

G. W. GOODIER.
FLOOR DUSTER AND POLISHER.
APPLICATION FILED SEPT. 10, 1906.

899,726.

Patented Sept. 29, 1908.

2 SHEETS—SHEET 1.

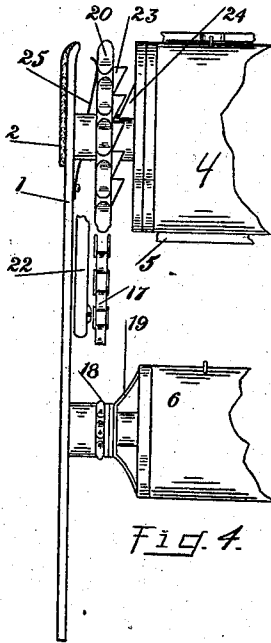


Fig. 4.

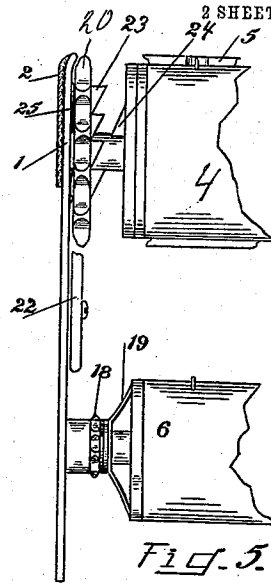


Fig. 5.

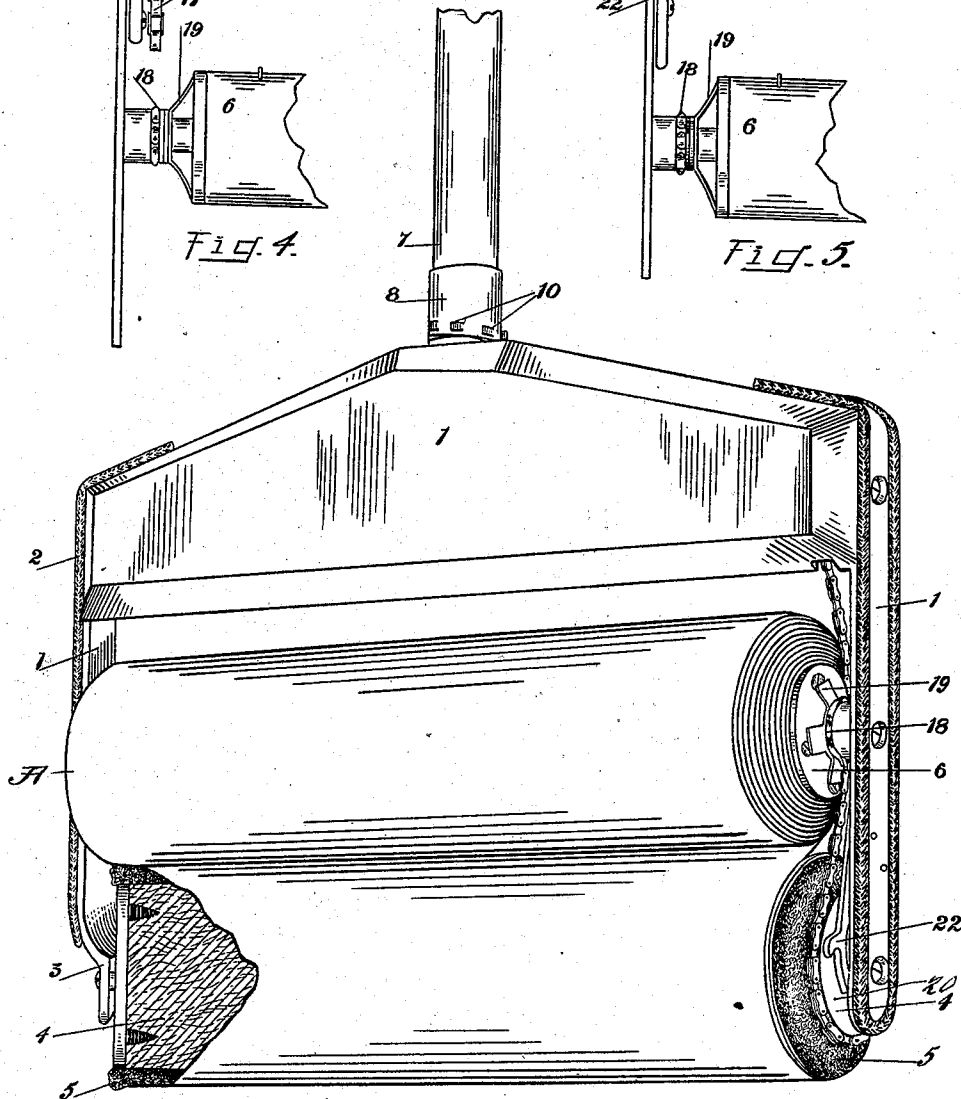


Fig. 1.

WITNESSES

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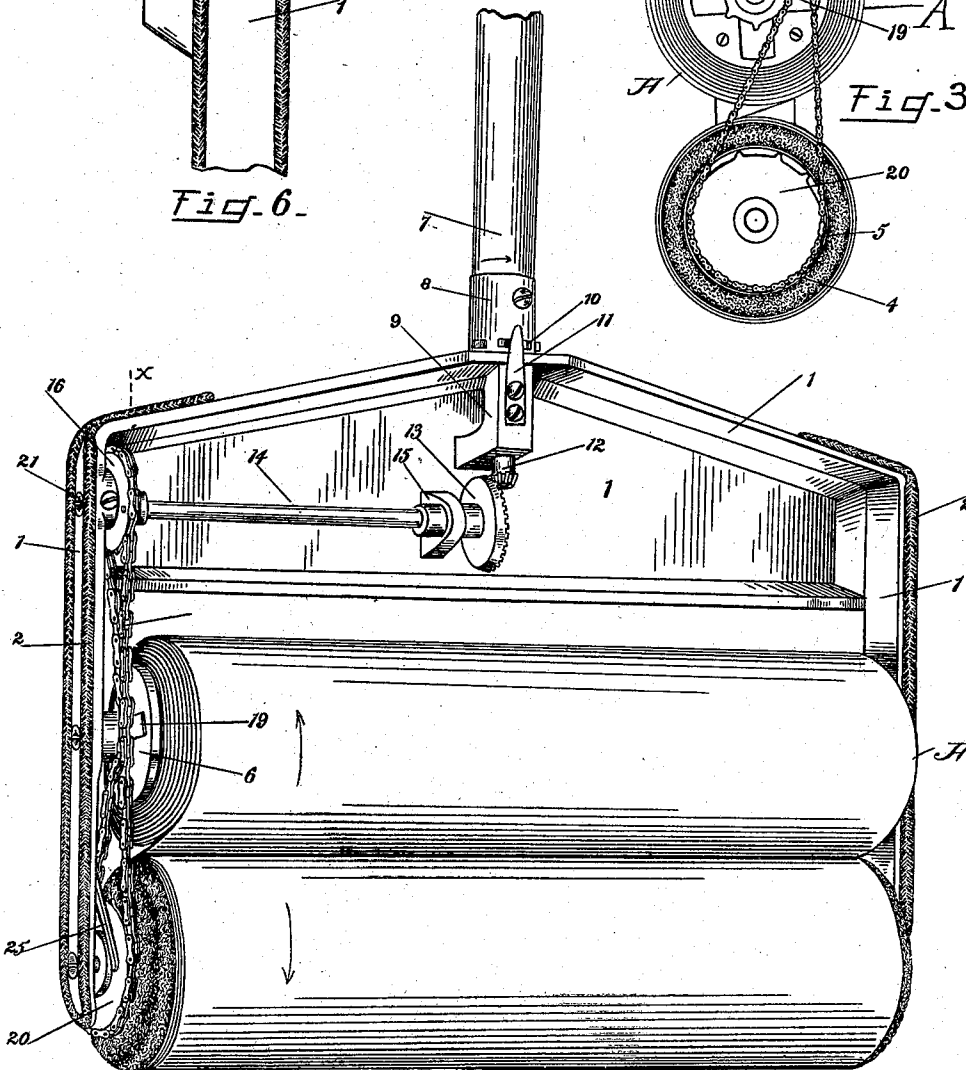
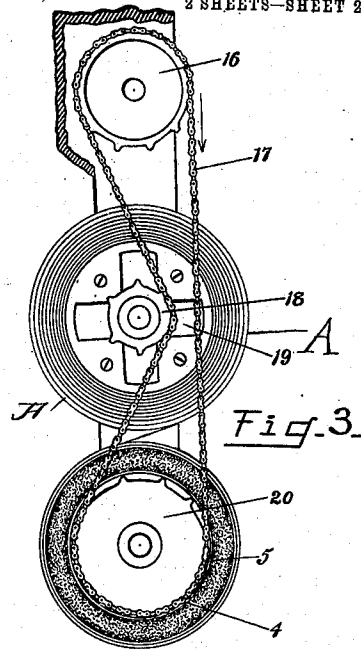
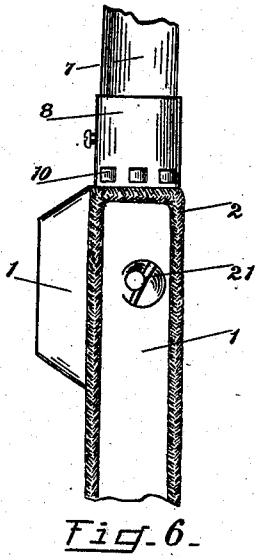
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ATTORNEYS

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2 SHEETS—SHEET 2.



WITNESSES
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UNITED STATES PATENT OFFICE

GEORGE WM. GOODIER, OF UTICA, NEW YORK, ASSIGNOR TO HYGIENIC FLOOR MACHINE COMPANY, OF UTICA, NEW YORK.

FLOOR DUSTER AND POLISHER.

No. 899,726.

Specification of Letters Patent.

Patented Sept. 29, 1908.

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To all whom it may concern:

Be it known that I, GEORGE WM. GOODIER, a citizen of the United States, residing at Utica, in the county of Oneida, and State of New York, have invented certain new and useful Improvements in Floor Dusters and Polishers, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to an improved floor duster and polisher, and I declare that the following is a full, clear, concise and exact description thereof sufficient to enable one skilled in the art to make and use the same, reference being had to the accompanying drawings in which like letters and numerals refer to like parts throughout.

My device comprises a mechanism having a frame and a handle, the frame being provided with two rollers which are operated by the turning of the handle, and a cloth being mounted on the rollers and adapted by the turning of the same to be passed from one roller to the other.

The detail of the construction and the method of operating the device will be pointed out in the specification and illustrated in the drawings.

In the drawings Figure 1 is a front view of the device, one end of the floor or forward roller being shown in section. Fig. 2 is a back view. Fig. 3 is a partial side view on the line $x-x$ of Fig. 2. Fig. 4 is a front view of the ends of the rollers showing details of construction at the end of the front or floor roller, and Fig. 5 is a like view of these parts in different position. Fig. 6 is a detail view of the mounting of the sprocket-wheel.

The device consists of a frame 1 comprising a head piece and two lateral extensions between which are mounted the rollers which carry the cloth A or other cleaning material. The exterior of the frame is bound around certain parts with a guard or rubber 2 for the protection of the furniture, and the forward end of the righthand section of the frame is bent inward, as at 3, so that the bearing on the roller is sunken within the end of the roller which is made up, in this instance, of the core 4 of wood or other suitable material with a suitable cap for the mounting at each end, and is covered with a thickness of felt 5 or other soft material, which at the end referred to projects beyond the cap, as indicated in Fig. 1, to protect the mop-board or

the furniture from marring by the frame as the cleaner is passed to and fro. The other roller, 6, is likewise of wood, having suitable caps for the mounting at each end. These rollers are suitably revolubly mounted in the frame.

The handle 7 is mounted in a ferrule 8 which has a stud which extends through the frame 1 and block 9 revolubly supporting the ferrule and stud. The ferrule is provided with inclined steps 10 against which the spring 11 engages to permit the handle and ferrule to be turned in one direction only, as indicated in Fig. 2. The stud which extends through block 9 carries the beveled pinion 12 which engages the beveled gear 13 mounted on the shaft 14 which is supported on block 15 and in the frame, carrying at the end adjacent to the frame the sprocket-wheel 16 which carries the chain 17. The journal at one end of the roller 6 loosely carries a sprocket-wheel 18 and a spring 19 which bears against the wheel and the cap on the roller, whereby the wheel, when actuated by the chain, turns the roller through friction of the spring, but which friction may be overcome when the front roller is fast so that it cannot pay off any cloth. On one end of the roller 4 is a sprocket-wheel 20 on which the chain also rides, so that as the handle is turned in the direction indicated in Fig. 2 it normally turns the rollers 6 and 4 in the direction indicated in that figure.

The mounting of the sprocket-wheel 16 is adjustable to permit changing the tension of the chain.

21 is a screw-headed journal bearing in the frame, held in position by any suitable means such as a set-screw in the frame (Fig. 2). This journal bearing has a bore eccentric to its axis in which passes the shaft 14 on which the sprocket-wheel 16 is fixed. As the bore is eccentric the turning of the journal bearing changes the tension of the chain on wheel 16.

The sprocket-wheel 20 is loosely mounted on the journal at one end of roller 4 which is longer than the hub of wheel 20 to allow space between the wheel and the frame for swing latch 22. The opposite face of the sprocket-wheel has laterally projecting ratchet teeth 23 arranged around the wheel, and the cap on the end of roller 4 has one or more teeth 24 to engage the teeth 23.

25 is a spring pressing sprocket-wheel 20 into said engagement. The latch 22 nor-

mally occupies the space between wheel 20 and the frame thereby keeping the wheel against the cap which carries tooth 24, but it may be raised up and the sprocket-wheel pressed out of engagement, as indicated in Fig. 5, when the front or floor roller is free to turn in either direction for adjusting the cleaning cloth.

In operation the cloth is at first wound on the ground or floor roller. This may be conveniently done by laying the cloth on the floor and bringing the near end up between the rollers and fastening it by suitable means provided thereon for that purpose, such as hooks *a*. The machine is then passed or rolled over the cloth which gathers it onto the floor roller, when the other end is secured to the upper roller by like hooking means. The cloth being then on the forward roller, the device is passed over the surface to be cleaned and when the portion of the cloth in contact with the floor has become soiled the handle is turned to the left. This turns shaft 14 and sprocket-wheel 16 to the right as seen in Fig. 3. This turns the floor or lower roller in a right-hand turn as seen in that figure and the upper one in a left-hand turn winding the cloth on the upper roller. The friction between the sprocket 18, spring 19 and roller 6 operates to turn that roller. Since the latch 22 is down and sprocket-wheel 20 thus crowded against the end of roller 4 the teeth 23 engage with teeth 24 and turn the roller because of the closeness of contact and not because the right surfaces of the several teeth lock them together, those teeth being arranged as they are to prevent roller 4 from turning and unwinding the cloth when the machine is drawn backward.

It is obvious that as the cloth passes from one roller to the other the rate of speed with which each roller turns varies, instead of being even as would be the case if they were constantly of the same size. The sprocket-wheel 18 is, therefore, adapted to turn roller 6 at a maximum rate, but the spring friction of that sprocket on the roller is provided so that when the floor roller turns at less than the maximum rate the upper roller will turn only as fast as the cloth is given off from the lower roller and not at the rate which the sprocket-wheel 18 turns. When the cloth has all been passed to the roller 6 it may be rewound on the forward or floor roller by swinging the latch 22 out of place and turning the forward or floor roller in the opposite direction, or by pushing the machine over the floor the teeth on the cap at the end of that roller riding over the lateral teeth on the sprocket-wheel 20. If instead of rewinding the cloth on the forward roller it is desired to remove it for cleaning it may be unhooked from the forward roller and pulled from the upper roller.

Having described my invention, what I

claim as new and desire to secure by Letters Patent, is:

1. A cleaning machine comprising a frame, a handle attached thereto, rollers journaled in the frame, a cloth attached to the rollers, means mounted between the handle and the rollers for actuating the rollers by rotating the handle whereby the cloth is wound from one roller onto another, in combination substantially as set forth.

2. In a cleaning apparatus, a handle, a frame mounted on the end thereof, rollers journaled therein, the front roller comprising a wooden core and a pliable covering extending at one end beyond the core to conceal the bearing of said roller within the end of said covering, a cleaning material removably attached to and adapted to be wound between the rollers, and means for actuating and controlling the rollers simultaneously by turning the handle, in combination substantially as set forth.

3. In a cleaning apparatus, a frame, a handle, rollers journaled in the frame, cloth removably attached to the rollers and adapted to pass from one to the other, means for turning the rollers by rotation of the handle, one of them having a friction engagement with said means whereby the speed of said roller may be conformed to the rate of revolution of the other roller, in combination, substantially as set forth.

4. In a cleaning machine, a frame, rollers removably journaled therein, a handle, a cleaning fabric wound on the rollers, operative connections between the rollers and the handle for turning the rollers by rotation of the handle, the said connections comprising means whereby, in the winding of the cloth, the speed of one roller is graduated to the speed of the other roller, in combination, substantially as set forth.

5. In a device of the character described, a plurality of rollers, one of the same being constructed with a wooden core shorter than the other roller and having a covering of pliable material extending at one end beyond the wooden core and making the rollers of equal outside length, a frame supporting the said cores and a cleaning material removably attached to the rollers and adapted to be wound from one roller to another, and means for actuating the rollers and controlling their rate of revolution to wind the cloth from one to another, substantially as shown.

6. A floor cleaning machine comprising a frame, rollers journaled therein, a handle, means operative by turning the handle for turning the rollers, said means comprising a friction engagement with one roller whereby it may operate at a reduced rate of revolution in combination, substantially as set forth.

7. In a cleaning apparatus, a handle, a frame, rollers journaled therein, the front

roller comprising a shortened wooden core and a pliable covering thereon of the same length as the other roller, the adjacent end of the frame being bent inward to support said roller by its core, a cleaning material removably attached to and adapted to be wound between the rollers, and means for turning the rollers and controlling their speed to wind the cloth from one to the other, in combination, substantially as set forth.

8. A cleaning machine comprising a frame, a handle rotatably mounted thereon, rollers mounted in the frame, a cleaning fabric wound on one roller having its end attached to the other roller and means operative by turning the handle to turn the latter roller to wind the cloth thereon, the former roller being connected with said means by a friction member whereby its rate of revolution may be altered to correspond with the rate of the former roller, in combination, substantially as set forth.

9. A cleaning machine comprising a frame, a handle rotatably mounted thereon, rollers mounted in the frame, a cleaning fabric wound on one roller having its end attached to the other roller, means operative to turn the rollers by the turning of the handle, said means turning one of the rollers at a given rate and being connected by frictional engagement with the other roller and means by which the rate of revolution of the latter roller is variable according to the rate of motion of the former one, in combination, substantially as set forth.

10. In a cleaning machine, a frame, an up-

per and a lower roller mounted thereon, a rotatable handle, means connecting the handle and the rollers for turning the same by rotating the handle, the said means being detachably connected with the lower roller, in combination, substantially as described.

11. In a cleaning machine, a frame, an upper and a lower roller mounted thereon, a rotatable handle, power transmitting means whereby to turn the rollers from the handle, the said means comprising a member capable of adjustment as to tension and including a tension take-up whereby to regulate the power transmitting means, in combination, substantially as set forth.

12. In a cleaning machine the combination of a frame with rollers mounted therein, a cleaning cloth mounted on the rollers, and means for rotating the rollers, said means comprising detachable connection with one of the rollers and friction connection with the other roller to revolve it at the rate of speed of the other roller, substantially as shown.

13. In a device of the character described, the combination with a frame, rollers mounted therein, a cleaning material on the rollers and means for turning the rollers by rotating the handle, of means preventing reverse rotation of the handle, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE WM. GOODIER.

Witnesses:

E. T. DE GIORGI,
H. C. BUCK.