J. M. SPANGLER.

SUCTION CARPET SWEEPER.

APPLICATION FILED JAN. 15, 1914.

Patented May 21, 1918.

1,266,638.

Fig 1.

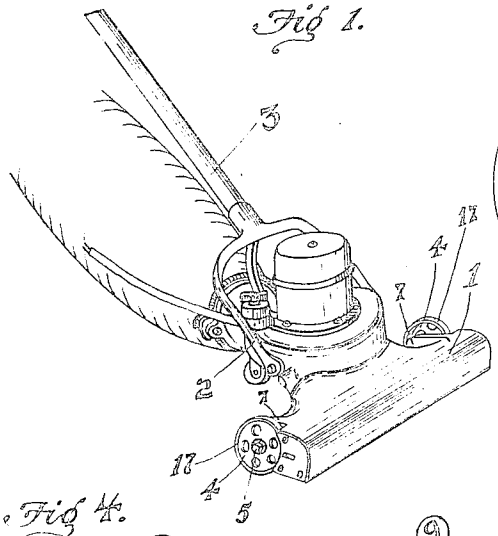


Fig 2.

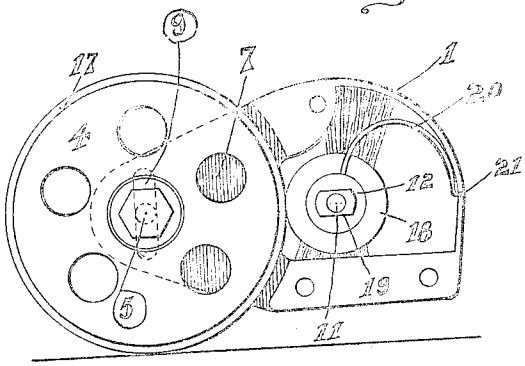


Fig 3.

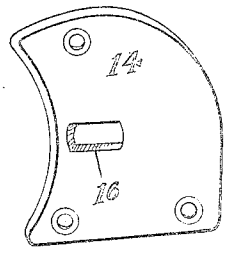


Fig 4.

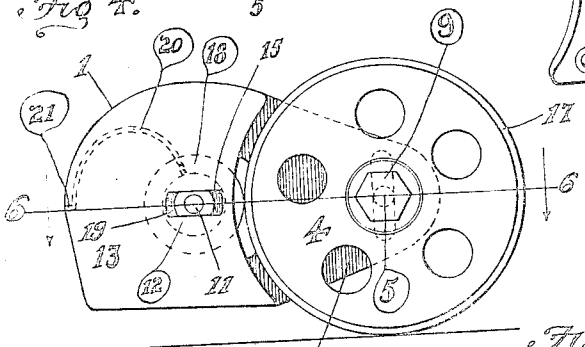


Fig 5.

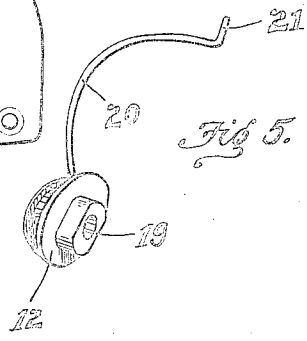
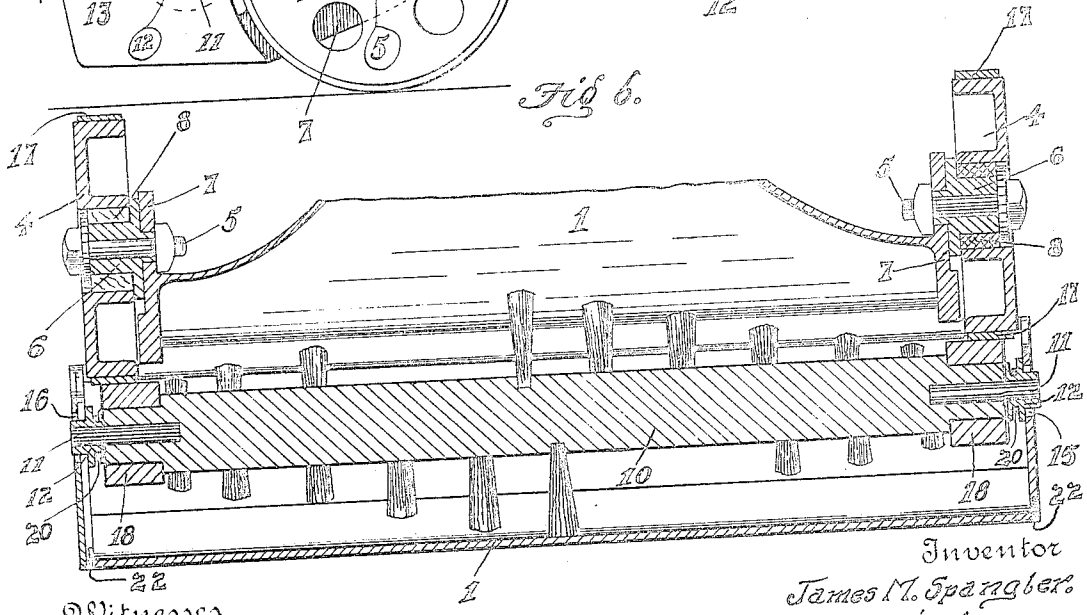


Fig 6.



Witnesses

Robert Karcher.

Sylvia Boron.

Inventor

James M. Spangler.

By Bond & Miller

Attorneys

UNITED STATES PATENT OFFICE.

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

SUCTION CARPET-SWEEPER.

1,266,638. Specification of Letters Patent. Patented May 21, 1918.

Application filed January 15, 1914. Serial No. 812,175.

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 a new and useful Suction Carpet-Sweeper, of which the following is a specification.

This invention relates to improvements in carpet sweepers provided with means for producing a suction or strong inrush of air into the device, which inrush of air operates in conjunction with the brush for the purpose of brushing and pneumatically cleaning floors and floor covering and similar surfaces.

The objects of this invention are to generally improve devices of the character described and to provide a construction which will be composed of few and simple parts put together in a practical manner, the various parts being so exactly and peculiarly adapted to each other that they combine to produce a substantial and efficient carpet sweeper. One of the important objects of the present invention is to provide improved means to actuate a brush by the traveling wheels upon which the sweeper is mounted. Another object is to provide improved means whereby sufficient frictional contact between the traveling wheels and the brush is maintained of sufficient degree under all circumstances to insure the proper rotation of the brush during the time the sweeper is moved back and forth upon the surface to be cleaned.

These objects, together with other objects apparent to those skilled in the art, may be obtained by the construction illustrated in the accompanying drawings, although the invention may be embodied in other forms, the construction illustrated being chosen by way of example.

In the accompanying drawing:

Figure 1 is a perspective view showing all of the parts properly arranged with reference to each other.

Fig. 2 is an end view of the brush casing with the removable closing plate detached, also showing one of the traveling wheels in proper relative position with reference to the brush.

Fig. 3 is a detached view of the removable brush casing closing plate.

Fig. 4 is an end view of the brush casing and a side view of one of the traveling wheels, said figure illustrating the opposite end of the brush casing from that shown in Fig. 2.

Fig. 5 is a detached perspective view of one of the brush journal bearings and its spring.

Fig. 6 is a longitudinal section of the brush casing and brush on line 6—6, Fig. 4.

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

In the accompanying drawing, 1 represents the combined brush casing and motor support, which is substantially of the form shown in Fig. 1 and as shown it is so constructed that a motor can be attached and connected to a suitable suction fan. To the casing or frame 1 is also pivotally attached the yoke 2, to which yoke is attached the handle 3. These parts so far as the motor, yoke and handle are concerned are shown conventionally and do not form any specific part of the present invention, except that such parts are necessary in the construction of a complete suction carpet sweeper of the style and kind to which the present invention belongs.

To the frame 1 are attached the supporting wheels 4, which supporting wheels are so adjusted with reference to the brush casing and frame that the underside or the bottom of the brush casing and frame will be held a short distance above the surface of the floor, carpet or rug upon which the traveling wheels are brought in contact. For the purpose of properly connecting the traveling wheel 4 to the frame 1 the bolts 5 are provided, which bolts pass through suitable flanged thimbles 6 and the rearward extended flanges 7, which rearward extended flanges are preferably formed integral with the combined brush casing and frame 1.

If desired the traveling wheels 4 may be directly mounted upon the bushings or thimbles 8, which thimbles may be formed of fibrous material, but this is a question of judgment, but I believe is the preferable way to mount the traveling wheels. In use it may be desirable to adjust the traveling wheels 4, vertically with reference to the frame proper. This adjustment can be brought about by providing the elongated slots 9, through which elongated slots the bolts 5 are passed. Within the brush casing is located the brush 10, which brush is of the

usual construction such as commonly used in sweepers of the class to which this invention belongs. The ends of the brush are provided with the spindles 11, which spindles are preferably, securely connected to the brush body and are formed of a sufficient length to be carried by the bearings 12, which bearings are carried by the fixed and detachable end plates 13 and 14, both of said plates being provided with the elongated slots 15 and 16. The purpose of detachably connecting one of the end plates to the brush casing is to provide means for assembling the different parts, more especially the brush and its various parts, and also for removing and replacing the brush from time to time or substituting new brushes for worn ones.

The traveling wheels 4 are provided with the tires 17, which tires are preferably formed of rubber or like material for two purposes, first, to prevent the traveling wheels from slipping upon the floor or surface, and second, to insure the proper rotation of the brush by means of the rubber or like rings 18 fixed to the ends of the brush. In order that the rings 18 may be brought snugly against the rubber or like tires 17 upon the traveling wheels 4, the brush bearings 12 are slidably mounted in the elongated slots 15 and 16, said bearings being provided with the flat faced bosses 19 located in the slots 15 and 16 and the springs 20 connected to the bearings 12 and to the brush casing, said springs being so tensioned that they will normally press the bearings 12 toward the traveling wheels 4, thereby insuring the proper and sufficient frictional contact between the rings 18 and the tire 17 to at all times and under all ordinary circumstances rotate the brush during the time the sweeper proper is moved back and forth upon the floor or other surface.

In order to bring the traveling wheels 4 and the rings 18 into proper alinement with reference to each other, the brush casing is formed of such a length that the rings 18 can be located within the brush casing and the traveling wheels outside of the brush casing. This arrangement being best illustrated in Fig. 6, and also illustrated in Fig. 2. It will be understood that the springs 20 should be provided with suitable attaching tangs 21, which tangs may be located through suitable apertures 22 or their equivalents.

It will be understood that by providing the springs 20 and locating the same as shown, the rings 18 will be forced against the peripheries or tires of the traveling wheels 4. The pressure being of such a degree that under ordinary circumstances there can be no slipping as between the brush driving rings and the traveling wheels.

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

In a suction carpet sweeper of the class described, the combination of a combined frame and brush casing, the ends of the brush casing extended beyond the ends of the frame, traveling wheels rotatably mounted upon and adapted to support the frame, a brush located within the brush casing, said brush being adapted to be rotated by the rotation of the traveling wheels, the bearings of said brush being slidably mounted in the end plates of the brush casing, and springs connected to the bearings and to the brush casing, said springs adapted to normally press the brush bearings toward the traveling wheels.

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

JAMES M. SPANGLER.

Witnesses:
SYLVIA BOEON,
F. W. BOND.