Nov. 3, 1936. F. W. PULLEN 2,059,907

CARPET SWEEPER BRUSH DRIVE AND CONTROL MECHANISM

Filed June 4, 1928

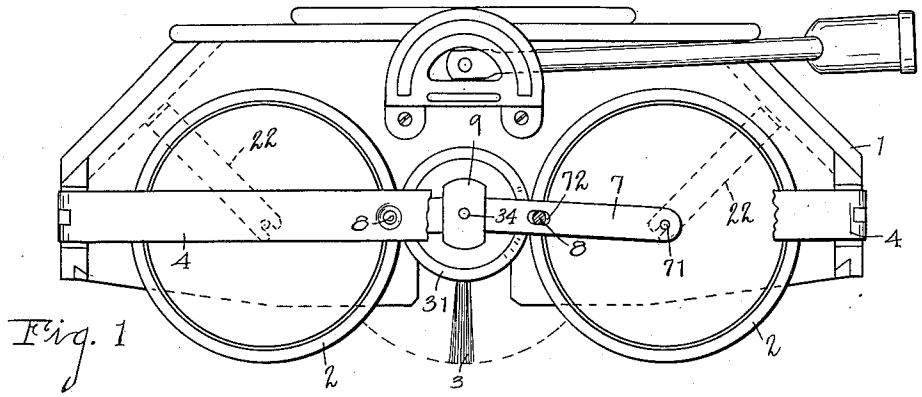


Fig. 1

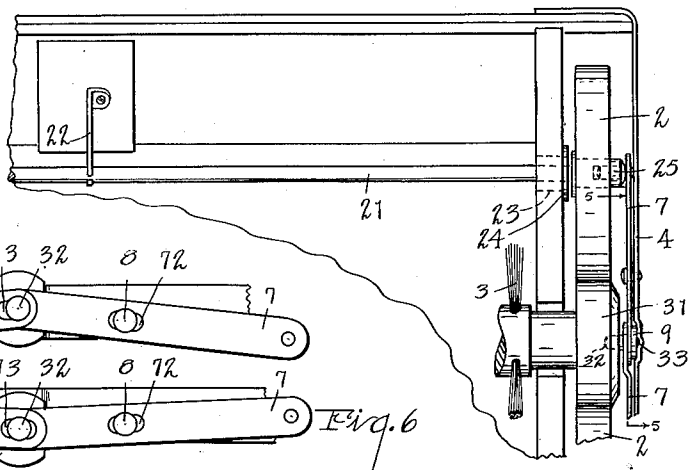


Fig. 2

Fig. 5

Fig. 6

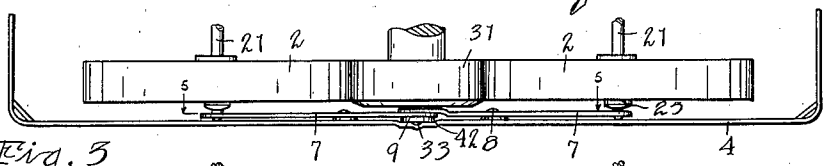


Fig. 3

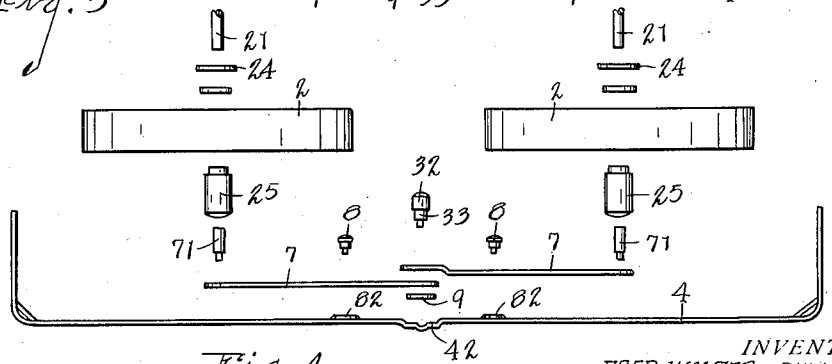


Fig. 4

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CARPET SWEEPER BRUSH DRIVE AND CONTROL MECHANISM

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Application June 4, 1928, Serial No. 282,581

2 Claims. (Cl. 15—41)

This invention relates to improved carpet sweeper brush drive and control mechanism.

The objects of the invention are:

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

Second, to provide an improved spring and equalizer fulcrum lever combination for automatically controlling the floor wheels and brush.

Further objects and objects relating to details of construction and operation will appear from the detailed description to follow.

The invention is defined in the claims.

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

Fig. 1 is an end elevation view of a carpet sweeper of Bissell design embodying my improved brush drive and control mechanism, the relation of portions being indicated by dotted lines.

Fig. 2 is a detail inverted plan view of a portion of my improved carpet sweeper showing the spring connection, the brush pulley and floor wheels at one side and their lever connections being shown, a part of the brush and a part of the spring being broken away.

Fig. 3 is an inverted detail plan view of the guard bar and end of the carpet sweeper appearing in Fig. 1, the case being omitted.

Fig. 4 is a similar detail inverted plan view of the parts appearing in Fig. 3 in separated relation.

Fig. 5 is a slightly enlarged detail sectional elevation taken on line 5—5 of Figs. 2 and 3, showing the sweeper brush in elevated position.

Fig. 6 is a similar sectional view to Fig. 5 showing the floor brush in depressed position.

The parts of the drawing will be identified by their 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 the connecting spring axle rods for the floor wheels at opposite sides of the case. 22 is the central supporting arm or bracket which is connected centrally to the connecting axle 21. The ends of the axles are free to spring in recesses 23 in the end of the case and are provided with sliding washers 24 at that point.

The floor wheels revolve on the ends of these spring axles and the spring axles serve to maintain the pressure of the floor wheels against the brush pulley.

3 is the usual floor brush with its friction pulley 31. 4 is the end bar embracing these parts and secured to the casing by nails or otherwise. The handle is connected in the usual way and both sides and both ends of the sweeper are the same.

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 25 of the floor wheels and are journaled therein. Each 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 32. 32 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 32 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 32 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 spring 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.

It will be seen that my improved lever connection in no way interferes with the action of the spring in maintaining the proper drive for the floor wheels and that the one adapts itself to the other so that the combined action of the two is effectively secured.

Because of the lever action and its equalizing effect a lighter spring axle can be used which is an economy and at the same time ease of actuation is assured.

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 casing, an end bar with vertical way at the center at each end, a vertical slide at the center of each end bar, a brush pivot secured to

said slide, a carpet sweeper brush with pulley revolvable on said pivot, floor wheels adapted to yieldingly contact with said brush pulley, spring axles extending from end to end of the casing at each side on which said floor wheels are revolvably supported at both ends, a central fixed support for each of said axles to said casing, and oppositely symmetrically disposed equalizer lever connections fulcrumed on said end bars between said brush and said floor wheels, the said brush and floor wheels being equalized and free to coact in response to said levers, as specified.

2. In a carpet sweeper structure the combination of a casing, floor wheels at both ends, spring axles for supporting the said floor wheels, brackets for supporting said spring axles at the center, a carpet sweeper brush with pulley revolvable by said floor wheels, end bars embracing the said floor wheels, oppositely symmetrically disposed equalizer lever connections fulcrumed on said end bars between the said brush and said floor wheels, the said brush and floor wheels being equalized and free to coact in response to the said levers, as specified.

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