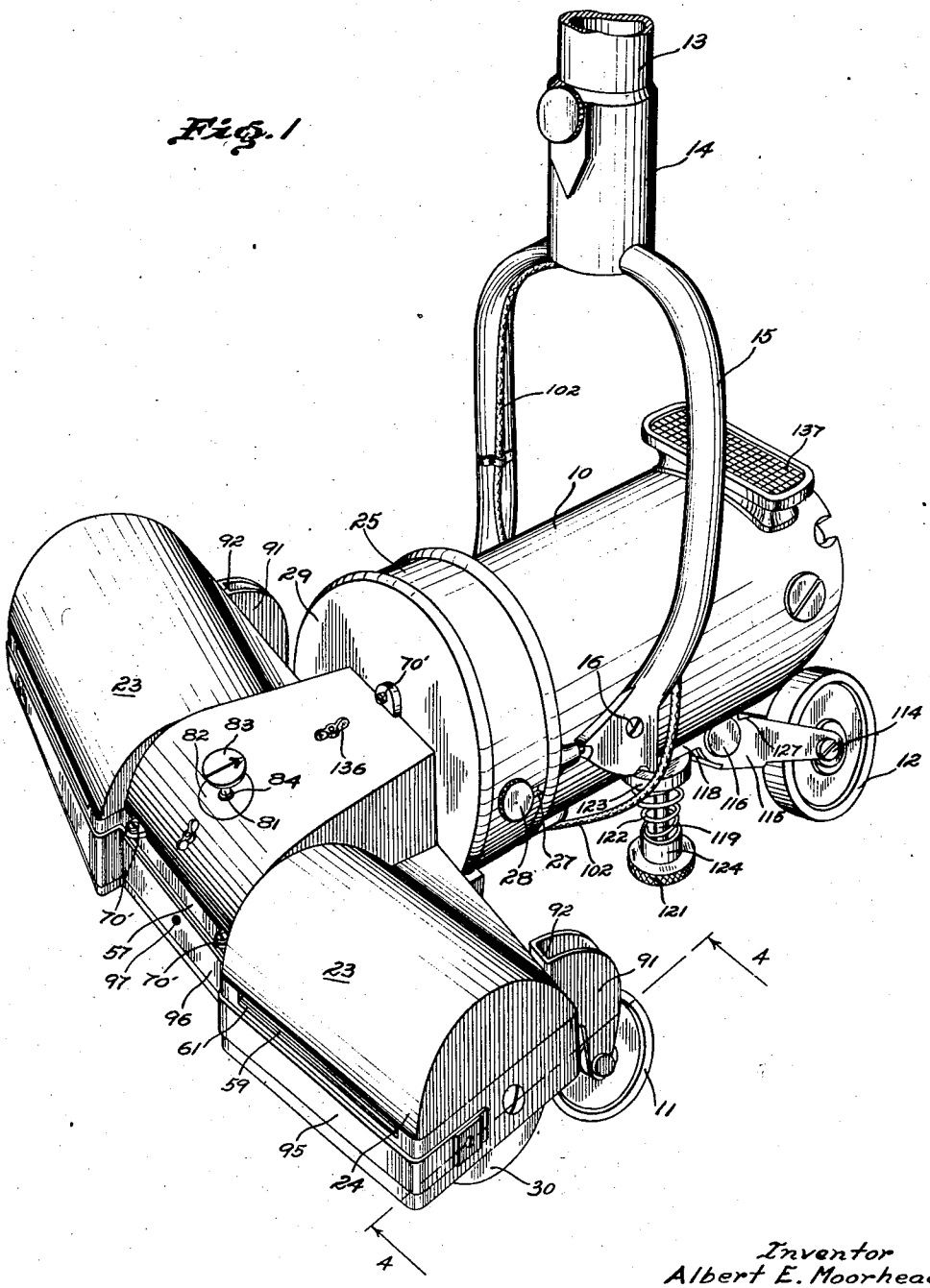
Feb. 13, 1934. A. E. MOORHEAD 1,947,136

FLOOR CLEANING DEVICE

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Fig. 1



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FLOOR CLEANING DEVICE

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Fig. 9

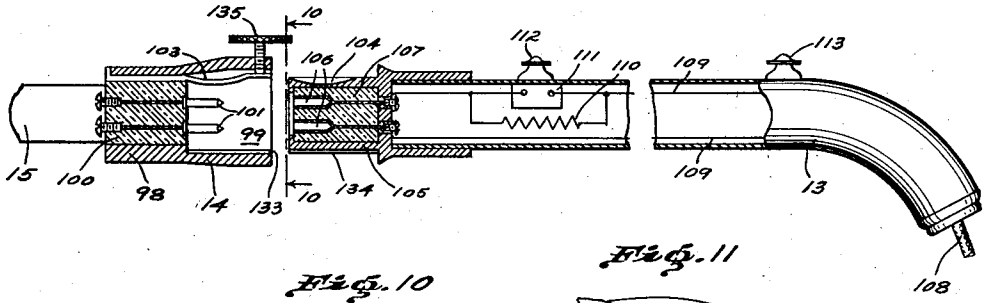


Fig. 10

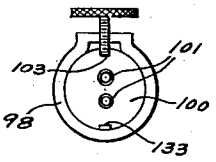


Fig. 11

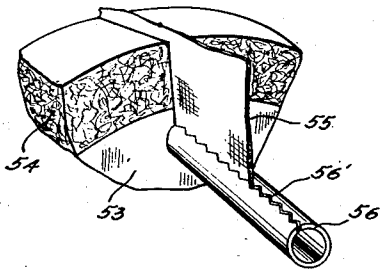
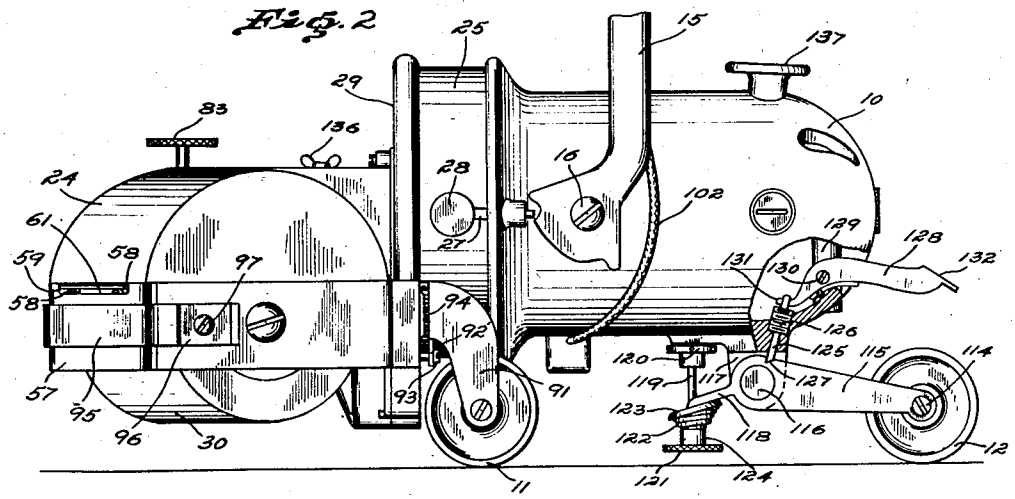


Fig. 2



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FLOOR CLEANING DEVICE

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Fig. 3

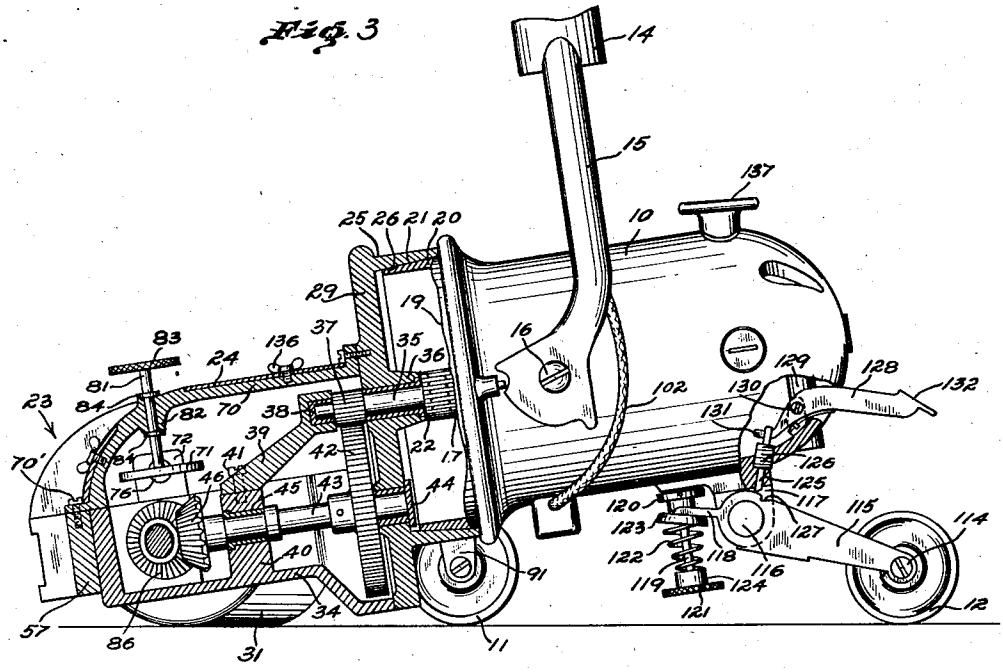
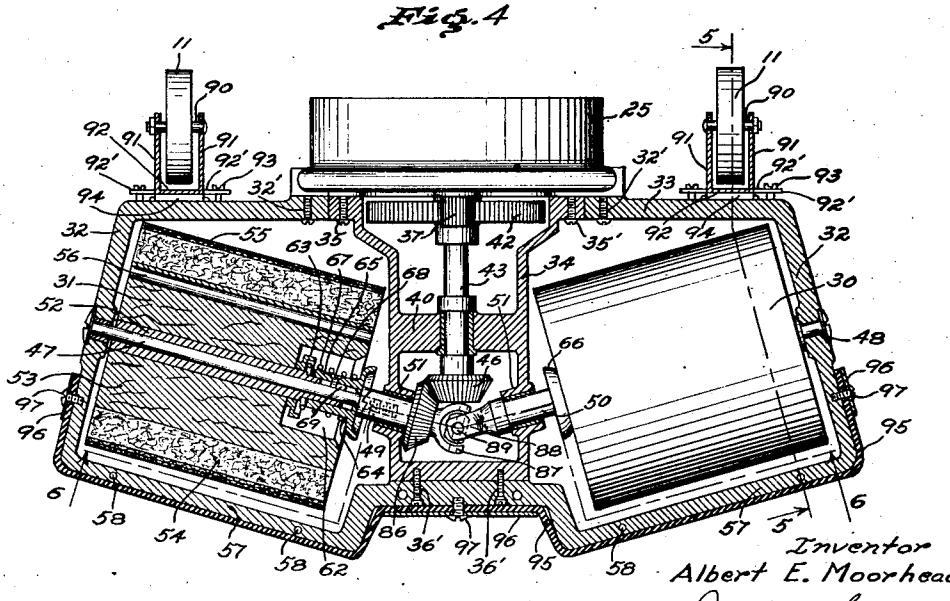


Fig. 4



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FLOOR CLEANING DEVICE

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Fig. 6

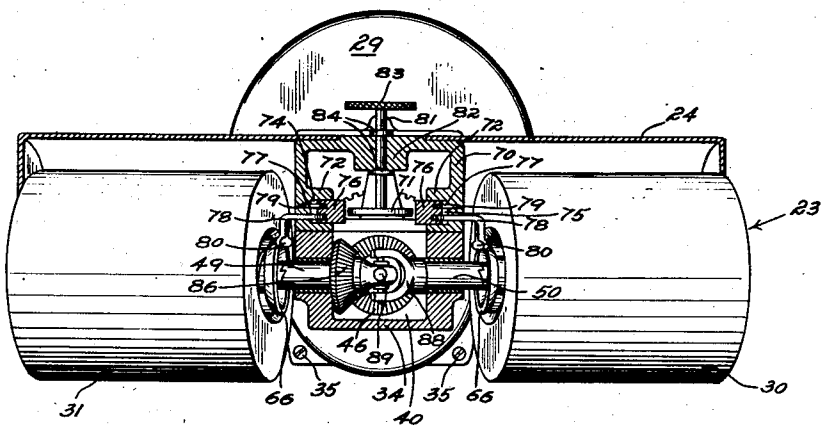


Fig. 7

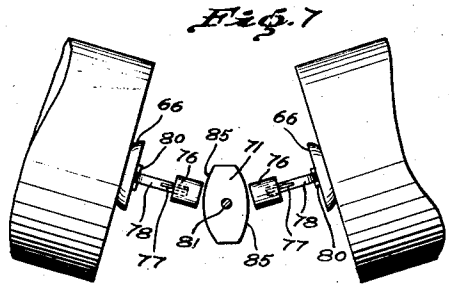


Fig. 8

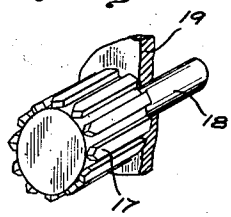
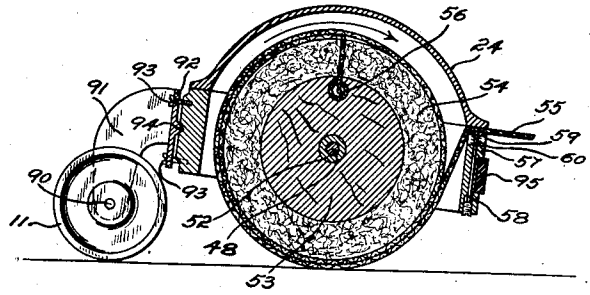


Fig. 5



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Patented Feb. 13, 1934 1,947,136

UNITED STATES PATENT OFFICE

1,947,136

FLOOR CLEANING DEVICE

Albert Edward Moorhead, Oakland, Calif., assignor to Moorhead Development, Co., Inc., Oakland, Calif, a corporation of Nevada

Application December 5, 1930. Serial No. 500,227

9 Claims. (Cl. 91—39)

This invention relates to the same class of invention as set out in my co-pending applications, Serial No. 656,158, filed August 7, 1923; Serial No. 214,733, filed August 22, 1928; and Serial No. 357,180, filed April 22, 1929; and more particularly to a floor polishing device having what is termed a perfect traction balance, and an automatic arrangement for charging and discharging a rubbing member with a floor treating medium.

This invention, briefly stated, comprises an electrically driven mechanical floor treating device which is so designed that a given or predetermined amount of a wax impregnated medium may be power wound layer on layer over a yielding rubbing member such as a roller pad, thereby creating a flexible, absorbent, wax spreading or polishing means for the care of hard surfaces such as hardwood floor and linoleums; and provisions for removing the exposed sections one after the other at will as they become soiled or worn out, without removing the non-exposed layers.

It is an object of this invention to provide a novel means for securing a wax impregnated medium to the rubbing member and then power winding it thereon; that is, by driving the rolls so as to wind the medium thereon. As these rubbing members are designed to rotate at a fast rate, such as 1000 revolutions per minute, it is readily apparent that any wax treating medium secured thereto would fly off or tear away due to the torque force, unless restrained. I arrange things in such a manner that the speed of rotation of the rubbing members is materially reduced while power winding the medium thereon. This is accomplished by means of an auxiliary switch which when in active position reduces the current fed to the motor by means of a resistance, as for instance, a carbon pile.

It is a further object of this invention to provide a floor treating device, the rubbing members of which are in perfect traction balance; that is, there is no tendency to creep or turn. I accomplish this by providing a device having two rubbing members hereinafter to be referred to as brushes for convenience. These brushes are set at an angle, from a straight line, of about 20° rearwardly, which creates a V-shaped design, the apex or point being in advance. These brushes are adapted to rotate in the same direction and due to the inherent traction balance of this arrangement, no creeping, turning, or twisting can take place.

It is a further object of this invention to provide a floor treating device equipped with a specially designed collapsible rear support which is operative in response to pressure on a toe rest on the motor frame, to lift the brushes from the floor and thus permit the unimpeded movement or rolling of the device, whereby portability of the device is facilitated. These brushes can be restored to a predetermined working position in proper contact with the floor by pressing a trigger which cooperates with the rear support to restore it to normal position.

It is a further object of this invention to provide a detachable clutch connection between the brushes and the motor and thereby permit the unwinding of the soiled waxed medium from the brushes.

It is a further object of this invention to provide a device which is so constructed, that the operator may readily substitute one floor treating unit for another when such changes are desired, without necessitating any complicated adjustments. By providing tapered telescoping flanges, the connection between the motor and floor treating unit is rendered rigid.

It is a further object of this invention to provide a means for adjusting the pressure of the brushes against the floor to a predetermined nicety. Experimentation has very adequately proven that the best polish in a minimum of time, is applied to a hard surface by moving a waxed medium thereover with a light touch and with great speed.

It is a further object of this invention to provide a device simple in design and construction, pleasing in appearance, and comparatively inexpensive to manufacture.

My invention possesses many other advantages, and has other objects which may be made more easily apparent from a consideration of one embodiment of my invention. For this purpose I have shown a form in the drawings accompanying and forming part of the present specification. I shall now proceed to describe this form in detail, which illustrates the general principles of my invention; but it is to be understood that this detailed description is not to be taken in a limiting sense, since the scope of my invention is best defined by the appended claims.

Referring to the drawings:

Figure 1 is a perspective view of a floor treating device embodying my invention;

Fig. 2 is a side view of the device shown in Fig. 1 with part in section showing the means for maintaining the brushes in elevated position;

Fig. 3 is a side view, partly in section, with the brushes in active position in relation to the floor, and showing the construction of the driving means for the floor treating unit;

Fig. 4 is a sectional view of the unit taken substantially along the plane 4—4 of Fig. 1;

Fig. 5 is a section along the plane 5—5 of Fig. 4 showing the means of winding the waxed medium on the brushes, and the means for adjusting the pressure of the brushes against the floor;

Fig. 6 is a section substantially along the plane 6—6 of Fig. 2 showing the detachable clutch means between the brushes and motor;

Fig. 7 is a detailed diagrammatic view of the means for detaching the clutch;

Fig. 8 is an enlarged detailed view of a self-centering sliding clutch utilized in this invention;

Fig. 9 is a view of the detachable handle, partly in section and partly diagrammatic, showing the means for reducing the speed of the motor;

Fig. 10 is a section along the plane 10—10 of Fig. 9; and

Fig. 11 is a broken away detailed view of the novel means for securing the wax impregnated medium to the brushes.

Referring to Fig. 1, the power and floor treating unit is shown as having a casing 10, mounted for rolling on wheels 11 and 12, and provided with a long propelling detachable handle 13. This handle is rigidly maintained in a socket 14 of a bracket or support 15 in a manner readily apparent from Fig. 9. This will be hereinafter described in greater detail.

The bracket 15 in effect forms a part of the handle, and comprises a U-shaped member, the free ends of which straddle the casing 10 and are pivotally secured thereto as at 16. In this manner the handle may be moved in vertical plane between limits, to suit the convenience of the operator, in a manner readily apparent from Fig. 1. This type of movable handle is conventional, and as it forms no part of the present invention, no further details of the construction are deemed necessary.

A motor (not shown) is housed within the casing 10 and provides a source of energy for one part 17 (Fig. 8) of a self-centering clutching device, through the medium of the motor shaft 18. The casing 10 is provided with a front wall 19 having an aperture through which the shaft 18 extends. The shaft extends through the wall 19 and the part 17 of the self-centering clutching device is integrally secured thereto in a manner readily apparent from Figs. 3 and 8.

A cylindrical overhanging flange 20 is formed integral with the front wall 19 and is provided with an outer tapered wall as at 21 for a purpose to be hereinafter described. The part 17 is similar in form to a spur gear or pinion with the ends tapered and is adapted to be engaged by the tines or fingers of another clutch member 22 whereby the latter will be driven.

Clutch member 22 which is the driven element, is carried by the detachable floor treating unit 23 which comprises a casing or housing 24 and a framework 32. This floor treating unit is supported on the power unit as by the aid of flange 25 carried by the framework 32, which flange telescopes over the flange 20. The inner wall 26 of the flange 25 is tapered and in this manner forms a tight telescoped connection with the correspondingly tapered wall 21.

The flange 25 (see Fig. 1) is equipped with guiding studs or apertures 27 which cooperate with the ball locking thumb screws 28 to insure the proper vertical alignment of the two units. The flange 25 also has an end wall 29, which acts with end wall 19 to define a compartment in which the clutching elements can be accommodated. The framework 32 is secured to the end wall 29 as by screws 32', (see Fig. 4), extending through the back wall 33 thereof, and thus renders the framework integral with the flange 25.

The continuity of this back wall 33 is interrupted to provide a space for one end of a framework or support 34. This support is fastened to the floor treating device 23 as by screws 35 36' (Figs. 3 and 4), passing through the end wall 29 and the front wall of the framework 32 respectively.

The driven clutch member 22 acts through an intermediate mechanism to rotate rollers 30 and 31 in the same direction, in a manner to be hereinafter described.

A shaft 35 (Fig. 3) is formed integral with the clutching element 22 and is adapted to rotate in a hub bearing 36 formed integral with the wall 29, and thereby to rotate the gear 37. This gear is one of a pair of speed reducing gears. The free end of the shaft 35 is journalled in a cup bearing 38 aligned with the hub bearing 36. Fig. 3 shows the cup bearing 38 which is supported on a rigid inclined arm 39 secured to a cross piece 40 of the support 34 as by bolts 41. Gear 37 meshes with a gear wheel 42 and thereby rotates shaft 43. Gear 42 is many times larger than gear 37 and acts therewith to reduce the speed translated thereby to shaft 43.

Shaft 43 is journalled for rotation in a cup bearing 44 and a bearing 45 formed in the cross-piece 40. Cup bearing 44 resides in an opening in the end wall 29 and completely houses one end of the shaft 43. A beveled gear 46 is secured to the other end of shaft 43 and rotates therewith in response to the rotation of the clutching element 22.

Rollers or brushes 30 and 31 are mounted for rotation on and with shafts 47, 48. One end of each of these shafts is mounted in each of the respective sides of the framework 32, and the other end screw threads into one element 49, 50 of a clutch. Elements 49, 50 are journalled for rotation in bearings 51 in the support 34 formed at an angle, from a line normal to the shaft 43, of the order of 20° rearwardly. This invention is not limited to the specific angularity mentioned, and it is to be understood that 20° is the preferred form, as it is equally applicable to other angularities. As the shafts 47, 48 are coextensive with the elements 49, 50, they likewise extend angularly rearwardly from a line normal to the shaft 43; and therefore the brushes 30, 31 mounted on the shafts extend in the same direction and thereby create a V-shaped design. This positioning of the brushes in the manner specified prevents creeping and twisting of the floor treating device during operation, and maintains a perfect traction balance due to the equalizing opposing forces set up by rotating the brushes.

The brushes 30, 31 are utilized for winding thereon a floor treating medium of the desired length layer on layer, from which soiled portions may be readily removed. These brushes (Figs. 4 and 5) comprise a sleeve 52 made of any suitable material, such as metal, substantially wholly embracing the shafts 47, 48, to which they are detachably clutched in a manner to be described. About the sleeve 52 is a core 53 of solid resisting material such as wood. A thick layer of felt or other soft yielding material 54 is secured to the core 53.

In order to wind a floor treating medium such as the wax impregnated fabric 55 on the brushes 30, 31, I provide an insert or gripper member 56 (Figs. 4, 5 and 11). This member may have any desired shape, but in the drawings it is shown as tubular. It is provided with abutting or opposed serrated edges 56' which act to grip the fabric 55. An opening for this insert is pro-

vided in the core member 52, and a slit extends from the opening to the outer periphery of the layer of felt 54 (Fig. 11). It is now readily apparent that one end (the advance end) of a floor treating medium is secured to the brushes 30, 31 by first threading one end of the material between the serrated edges 56' and then inserting the gripper with the material in the opening and slit as shown in this figure, by compressing the resilient gripper. By simply rotating the rollers in the direction of the arrow (Fig. 5) the material is wound thereon layer on layer. In this device, the material is power wound on the rollers in a manner to be hereinafter described.

In winding the material 55 on the rollers, it is essential that the layers of material be wound with a uniform tension. This is readily accomplished by providing a tensioning means in the forward wall 57 of the framework 32 (Figs. 1, 2, 4 and 5). This comprises a plate 59, residing in a cut-out portion 61 (Fig. 2) in the front wall 57, which is opposedly maintained to the end of the casing 24 by guide rods 58 in the front wall 57. Springs 60 surround these rods immediately below the plates 59, and urge them upwardly against the edge of the casing 24 and thereby frictionally engage the fabric 55 therebetween.

The brushes 30, 31 are designed for rotation in one direction only in a manner to be hereinafter described. It is therefore essential to provide a means for easily reversing the direction of rotation of the rollers in order to permit the removal of the soiled fabric, as by disconnecting the brushes from the motor. This is accomplished by means of a clutch, one element 49 of which has heretofore been described. The cooperating clutching element which is normally driven by a bevelled gear 86 at one end of the clutch element 49 to drive the brushes, will now be described.

A portion of the core 53 (Figs. 5, 4 and 11) adjacent the support 34 is hollowed out to form an annular recess 62. A cup-shaped member 63 embraces the sleeve 52 and resides in the bottom of the recess. The cooperating clutching element 64 comprises a sleeve 65 surrounding the sleeve 52 and an outwardly flared flange 66. A strong spring 67 embraces the sleeve 65 and acts between the member 63 and flange 66 to normally maintain the clutching element 64 in cooperating engagement with the corresponding clutching element 49. The movement of the clutching element 64 out of engaging position is limited by a pin 68 and a slot 69 formed in the sleeve 52.

The disengagement of the clutching elements 64 and 49 can be accomplished by means of a simple mechanical arrangement shown in Figs. 1, 3, 6 and 7. This comprises a support 70 which directly overlies the support 34 and completely encases all the mechanism therein. The support is maintained in this position as by bolts 70' (Fig. 1) extending into the front wall 57 of the framework 32 and the wall 29. Opposed bosses 72, 73 (Fig. 6) are formed in the inner side of the support 70 having opposed annular recesses 74, 75. Cylindrical members 76, 76 are slidably maintained in these recesses, and are adapted to be pushed inwardly by a cam member 71.

Guide pins 77, 77 and L shaped members 78, 78 are screw threaded into the inner end of the members 76, 76. A protuberance 80, 80 is formed at the end of the shorter leg of the L shaped member 78 and is adapted to bear against the flange 66 on one of the clutching elements 64. Guide slots 79, 79 are formed in the sides of the support 70 for the guide pins 77, 77 and thus prevents rotation of the members 76, 76 and the consequent movement of the protuberances 80, 80 away from the flanges 46.

The cam member 71 is normally maintained with the sides having the shortest radius opposed to the members 76, 76. This is accomplished by means of a shaft 81 rotatably mounted in a hub or boss 82 formed integral with the support 70, and secured at one end to the cam 71. To the other end, a knob or indicator 83 is secured, which enables a rotary movement of the shaft and indicates the position of the cam 71. Locknuts 84, 84 are positioned about the shaft 81, above and below the hub 82 and thereby prevent a vertical movement of the shaft.

The manner of disengaging the clutching elements 49, 64 and 50, 64, to permit unwinding of the material 55 is readily apparent from the foregoing. By turning the indicator 83 in either direction, the sides 85 with the shortest radius are brought in contact with the members 76, 76 and push them outwardly into the recesses 74, 74. This also causes the consequent outward movement of the L shaped members 78 which exert a lateral pressure on the flanges 66 to disengage clutching element 64 from 49 against the action of spring 67. A return of the indicator to its original position will automatically cause the elements to return to their normal position due to the force of the spring 67 acting against the flange 66.

It has been heretofore stated, that the brushes 30, 31 rotate in one and the same direction, which I accomplish in a simple manner now to be described. A bevelled gear 86 is secured to the clutching element 49 within the support 34 and maintained in meshing relation with the gear 46. A swivel knuckle 87 is formed integral with the gear 86 and extends slightly beyond it. This coacts with the swivel knuckle 88 formed integral with the clutch element 52 as by pins 89 to form a universal joint connection. It is now apparent that a rotation of shaft 43 will rotate shaft 47 through the intermediary of the meshing gears 46 and 86, and at the same time rotate shaft 48 in the same direction through the intermediary of the universal joint connection.

Experimentation has proven that the best polishing is accomplished by an intensified rubbing action over a hardwood floor, with a light and uniform pressure. It therefore becomes essential to provide a means for adjusting the rollers to a predetermined working condition in proper contact with the floor. I accomplish this in a manner readily apparent from Figs. 2, 4 and 5.

As has been heretofore stated, the floor treating device is mounted for rolling on the wheels 11 and 12. The wheels 11 are rotatable about a shaft 90 (Fig. 5) which extends through the lower ends of spaced supports 91. The supports 91 are formed integral with a back wall 92, and have extensions 92' outward therefrom (see Fig. 4). The supports 91 are secured to the floor treating unit as by bolts 93 extending through the extensions 92' and into the back wall 33 of the framework 32. A rib 94 of triangular cross section extends across the back member 92 at the approximate central portion thereof. This rib bears against the back wall 33 and in effect is the fulcrum of a lever such as the supports 91. It is readily apparent that by simply adjusting the bolts 93 pressure can be thrown on or taken from the rollers.

The front wall 57 of the framework 32 not only acts as a carrier for the tension guide plate 59, but in addition acts as a fender to prevent a careless operator from running the brushes into an object which would deleteriously affect them. A rubber bumper 95 is maintained in close contact with the front wall 57 and a portion of the side walls of the framework 32, as by plates 96 and bolts 97. This bumper acts as a shock absorber.

As only the advance end of the fabric 55 is secured to the brushes as by the grip clip 56, it is readily apparent that if an attempt were made to power wind this material on the rollers which are revolving at 1000 R. P. M., the centrifugal force set up would tear the fabric from the grip clip and cause it to fly out. It is therefore essential to provide a means for reducing the angular velocity of the brushes when power winding the fabric thereon. I accomplish this by means of a removable handle which is equipped with two switches; one, a service switch, and the other in connection with a resistance which is thrown on when charging the rollers in order to reduce the speed thereof.

The handle, as hereinabove set out comprises a socket 14 and a detachable handle proper 13. (Fig. 9).

The socket 14 (Figs. 9 and 10) comprises an outer metallic sleeve 98 of any suitable metal such as aluminum, a socket proper 99, and an insulation base 100. Contact posts 101, are supported in this base and are connected to the motor by leads 102 (Figs. 1 and 3). A spring clip 103 is clamped at one end between the base 100 and the sleeve 98 and the free end, is substantially of saucer shape which coacts with the saucer shaped cut-out 104 on the plug 105 of the handle proper 13.

Contact receptacles 106 are embedded in insulating material 104 in the plug 105. These contacts are connected by suitable leads 109 to the input lead 108. Adjacent the lower end of the handle 13, a resistance 110 is connected to one of the leads 109 which is put into the circuit by a switch represented by the oblong 111 and the button 112. This switch may be of any suitable construction, but I preferably use one that places the resistance into the circuit when the button is depressed, and which immediately throws it out when the button is released. The other switch 113, known as the service switch, may likewise be of any suitable type. This acts to feed current from the input lead to the motor, when turned on. The switch 111, 112 is preferably adjacent the lower end of the handle for convenience, in a manner to be hereinafter described.

The brushes 30, 31 may be very readily lifted out of contact with a floor by means of a novel collapsible rear supporting wheel 12 shown in Figs. 1, 2 and 3, for facilitating portability.

The wheel 12 is rotatably mounted on a shaft 114 extending through the lower extremities of supports 115. The upper extremity of the supports 115 are pivotally secured as at 116 to a depending lug or boss 117 formed integral with the casing 10. Spaced tines or fingers 118 are formed integral with the upper extremities of the supports 115, and normally extend forwardly and upwardly therefrom for a purpose to be hereinafter described. (See Figs. 1 and 3).

A post 119 extends downwardly from the casing 10 between the fingers 118. This post is secured to the casing by an adjustable capstan member 120 (Fig. 2) which limits the upward movement of the fingers 118, and is provided with a member 121 at the lower extremity. A strong spring 122 surrounds the post 119, and is retained in place by a flange 123 and a collar 124 on the member 121. The fingers 118 are adapted to rest on the collar 123 and act thereon to compress the spring 122, to the position shown in Fig. 2. The capstan 120 can be readily manipulated to vary the tension on spring 122.

The spring is maintained in this compressed position by means of an axially movable pin 125 slidable in a bushing 126 which is screw-threaded into the lower back end of the casing 10 (Figs. 2 and 3). This pin is adapted to coact with a slot 127 formed on the upper extremity of the support 115. This is readily accomplished by compressing the spring 122 and thereby permitting the pin 125 to fall into the slot 127. This is brought about by lowering the axis of pivot 116 with respect to the axis of wheel 12.

The pin 125 can be released to restore the brushes to the predetermined working position in proper contact with the floor, by a trigger 128. This trigger is pivotally secured as at 130 to a post 129 formed integral with the casing. One end of the trigger 128 is secured to the upper end of the pin 125 as at 131. The other end 132 forms a step plate at which point pressure may be applied to lift the pin 125 out of engaging position with the slot 127. The spring 122 can then expand to restore the parts to the original or normal position as shown in Figs. 1 and 3.

To operate the device, it is first necessary to firmly clamp the handle 13 to the socket 14 which is readily accomplished by inserting the plug 105 of the handle 13 into the socket proper 99. Correct alignment of the contact pins 101 with the contacts 106 is assured by means of a rib 133 formed at the bottom of the socket proper 99 and a cooperating groove 134 formed in the bottom of the plug 105. The saucer shaped portion of the spring clip 103 cooperates with the saucer shaped cut-out 104 to assure a rigid connection. A thumb set screw 135 passing through the sleeve 98 and bearing against the free end of the spring clip 103 assures the maintenance of this rigid connection.

The brushes 30 and 31 are lifted from the floor by stepping on the step plate 137. The pressure exerted thereon acts on the fingers 118 to compress the spring 122 and collapse the rear support in the manner shown in Fig. 2. This position of the parts is maintained by the pin 125 which coacts with slot 127. The casing 24 which overlies the brushes is then removed by unscrewing the winged nuts 136.

A piece of chemically prepared floor treating material, such as disclosed in my copending application, Serial No. 473,090, filed August 4, 1930, of a size, say sufficient to clean and polish a room is cut from a stock roll. This material is then threaded through the cutouts 61 over the plate 59, and in this fashion is maintained under tension when winding it on the rollers. The grip clip 56 is removed and the advance end of the material 55 is inserted therein and replaced in the rollers in a manner clearly set forth in Fig. 11.

The resistance or slow speed switch 111, 112 is depressed first and maintained in that position, and then the service switch 113 is turned on; the motor will then automatically and slowly wind the material 55 layer on layer on the brushes. When the material is fully wound on the brushes, the pressure on the switch 111, 112 is released and the brushes, due to the speed reducing gearing 39, 42 will rotate at a speed such as 1000 R. P. M.

Pressure is next applied to the step plate 132 which lifts the pin 125 out of engagement with the slot 127 and permits the spring 122 to restore the rollers in preadjusted contact with the floor and the work begins.

It is to be kept in mind that the best results are obtained by an intensified rubbing and scouring of the material over the floor. Having the brushes set at an angle of about 20° rearwardly to create a V-shaped design, gives the desirable action. As the device is urged forwards or backwards by the handle 13, the brushes will be operating at a cross angle from this line of motion, causing a scouring and intensified rubbing action. Intensified rubbing action results in a saving in time and performance of better work.

When the operator feels that a portion of the material should be removed due to the accumulation of dirt thereon, the motor is first stopped by turning off the service switch 113. The indicator 83 is turned until the cam member 71 acts against the member 76, 76, which in turn acts against flanges 66, to disengage clutching members 64, 49 and 64, 50. This then permits the soiled material to be unrolled from the brushes and then removed. By this simple operation, a new exposure of material is maintained.

The indicator 83 is then returned to its original positon and the service switch 113 then turned on. If too much of the floor treating medium was unwound the machine immediately winds it on again.

High speed brushes such as the type described will do more work in ten minutes than can be done by any of the other machines of the prior art. In addition, if it is desired to substitute another form of floor treating unit such as a vacuum cleaner for the polisher described, it is simply necessary to loosen the thumb nuts 28 and remove the complete unit. Of course, the fan of a vacuum cleaner will be rotated at the same speed as the motor shaft, for in this instance no speed reducing gears such as 39 and 42 are used.

I claim:

1. In a floor polishing device, a rotatable rubbing member adapted to be overlaid with a treating medium, means for rotating said member, a frame supporting said member, said frame having an opening for introducing said treating medium, and means for providing a uniform frictional resistance on the medium as it is wound onto the member.

2. In a floor polishing device, a brush, and removable means in said brush for holding the advance end of a floor treating medium, said means comprising a member having a longitudinal slit formed by opposed serrated edges.

3. In a floor polishing device, a pair of brushes set at an angle from a straight line to form a V-shaped design, and removable means in said brushes for holding the advance end of a floor treating medium to be wrapped on said brushes, said means consisting of a tubular member having a longitudinal slit formed by opposed serrated edges.

4. In a floor polishing device, a motor and a floor treating unit normally contacting with a floor, means supporting said unit and assisting in the locomotion thereof, collapsible means supporting said motor, said means, in normal position, acting to keep the unit in contact with the floor, and coacting with the supporting means to assist in the locomotion of the device, and means for collapsing said support for the motor whereby the unit will be elevated and thereby permit the free locomotion of the device, said collapsible means comprising an arm pivotally attached to the motor, an adjustable spring urging the arm downward to support the motor, said arm having a notch therein, a pin engaging the notch when the arm is forced upward, and means for releasing said engagement.

5. In a floor polishing device, a motor and a floor treating unit, means associated with the unit to assist in the locomotion thereof, and a collapsible rear supporting wheel secured to said motor, said wheel in distended position acts to maintain the unit in contact with a floor and also assists in the locomotion of the device, means to collapse said supporting wheel and maintain it in that position whereby the unit will be elevated and the free locomotion of the device permitted, and means to restore said collapsible supporting wheel to a distended position, said collapsible means comprising an arm supporting a wheel and pivotally attached to the motor, an adjustable spring urging the arm downward to support the motor, said arm having a notch therein, a pin engaging the notch when the arm is forced upwardly, and means for releasing said engagement.

6. In combination with a floor polishing device, a quick-release mechanism for separating a driving member from a driven member, comprising: a flange on the driven member, a sliding member in a recess of the frame of the floor polishing device, a cam actuated by hand to move the sliding member into the recess, and a connecting member transmitting the movement of the sliding member to the flange, whereby the driven member is separated from the driving member.

7. In a floor polishing device, a rotatable rubbing member adapted to be overlaid with a treating medium, means for rotating said member, a frame supporting said member, said frame having an opening for introducing said treating medium, and means for providing a uniform frictional resistance on the medium as it is wound onto the member, said means comprising a friction plate, guide pins restricting motion of the plate to a direction normal to the direction of motion of the treating medium as it is wound onto the member, and springs urging the friction plate against the medium, said friction plate being located in the opening.

8. In a floor treating device, the combination comprising: rotatable rolls; floor treating material wound on the rolls; electrical means for driving said rolls to treat a floor surface, said means also being adapted to rotate said rolls for winding the floor treating material on the rolls; and means for reducing the speed of rotation of the rolls when winding the material on the rolls.

9. The combination as defined in claim 8, in which said last named means comprises a resistance and a switch connected in parallel, said switch normally shunting the resistance; and lead-in wires to the electrical driving means, said resistance and switch being located in one of said lead-in wires, whereby a reduced speed of the driving means is obtained when said switch is actuated.

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