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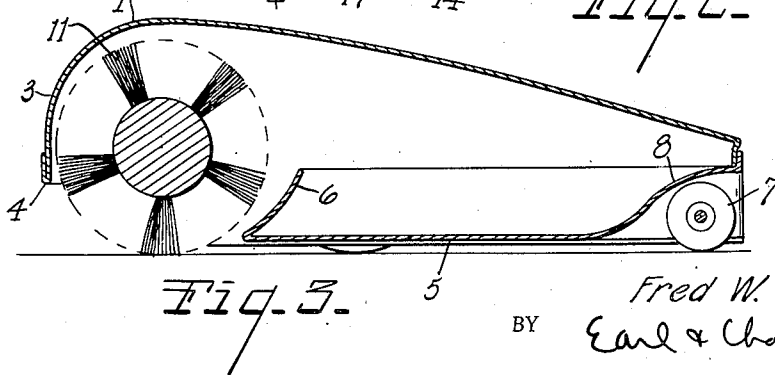
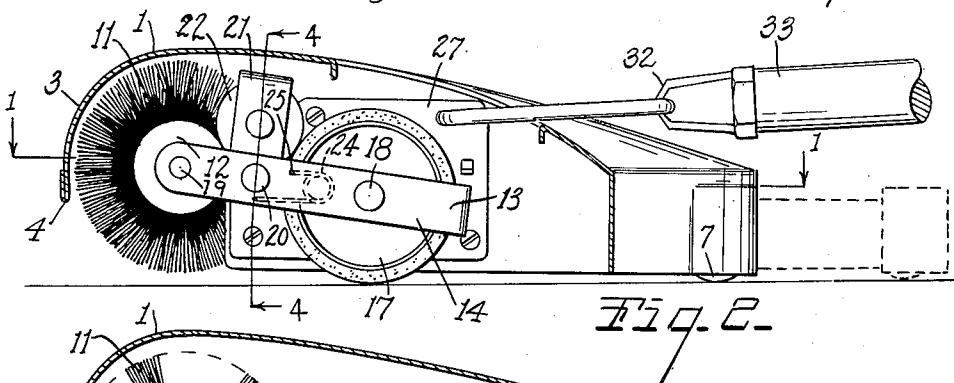
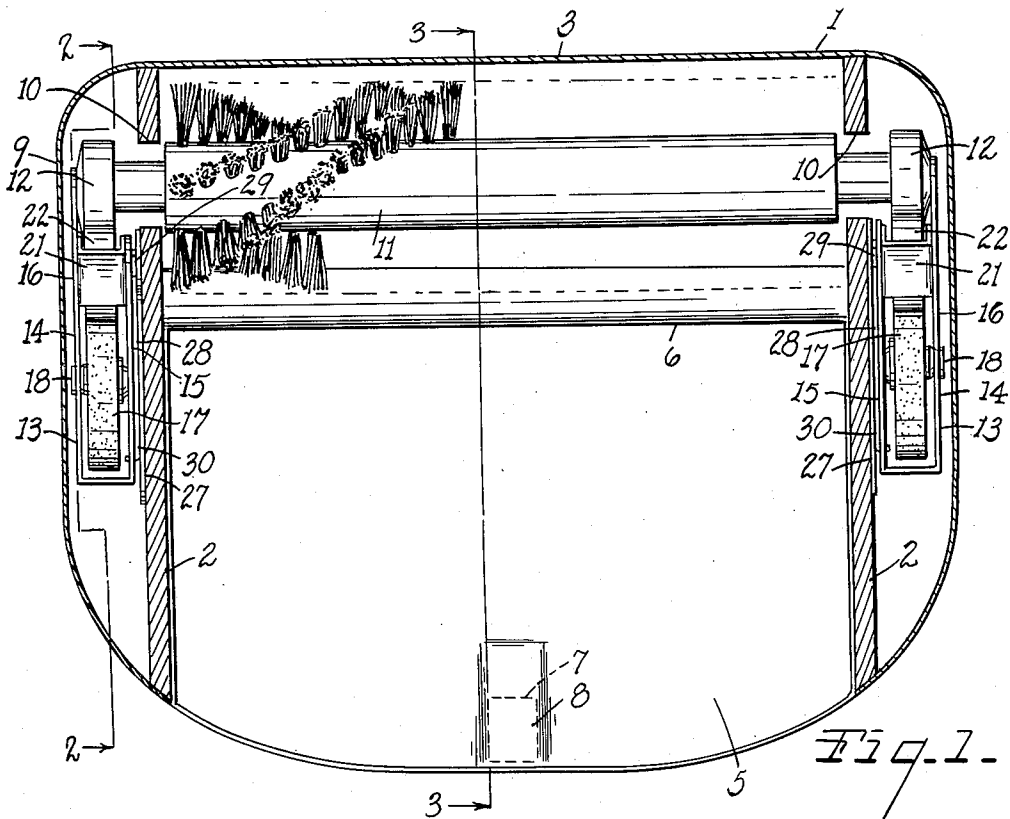
F. W. PULLEN

2,178,917

CARPET SWEEPER

Filed Feb. 4, 1938

2 Sheets-Sheet 1



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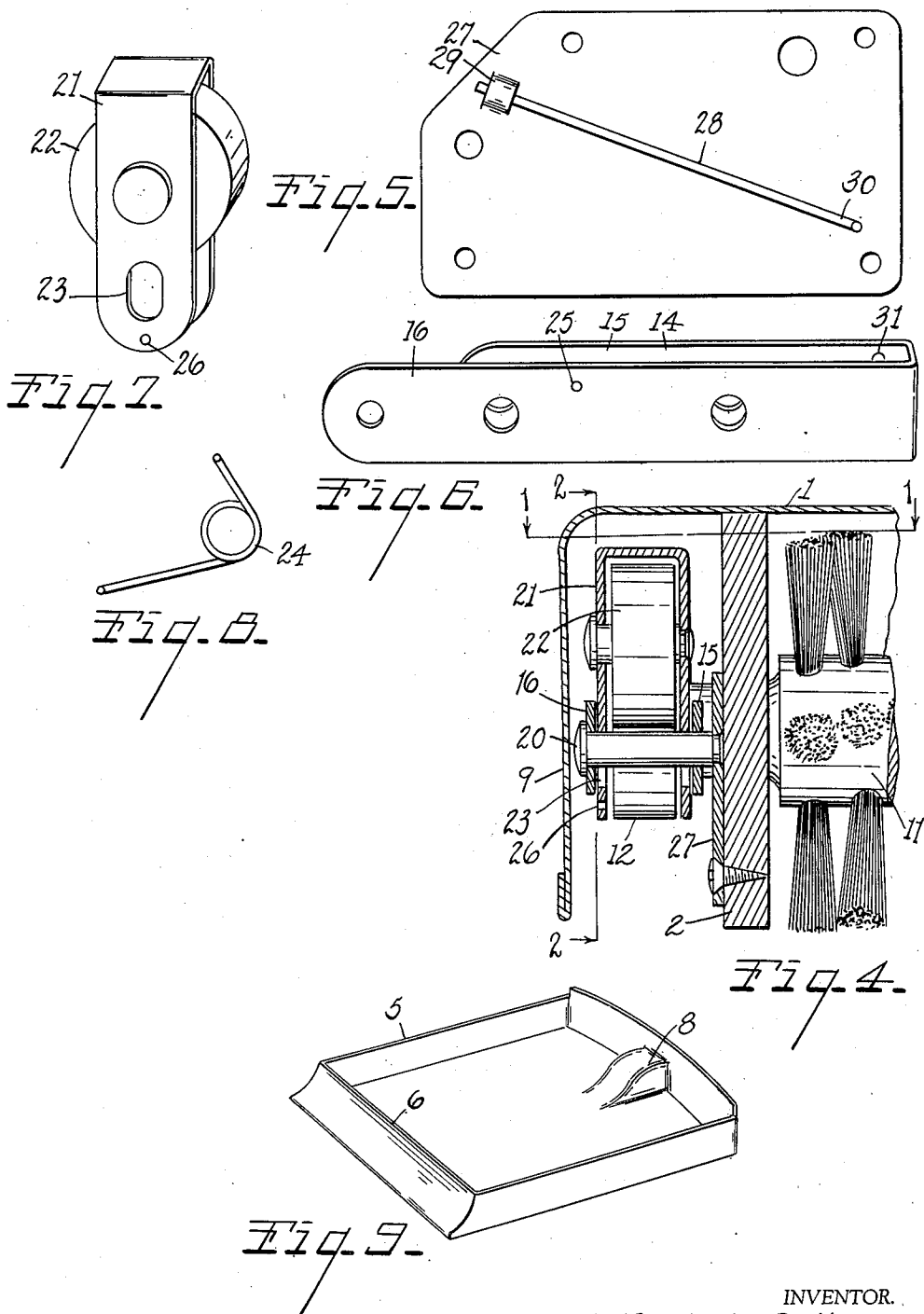
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UNITED STATES PATENT OFFICE

2,178,917

CARPET SWEEPER

Fred W. Pullen, Grand Rapids, Mich., assignor
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Mich.

Application February 4, 1938, Serial No. 188,636

4 Claims. (Cl. 15—41)

This invention relates to carpet sweepers and has for its objects:

First, to produce a new and improved carpet sweeper.

5 Second, to provide such a carpet sweeper in which the brush is mounted along the forward edge of the sweeper casing to permit the brush to effectively sweep up close to furniture and walls and to permit the brush to pick up larger litter
10 than can be picked up with the ordinary type of carpet sweeper having a centrally mounted brush.

Third, to provide such a carpet sweeper in which the brush brushes backwardly as the sweeper moves forwardly over the floor, throwing
15 the litter back into a suitable dust pan.

Fourth, to provide such a carpet sweeper in which the movement of the brush to and away from the floor is in excess of the movement of the case to and away from the floor when the
20 sweeper is being used for sweeping.

Fifth, to provide such a carpet sweeper in which the driving floor wheels and the brush pivots may be assembled as units to be applied to the ends of a carpet sweeper case which facilitates manufacturing and eliminates expense.

Other objects and advantages pertaining to details and economies of construction and operation will appear from the description to follow. The invention is defined in the claims. A preferred embodiment of my invention is illustrated
30 in the accompanying drawings, in which:

Fig. 1 is a top plan view partly in section of a carpet sweeper embodying my invention taken on line 1—1 of Figs. 2 and 4.

35 Fig. 2 is a detail sectional view through the carpet sweeper taken on line 2—2 of Figs. 1 and 4.

Fig. 3 is a detail sectional view taken on line 3—3 of Fig. 1.

40 Fig. 4 is a detail sectional view taken on line 4—4 of Fig. 2.

Fig. 5 is a view of the side plate employed in mounting the brush and floor wheel unit on the end of the casing.

45 Fig. 6 is a perspective view of the yoke employed in said unit.

Fig. 7 is a perspective view of the yoke and idler wheel employed in said unit.

50 Fig. 8 is a view of the spring employed to hold the idler wheel resiliently in contact with the floor wheel and brush.

Fig. 9 is a perspective view of the dust pan.

Referring to the drawings, the carpet sweeper case is shown at 1. The ends are shown at 2 and the forward edge at 3. Along the bottom of the
55 forward edge is a brush opening 4 and a dust pan

5 is mounted in the casing at the rear of the brush opening 4 and is provided with an upwardly extending lip 6 and a wheel 7 which is mounted in a recess 8 in the bottom of the pan. The pan here shown slips into the casing as a
5 drawer and is held frictionally in position. In Fig. 2 the pan 5 is shown in dotted lines as pulled partially from the casing, and in Fig. 3 the pan 5 is shown slipped into the casing in position for use.

Guard members or foils 9 are provided beyond the ends 2 of the casing to conceal the wheels and the ends of the brush. The ends 2 of the casing are slotted at 10 to permit up and down
10 movement of the brush 11 which has the driving hubs 12.

A floor wheel and brush supporting unit 13 is provided at each end of the casing. Each unit consists of a yoke 14 formed of sheet metal having arms 15 and 16 of unequal length, the longer arm being indicated at 16. Floor wheels 17 are
20 mounted in the yokes 14 on suitable axles 18, which extend between the arms 15 and 16. A brush pivot 19 is provided at the forward end of each arm 16 of the yoke and a pivot 20 extending through the arms 15 and 16 of the yoke is provided. This pivot is located between the axle 18 and the pivot 19 so that as the floor wheel rises,
25 as viewed in Fig. 2, the brush is lowered.

A yoke 21 having an idler wheel 22 is pivoted, 30 on the pivot 20, by means of a slot 23 which permits the yoke to move to or away from the pivot 20. The periphery of the idler wheel 22 engages the periphery of the floor wheel 17 and the periphery of the brush hub 12 and is held resiliently in position by a spring 24 which is biased to move the yoke 21 downwardly as viewed in Fig. 2. One end of the spring 24 is inserted in the aperture 25 of the yoke 14 and the other end in the aperture 26 of the yoke 21. A plate 27 is applied at each end of the case 1 and a spring 28 is
40 mounted in a struck-up loop 29 in the plate.

The rear end 30 of this spring engages in the aperture 31 in the yoke 14 and tends to turn the yoke about the pivot 20 in a clockwise direction
45 as viewed in Fig. 2 to urge the floor wheels forward when the sweeper is in operation, thus resiliently supporting the sweeper case on these floor wheels. A suitable ball 32 is provided for operating the sweeper.

50 It will be apparent that when the sweeper is moved forwardly the floor wheels 17 rotate in a counterclockwise direction as viewed in Fig. 2, rotating the idler wheel 22 in a clockwise direction, in turn rotating the brush in a counter- 55

clockwise direction as viewed in Fig. 2. This sweeps the litter backwardly into the dust pan 5. The front edge of the sweeper is raised from the floor as will be apparent from an examination of Figs. 2 and 3 more than is customary in standard carpet sweeper construction, which permits the brush to pick up larger litter than could be picked up with such carpet sweepers.

It will be apparent that when pressure is put on the case by means of the bail 32 and the operating handle 33, the tendency will be to rotate the yoke in a counterclockwise direction as viewed in Fig. 2, moving the brush toward the floor a distance greater than the case itself is moved, thus permitting the sweeper to be used on rugs having various height nap and on bare floors as desired.

If it is desired, the spring 28 may be omitted although in operation it has a steadying effect and tends to promote the best sweeping action of the carpet sweeper, and there is less tendency with the spring for the brush to dig into a carpet which is being swept.

The dust pan may be removed as is indicated by dotted lines in Fig. 2, although any other suitable dust pan construction could be employed.

I have illustrated and described my invention in an embodiment which I have found highly satisfactory. I have not attempted to illustrate or describe other embodiments or adaptations as it is believed that this disclosure will enable those skilled in the art to embody or adapt my invention as may be desired.

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

1. In a carpet sweeper, a casing having a brush opening along the bottom of its forward edge and a dust pan extending rearwardly from said brush opening, said casing having at each end a brush and wheel supporting unit comprising a yoke having a pair of arms of unequal length, a wheel pivoted on an axle extending between the arms of said yoke, the longest arm of each yoke lying away from the casing and having a brush pivot thereon, a brush pivoted between said brush pivots and having driving hubs thereon at each end, each unit having an idler wheel, and a spring for holding said idler wheel resiliently in contact with said brush hub and floor wheel of said unit, and a pivot for each unit located between the wheel axle and brush pivot of said unit and pivotally connecting said unit to the end of the sweeper casing.

2. In a carpet sweeper, a casing having a brush opening along the bottom of its forward edge and a dust pan extending rearwardly from said brush opening, said casing having at each end a brush and wheel supporting unit comprising a yoke having a pair of arms, a wheel pivoted on an axle extending between the arms of said yoke, said yoke having a brush pivot thereon, a brush pivoted between said brush pivots and having driving hubs thereon at each end, each unit having a second yoke movable to or away said unit and carrying an idler wheel, a spring for holding said idler wheel resiliently in contact with said brush hub and floor wheel of said unit and a pivot for each unit located between the wheel axle and brush pivot of said unit and pivotally connecting said unit to the end of the sweeper casing, said second yoke being pivoted on said latter pivot.

3. In a carpet sweeper, a casing having a brush opening along the bottom of its forward edge and a dust pan extending rearwardly from said brush opening, said casing having at each end a brush and wheel supporting unit comprising a yoke having a pair of arms, a wheel pivoted on an axle extending between the arms of said yoke, said yoke having a brush pivot thereon, a brush pivoted between said brush pivots and having driving hubs thereon at each end, each unit having an idler wheel, and a spring for holding said idler wheel resiliently in contact with said brush hub and floor wheel of said unit and a pivot for each unit located between the wheel axle and brush pivot of said unit and pivotally connecting said unit to the end of the sweeper casing, and a spring for urging the yoke about its pivot to urge the floor wheels floorward when the sweeper is in use.

4. In a carpet sweeper, the combination of a casing having a brush opening at the bottom of its forward edge, a dust pan extending rearwardly from said brush opening, a brush having a driving hub, a pivoted lever having a brush pivot thereon pivotally engaging said brush, a floor wheel pivoted to said lever, an idler wheel engaging the periphery of the floor wheel and of the brush hub, a spring to urge said floor wheels floorward when the sweeper is in use and a pivot for said pivoted lever pivotally connecting said lever at a point between its brush pivot and the floor wheel to said casing.

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