the flow of the coating material through apertures 31 and 32. After the waxing rollers have been replaced in the frame and a coat of wax distributed upon the floor, the waxing rollers can be removed and the polishing rollers put in their place for polishing the waxed surface.

The appliance is most conveniently and effectively operated by moving the same across the floor from left to right and vice versa, the operator preferably assuming the position illustrated in Fig. 1. When the device approaches its extreme of travel toward one side, the rearward spring of springs 46 is compressed by reason of the inertia tending to continue the movement of the device. The springs in the guides stop the movement more gradually, thereby preventing unpleasant or fatiguing jerks upon the arms of the operator. The springs also cause a rebound thus producing a more quick return

movement causing the work to proceed more rapidly.

I claim:

1. In a device of the character described, a frame or shell, a brush, a brush-carrying member, said member being movable into and out of the interior of said frame or shell, a polishing cloth, and means for removably attaching said cloth to said member to cover said brush.

2. In a device of the character described, a frame or shell, a brush, a brush-carrying member, means for hinging said member to render the same movable into and out of the interior of said shell or frame, a polishing cloth, and means for removably attaching said cloth in position to engage between said brush and the floor.

3. In a device of the character described, a plurality of polishing rollers, a frame whereon said rollers are mounted, means for moving the device across a floor, and means operatively connected with a roller to hold it non-rotatable when the device is moved in one direction and allow it to rotate when the device is moved in the reverse direction.

4. In a device of the character described, a frame, a polishing roller mounted thereon, and a pawl and ratchet operatively connected with said roller to hold the same non-rotatable when the device is moved in one direction, said pawl allowing the roller to rotate when the device is moved in the reverse direction.

5. In a device of the character described, a frame, a pair of polishing rollers mounted thereon, and means for alternately holding each roller non-rotatable while the other rotates during the reciprocation of the device across a floor.

6. In a device of the character described, a frame, rollers mounted thereunder, a handle to reciprocate the device, said handle being pivotally connected thereto to swing from side to side thereof, and resilient attaching means for said handle to give the same a limited extensibility with relation to said frame.

7. In a device of the character described, a frame, polishing means carried thereby, a handle to reciprocate the device across a floor, a guide mounted on said frame, said handle being provided with a portion connected with said guide to move along the guide, and resilient means tending to move said portion of the handle toward the center of said guide.

8. In a device of the character described, a frame, polishing means carried thereby, a handle to reciprocate said frame across the floor, a tubular guide mounted on said frame, said handle being provided with an end portion engaging within said guide and movable therealong, springs within said guide tending to center said portion of the handle therein.



9. In a device of the character described, a frame, a waxing roller, a polishing roller, and means for removably attaching said rollers to said frame, said means permitting the removal of either of said rollers and the attachment of the other in its place.

10. In a device of the character described, a frame, polishing means thereunder, and a bifurcated handle for reciprocating said device along a floor, each branch of said handle being yieldingly connected with said frame, and a spring connecting said handle with the

frame at a point between the bifurcations thereof.

In testimony whereof I have hereunto signed my name in the presence of two subscribing witnesses at Los Angeles, in the county of Los Angeles and State of California, this 14th day of November 1908.

KITAJI KARIYA.

Witnesses:

ALBERT H. MERRILL,  
W. L. OLENLAUD.