J. G. STAMM.

PNEUMATIC SWEEPER.

APPLICATION FILED MAY 26, 1913.

1,089,800.

Patented Mar. 10, 1914.

2 SHEETS—SHEET 1.

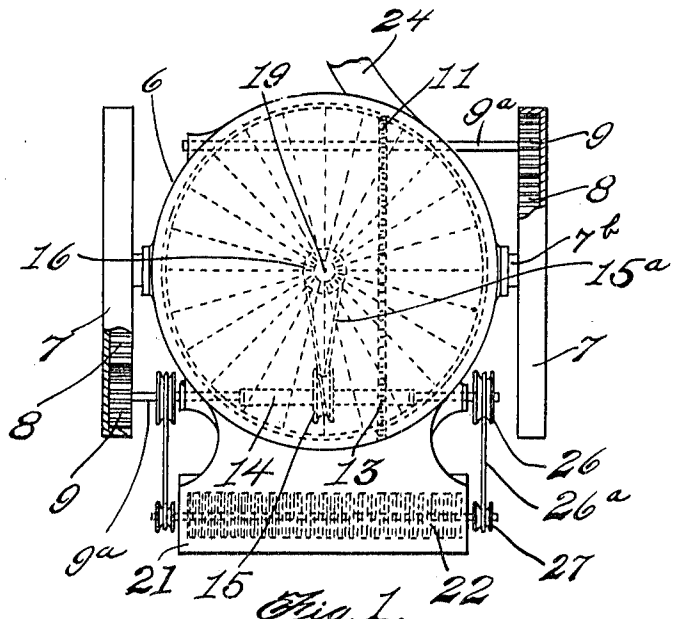


Fig. 1.

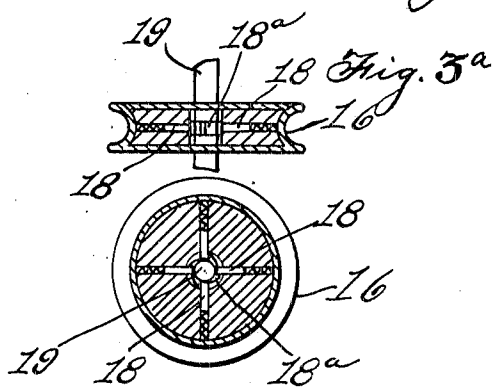


Fig. 3a

Fig. 3.

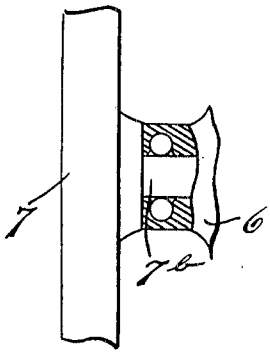


Fig. 4.

Witnesses

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Inventor

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2 SHEETS—SHEET 2.

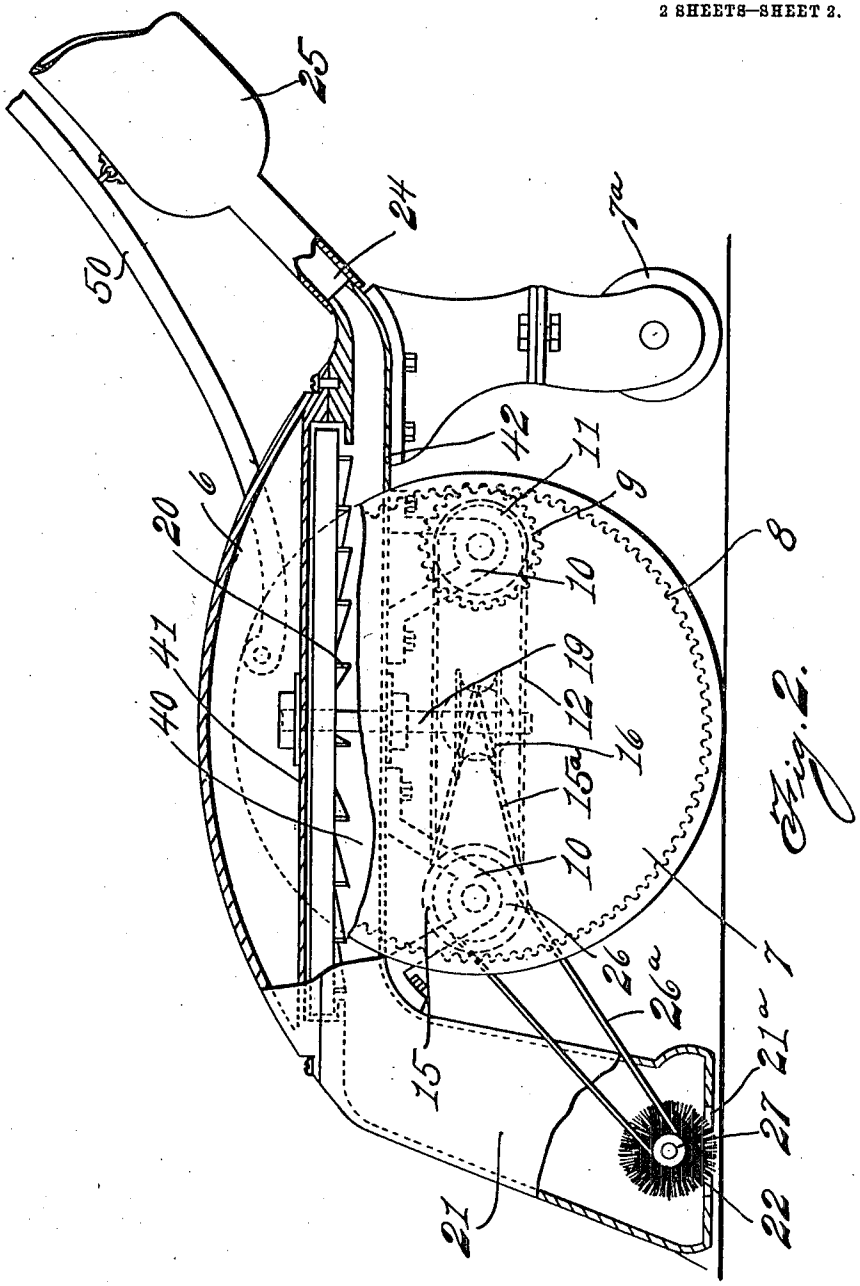


Fig. 2.

Witnesses
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UNITED STATES PATENT OFFICE.

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PNEUMATIC SWEEPER.

1,089,800. Specification of Letters Patent. Patented Mar. 10, 1914.

Application filed May 26, 1913. Serial No. 769,987.

To all whom it may concern:

Be it known that I, JOHN G. STAMM, citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Pneumatic Sweepers, of which the following is a specification.

This invention relates to a pneumatic or suction sweeper for the purpose of cleaning carpets or the like, and of that type employing a fan in connection with a nozzle and conduit for the dusty air, the fan being driven by means of wheels on which the sweeper is mounted, the sweeper being rolled back and forth over the surface to be swept, with gearing between the wheels and the fan to drive the latter in one direction and permit back slip when the wheels are turned in the other direction. A rotary brush is provided in the nozzle, for dislodging the dirt which is taken up by the fan.

The invention is illustrated in the accompanying drawing in which—

Figure 1 is a top plan view of the device. Fig. 2 is a part sectional view of same. Figs. 3 and 3ª are detail views in section of the fan pulley. Fig. 4 is a detail view of the stub axle.

Referring specifically to the drawings, 6 indicates the body or casing of the sweeper which is mounted on two large wheels 7, one at each side, and a caster wheel 7ª at the back. The wheels 7 are carried on stub axles 7ᵇ at opposite sides of the casing. The casing contains a circular fan chamber 40 formed between a top plate 41 and a bottom plate 42, with a nozzle 21 extending from the front and terminating in a slot 21ª close to the floor. Mounted to rotate within the nozzle, and in position to work through the slot 21ª, is a rotary brush 22. The fan 20 rotates in horizontal position in the fan chamber, being fixed on a shaft 19 which is supported in bearings in the top plate 41 and the bottom plate 42. An outlet 24 extends from the back of the fan chamber, and may be connected to any suitable discharge pipe, or to a dust bag 25 hung on the handle 50, by means of which handle the sweeper is manipulated.

The wheels 7 are provided with internal gears 8 meshing with pinions 9 on shafts 9ª which extend across the sweeper under the fan casing and are supported in bearings in brackets 10. The rear shaft 9ª carries a sprocket wheel 11 which drives a sprocket chain 12 over a sprocket wheel 13 mounted on a sleeve 14. This sleeve turns on the front shaft 9ª. Mounted on the sleeve is a pulley 15 which drives a belt 15ª around a pulley 16 on the lower projecting end of the fan shaft 19. The pulley 16 carries spring pins 18 which engage in ratchet teeth 18ª on the fan shaft 19. The pins engage in the ratchet teeth in one direction and permit slip in the opposite direction. The front shaft 9ª carries two belt pulleys 26 which drive a belt 26ª over belt wheels 27 on the shaft of the rotary brush 22 in order to drive the brush.

When the sweeper is pushed forward by means of the handle, the gearing described drives the fan, and also the rotary brush, and the dirt which is dislodged by the brush is sucked up through the nozzle and forced out through the hose 24 and into the dust bag. On backward movement of the sweeper the brush continues to rotate, but the fan is not positively driven, although in consequence of the momentum imparted at the forward movement it will continue to turn in the same direction. There is thus practically continuous operation of the suction devices, even when the sweeper is pulled back and forth, the drive being imparted by one movement and continuing, in consequence of the slip of the pins, during the reverse movement of the sweeper. The machine so constructed is so light that it can be easily operated, and the gearing is conveniently accessible for inspection if necessary.

What I claim is:

A suction sweeper comprising a fan casing, a fan therein, a nozzle projecting from the casing, wheels on which the casing is mounted, driving gearing between the wheels and the fan, a rotary brush at the mouth of the nozzle, and driving mechanism between the wheels and the brush, the gearing between the wheels and fan including a clutch engaging in one direction and permitting

slip in the other direction, whereby the brush will be positively driven in opposite direction as the sweeper is moved back and forth, and the fan will be positively driven in one direction and will run free by its momentum, when the sweeper is moved in the opposite direction.

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

JOHN G. STAMM.

Witnesses:
J. B. DAVIS,
JOHN A. BOMMHARDT.