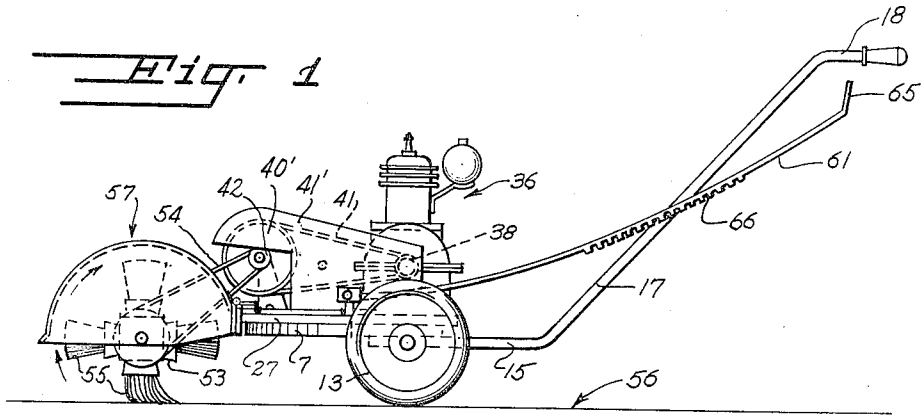
Oct. 9, 1956 G. G. LE BLANC 2,765,483

SWEEPING MACHINE

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Fig. 1



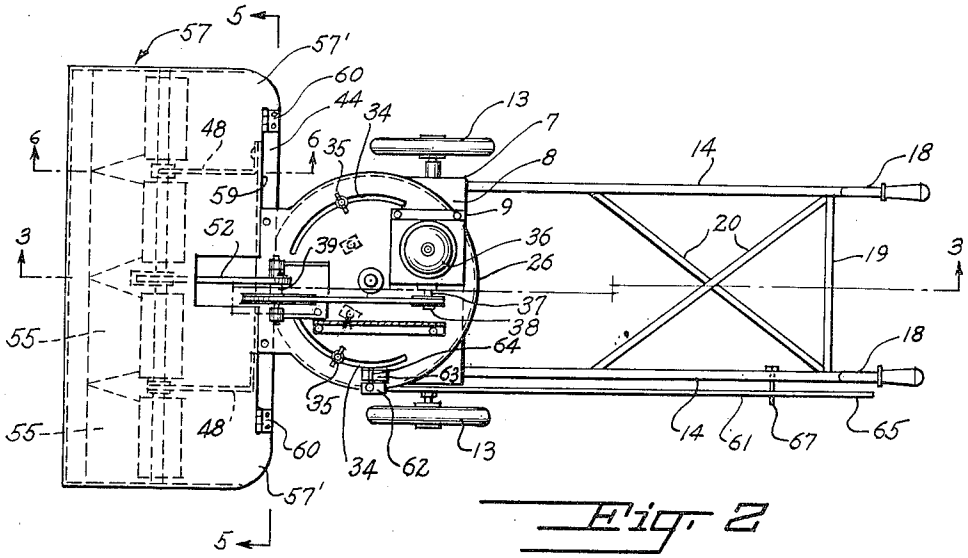




Fig. 2

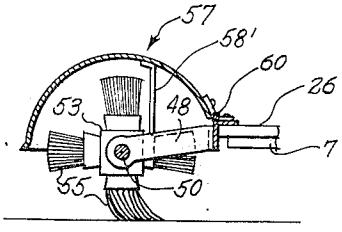



Fig. 6

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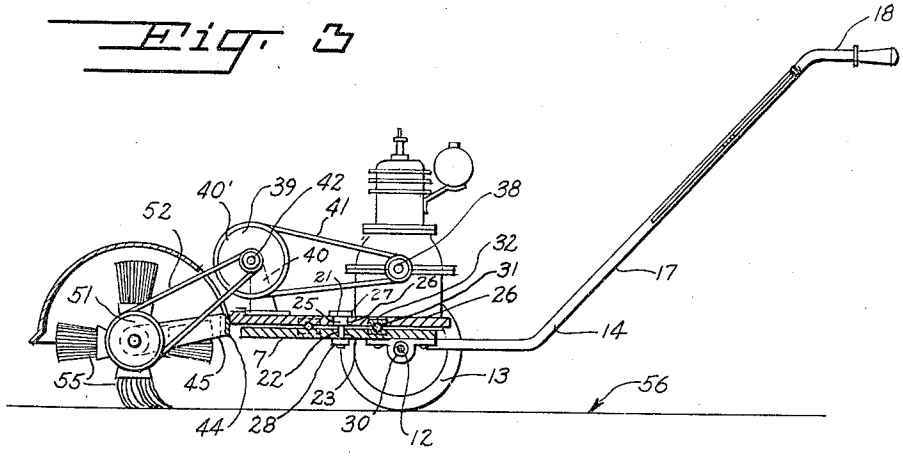
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McMorrow, Berman & Davidson
ATTORNEYS

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Fig. 3



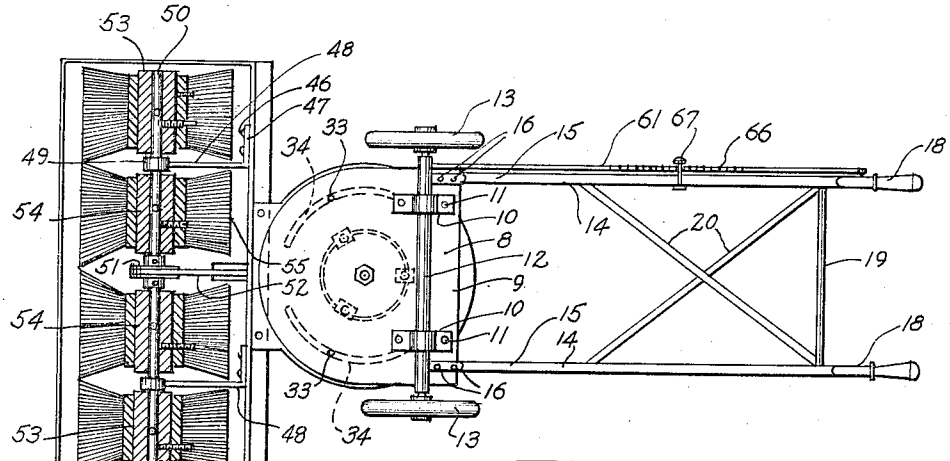




Fig. 4

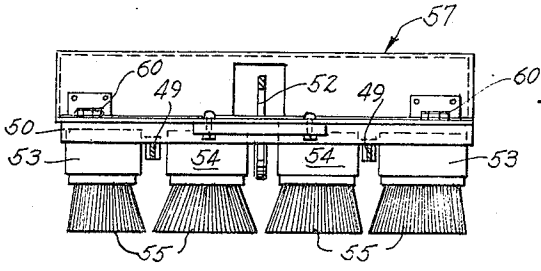



Fig. 5

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United States Patent Office 2,765,483 Patented Oct. 9, 1956



2,765,483

# SWEEPING MACHINE

Gabriel G. Le Blanc, Barton, Vt.

Application September 11, 1953, Serial No. 379,678

1 Claim. (Cl. 15—49)

This invention relates to an improved motor driven sweeping machine, especially but not exclusively, adapted to use in sweeping heavy debris from coarse surfaces, such as concrete walks and floors, barn floors and the like, where heavy penetration of surface irregularities is desirable.

A primary object of the invention is to provide an improved machine of the character indicated above wherein the broom rotor, which does the sweeping, can be adjusted to sweep toward either side of the machine, at various angles, and can sweep close to walls, fences, and the like.

Among further objects of the invention are to provide a more practical and efficient machine of the character indicated above which is relatively simple and uncomplicated in structure, which is more easily operated and guided, and which involves various features of construction and relationships of parts which reduce wear and add to longevity, and which can be made in a rugged, serviceable, and attractive form at relatively low cost.

Other important objects and advantageous features of the invention will be apparent from the following description and the accompanying drawings, wherein, for purposes of illustration only, a specific form of the invention is set forth in detail.

Figure 1 is a left-hand side elevation;

Figure 2 is a top plan view;

Figure 3 is a vertical longitudinal section taken on the line 3—3 of Figure 2;

Figure 4 is a bottom plan view;

Figure 5 is a transverse vertical section taken on the line 5—5 of Figure 2; and

Figure 6 is a vertical longitudinal section taken on the line 6—6 of Figure 2.

Referring in detail to the drawings, wherein like numerals designate like parts throughout the several views, the illustrated machine comprises a frame which includes a generally circular platform 7 having a rear portion 8 terminating in a straight rear edge 9. At points laterally inwardly from the opposite side edges of the portion 8, brackets 10, 10 are secured by fasteners 11 to the underside of the platform 7 and secure in place an axle 12 whose ends extend for short distances beyond the sides of the platform 7 and carry ground engaging wheels 13, 13.

The frame further comprises laterally spaced rearwardly extending rods or bars 14, 14 having horizontal forward portions 15, 15 fixed at their forward ends to the underside of the rear portion 8 of the platform 7 by fasteners 16. The bars 14, 14 further include upwardly and rearwardly inclined portions 17, 17 which terminate at their elevated ends in rubber covered horizontal handles 18, 18. A cross member 19 extends between and is fixed to the portions 17, 17 near the handles 18, 18; and crossed diagonal braces 20, 20 are positioned between and secured at their ends to the portions 17, 17.

A pivot member 21 has a pin 22 depending through



a center hole 23 in the platform 7 and a larger diameter bearing portion 24 which is journaled in a center hole 25 in a turntable 26, and a head 27 which retainably overlies the turntable 26. A nut 28 on the pin 22 securably engages the underside of the platform 7.

The top of the platform 7 is provided with a circular ball race 30 containing ball bearings 31, and the underside of the turntable 26 has on its underside a registered companion ball race 32 confiningly engaging the ball bearings 31.

Additionally holding the turntable 26 in place on the platform 7 and serving to limit lateral swinging of the turntable 26 relative to the platform 7 are studs 33 fixed on and rising from the platform 7 through arcuate slots 34, 34 provided in the turntable 26. Stop nuts 35 are threaded on the upper ends of the studs 33 above the turntable.

Mounted on a rearward part of the turntable 26 is an air-cooled gasoline engine 36 having a laterally projecting power shaft 37 having thereon a drive pulley 38. An intermediate and two-stage pulley 39 is journaled on a bracket 40 rising from and fixed to a forward part of the turntable in line with the pulley 38. The two-stage pulley 39 includes a relatively large pulley 40' which is belted, as indicated at 41, to the engine drive pulley 38, and a smaller pulley 42. A cover 43, secured to the turntable 26 encloses the belt 41 and the pulleys 38 and 40'.

The turntable 26 has fixed on its forward end a transverse angle bar or beam 44 having a vertical flange 45 to which are bolted, as indicated at 46, lateral portions 47 on the rearward ends of forwardly extending rotor carrying arms 48 which have bearings 49 on their forward ends in which the rotor or shaft 50 is journaled. A driven pulley 51 is positioned forwardly of the turntable 26 and is fixed on the shaft 50 medially its ends in line with the smaller pulley 42 of the two-stage pulley 39, and a belt 52 is trained over these two pulleys, whereby the shaft 50 is driven by the engine 36 when the engine is in operation. It is to be noted that the motor 36 is disposed rearwardly of the center of the turntable 26, whereby the rotor or shaft 50 and motor 37 will balance each other's weight forwardly and rearwardly of said center of turntable rotation.

Fixed on the shaft 50 between the outer ends of the shaft 50 and the rotor carrying arms 48 are outer brush hubs 53, and similarly fixed on the shaft 50 between the arms 48 and the rotor shaft pulley 51 are inner brush hubs 54.

On each brush hub are fixed four equally circumferentially spaced similar brushes 55, of such as rattan fibers, which are of sufficient length to make brushing contact with the ground 56, as indicated in Figures 1 and 3 of the drawings. The ground engaging wheels 13, 13 are so placed that the machine is sufficiently overbalanced in a forward direction to require no special effort on the part of the operator of the machine to keep the brushes 55 of the rotor in contact with the ground 56 in the operation of the machine.

A hood 57 overlies and encloses the upper part of the brush rotor and is generally rectangular in plan and generally semi-cylindrical in form and has a rear edge which is cut away, as indicated at 59 to receive the front cross bar 44 of the platform 26, and spring hinges 60, 60 and the ends of the bar 44 mount the hood 57 to swing upwardly and downwardly relative to the brush rotor on a horizontal axis extending crosswise of the turntable 26. For support in depressed closed position, the hood 57 has portions 58' which rest upon the rotor carrying arms 48. The rear corners of the hood are rounded, as indicated at 57' to enable the machine to work close to walls even in extreme lateral angulations of the sweeping unit.

For holding the turntable **26** and hence the brush rotor in a straight ahead position or in a variety of lateral positions at either side of the machine, a spring rod **61** is provided which extends longitudinally along the outer side of one of the frame side members **14, 14** and has a forward end **62** universally pivoted, as indicated at **63**, to a lug **64** fixed on the related side of the turntable **26**. The rod **61** terminates at its rear end in an offset handle **65** and forwardly of the handle **64** has a series of notches **66** which are selectively engageable with a detent pin **67** fixed on the side member **44**. Obviously adjustment of the lateral angulation of the sweeping unit involves disengagement of the rod **61** from the detent pin **67** and either forward or rearward manipulation of the rod **61** to obtain the desired angulation, followed by re-engagement of a notch of the rod with the pin **67**.

It will be noted that the ends of the brush rotor extend beyond the sides of the machine so as to increase the capacity of the machine.

What is claimed is:

In a sweeper, a horizontal, flat, substantially circular platform; transversely spaced, parallel, side members fixed at one end to the platform at opposite sides of the platform and being formed as handles at their other ends; an axle extending transversely of the platform rearwardly of the center point thereof; ground wheels carried by the opposite ends of said axle and constituting the only ground wheels of the sweeper; a flat, circular turntable overlying and substantially completely covering the platform, said turntable being of a diameter corresponding to that of the platform and being disposed in concentric relation to the platform, the turntable being mounted upon the platform for rotation about its center, said turntable including a forward projecting portion having a straight edge extending approximately tangentially of the turntable and platform; a cross beam of elongated formation fixedly secured intermediate its ends to said forwardly projected portion of the turntable so as to also extend approximately tangentially of the turntable and platform; a plurality of forwardly extending rotor carrying arms fixed at their rear ends to said beam and projecting substantially perpendicularly to the beam; a rotor journalled in the several arms and including a pulley medially its ends, said pulley being positioned forwardly of said turntable; a motor mounted upon the turntable, said motor being disposed rearwardly of the center of the turntable whereby said rotor and motor will balance each other's weight forwardly and rearwardly of said center of turntable rotation; a belt and pulley driving connection between said motor and the pulley of the rotor, mounted wholly upon the turntable; a hood overlying and enclosing the upper portion of the rotor, said hood being of semicircular shape and having a rear edge cut away medially its ends for extension of the belt and pulley driving connection therethrough; and spring hinges carried by said beam and connecting the hood to the beam for upward and downward swinging motion of the hood relative to the rotor about a horizontal axis extending approximately tangentially of the turntable.



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