Aug. 4, 1931. O. A. POPE 1,817,644

WATER POWERED ROTATING CLEANING BRUSH

Filed Oct. 21, 1929

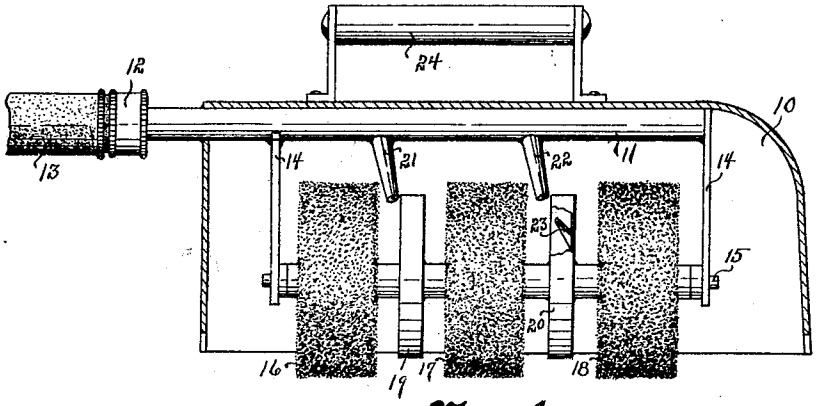


Fig. 1.

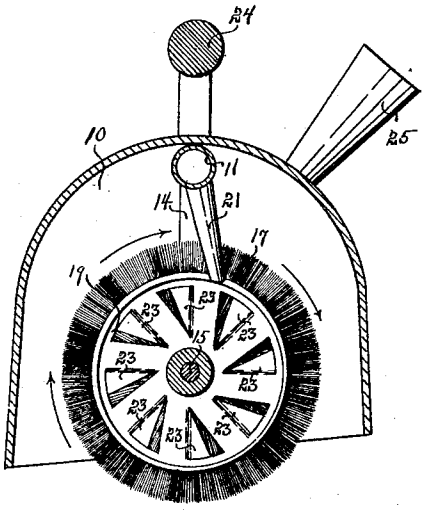


Fig. 2.

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Patented Aug. 4, 1931 1,817,644

UNITED STATES PATENT OFFICE

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WATER POWERED ROTATING CLEANING BRUSH

Application filed October 21, 1929. Serial No. 401,135.

The principal object of my invention is to provide a cleaning brush that is rotated by the water used in cleaning the article to which the brush is applied.

A further object of this invention is to provide a water powered rotating brush that is self cleaning.

A still further object of this invention is to provide a water powered rotating cleaning brush that is economical in manufacture and durable in use.

A still further object of my invention is to provide a cleaning brush that requires a minimum amount of labor of the operator.

These and other objects will be apparent to those skilled in the art.

My invention consists in the construction, arrangement, and combination of the various parts of the device, whereby, the objects contemplated are attained as hereinafter more fully set forth, pointed out in my claim and illustrated in the accompanying drawings, in which:

Fig. 1 is a side sectional view of my complete invention secured to a water hose and ready for use.

Fig. 2 is a cross sectional view of the invention and more fully illustrates its interior construction.

To properly clean surfaces of undesirable foreign matter, agitation of the foreign matter, and applied fluid such as water is necessary. I have simultaneously accomplished this as will hereinafter be appreciated. I have used the numeral 10 to designate an elongated housing open at its bottom and enclosed at both ends. This housing may be of any shape but in the drawings I show it of curved construction. Secured in the top of the housing 10 and extending longitudinally thereof is a pipe 11 having one end closed and the connecting nut 12 rotatably mounted on its other end as shown in Fig. 1. The numeral 13 designates a hose detachably secured at one end to the pipe 11 by the nut 12. The other end of the hose 13 is designed to lead to a source of water supply not shown.

The numeral 14 designates two brackets mounted in the housing 10 and rotatably mounted in which is the shaft 15. Rigidly secured on the shaft 15 against relative rotation are the three wheel brushes 16, 17, and 18. Rigidly secured to the shaft 15 and between the wheel brushes 16 and 17 is a disk 19 having its peripheral edge bent at a right angle to form a flange extending toward the wheel brush 16. Rigidly secured to the shaft 15 and between the wheel brushes 17 and 18 is a second disk 20 also having its marginal edge bent at a right angle to form a flange extending toward the wheel brush 17. I have used the numeral 21 to designate a nozzle communicating with the inside of the pipe 11 and terminating adjacent the inner side of the disk 19 as shown in Figures 1 and 2. The numeral 22 designates a similar nozzle to the nozzle 21 and has its end terminating adjacent the inner side of the disk 20. It will here be noted that the nozzles 21 and 22 do not extend directly downwardly but outwardly at an angle from the vertical as shown in Fig. 2.

In each of the disks 19 and 20 I have formed vanes 23. These vanes each extend inwardly at an angle relative to the disks and the nozzle adjacent to them, thereby creating an opening in each of the disks back of each vane. By this construction when water from the hose 13 is flowing through the nozzles 21 and 22 the same will strike the vanes 23 and much of it will pass through the opening back of each vane and strike the wheel brushes near their axles. This water striking the vanes will naturally rotate the disks 19 and 20 which will in turn successfully rotate the wheel brushes 16, 17, and 18. In other words the water from the nozzles 21 and 22 will strike the radial extending vanes 23 for rotating the wheel brushes and then will pass into the wheel brushes near their centers from which points the water will be drawn outwardly by centrifugal force to the periphery of the wheel brushes where both it and the wheel brushes will make contact with the dirt or other undesirable foreign matter to be removed from the surface to be cleaned. Simultaneous agitation of the foreign matter and applied cleaning water to the foreign matter will thereby be realized by my invention. By the clean water passing from the centers of the wheel brushes outwardly, the

wheel brushes will be self cleaning. The marginal flanges on the disks 19 and 20 will aid in preventing any of the water from the nozzles 21 and 22 to strike the surface to be cleaned without first engaging and passing through a part of the wheel brushes 16, 17, and 18. As will be appreciated all free material in the wheel brushes will be thrown outwardly by centrifugal force at a tangent to the path cut by the periphery of the wheel brushes, and to properly confine this action to points below the wheel brushes I have made the side of the housing 10 toward which the lower portions of the wheel brushes rotate extend to a much lower plane than the other side of the housing 10. This feature is well illustrated in Fig. 2.

To facilitate the manual application of my invention to the surface or surfaces to be cleaned I have provided a handle member 24 secured to the housing 10. If the invention is to be used similar to a mop on a floor or the like, an elongated handle may be inserted in the furrow 25 also secured to the housing 10.

Some changes may be made in the construction and arrangement of my improved combination water powered rotating cleaning brush, without departing from the real spirit and purpose of my invention, and it is my intention to cover by my claim any modified forms of structure or use of mechanical equivalents which may be reasonably included within their scope.

I claim:

In a device of the class described, a housing open at its bottom, a shaft rotatably mounted in said housing, a plurality of wheel brushes on said shaft and extending below the bottom of said housing, a disk on said shaft between each pair of said brushes and secured to said brushes against relative rotation, radial vanes formed in the side of each of said disks, a peripheral flange on the marginal edge of each of said disks extending at a right angle to the body of said disk and to the vane side of said disk for guiding water through said vanes, and a nozzle adjacent the inner side of each of said disks.

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