Feb. 10, 1942. C. C. PARRISH 2,272,476

CARPET SWEEPER

Filed Oct. 2, 1940

Fig. 1

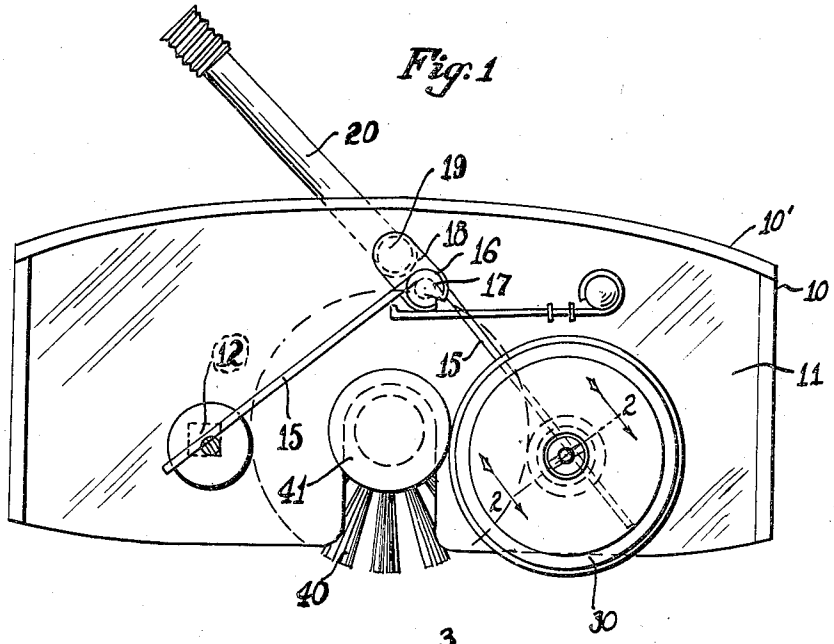


Fig. 3.

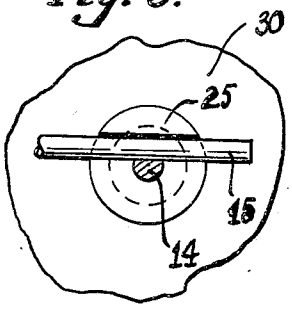
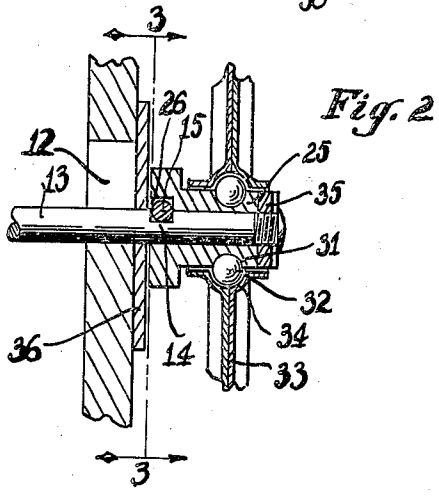


Fig. 2



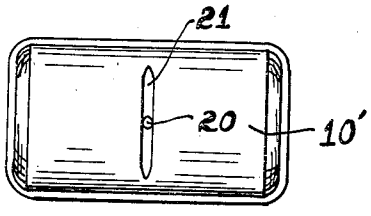


Fig. 4

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UNITED STATES PATENT OFFICE

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CARPET SWEEPER

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Application October 2, 1940, Serial No. 359,309

2 Claims. (Cl. 15—41)

An object of my invention is to provide means, in a carpet sweeper, for preventing rotation of the floating axles and the wheel sleeves upon which the traction wheels are journalled without interfering with the freedom of floating action of the main casing relative to said axles. A further object of my invention is to provide means, associated with the above-mentioned axle holding mechanism, by which downward pressures from the casing to the floating axles will be automatically varied in accordance with the position of the operating handle relative to the casing.

The accompanying drawing illustrates my invention.

Fig. 1 is an end elevation of a sweeper embodying my improvements, one of the traction wheels being partially omitted;

Fig. 2 a vertical fragmentary axial section;

Fig. 3 a fragmentary section on a larger scale on line 3—3 of Fig. 2; and

Fig. 4 a plan on a smaller scale.

In the drawing 10 indicates the main casing of the sweeper provided at each end with a vertical end wall 11, provided with perforations 12, 12 through which the floating axle 13, 13 projects.

Each axle 13, closely outside the outer face of each end wall 11 is transversely notched at 14 to receive a spring finger 15 suitably anchored on the casing. For convenience, the two spring fingers 15 at each end of the casing are the free divergent arms of a spring 16 mounted on a headed pin 17 carried by a depending arm 18, one on each outer end of a rock shaft 19 journalled in the end walls of the casing and provided at its middle with a radially extending arm 20 projected through a slot 21 formed through the top 10' of the main casing 10 and adapted to receive a suitable operating handle.

Each spring finger 15 is conveniently formed of wire of round cross section and the notch 14 has a depth somewhat less than the diameter of the finger, conveniently approximately one-half that diameter, the notch 14 having a flat bottom against which the spring 15 lies in such manner as to resist rotation of the shaft and prevent rotation of that shaft so long as the finger 15 is prevented from movement radially away from the shaft. In order to retain finger 15 in notch 14, without interfering with the lateral movement of shaft 13 slidingly relative to finger 15, I sleeve upon the outer end of shaft 13 a sleeve or hub 25 which, at its inner end, is transversely slotted at 26 crosswise of the bore 27 of the sleeve and capable of being slipped over the finger 15 in such manner as to restrain said finger 15 from being moved out of notch 14 radially of the shaft 13 and to restrain it from movement axially of the shaft to tangle with the wheel.

A traction wheel 30, if desired, may be journalled directly upon shaft 13 beyond notch 14, but in order to provide a convenient ball bearing for the traction wheel 30, sleeve 25 is provided with a ball race 31 provided with balls 32 upon which the wheel is journalled, said wheel being conveniently formed by two mating stampings 33, 33 providing the ball race 34.

Outward displacement of sleeve 25, which would result in a disruption of the interlocking relation between said sleeve and the wire 15, is prevented by nut 35 threaded on the outer end of shaft 13, accidental removal of this nut being prevented by a slight peening of the outer end of the shaft.

The perforation 12 in the end wall 11 is covered by a washer 36 interposed between the outer face of the end wall 11 and spring finger 15.

The usual brush 40 is provided at each end with a friction wheel 41 which is interposed between a pair of traction wheels 30 in any well known manner.

The spring fingers 15 exert downwardly and inwardly inclined forces upon the traction wheels through the axles thereof to keep the traction wheels in peripheral contact with the brush hub wheels so that pressure exerted upon the casing by the operating handle permits the operator to force the brush downwardly more or less into engagement with the floor. This downward movement results in a downward movement of the casing and a consequent increase of the distance between the two shafts 13, 13 which relative movements are permitted because the shafts are free to slide lengthwise to their springs 15 but the springs are at all times held in the notches 14 by the cross notches 26 and sleeve 25 and consequently the shafts 13 cannot rotate, such rotation being prevented by the spring fingers 15.

I claim as my invention:

1. In a carpet sweeper comprising a casing, a wheel axle having a transverse notch intermediate its length, a sleeve rotatable and axially slidable on the axle and having a transverse slot in one end intersecting the bore of the sleeve and registerable with the axle notch, a spring finger anchored on the casing and slidably projected through the axle notch and sleeve slot and retained by the sleeve against radial displacement from the axle notch, and means retaining the

sleeve against outward axial displacement on the axle.

2. In a carpet sweeper comprising a casing, a wheel axle having a transverse notch intermediate its length, a sleeve rotatable and axially slidable on the axle and having a transverse slot in one end intersecting the bore of the sleeve and registerable with the axle notch, a spring finger anchored on the casing and slidably projected through the axle notch and sleeve slot and retained by the sleeve against radial displacement from the axle notch, means retaining the sleeve against outward axial displacement on the axle, and a wheel journalled on said sleeve.

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