

1,319,836.

H. LE R. BOYLE.  
CARPET SWEEPER.  
APPLICATION FILED JUNE 25, 1917.

Patented Oct. 28, 1919.

2 SHEETS—SHEET 1.

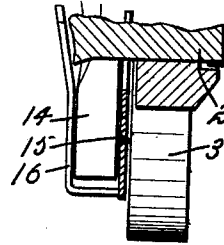
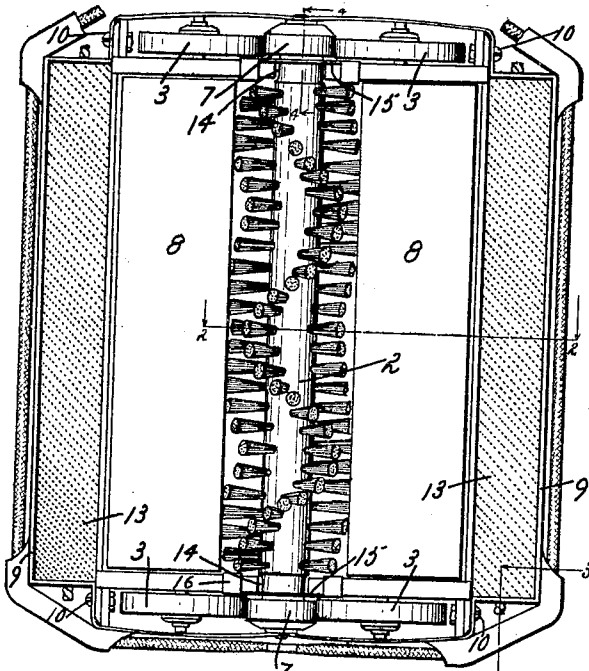


FIG. IV.

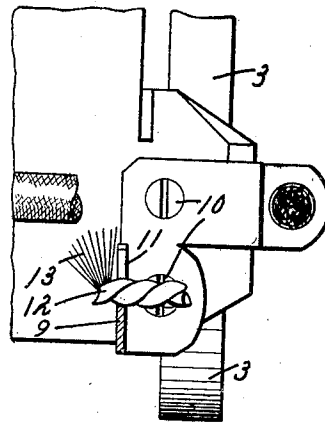


FIG. III.

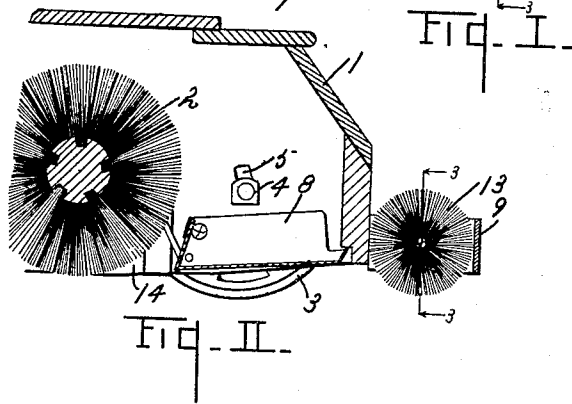


FIG. II.

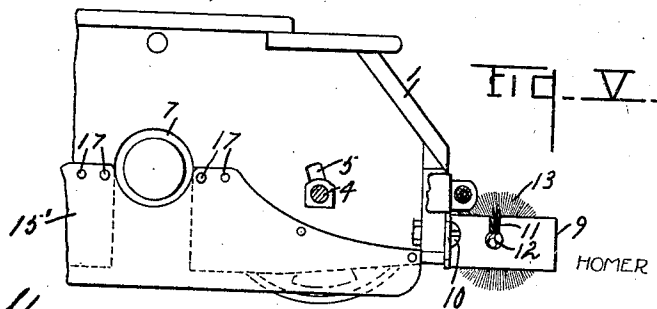


FIG. V.

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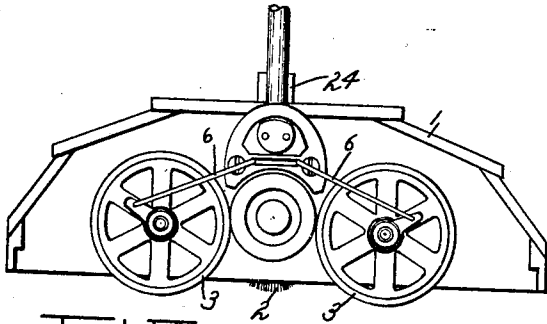


FIG. VII.

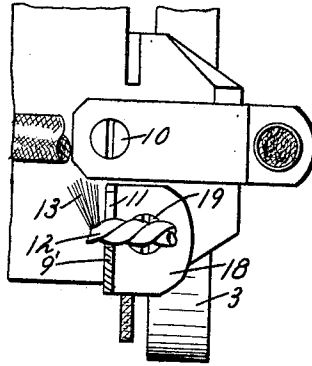


FIG. VI.

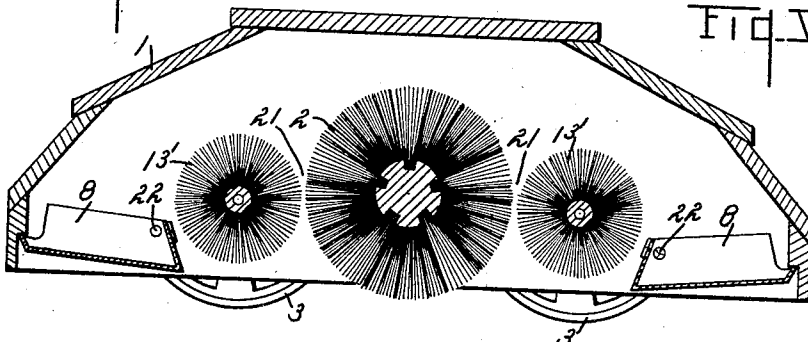


FIG. VIII.

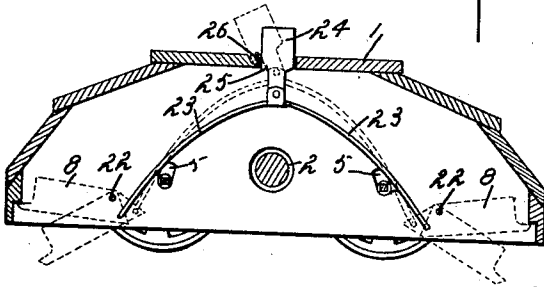


FIG. IX.

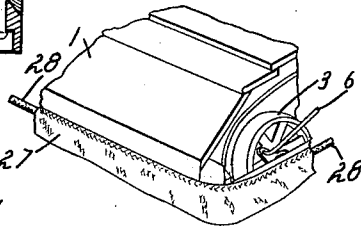
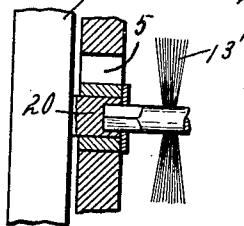


FIG. X.

FIG. XI.



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# UNITED STATES PATENT OFFICE.

HOMER LE ROY BOYLE, OF LANSING, MICHIGAN, ASSIGNOR OF ONE-THIRD TO MARK H. SMITH, OF LANSING, MICHIGAN.

CARPET-SWEEPER.

1,319,836.

Specification of Letters Patent. Patented Oct. 28, 1919.

Application filed June 25, 1917. Serial No. 176,776.

To all whom it may concern:

Be it known that I, HOMER LE ROY BOYLE, a citizen of the United States, residing at the city of Lansing, in the county of Ingham and State of Michigan, have invented certain new and useful Improvements in Carpet-Sweepers, of which the following is a specification.

This invention relates to improvements in carpet sweepers.

The objects of the invention are:

First, to provide a carpet sweeper of the ordinary rotating sweeper brush type with means for preventing the fine dust which is dislodged by the sweeper brush from escaping from beneath the edges of the sweeper housing.

Second, to provide a sweeper of the type described with means for collecting and retaining the fine dust dislodged by the sweeper brush which is not ordinarily retained by the dust or dirt pan.

Third, to provide in a sweeper of the class described dust collecting and retaining devices which may be easily detached from the sweeper for the purpose of cleaning the same.

Further objects, and objects relating to structural details, will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification. The invention is clearly defined and pointed out in the claims.

A structure which is a preferred embodiment of my invention is clearly illustrated in the accompanying drawing forming a part of this specification, in which:

Figure I is an inverted view of a sweeper embodying my invention.

Fig. II is a detail vertical section on a line corresponding to line 2-2 of Fig. I.

Fig. III is an enlarged detail vertical section on a line corresponding to line 3-3 of Figs. I and II, showing details of the means for supporting the dust collecting and retaining brushes.

Fig. IV is an enlarged detail section on a line corresponding to line 4-4 of Fig. I, showing details of the construction of my improved dust guard for closing the ends of the sweeper to prevent the escape of dust therethrough.

Fig. V is a side elevation of my improved

sweeper disclosing a modified form of dust guard for the ends of the sweeper.

Fig. VI is a detail corresponding to Fig. III disclosing a modified form of support for the dust collecting and retaining brushes.

Fig. VII is an end elevation of another embodiment of my invention in which the dust collecting and retaining brushes are placed within the sweeper housing adjacent the sweeper brush.

Fig. VIII is an enlarged transverse section of the modified form of my invention disclosed in Fig. VII.

Fig. IX is another transverse section of the modified form of my invention shown in Figs. VII and VIII disclosing the means I employ for locking and releasing the dust pans.

Fig. X is a perspective view of a still further modification of my invention.

Fig. XI is a detail section showing the relation of the dust collecting brushes of the embodiment shown in Fig. VII to other parts.

In the drawing similar reference characters refer to similar parts throughout the several views, and the sectional views are taken looking in the direction of the little arrows at the ends of the section lines.

Referring to the drawings, the reference character 1 indicates the casing or housing of my improved sweeper. The sweeper brush 2 is journaled in the end members of the housing.

The supporting and brush driving wheels 3 are journaled in floating bearings 4 slidably mounted in the slot 5 in the ends of the housing. Means such as the spring 6, shown in Fig. VII, are employed for holding the bearings 4 yieldably at the bottom of the slots 5 and thereby normally elevating the housing 1. The drive wheels 3 frictionally engage the wheels 7 at the ends of the sweeper brush 2. Dust pans 8 are pivotally mounted, one at each side of the sweeper brush 2 to receive the dust and dirt therefrom. The structure so far described is the well known "Bissell" type.

In use the coarser dust and dirt is deposited in the dust pans 8 but more or less of the lighter particles of dust dislodged by the sweeper brush will escape from the housing passing beneath the lower edges thereof.

and thus contaminate or pollute the surrounding atmosphere of the room, and settle upon the walls and furniture. It is my aim to prevent this escape of the lighter and finer particles of dust.

In the embodiment of my invention which is disclosed in Figs. I to IV inclusive I provide a supporting frame 9 which surrounds the sweeper housing and is secured thereto by means of screws 10. At the ends of the sweeper the supporting frame is spaced from the housing thereby forming bracket-like extensions, which are notched as shown at 11 to detachably receive the spindle-like bodies 12 of the dust collecting and retaining brushes 13. In use it is intended that the brushes 13 shall be moistened with water to cause the dust to adhere to the bristles thereof. In order to prevent the escape of the fine particles of dust through the slots or openings 14 provided in the ends of the housing for the sweeper brush journals, I provide dust guards 15 which are supported from the frame 9 by means of the downwardly extending brackets or hangers 16. When my improved sweeper is in use these guards prevent the escape of the finer particles of dust at the ends of the sweeper and the air passing through beneath the edges of the sides of the sweeper passes through the bristles of the dust collecting brushes 13 which have previously been moistened and the dust coming in contact with these moistened bristles is retained thereby.

In the modified form of my invention disclosed in Fig. V the dust guard 15' is formed from a piece of leather or other flexible material and is secured to the sides of the housing by means of tacks, or screws 17 or other suitable means. The bottom edge of the dust guard 15' projects below the bottom edge of the side of the housing, which is shown in dotted outline in Fig. V.

In the embodiment of my invention disclosed in Fig. VI I provide a separate supporting frame or bracket 9' for each dust retaining brush. The ends of these frames are provided with laterally turned ears 18 which are secured to the housing by means of screws 19.

In the embodiment of my invention disclosed in Figs. VII, VIII and IX I arrange the dust retaining brushes 13' between the sweeper brush 2 and the dust pans 8. The brush bodies or cores are flexible and the ends thereof are squared in cross section as shown in Figs. IX and XI and fit into corresponding shaped holes in the stub shafts 20 of the supporting and driving wheels. It will be noted that the dust retaining brushes 13' are spaced from the sweeper brush 2 thereby providing spaces 21 through which the dust and dirt collected by the sweeper brush 2 is carried over the dust collectors and delivered into the dust pans.

In Fig. IX I have illustrated a means for supporting and dumping the dust pans 8 which are pivoted at 22. The ends of a bowed spring member 23 is connected to the lower inner corner of each of the dust pans as shown in Fig. IX. The bowed member 23 tends to straighten out and thereby normally holds the dust pans in their horizontal position. At the center of the bowed member 23 is a finger piece 24 which is provided with a notch 25. When it is desired to empty the dust pans the finger piece 24 is lifted and the notch 25 is engaged over the lug 26.

In Fig. X I have illustrated an extremely simplified embodiment of my invention which merely consists of a fabric dust collector member 27 which surrounds the entire sweeper and may be held in place by means of a gathering string 28 or any other suitable means, or it may be made of such a size as to snugly engage the sides of a sweeper and be held thereon by frictional contact. The fabric from which the skirt 27 is made is preferably very loosely woven and in use is intended to be moistened so as to more efficiently retain the dust particles deposited thereon.

While I have illustrated and described several embodiments of my improved sweeper I am aware that it is capable of other adaptations and modifications and I therefore desire to be understood that my invention is not limited to the specific details of the embodiments illustrated and described but includes all structures within the scope of the following claims.

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

1. In a structure of the class described, the combination of a casing, a rotary sweeper brush therein, wheels for supporting said casing and driving said brush, dust pans disposed to coact with said brush, means preventing the escape of air at the ends of said casing, a supporting frame surrounding said casing, and dust collecting brushes detachably secured to said supporting frame at the sides of said casing with the bristles thereof extending below the edges so that the air escaping under such edges passes through said collecting brushes.

2. In a structure of the class described, the combination of a casing, a rotary sweeper brush therein, wheels for supporting said casing and driving said brush, dust pans disposed to coact with said brush, a supporting frame surrounding said casing, and dust collecting brushes detachably secured to said supporting frame at the sides of said casing with the bristles thereof extending below the edges of the casing so that the air escaping under such edges passes through said collecting brushes.

3. In a structure of the class described, the combination of a casing, a rotary sweeper brush therein, wheels for supporting said casing and driving said brush, dust pans disposed to coact with said brush, means preventing the escape of air at the ends of said casing, and dust collecting brushes mounted at the sides of said casing so that the air escaping under said sides passes through said collecting brushes and is filtered thereby, said brushes being removably mounted so that they may be removed for cleaning and moistening. 30

4. In a structure of the class described, the combination of a casing, a sweeper brush therein, and dust collecting brushes mounted on said casing so that the air escaping therefrom passes through said collecting brushes, said casing being provided with means preventing the escape of air except through said collecting brushes. 40

5. In a structure of the class described, the combination of a casing, a rotary brush therein, wheels for supporting said casing and driving said sweeper brush, dust pans disposed to coact with said sweeper brush,

means for preventing the escape of air at the ends of said casing, and filtering means at the sides of said casing for collecting the dust from the air escaping beneath the edges of the sides of said casing, said filtering means being removably mounted so that it may be removed for cleaning and moistening.

6. In a structure of the class described, the combination of a casing, a brush therein, and filtering means for collecting the dust from the air escaping beneath the edges of said casing, said filtering means being removably mounted so that it may be removed for cleaning or moistening, said casing being provided with means to prevent the escape of air except through said filtering means. 45

In witness whereof, I have hereunto set my hand and seal in the presence of two witnesses.

HOMER LE ROY BOYLE. [L. S.]

Witnesses:

WILLIAM HENERY TURNER,  
JOHN I. CARPENTER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."