June 19, 1934. L. E. MATTOON 1,963,139

ELECTRICALLY OPERATED MOP

Filed June 6, 1933 2 Sheets-Sheet 1

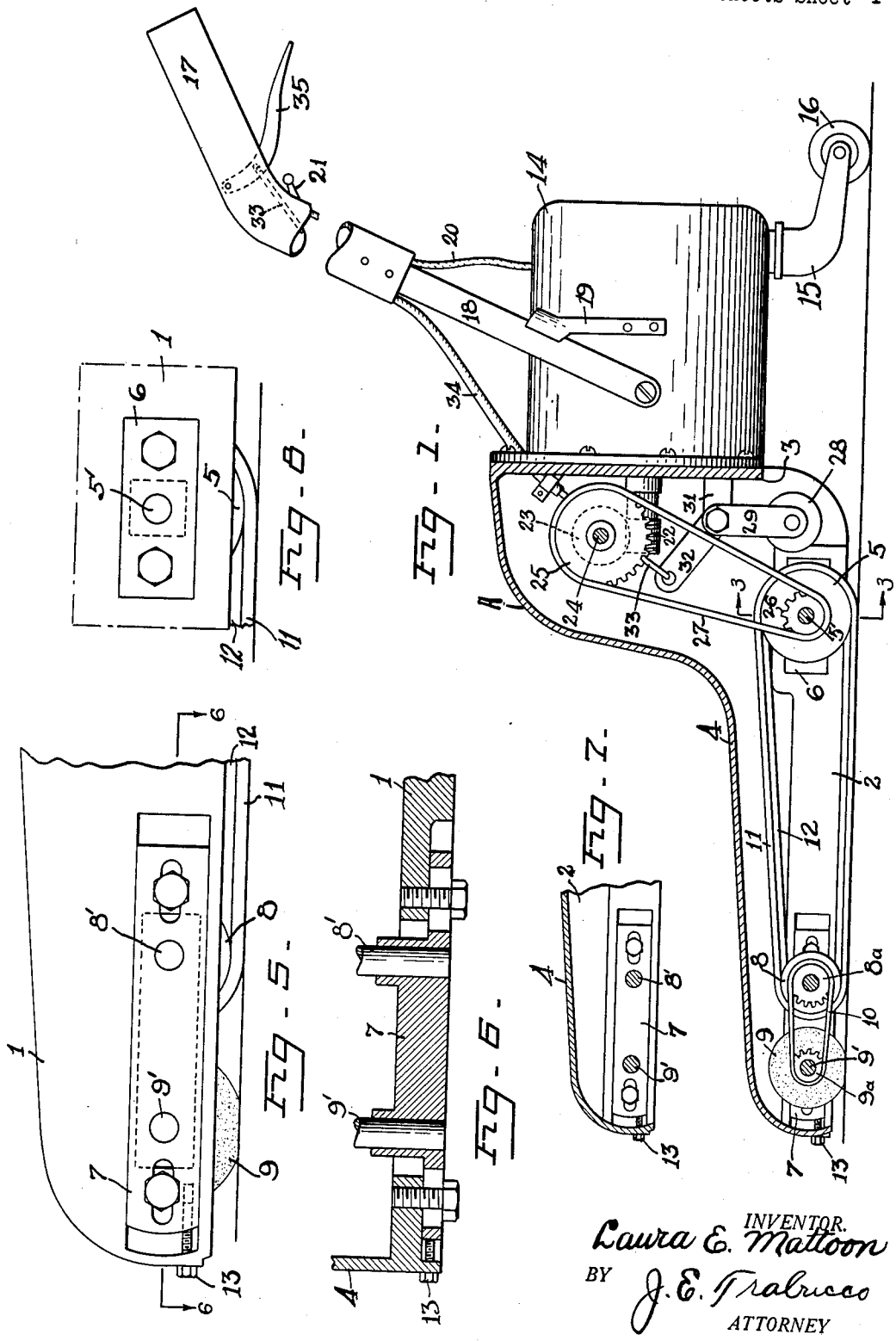


Fig. 1.

Fig. 8.

Fig. 5.

Fig. 6.

Fig. 7.

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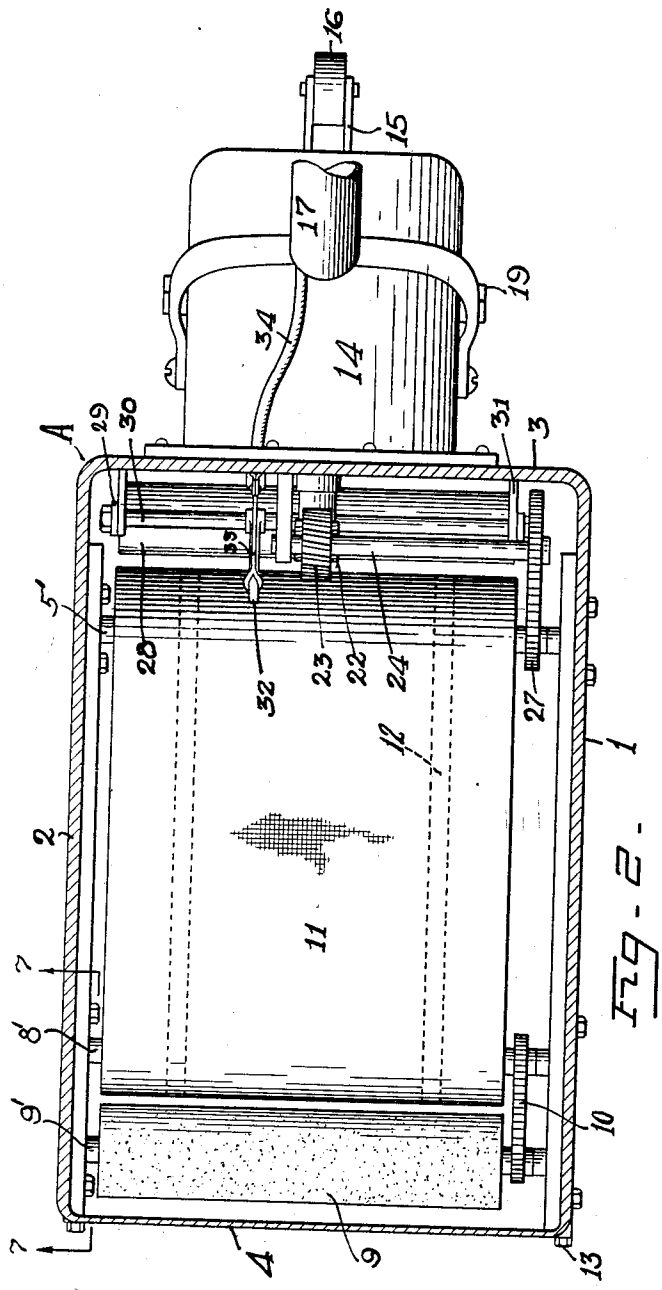


Fig. 2.

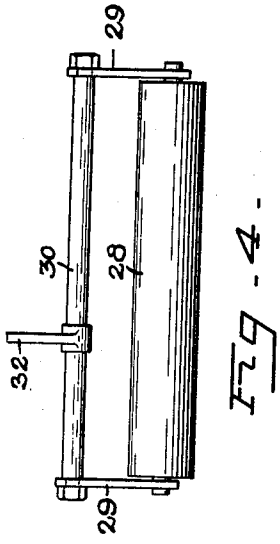


Fig. 4.

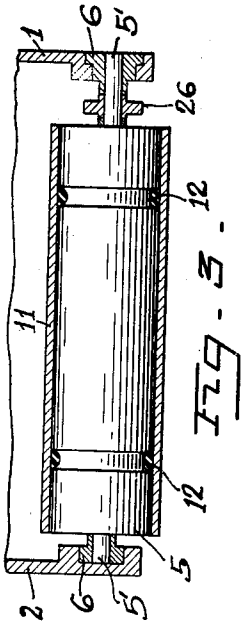


Fig. 3.

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Patented June 19, 1934 1,963,139

UNITED STATES PATENT OFFICE

1,963,139

ELECTRICALLY OPERATED MOP

Laura E. Mattoon, San Francisco, Calif.

Application June 6, 1933, Serial No. 674,534

2 Claims. (Cl. 15—51)

This invention relates to improvements in electrically operated floor mops.

An object of my invention is to provide a device of the kind characterized in which is embodied an endless floor mop having novel electrical operating mechanism associated therewith.

Another object of my invention is to provide an electrically operated floor mop having novel roller means, conveniently controlled by a lever on the handle, for causing excessive quantities of water to be pressed therefrom.

A further object of my invention is to provide a device of the kind characterized, embodying adjustable means for regulating and providing the proper tension on an endless mop which is adapted to be operated over a floor surface by electrically actuated mechanism.

Other objects more or less apparent will present themselves or will be specifically pointed out in the description to follow.

In the accompanying drawings:

Fig. 1 is a vertical longitudinal sectional view of an electrically operated floor mop constructed in accordance with my invention;

Fig. 2 is a horizontal sectional view of my improved floor mop;

Fig. 3 is a sectional view taken on the line 3—3 of Fig. 1;

Fig. 4 is a front view of the roller means employed to squeeze excess water from the endless mop;

Fig. 5 is a side view of a portion of the device, showing the adjustable and detachable means for mounting one of the rollers over which the endless mop extends.

Fig. 6 is a sectional view taken on the line 6—6 of Fig. 5;

Fig. 7 is a sectional view taken on the line 7—7 of Fig. 2;

Fig. 8 is a side view of a portion of the device, showing the detachable means mounting the axle of the other roller over which the endless mop extends.

Referring to the drawings a suitably shaped frame or housing, generally designated by the letter A, is comprised of side walls 1 and 2, a rear wall or panel 3 and a top cover 4. Mounted in a block 6 bolted to the side wall 2, in close proximity to the bottom edge thereof, is the axle 5' of a roller 5. The axle 5' is mounted at its opposite end in a similar block 6 which is secured by suitable bolts within an opening provided in the side wall 1. Rotatably mounted at its ends within adjustable plates 7 which are secured in place by suitable bolts within slots and guides provided in the side walls 1 and 2, is the axle 8' of a roller 8. Also rotatably mounted at its ends in the adjustable plates 7, is the axle 9' of a cleaning device or roller 9. The cleaning device 9 is positioned in front of the roller 8, and sprockets 8a and 9a secured respectively to axles 8' and 9' over which extends a chain 10, serve as means for causing the rotation of the brush 9 when the roller 8 is rotated. Extending over the rollers 5 and 8 is an endless mop 11, made preferably from a suitable cloth material. Also extending over the rollers 5 and 8 are endless rubber bands 12, which tend to serve as additional means for transmitting rotary motion from the roller 5 to the roller 8.

In order to provide convenient means for adjusting the relative positions of the rollers 5 and 8 so as to maintain a proper tension on the endless mop 11, I have provided a pair of set screws 13 at the front end of the frame. The set screws loosely extend through the cover 4 of the frame and screw into the plates 7. When the bolts which normally maintain the plates 7 in their fixed positions are unloosened, the set screws may be manipulated to move the said plates either backwardly or forwardly to thereby cause the roller 8 to be moved toward or away from the roller 5. The proper adjustment of the roller 8 with reference to the roller 5 causes the proper tension to be applied to the endless mop 11.

Secured as by screws to the rear side 3 of the frame is an electric motor 14 which has a pivoted bracket 15 affixed thereto for supporting purposes. The bracket 15 carries a roller 16 which enables the device to be conveniently shifted as it is propelled over a floor surface. A tubular handle 17 is pivotally attached by means of a yoke 18 to the motor 14, and supporting bars 19 affixed to the said motor serve to provide a back rest or a prop for the handle. The motor is suitably connected by wires 20 to a switch 21 provided at the upper end of the handle.

The motor shaft is provided at its forward end with a worm gear 22 which meshes with a gear 23 secured on a shaft 24. The shaft 24 is rotatably mounted on suitable supports secured to the frame, and a sprocket 25 also secured to the said shaft is caused to rotate when the motor is operating. The axle 5' of the roller 5 is provided with a sprocket 26, and an endless chain 27 extending over the sprockets 25 and 26 serves to transmit rotary motion from 25 to 26, thereby causing the roller 5 to be rotated. The rotation of the roller 5 in a counter-clockwise direction causes the endless mop 11 to be actuated in such

a manner that the device is carried or moved in a forward direction. The rotation of the roller 8 through the instrumentality of the mop and rubber bands 12, causes the chain 10 to be actuated so as to cause the rotation of the device 9.

In ordinary practice the front end of the device is immersed in a water holding receptacle when it is desired to cleanse the mop 11. In order to cause excessive quantities of water to be wrung or pressed from the mop after it has absorbed the water from the surface of a floor or has been immersed in a cleansing bath, I have provided a roller 28 and actuating means therefor which enables the said roller 28 to be firmly forced toward the roller 5 and against the mop while the said mop is being actuated over the said roller 5. The axle of the roller 28 is rotatably hung at ends of side bars 29. The opposite ends of the side bars 29 are rigidly secured to a cross rod 30 which is rotatably mounted on supports 31 secured to the rear side 3 of the frame. A lever 32 is rigidly secured to the cross rod 30, and a wire 33, extending through a tubular covering 34 leading to the handle 17, connects the lever 32 with a manipulating lever 35 located at the upper end of the handle. By pulling the manipulating member 35 upwardly the roller 28 is moved toward the roller 5 and against the mop 11, thereby permitting excess quantities of water to be pressed from the said mop as it is being actuated over its associated rollers.

It is to be noted that the mop may be removed from its rollers 5 and 8 by removing the retaining bolts from the side wall 1 of the frame and allowing the block 6 and plate 7 located in the said side wall, to be detached. The rollers 5 and 8 when not supported by the detached plate and block, are allowed to be removed from the frame, thereby enabling the endless mop to be taken from the said rollers, and replaced if so desired.

In operation, while the motor is causing the movement of the mop over its associated rollers, the apparatus is moved over the floor to be cleaned or dried, whereupon the cleaning device or roller 9 operates to clean the surface, moving the dirt or moisture rearwardly to be later gathered by the mop.

If it is so desired, the front end of the frame may be constructed in such a manner that the front brush 9 is permitted to come directly in contact with the corners and side walls of a room. There are various other changes possible in regard to such details of construction as those which concern the means for adjusting the relative positions of the various rollers, the means for transmitting motion from the motor to the endless mop, and the shape and construction of the frame. It is therefore to be understood that the claims are to be considered as defining the scope of my invention rather than the exact construction shown on the drawings.

Having described my invention what I claim is:

1. In a mop, a frame, a pair of spaced rollers mounted in said frame, electrically operated means for rotating one of the rollers, an endless mop extending over the rollers in contact with a supporting surface, means for adjusting the position of one of the rollers, whereby the tension on the mop may be regulated, a third roller supported on the frame and normally located adjacent to but in parallel spaced relation with respect to one of the first mentioned rollers, means for moving the said third roller toward its said adjacent first mentioned roller, whereby the said third roller may be brought into contact with the mop, and a manually operated lever for actuating the said means.

2. In a mop, a frame having side walls and a rear wall, a pair of spaced rollers mounted between the side walls, an endless mop extending over the rollers and adapted to contact with a supporting surface, an electric motor secured to and extending rearwardly from the rear wall of the frame, a caster secured to the motor and adapted to engage with the supporting surface, means operatively connecting the motor and one of the rollers, a handle pivotally attached to the motor, means for pressing water from the mop, and a manipulating lever on the handle for operating the said means.

LAURA E. MATTOON.