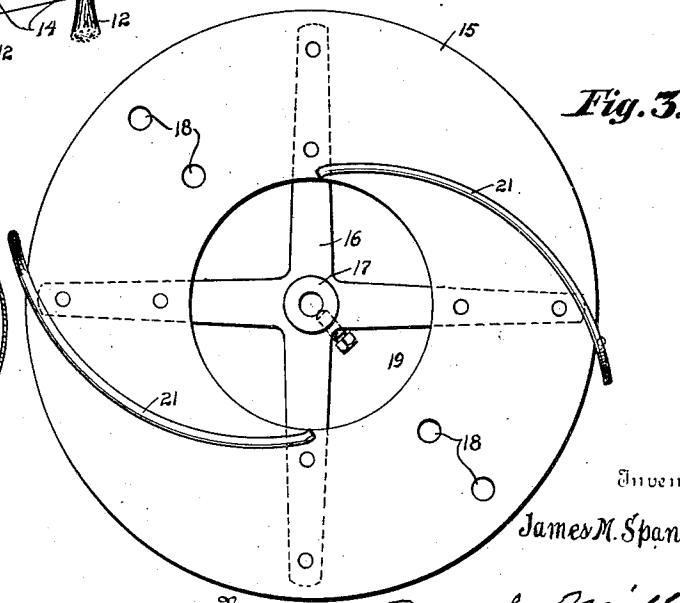
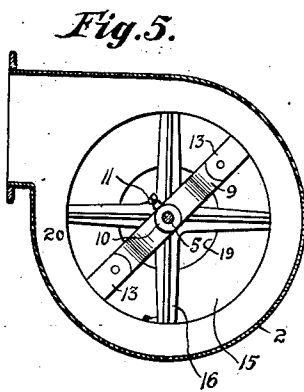
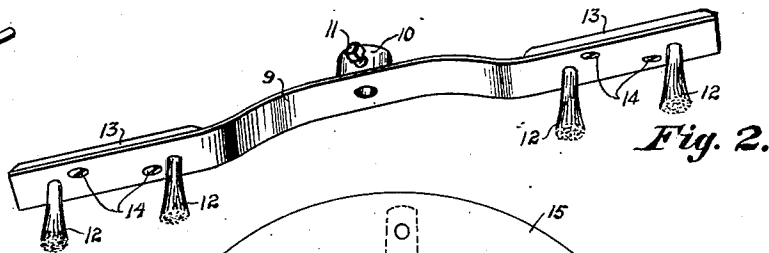
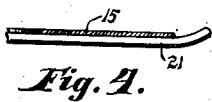
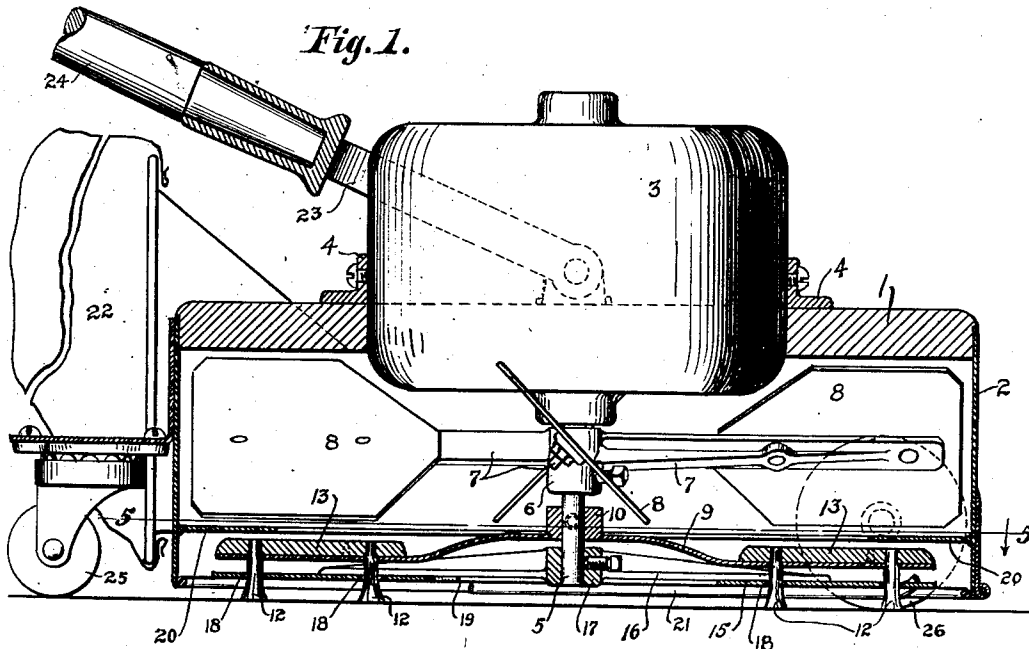


J. M. SPANGLER.
CARPET SWEEPER AND CLEANER.
APPLICATION FILED FEB. 3, 1909.

935,559.

Patented Sept. 28, 1909.



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UNITED STATES PATENT OFFICE.

JAMES M. SPANGLER, OF CANTON, OHIO, ASSIGNOR TO THE ELECTRIC SUCTION SWEEPER COMPANY, OF NEW BERLIN, OHIO, A CORPORATION OF OHIO.

CARPET SWEEPER AND CLEANER.

935,559.

Specification of Letters Patent. Patented Sept. 28, 1909.

Application filed February 3, 1909. Serial No. 475,782.

To all whom it may concern:

Be it known that I, JAMES M. SPANGLER, a 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 Carpet Sweepers and Cleaners; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, making a part of this specification, and to the numerals of reference marked thereon, in which—

Figure 1 is a vertical section showing a side elevation of the motor. Fig. 2 is a detached perspective view of the flexible brush bar. Fig. 3 is a bottom or underside view of the disk showing the position of the intake wire. Fig. 4 is a view showing a portion of the disk in section and illustrating the outer end of one of the intake wires. Fig. 5 is a horizontal section on the line 5—5 of Fig. 1.

The present invention has relation to carpet sweepers and cleaners and it consists in the novel arrangement hereinafter described and particularly pointed out in the claims.

Similar numerals of reference indicate corresponding parts in all the figures of the drawing.

In the accompanying drawing, 1 represents the top of the fan chamber, to which the fan casing 2 is attached. To the top 1 is attached the motor 3 by means of a suitable ring 4 or its equivalent. The motor shaft 5 is extended downward and through the fan chamber proper, to which shaft is fixedly mounted the hub 6 from which hub extends the fan-arms 7, which arms are provided with the usual fan blades 8. Below the hub 6 and upon the motor shaft 5 is securely attached the elastic brush bar 9 by means of the hub 10 and the set screw 11 or its equivalent. The bar 9 is formed of flexible material, preferably spring steel and the middle or center portion of said brush bar curved upward as illustrated in Figs. 1 and 2. To the elastic brush-bar 9 are attached the brushes 12 and for the purpose of providing means for holding said brushes, the brush-holding heads 13 are provided, which brush-holding heads are attached to the elastic brush bar 9 by suitable screws 14 or their equivalents. Directly below the elastic brush bar 9 is located the disk 15, which disk is rotatably mounted upon the motor shaft 5 by means of the spider 16 and the

hub 17, said disk being securely attached to the spider 16 in any convenient and well known manner.

The disk 15 is provided with series of apertures 18, through which apertures the brushes 12 extend as best illustrated in Fig. 1, so that the bottom or sweeping ends of the brushes 12 are brought into position to come within direct contact with the carpet or other surface over and upon which the sweeper proper is moved. The disk 15 serves the purpose of preventing the undue lifting or upward movement of the carpet or rugs or other floor covering and at the same time serves the purpose of holding the brushes 12 against undue yielding movement, or in other words by placing the brushes 12 through the apertures 18 they are held at points below the top or connected ends.

It is well understood that in the operation of sweepers of this kind it is necessary to pass the sweeper over surfaces having different horizontal planes, as for instance passing the sweeper from the surface of a waxed or uncovered floor to and upon the surface of a rug, the horizontal plane varies, but by providing the elastic brush bar 9, the outer ends of said bar are free to move up and down, thereby, allowing the brushes 12 to be moved upward, but at the same time maintaining the proper amount of frictional contact or sweeping contact of the brushes 12, regardless of the changing or varying of the horizontal planes or the surfaces over and upon which the sweeper is passed. As the fan blades 8 are rotated within their chamber, air is taken in through the central opening 19 formed in the disk 15 and between the periphery of said disk and the inner surface of the casing carrying with it the dust and dirt taken from the surface over and upon which the sweeper is passed. In order to prevent any backward or outward movement of the dust and dirt the inward extending flange 20 is provided, which inward extending flange is located directly above the space between the inner surface of the fan casing proper and the periphery of the disk 15, and by so locating said ring the air entering through said space will move under the flange 20 and thence upward into the fan chamber proper.

For the purpose of moving the comparatively coarse and heavy articles that may be

upon the surface, the wires 21 are provided. These wires are so formed that as they rotate they will have a tendency to move the articles toward the central opening 19 which central opening is formed in the disk 15. These wires are connected to the disk 15 or to the spider 16 as desired. The wires 21 extend from points at or near the opening 19 outwardly and upwardly and are curved in such a direction that their concaved edges will move in the direction of motion, thereby moving any articles that may come in contact with said wires toward the central opening 19. It will be understood that after any heavy or coarse article has passed under the disk 15 and reached the opening 19, the same will be lifted upward by the suction of the fan.

For the purpose of preventing the outer ends of the curved intake wires 21 engaging any part of the carpet or rugs their outer ends are curved upward so as to bring them out of direct contact or close relationship with the surface over and upon which the sweeper is moved.

For the purpose of manipulating the sweeper, the yoke 23 is provided, which is pivotally attached in the usual manner and to which the handle 24 is connected in any convenient and well known manner. The sweeper is provided with the usual casters 25 and 26, but the casters, yoke and handle form no specific part of the present invention.

For the purpose of permitting the elastic bar 9 to be moved vertically upon the motor shaft 5, the hub 10 is so connected to the shaft 5 that it can be brought toward the hub 17 or toward the hub 6, by which arrangement the brush bar can be moved to or from the disk 15, so as to adjust the brush heads 12 from time to time as they become worn from use. In order to provide for holding the bar 9 in proper adjustment the set screw 11 is provided, which set screw is for the purpose of holding the hub 10 and the bar 9 at the desired point of adjustment.

It will be understood that in order to bring the disk into proper position with reference to the fan casing, said casing must be open and the disk located in the opening.

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

1. In a sweeper of the class described, a fan casing, a motor carried by the casing, a motor shaft having mounted thereon arms provided with fan blades, a disk fixed upon the motor shaft, an elastic brush bar mounted on said shaft and provided with brushes, the brushes extended through the disk, substantially as and for the purpose specified.

2. In a sweeper of the class described, a fan casing, a motor carried by said fan cas-

ing, a shaft connected to said motor and having fixed thereto and rotatable therewith fan blades, a disk fixed upon the motor shaft, an elastic brush bar rotatable with the motor shaft, said brush bar provided with brushes and a flange on said casing located between the brush bar and the fan blades, substantially as and for the purpose specified.

3. In a sweeper of the class described, a fan casing, a motor carried by said fan casing, a motor shaft having fixed thereto and rotatable therewith fan blades, a rotatable disk located below the fan blades, said disk fixed upon the motor shaft, an elastic brush bar provided with brushes and the brushes extended through the disk, curved wires located below the disk and rotatable therewith, substantially as and for the purpose specified.

4. In a sweeper of the class described, a fan casing, a motor carried by the fan casing, a motor shaft having mounted thereon fan blades, a disk provided with a central opening located below the fan blades, said disk rigidly mounted upon the motor shaft, an elastic brush bar provided with brushes and the brushes extended through the disk and curved outwardly and forwardly, extending intake wires located below the disk, said intake wires being fixed upon and rotatable with said disk, substantially as and for the purpose specified.

5. In a carpet sweeper of the class described, a fan casing, a motor carried by the casing, said motor provided with a shaft, said shaft extended into the fan casing, fan blades mounted upon the motor shaft, a disk provided with apertures, said disk mounted upon the motor shaft, a brush bar provided with brushes, said brushes located through the apertures in the disk and the periphery of said disk spaced from the fan casing and a flange located above the space between the fan casing and the disk, substantially as and for the purpose specified.

6. In a sweeper of the class described, a fan casing, a motor supported by the casing, a motor shaft, fans mounted upon the shaft, a disk provided with a central opening and mounted upon the motor shaft and a brush bar provided with brushes, said brushes extended below the surface of the disk, substantially as and for the purpose specified.

7. In a sweeper of the class described, a fan casing, a motor and a motor shaft, said motor shaft extended downward and through the fan chamber, fans mounted upon the motor shaft and a brush bar adjustably mounted upon the motor shaft, substantially as and for the purpose specified.

8. In a sweeper of the class described, a casing, and a motor, a motor shaft, fan blades adapted to be actuated by the motor shaft, a disk located below the fan blades, an elastic brush bar provided with a central upward curved portion, said portion being

mounted upon the motor shaft, brushes carried by said brush bar, said brushes extended below and through the disk, substantially as and for the purpose specified.

5 9. In a sweeper of the class described, a casing, and a motor, a motor shaft, fan blades adapted to be actuated by the motor shaft, a disk located below the fan blades, an elastic brush bar provided with a central
10 upward curved portion, said portion being mounted upon the motor shaft, brushes carried by said brush bar, said brushes extended below and through the disk, and intake wires rotatable with the disk, substantially
15 as and for the purpose specified.

10. In a sweeper of the class described, a fan casing, a motor carried by the fan casing, said fan casing provided with an open bottom and a discharge opening, a motor
20 shaft extended into the fan casing, said motor shaft having mounted thereon, fans, a disk, said disk located in the open bottom of the casing, an elastic brush bar provided with brushes and adapted to be moved upon
25 the motor shaft to and from the disk and

brushes located through the disk and extended below said disk, substantially as and for the purpose specified.

11. In a sweeper of the class described, a fan casing, a motor carried by the fan casing, said fan casing provided with an open
30 bottom and a discharge opening, a motor shaft extended into the fan casing, said motor shaft having mounted thereon, fans, a disk, said disk located in the open bottom
35 of the casing, an elastic brush bar provided with brushes and adapted to be moved upon the motor shaft to and from the disk, brushes located through the disk and extended below said disk, and intake wires
40 fixed upon and rotatable with the disk, substantially as and for the purpose specified.

In testimony that I claim the above, I have hereunto subscribed my name in the presence of two witnesses.

JAMES M. SPANGLER.

Witnesses:

JOHN H. SPONSELLY,
F. W. BOND.