H. LE R. BOYLE.

SWEEPER.

APPLICATION FILED AUG. 6, 1917.

1,257,308.

Patented Feb. 26, 1918.

3 SHEETS—SHEET 1.

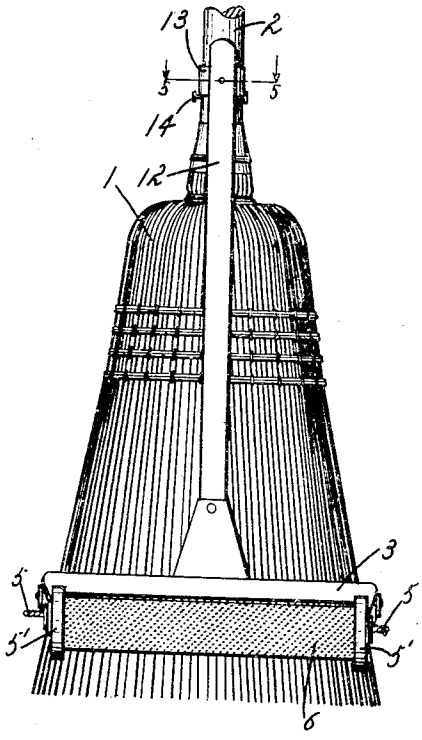


FIG. I.

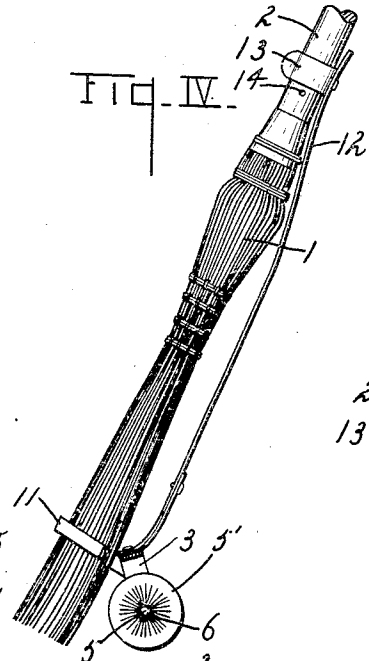


FIG. IV.

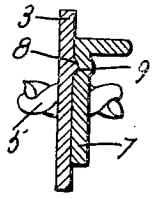


FIG. VII.

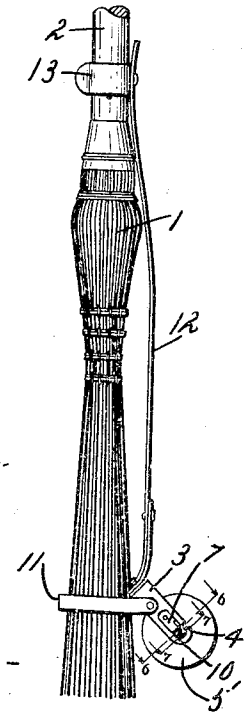


FIG. II.

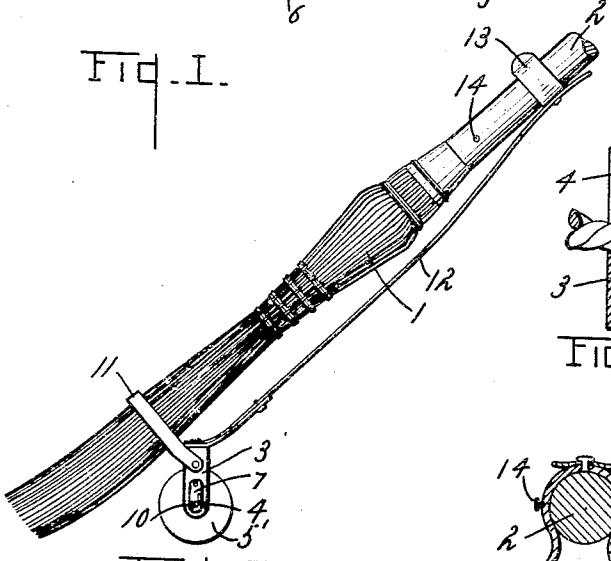


FIG. III.

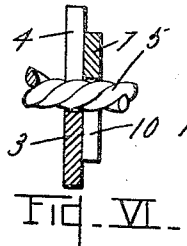


FIG. VI.

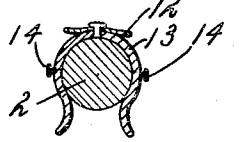


FIG. V.

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3 SHEETS—SHEET 2.

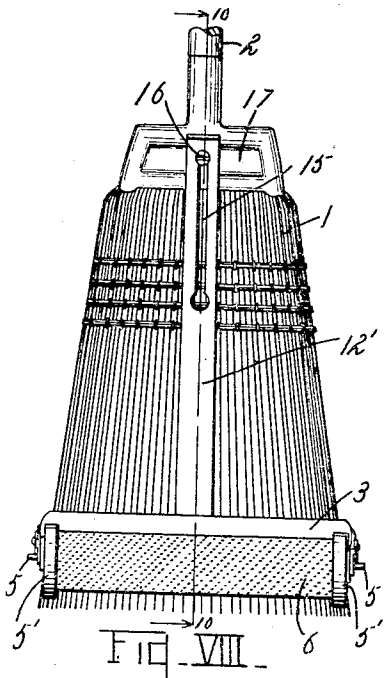


FIG. VIII.

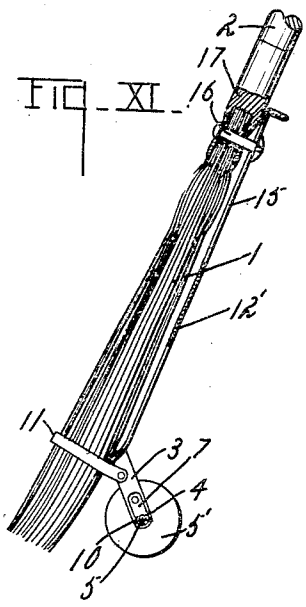


FIG. XI.

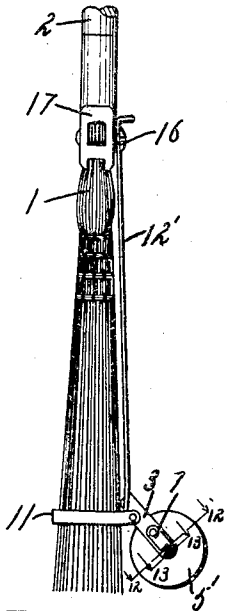


FIG. IX.

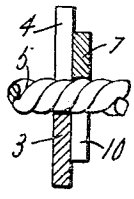


FIG. XII.

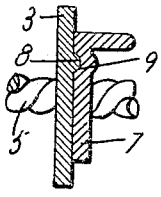


FIG. XIII.

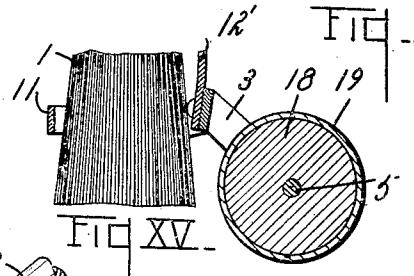


FIG. XV.

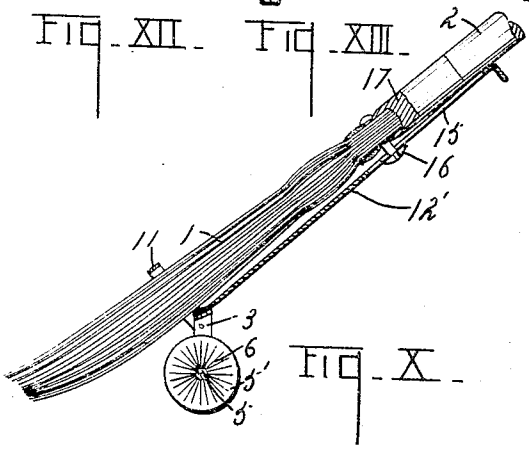


FIG. X.

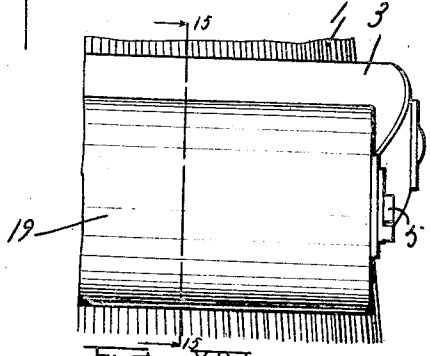


FIG. XIV.

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3 SHEETS—SHEET 3.

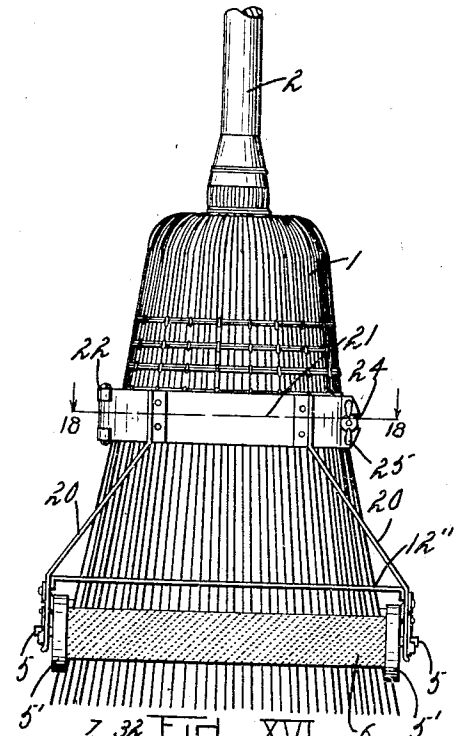


FIG. XVI.

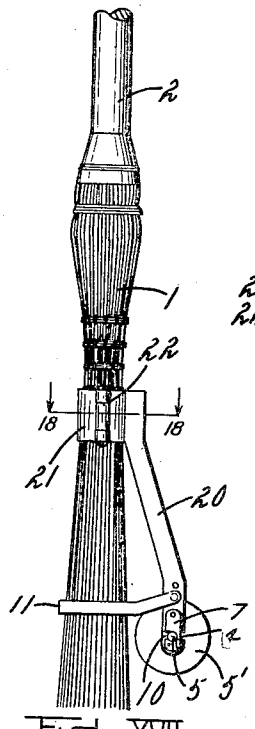


FIG. XVII.

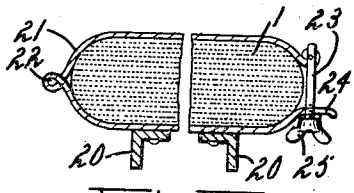


FIG. XVIII.

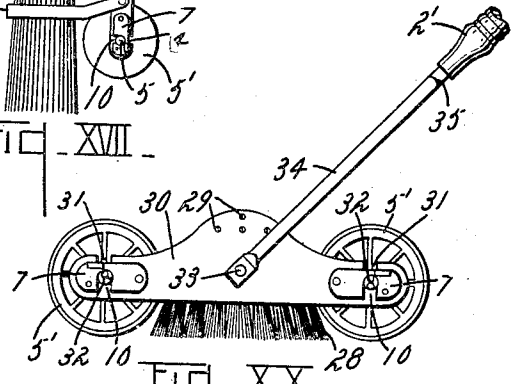


FIG. XX.

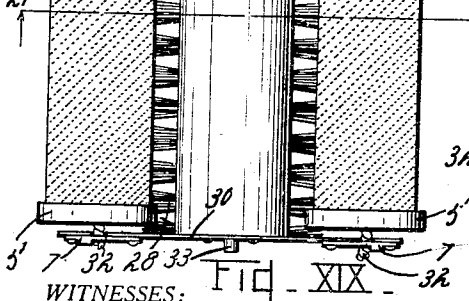


FIG. XIX.

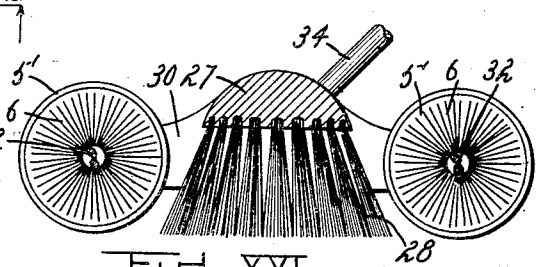


FIG. XXI.

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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.

SWEEPER.

1,257,308. Specification of Letters Patent. **Patented Feb. 26, 1918.**

Application filed August 6, 1917. Serial No. 184,689.

To all whom it may concern:

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

This invention relates to improvements in sweepers.

The objects of this invention are:

First, to provide an attachment for a broom or sweeping brush which will largely collect and retain the dust disturbed by sweeping.

Second, to provide a device of this kind in which the dust collecting device or element may be easily removed to permit it to be cleaned, as by holding it under a faucet or dipping into a pail of water, and to permit it to be dampened in the same manner so that it will more readily collect and retain the dust which comes in contact with it.

Third, to provide a structure of the class described which is simple in structure, economical to manufacture, and which may be easily and quickly attached or detached from the broom or sweeping brush.

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 a front elevation of a broom equipped with an embodiment of my invention.

Fig. II is a side elevation of the structure appearing in Fig. I.

Fig. III is a view similar to Fig. II, but showing the broom attachment in the position it occupies at the beginning of the sweeping stroke.

Fig. IV is a view similar to Figs. II and III, but showing the attachment in the position it occupies at the end of the sweeping stroke when the broom is manipulated in the manner which is most efficacious, portions of the carriage and supporting yoke being broken away.

Fig. V is a sectional detail on a line corresponding to line 5—5 of Fig. I.

Fig. VI is an enlarged sectional detail on a line corresponding to line 6—6 of Fig. II, showing the details of the construction of the means for detachably mounting the dust collector.

Fig. VII is a sectional detail on a line corresponding to line 7—7 of Fig. II, also showing details of the construction of the means for detachably securing the dust collector.

Fig. VIII is a front elevation of another embodiment of my invention.

Figs. IX, X, XI, XII and XIII are views of the embodiment corresponding to Figs. II, III, IV, V, VI, and VII, respectively.

Fig. XIV is a front elevation of a broom equipped with a still further modification of my invention, portions of the broom and dust collecting device being broken away.

Fig. XV is a section taken on a line corresponding to line 15—15 of Fig. XIV.

Fig. XVI is a front elevation of a broom equipped with still another embodiment of my invention.

Fig. XVII is a side elevation of the structure shown in Fig. XVI.

Fig. XVIII is an enlarged detail section taken on a line corresponding to line 18—18 of Figs. XVI and XVII.

Fig. XIX is a plan view of a sweeper of the brush type equipped with my improved dust collecting device.

Fig. XX is an end elevation of the structure disclosed in Fig. XIX.

Fig. XXI is a transverse section thereof taken on a line corresponding to line 21—21 of Fig. XIX.

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 Figs. I to VII inclusive, which disclose one embodiment of my invention, the reference character 1 indicates a broom having a handle 2. The dust collector comprises a yoke-shaped frame 3, the legs of which are provided with notches 4 in which the ends of the shaft 5 of the dust

collecting retaining brush 6 are received and retained by keepers 7, which are pivotally mounted upon the legs of the frame member. The shaft 5 is provided at each end with a supporting and driving wheel 5'. The keepers 7 are retained in their closed position by means of projections 8 in the leg member which coöperate with depressions 9 in the keepers 7. The keepers 7 are provided with notches 10 for receiving the ends of the shaft 5.

The frame member 3 is slidably mounted upon the broom by means of a supporting band 11, the ends of which are secured to the frame member and which loosely embrace the broom. The yoke member is provided with a hanger 12, the upper end of which has secured thereto a split collar or clip 13 which slidably engages the handle 2. Limiting stops 14 engage the collar 13 in its downward movement to hold the brush 6 in proper position relative to the end of the broom.

In using my above described invention, the dust retaining brush 6 is first removed from the yoke 3 and moistened by holding it beneath a faucet or in any other suitable manner, and replaced. The broom is used with the dust collector in front. At the beginning of its sweeping stroke, the dust retaining brush occupies the position shown in Fig. III. As the sweeping stroke progresses, the dust collecting brush successively falls to the position shown in Figs. IV and II respectively. The fine dust displaced by the broom encounters the moistened bristles of the brush 6 and is retained, thereby preventing these particles of dust from polluting the atmosphere of the room.

The modified embodiment of my invention disclosed in Figs. VIII to XIII inclusive, is similar to that above described, except that the upper end of the hanger strap 12' is provided with a longitudinal key-hole slot 15 which engages with a screw or bolt 16, extending through the head 17 of the broom. It will, of course, be clear that the screw or bolt 16 could be directly secured to the handle of the broom. The length of the hanger 12' is such that the upper end of the slot 15 supports the dust collecting brush 6 in its proper lower position.

In the modified form of my invention, illustrated in Figs. XIV and XV, I provide a roller 18 of wood or any other suitable material, which is rotatably mounted in a yoke 3 similar to that employed in the two embodiments heretofore described and is provided with an outer covering 19 of felt, or other suitable material, which, when moistened, will act as a dust collecting and retaining means.

In Figs. XVI to XVIII, inclusive, I have illustrated a still further embodiment of my invention in which the yoke member 12'' is provided at each end with a hanger strap 20, the upper ends of which are secured to one member of a hinged clasp 21. The two members of this clasp are hinged together at 22, and to the opposite ends of one of them is pivotally secured an eye-bolt 23, the other end of which is received by a notch 24 in the adjacent end of the opposite clamping member. A wing nut 25 is provided for the bolt 23. The clasp 21 is of such size that it will freely slide up and down on the upper portion of the broom, but small enough to prevent the dust collector from sliding entirely off the broom.

In Figs. XX to XXI inclusive, I have illustrated my invention as embodied in a floor brush comprising the head 27 and the bristles 28. Secured to each end of the head by means of screws 29, or other similar expedients, are supporting yokes 30, which are provided at each end with notch-like bearings 31 for the shafts 32 of the dust collecting brushes 6, which are similar to those described above, and provided with supporting and driving wheels 5'. Keepers 7, similar to those described above, retain the shaft 32 in the notches 31. Centrally of the supporting yoke 3, I provide stub pintles 33 to which are pivotally secured the arms 34 of the yoke 35. A handle 2' is secured to the upper side of the yoke, as shown in Fig. XX.

While I have described several embodiments of my invention, it is to be understood that it is capable of other embodiments and adaptations in addition to those illustrated and described, and that my invention is not limited to the specific details of the structures illustrated and described, but includes all structures within the terms 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 with a broom, of a dust collector mounted thereon and comprising a frame, a dust retaining brush supported in said frame and provided with a supporting and driving wheel, a band on said frame loosely embracing said broom, a hanger for said frame and slidably mounted upon the handle of said broom, and stops on said handle for limiting the movement of said hanger.

2. In a structure of the class described, the combination with a broom, of a dust collector mounted thereon and comprising a frame, means for slidably mounting said frame upon said broom, a dust retaining brush supported in said frame and provided with supporting and driving wheels, a hanger for said frame, and means for slidably connecting said hanger with said broom.

3. In a structure of the class described, the combination with a broom, of a dust collector mounted thereon and comprising a frame, means for slidably mounting said frame upon said broom, a dust retaining device rotatably mounted on said broom, and means for limiting the movement of said frame relative to said broom.

4. The combination with a broom, of a dust collecting and retaining brush rotatably mounted at one side of the broom and in a plane above the normal plane of the end of the broom.

5. The combination with a broom, of a dust collecting and retaining brush mounted at one side of the broom and in a plane above the normal plane of the end of the broom.

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

HOMER LE ROY BOYLE. [L. S.]

Witnesses:
Mrs. H. G. STRAUER,
H. G. PORTER.

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