Dec. 31, 1940. I. RICHARDSON 2,226,581

CARPET SWEEPER

Filed Feb. 2, 1939

Fig. 1

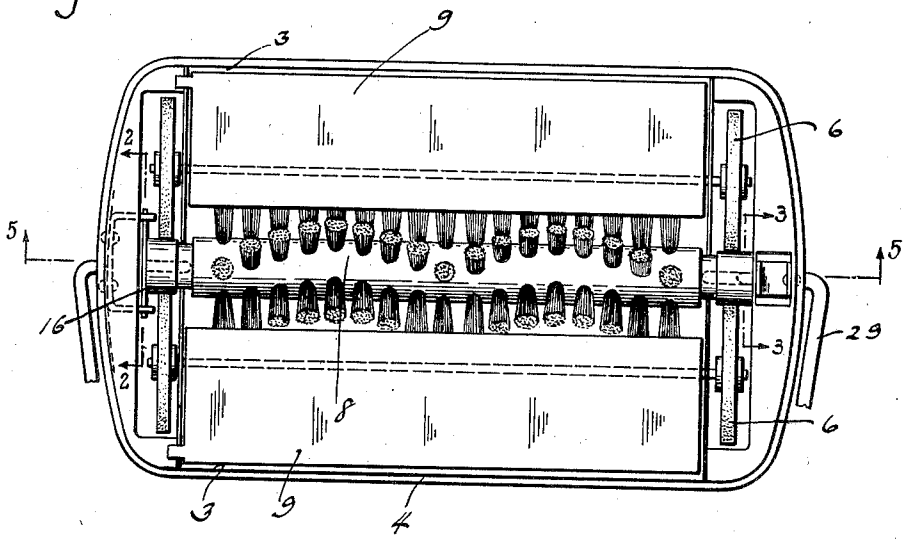


Fig. 2

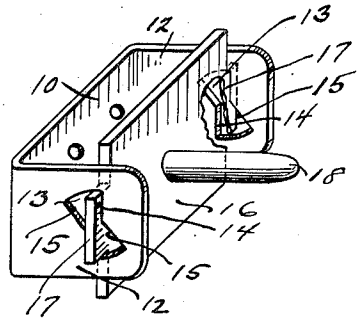


Fig. 3

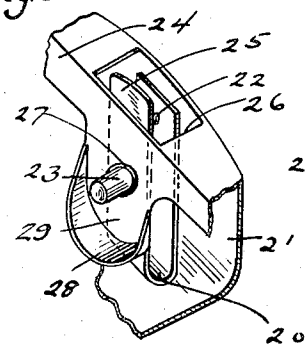


Fig. 4

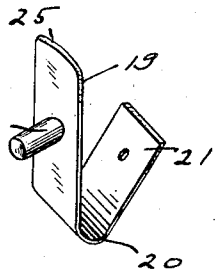
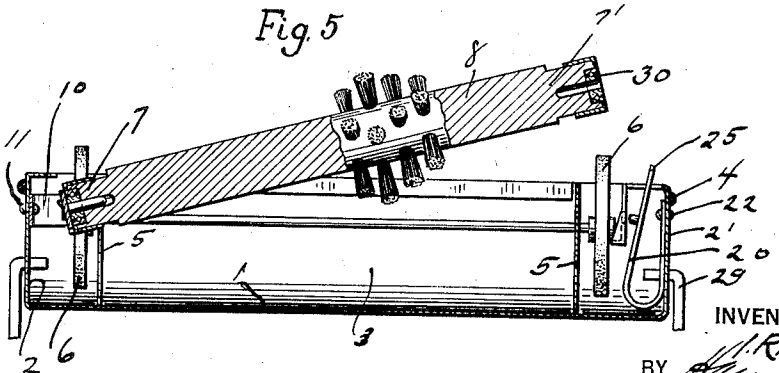


Fig. 5



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Patented Dec. 31, 1940 2,226,581

UNITED STATES PATENT OFFICE

2,226,581

CARPET SWEEPER

Irving Richardson, Newark, N. J.

Application February 2, 1939, Serial No. 254,220

7 Claims. (Cl. 15—41)

This invention relates to improvements in carpet sweepers.

An object of my invention is to provide a novel means for mounting the brush within the sweeper in a manner which will enable the brush to be easily removed and inserted for cleaning the same or for any other purpose.

A further object of my invention is to provide the sweeper with a member for rotatably supporting one of the brush pulleys in a manner which will enable the brush to be readily tilted for removal or insertion, and a second member adapted to rotatably and selectively engage or disengage the other brush pulley.

A further object of my invention is to provide supporting means for the brush pulley adjacent the second member.

In the accompanying drawing, in which is shown some of the various possible embodiments of the several features of the invention, and wherein like reference numerals indicate like parts:

Fig. 1 is a bottom plan view of a carpet sweeper embodying my invention,

Fig. 2 is a perspective, enlarged view, partly broken, of the member for tiltably supporting the brush, shown in normal position,

Fig. 3 is a fragmentary, enlarged, perspective view, taken on line 3—3 of Fig. 1, showing the second member in normal position, but shown disengaged from the brush pulley,

Fig. 4 is a perspective view of the spring finger and stub shaft of the second member, shown in Fig. 3, and

Fig. 5 is a vertical transverse sectional view taken on line 5—5 of Fig. 1, showing the brush in tilted position, the spring finger being shown in its disengaging position.

As shown in the drawing, the carpet sweeper of my invention comprises a casing 1 having side walls 2—2' and end walls 3, to which a bumper 4 is preferably secured in any desired or convenient manner. The casing is provided with bearings 5 for traction wheels 6, the latter having frictional driving engagement with the pulleys 7—7' of the brush 8, in any of the various arrangements well known to those versed in this art, rotating the brush 8 between the dust pans 9.

A member 10 is secured to the side wall 2 of the sweeper by rivets 11 or in any other convenient manner. The member 10 comprises a pair of arms 12 preferably integrally connected in spaced relation, each arm being provided with an aperture 13 defined by oppositely arranged vertical edges 14 and angularly directed edges 15. A plate 16 is tiltably carried by the member 10. In the form of my invention shown in the drawing, the plate is provided with oppositely disposed, shouldered protuberances 17 operable in the apertures 13 of member 10. The plate 16 is provided with a stub shaft 18 adapted to support the brush pulley 7 as shown in Figs. 1 and 5. A second member 19 is secured to the side wall 2' and is adapted to selectively engage (as in Fig. 1) or disengage (as in Fig. 5) the other brush pulley 7'. The second member 19 is shown to comprise a spring finger 20 one end 21 of which is secured, by rivets 22 or the like, to the side wall 2' of the sweeper; the spring finger is provided with a stub shaft 23 adapted to support the brush pulley 7' as in Fig. 1. The side wall 2' is provided with an angularly directed portion 24 within which the spring finger 20 is adapted to operate, the free end 25 of the spring finger protruding through the opening 26 of the portion 24 to serve as a thumbpiece for contracting the finger as in Fig. 5; the stub shaft 23 is adapted to reciprocate in the aperture 27 of the front wall 29 of portion 24. The front wall 29 of portion 24 is provided with the arcuate ledge 28 on which the pulley 7' is adapted to rest when, on contracting the spring finger 20, stub shaft 23 is withdrawn from the pulley 7'. By grasping pulley 7', the brush 8 may be tilted on the plate 16 as in Fig. 5 and readily drawn off the stub shaft 18. To replace the brush 8 it is merely necessary to reverse the operation. It will be noted that when the brush is positioned in the sweeper as in Fig. 1, the protuberances 17 abut the vertical edges 14 of the apertures 13, and when the brush 8 is tilted as in Fig. 5, the protuberances 17 have limited movement in the apertures, between the edges 14 and 15 thereof. This arrangement assures the horizontal alignment of the brush when in its normal position, as in Fig. 1, and provides for the easy, controlled removal and insertion of the brush.

It will be noted that the construction described enables the pulleys of brush 8, when supported on stub shafts 18 and 23 as in Fig. 1, to snugly abut the plate 16 and the front wall 29 of portion 24, assuring smooth operation of the brush; if desired, the pulleys may have roller bearing rings 30 as shown in Fig. 5.

The bail 29 may be secured to the sweeper in any desired or convenient manner; preferably, one end of the bail passes through the spring finger 20 adjacent the riveted end 21 thereof to further displaceably secure the finger 20 to the side wall 2'.

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

1. In a carpet sweeper having a side wall and having a carpet sweeper brush provided with pulleys at opposite ends, a flat plate, a member secured to said side wall, said plate and member being provided with complementary means for tiltably journaling the plate in said member to enable the plate to be tilted in a plane transverse to the plane of the side wall, a stub shaft secured to said plate rotatably and disengageably supporting a pulley of said brush, said pulley abutting said plate when supported thereby and means secured to the carpet sweeper to rotatably support the other pulley.

2. In a carpet sweeper having a side wall and a carpet sweeper brush provided with pulleys at opposite ends, a pair of arms secured to said wall in spaced relation, a flat plate tiltably carried by said arms, a stub shaft secured to said plate and rotatably and disengageably supporting a pulley of the carpet sweeper brush, said pulley abutting said plate when supported thereby and means secured to the carpet sweeper to rotatably support the other pulley.

3. In a carpet sweeper having a casing provided with a pair of side walls and a carpet sweeper brush provided with pulleys at opposite ends, a pair of arms secured to one of said walls in spaced relation, an element tiltably carried by said arms, said arms and element having complementary means for limiting the tilting of said element, a stub shaft secured to said element and adapted to rotatably support a pulley of the carpet sweeper brush, and means secured to the carpet sweeper casing to rotatably support the other pulley.

4. In a carpet sweeper having a casing provided with a pair of side walls and a carpet sweeper brush provided with pulleys at opposite ends, a pair of apertured arms secured to one of said walls in spaced relation, a plate provided with oppositely disposed shouldered portions operable in the apertures of said arms, a stub shaft secured to said plate and adapted to rotatably support a pulley of the carpet sweeper brush, and means secured to the carpet sweeper casing to rotatably support the other pulley.

5. In a carpet sweeper having a side wall and having a carpet sweeper brush provided with pulleys at opposite ends, an angularly directed portion secured to said side wall, said portion having an opening, a spring finger secured to said wall and operable within said portion, said spring finger having a free end protruding through said opening to facilitate contraction of said finger, and a stub shaft carried by said finger and adapted to rotatably support a pulley of the carpet sweeper brush, and means carried by the carpet sweeper to rotatably support the other pulley.

6. In a carpet sweeper having a side wall and having a carpet sweeper brush provided with pulleys at opposite ends, an angularly directed portion secured to said side wall, said portion having an opening, a spring finger secured to said wall and operable within said portion, said spring finger having a free end protruding through said opening, a stub shaft carried by aid finger and adapted to rotatably support a pulley of the carpet sweeper brush, a ledge on said angularly directed portion adapted to support said pulley when the spring finger is contracted within said portion with the stub shaft, and means carried by the carpet sweeper to rotatably support the other pulley.

7. In a carpet sweeper having a side wall and having a carpet sweeper brush, a pair of arm members secured to said wall in spaced relation, each of said arm members being provided with an aperture, one of said apertures being defined by a vertical edge and an oppositely arranged angularly directed edge, and a plate provided with protuberances journaled in and tiltable in the apertures of said arms and supported thereby, one of said protuberances being shouldered and adapted to engage the said oppositely arranged edges to limit the tilting movement of said plate, said plate being adapted to support one end of the carpet sweeper brush.

IRVING RICHARDSON.