Dec. 8, 1936. F. W. PULLEN 2,063,192

CARPET SWEEPER BRUSH DRIVE MECHANISM

Filed March 31, 1928

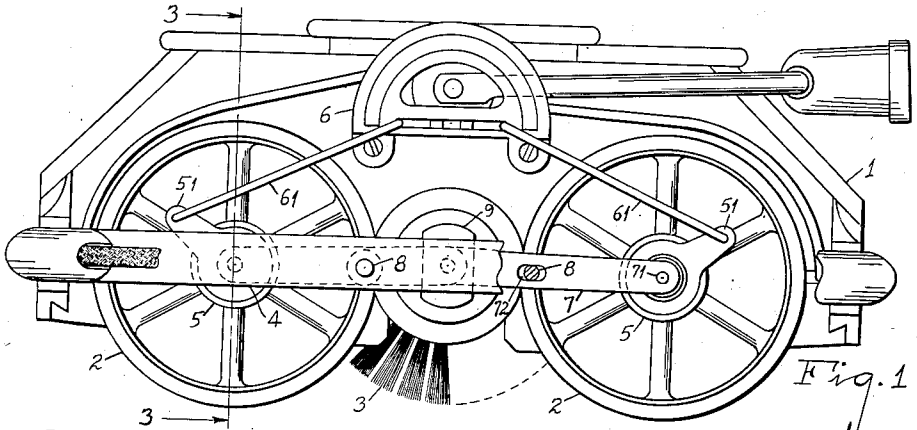

Fig. 1

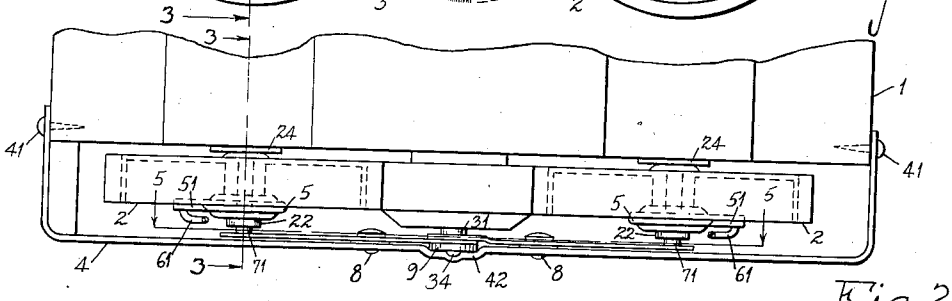

Fig. 2

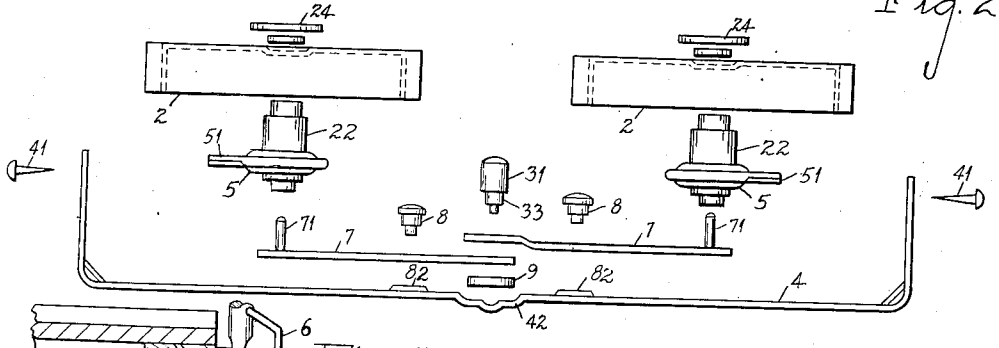

Fig. 4

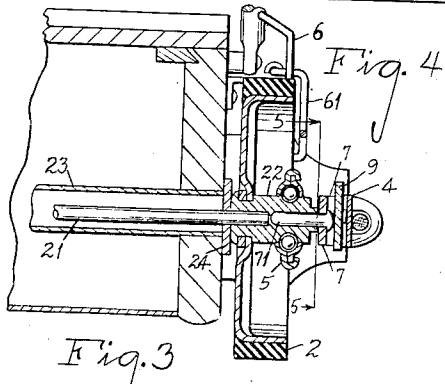

Fig. 3

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CARPET SWEEPER BRUSH DRIVE MECHANISM

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4 Claims. (Cl. 15—41)

This invention relates to improved carpet sweeper brush drive mechanism.

The objects of the invention are:

First, to provide improved means of automatically controlling the relative height of the brush and floor wheels under varying conditions.

Second, to provide improved adjusting fulcrumed connections between the floor wheels and brush.

Third, to provide an improved automatically adjustable slide support for brush pivot.

Objects relating to details of construction and operation will appear from the detailed description to follow. The invention is defined in the claims. Structures embodying my invention are clearly illustrated in the accompanying drawing, in which:

Fig. 1 is an end view of a carpet sweeper of regular Bissell design incorporating my improved brush control mechanism.

Fig. 2 is a detail sectional plan view of the end of the carpet sweeper appearing in Fig. 1, the fulcrum means and pivot slide being in section on line 2—2 of Fig. 1.

Fig. 3 is a detail sectional elevation taken on line 3—3 of Figs. 1 and 2, the spring connection and handle support on the end of the carpet sweeper case being illustrated in full lines.

Fig. 4 is a plan view of the adjusting connections, wheels and related parts, and guard bars shown in separated relation, being the parts illustrated in Fig. 2 except that the spring is entirely omitted.

The parts of the drawings will be identified by numerals of reference which are the same in all the views.

1 is the carpet sweeper casing of usual form. 2, 2 are the floor wheels. 21, 21 are connecting axle rods for the floor wheels at opposite ends of the case. 24, 24 are bearing washers for the hubs. 3 is the usual brush with its friction pulley. 4 is the end bar embracing these parts and secured to the casing by nails 41 (see Fig. 2). 5, 5 are the usual ball bearings for the hubs of the floor wheels provided with projecting arms 51 for the connection of the spring. 6 is the spring plate support for the floor wheel spring 61, connected to the arms 51 of the bearings in the usual way.

I provide equalizing lever supports 7 between the floor wheels and the brush. These are carried on fulcrum pins 8 on the end bars 4. In the preferred construction pins 71 on the outer ends of the levers 7 enter the hubs 22 of the floor wheels and are journaled therein. The lever 7 is slotted centrally at 72 for the fulcrum pin 8 and at its inner or brush end is slotted at 73 where it engages the brush pivot 31. 31 is the brush pivot which engages the end of the brush in the usual way, and is provided with a bearing part 33 which is embraced by slots 73, 73 on the inner ends of levers 7. The outer end of the shouldered pin 31 is riveted at 34 to a vertical slide 9. This slides vertically in a way 42 formed centrally of the end bar 4 by a bend in the same. The riveted end of pin 31 is in a central depression in the bar.

A boss 82 is provided on the bar 4 at each fulcrum point between the levers 7 and the said end bars 4.

From this description it will be seen that on the manipulation of the carpet sweeper the brush will be driven because of the yielding connection between the floor wheels and the brush wheel, and as the handle of the carpet sweeper is manipulated the brush will adjust itself to the floor level whether that be a carpet or rug with a long pile or a hard surfaced carpet or even a hard floor. The brush automatically takes the correct position to properly sweep the surface over which the carpet sweeper is passed. This is done automatically by the action of the carpet sweeper when it is manipulated. The action of the floor wheels while free is equalized.

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

1. In a carpet sweeper structure, the combination of a case, end bars attached to said case each having a vertical central slideway, each end bar having a fulcrum pin each side of the center, a brush having driving hubs at each end, slides in said slideways with journal connections to said brush, floor wheels at each side of each end of the said brush contacting therewith to drive the same, the wheels at each side being supported and connected by axles, spring means acting on said floor wheels to maintain yielding contact between said wheels and said brush hubs and afford yielding spring support for said sweeper, horizontal levers with slotted fulcrum bearings supported on the said fulcrum pins, pivotal connections for the outer ends thereof to the hubs of said wheels and slidable slot connections to the brush journals.

2. In a carpet sweeper structure, the combination of a case, end bars attached to said case each having a vertical central slideway, each end bar having a fulcrum pin each side of the center, a brush having driving hubs at each end,

sides in said slideways with journal connections to said brush, floor wheels at each side of each end of the said brush contacting therewith to drive the same, spring means acting on said floor wheels to maintain yielding contact between said wheels and said brush hubs and afford yielding spring support for said sweeper, horizontal levers with slotted fulcrum bearings supported on the said fulcrum pins, pivotal connections for the outer ends thereof to the hubs of said wheels, and slidable slot connections to the brush journals.

3. In a carpet sweeper structure, the combination of floor wheels and brush with projecting spindle driven thereby, a case, spring means for maintaining yielding contact between the floor wheels and the brush, lever connections from the brush spindle to said floor wheels, the wheels at each side being supported and connected by axles carried by said levers, and fulcrums therefor supported by said case, the said lever fulcrum connections being slotted to permit the maintaining of contact between the said floor wheels and the brush and whereby the brush and floor wheels are equalized and are free to coact in response to said levers to accommodate different conditions of sweeping.

4. In a carpet sweeper structure, the combination of a case, end bars attached to said case and each provided with fulcrum pins on opposite sides of the center, horizontal levers carrying axles on their outer ends, the inner ends overlapping and having registering slots, said levers having longitudinal fulcrum slots near their centers engaging said fulcrum pins, floor wheels, the wheels at each side being supported and connected by said axles, a brush having hubs between said wheels and operated thereby and having central spindles engaging the slots in the inner ends of said levers, and spring means acting on said floor wheels to maintain yielding contact between said wheels and said brush hubs and afford yielding spring support for said sweeper.

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