July 28, 1931. L. N. PELKEY 1,816,054

BLOCK CLEANING MACHINE

Filed Sept. 22, 1927 2 Sheets-Sheet 1

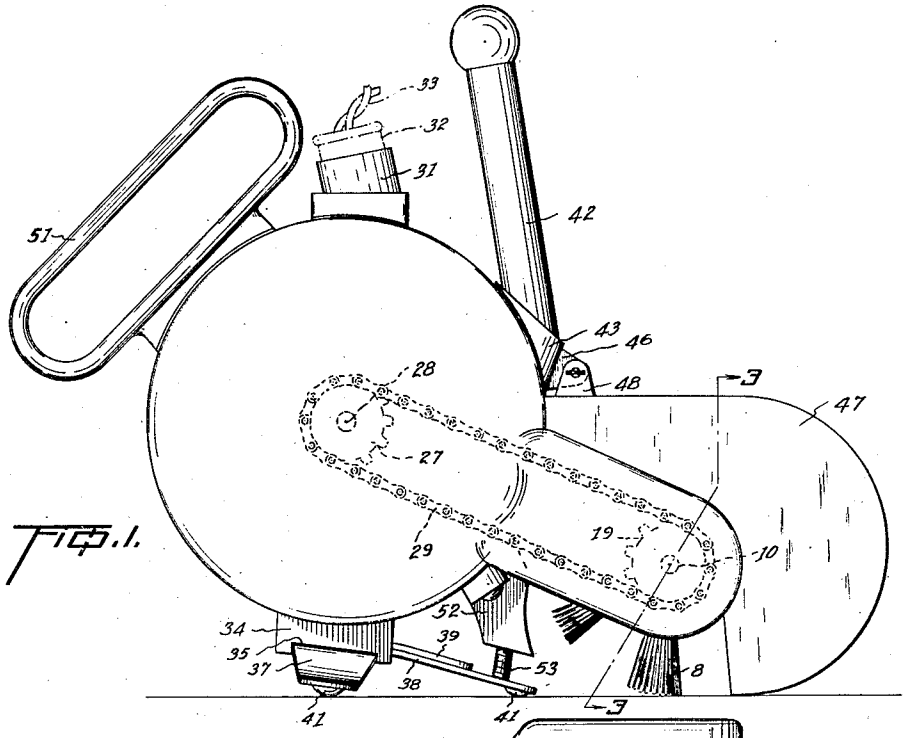


FIG. 1.

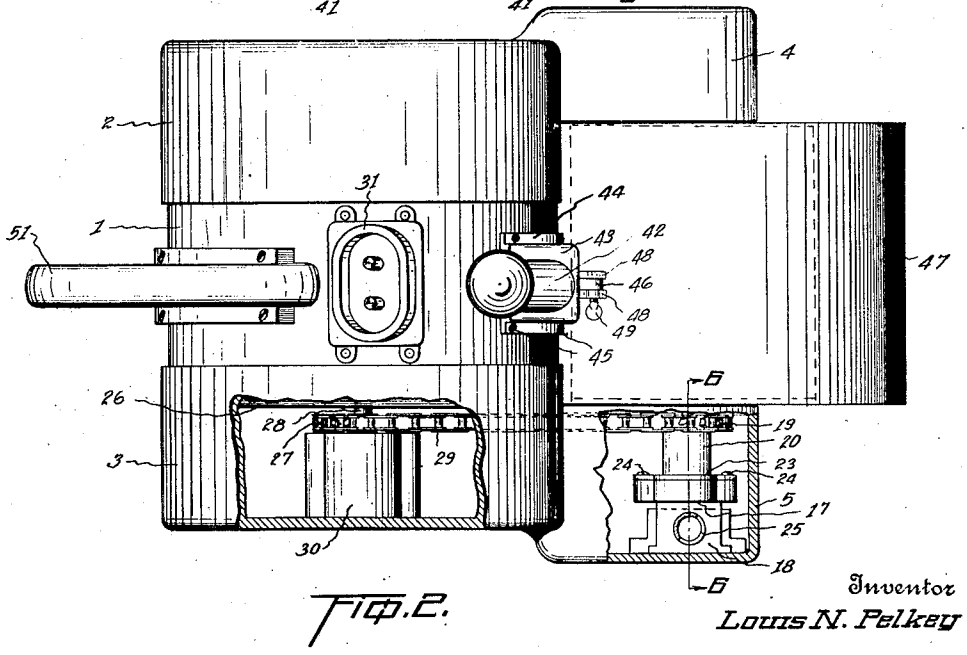


FIG. 2.

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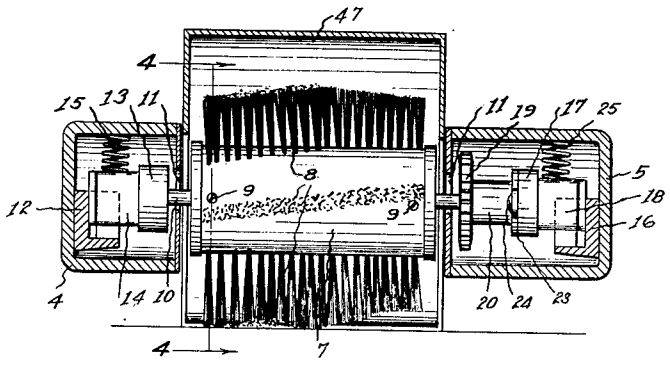


FIG. 3.

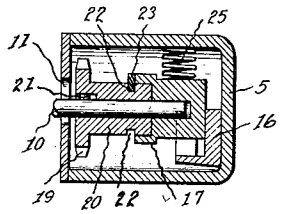


FIG. 6.

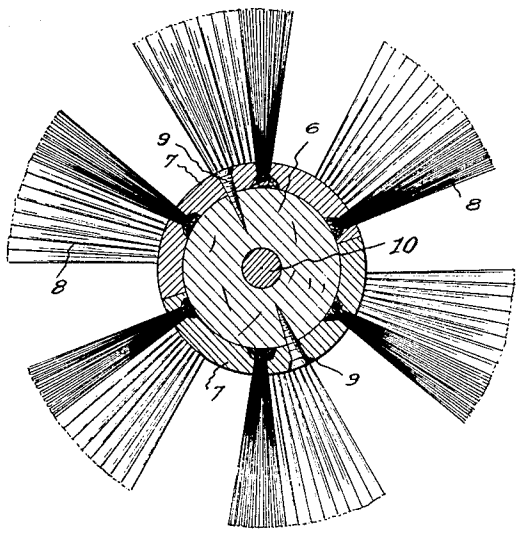


FIG. 4.

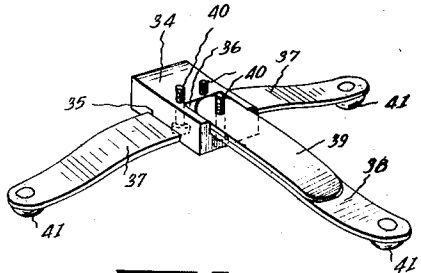


FIG. 5.

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UNITED STATES PATENT OFFICE

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BLOCK CLEANING MACHINE

Application filed September 22, 1927. Serial No. 221,251.

This invention relates to block cleaning machines and has special reference to a machine that may be advantageously used by butchers for cleaning and resurfacing butcher blocks, the upper surfaces of which become unsanitary, rough and irregular, and must be cleaned from time to time. Various kinds of hand tools, as scrapers, wire brushes and the like have been heretofore used for this purpose, but the cleaning or resurfacing operations have been exceedingly tedious and laborious besides requiring considerable time.

My invention aims to obviate the necessity of using scrapers and the like for cleaning a butcher's block by providing an electrically driven machine by which a block may be expeditiously cleaned or resurfaced, the machine including a rotary metallic brush adapted to attack the surface of a block and remove unsanitary matter and at the same time resurface the block for further use.

My invention also aims to provide an electrically driven cleaning or surfacing machine that may be yieldably supported on the surface of a block and readily moved about thereon, having yieldable supporting means of the machine permitting a desired degree of pressure being brought to bear by the brush on the block, so that some parts of the block surface may be more deeply scraped than other parts of the surface or any desired finish obtained for the block surface.

A further object of the invention is to provide a device of this character wherein the scrapings are confined to a restricted space and prevented from flying in all directions. To meet this requirement I attach a hood to the main casing and construct the hood in such a manner that it overlies the rotary brush and extends substantially to the working plane of the latter. In this manner the scrapings are prevented from being thrown beyond the hood and are entirely restricted thereby.

The invention is fully disclosed by way of example in the following description and in the accompanying drawings, in which

Figure 1 is a side elevation of the machine;

Fig. 2 is a plan view thereof with parts broken away to show the inner construction;

Fig. 3 is a section on the line 3—3 of Fig. 1;

Fig. 4 is a detail transverse section of the rotary brush on the line 4—4 of Fig. 3;

Fig. 5 is a perspective view of the spring supporting legs, and

Fig. 6 is a longitudinal section of one of the adjustable bearings taken on the line 6—6 of Fig. 2.

Reference to these views will now be made by use of like characters which are employed to designate corresponding parts throughout.

The machine is built around and within a cylindrical casing 1 having removable end caps 2 and 3 formed with forwardly extending pockets 4 and 5 respectively. In the body 1 is mounted an axial rotary brush consisting of an inner core 6 to which are fixed two semi-cylindrical shells or brush backs 7 carrying spiral rows 8 of bristles which consist preferably of steel wire. The attachment of the shells 7 to the core is preferably made by means of screws 9, and the core itself is penetrated axially by a shaft 10 which extends through slots 11 into the pockets 4 and 5 as shown more clearly in Fig. 3.

The ends of the shaft are supported in adjustable bearings disposed in the pockets 4 and 5. The former pocket has a U-shaped guide member 12 secured to its end wall for supporting a bearing piece 13 having a portion thereof 14 shaped for a sliding fit in the guide. A spring 15 is positioned between the bearing piece and the top wall of the pocket 4 and exerts a downward pressure on the bearing piece.

The pocket 5 has a similar U-shaped guide member 16 secured to its end wall for accommodating a bearing piece 17 having a portion 18 shaped for a sliding fit in the guide member as shown more clearly in Fig. 2. On the shaft 10, between the member 17 and the adjacent end of the rotary brush, is mounted a sprocket wheel 19 having an integral sleeve 20 extending into the member 17. The sprocket wheel and integral sleeve are keyed to the shaft as indicated by the numeral 21 in Fig. 6. Directly adjacent the member 17, the sleeve 20 is formed with a groove 22 in its outer surface for receiving a clip 23 secured to the member 17 by screws 24 for permitting

rotation and yet preventing longitudinal displacement of the members 19 and 20. Finally, a spring 25 is inserted between the top wall of the pocket 5 and the top of the portion 18 for maintaining a downward pressure on the adjustable bearing in the pocket 5.

The drive is effected from a motor 26 housed in the body part 1 of the casing and having a sprocket wheel 27 mounted on its shaft 28 and in line with the sprocket wheel 19. The two wheels are geared together by a sprocket chain 29 as shown in Figs. 1 and 2. Fig. 2 further shows a bearing 30 in the end cap 3 in which one end of the shaft 28 is journaled, and a similar device may be provided in the cap 2 for supporting the other end of the shaft. On the top of the member 1 is mounted an electric receptacle 31 for receiving a plug 32 attached to conductors 33 leading from a suitable source of energy. The terminals of the receptacle 31 are obviously connected to the terminals of the motor for supplying current to the latter. The machine rests on a spring support which includes a small block 34 secured to the bottom of the member 1. In the bottom of the block 34 is cut a slot 35 extending parallel to the axis of the members 1, 2 and 3 and a notch 36 is cut in the upper surface of the block at the forward edge thereof. A bowed strip 37 of spring metal is positioned with its mid portion in the groove 35, and another strip of similar metal 38 backed by a piece 39 has one of its ends mounted in the notch 36. The strips constitute three legs extending from the block 34 and are fixed thereto by screws 40 threaded upwardly from the bottom thereof. These screws may enter the casing 1 and thus function as the attaching means for the block 34. The extremities of the three legs are provided with semi-spherical feet 41 whereby the device may easily be pushed along a surface.

A handle rod 42 is secured upon the casing 1 by means of its base 43 which has lateral flanges 44 fixed to the casing by screws 45. The base 43 has a forwardly extending lug 46.

The brush is for the most part enclosed in a hood 47 which extends substantially to the working plane of the brush and thus collects the particles removed thereby. The hood is supported by means of a pair of spaced ears 48 which embrace the lug 46 and are secured thereto by a wing screw 49. The casing 1 also has fixed thereto a loop handle 51 which may be grasped by one hand of the operator while the other hand is applied to the rod 42. Finally, a bracket 52 is secured to the casing 1 beneath and between the pockets 4 and 5 and is equipped with an adjustable screw 53 threaded therein and having its lower end in engagement with the spring leg 38.

In the use of the device the members 42 and 51 are held in the manner already described. The downward pressure of the bristles is derived through the handle 42, while the device may be pushed along the surface by the handle 51. The depth of the scraping depends on the distance between the plane determined by the feet 41 and the lowermost plane intersected by the bristles 8. This distance may be regulated by adjustment of the screw 53. The adjustable bearings in which the rotary brush is supported permit compensation for wear of the bristle ends. The springs 15 and 25 serve to maintain the bristles in firm engagement with the surface being treated, notwithstanding the fact that the shaft 20 has considerable play in the slots 11.

Although a specific embodiment of the invention has been illustrated and described, it will be understood that various alterations in the details of construction may be made without departing from the scope of the invention as indicated by the appended claims.

What I claim is:—

1. In a block cleaning machine, a casing, a rotary brush journaled thereto, means for driving said brush, a three-point support of T-formation for said casing, said support consisting of a bowed strip of spring metal secured to said casing transversely thereof and of a strip of metal extending from the first named strip forwardly and longitudinally of said casing.

2. In a block cleaning machine, a casing, a rotary brush journaled thereto, means for driving said brush, a three point support of T-formation for said casing, said support consisting of a bowed strip of spring metal secured to said casing transversely thereof and of a strip of metal extending from the first named strip forwardly and longitudinally of said casing, and an adjustable screw mounted in said casing and bearing upon the forwardly extending strip.

In testimony whereof I affix my signature.

LOUIS N. PELKEY.