J. R. MASSER.

WASHING AND SCRUBBING BRUSH.

APPLICATION FILED JUNE 26, 1920.

1,375,102.

Patented Apr. 19, 1921.

2 SHEETS—SHEET 1.

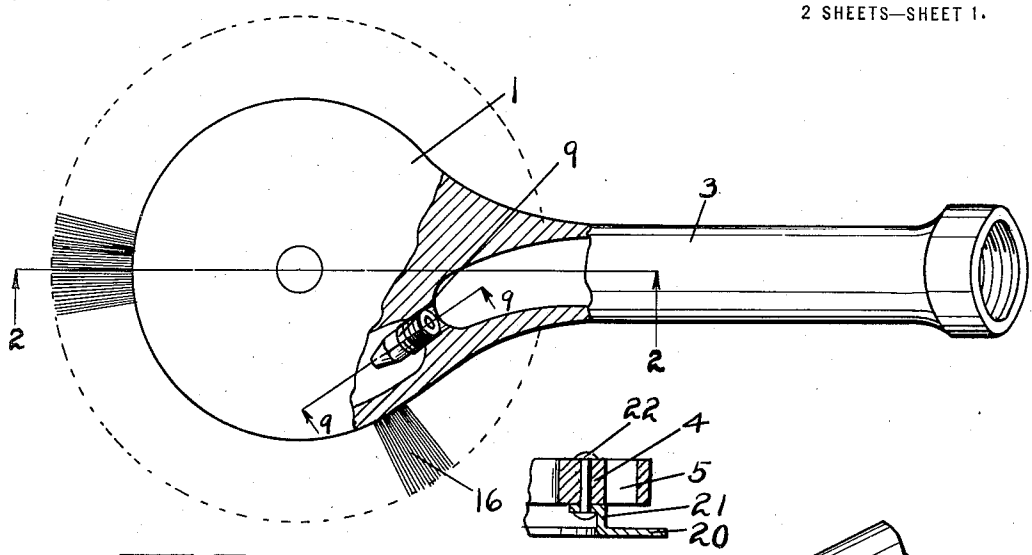


Fig. I.

Fig. V.

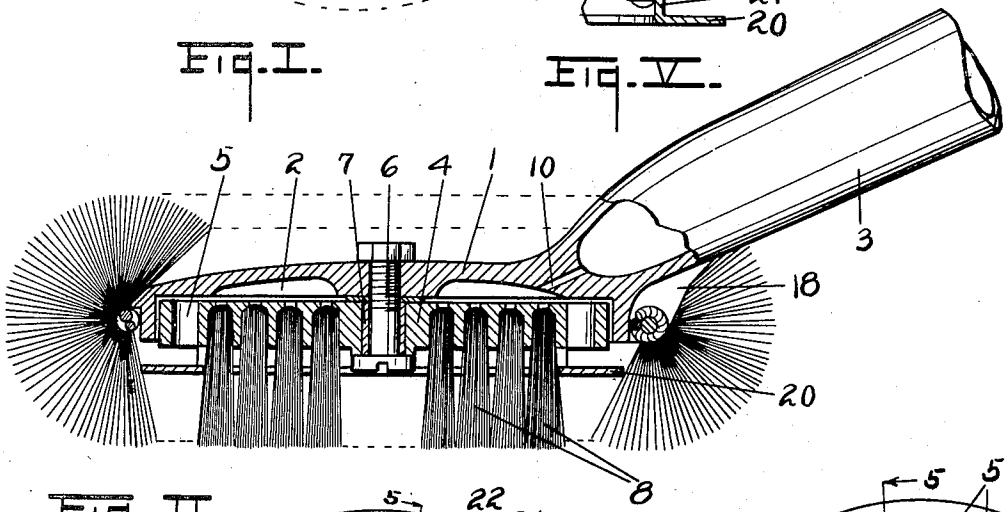
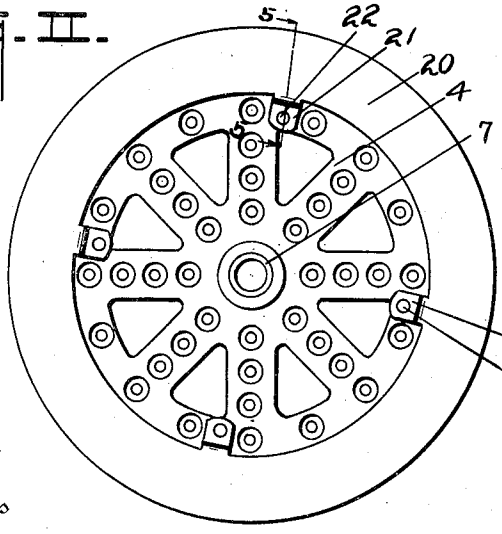


Fig. II.



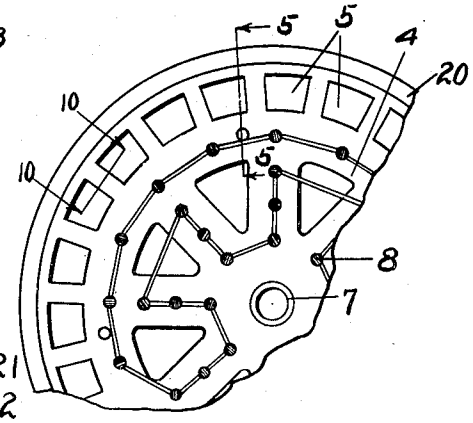


Fig. III.

Witness

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Fig. IV.

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2 SHEETS—SHEET 2.

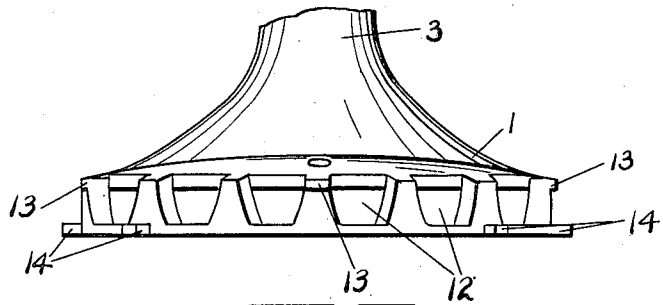


FIG. VII.

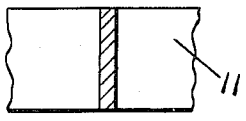


FIG. X.

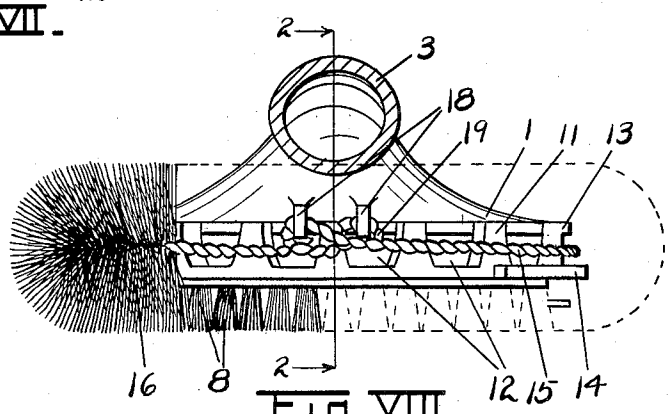


FIG. VIII.

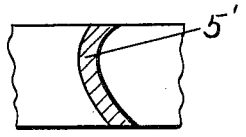


FIG. XI.

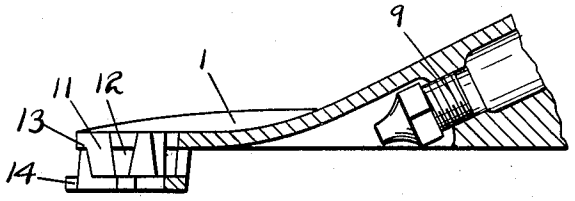


FIG. IX.

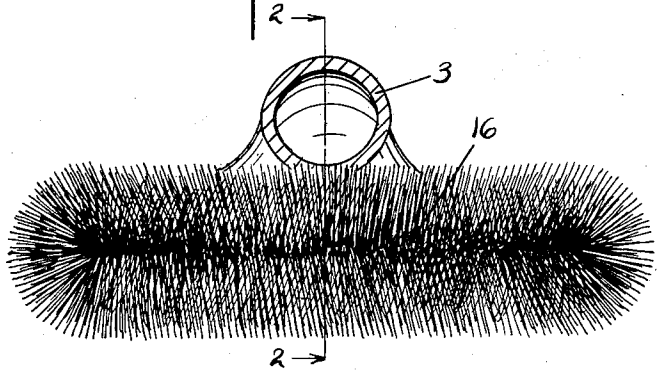


FIG. VI.

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UNITED STATES PATENT OFFICE.

JESSE R. MASSER, OF THREE RIVERS, MICHIGAN, ASSIGNOR TO TURBINE AUTO WASHER COMPANY, OF THREE RIVERS, MICHIGAN, A CORPORATION OF MICHIGAN.

WASHING AND SCRUBBING BRUSH.

1,375,102. Specification of Letters Patent. Patented Apr. 19, 1921.

Application filed June 26, 1920. Serial No. 391,884.

To all whom it may concern:

Be it known that I, JESSE R. MASSER, a citizen of the United States, residing at Three Rivers, county of St. Joseph, State of Michigan, have invented certain new and useful Improvements in Washing and Scrubbing Brushes, of which the following is a specification.

This invention relates to improvements in washing and scrubbing brushes.

My improved washing and scrubbing brush is especially designed by me for washing vehicles such as motor cars and the like, although it is of general utility, and when the brushes are provided with suitable bristles, they may be advantageously used for cleaning castings and the like.

The main objects of my invention are:

First, to provide an improved washing and scrubbing brush which is very efficient and enables the accomplishment of a large amount of work with a minimum of effort.

Second, to pro ide an improved washing and scrubbing brush which may be effectively used for cleaning corners and angles and at the same time the water is effectively delivered to the work and not splashed upon the operator.

Third, to provide an improved washing and scrubbing brush in which the water is delivered to the surface to be cleaned so that the loose dirt is quickly carried away, thereby minimizing the likelihood of scratching or injuring the surface cleaned, such as the varnished surface of an automobile body.

Further objects, and objects relating to structural details, will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification. The invention is clearly defined and pointed out in the claims.

A structure which is a preferred embodiment of my invention is clearly illustrated in the accompanying drawing forming a part of this specification, in which:

Figure I is a detail plan view of a structure embodying the features of my invention, parts being shown conventionally and parts being broken away for convenience in illustration.

Fig. II is a detail vertical section on a line corresponding to line 2—2 of Figs. I, VI and VIII.

Fig. III is a top view of the rotor, partly broken away.

Fig. IV is a bottom view of the rotor.

Fig. V is a detail section of the rotor on a line corresponding to line 5—5 of Figs. III and IV.

Fig. VI is a side view with the handle shown in section.

Fig. VII is a detail side view of the body member with the border brush and rotor omitted.

Fig. VIII is a detail view corresponding to Fig. VI showing the means for mounting the border brush.

Fig. IX is a detail vertical section on a line corresponding to line 9—9 of Fig. I.

Fig. X is a detail section on a line corresponding to line 10—10 of Fig. III, showing details of the rotor buckets.

Fig. XI is a detail section corresponding to that of Fig. X, showing a modification of the buckets.

In the drawing similar reference characters refer to similar parts throughout the several views, and the sectional views are taken looking in the direction of the little arrows at the ends of the section lines.

Referring to the drawing, the body member or casing 1 is provided with a chamber 2. This body member in the structure illustrated is a casting, the chamber 2 being open on its face or under side. The handle 3 is formed integrally with the body member and is adapted to receive a hose, the handle constituting the water supply connection.

Mounted within the chamber 2 of the body member is a rotor 4 having an annular series of buckets 5 open at the top and bottom. The rotor is mounted on a stub shaft 6 arranged through the top of the body member, a bolt provided with a bearing sleeve or bushing 7 being found very satisfactory for this purpose.

The rotor is provided with a brush 8 disposed at the inner side of the buckets. In the structure illustrated the rotor constitutes the brush body. The nozzle 9 is disposed to deliver into the chamber above the buckets, the nozzle being directed so that it discharges into the buckets. A passage 10 delivers into the chamber and above the rotor. See Fig. II.

The outer or peripheral wall 11 of the body member 1 forms a flange and is cut

away to provide a series of openings 12. The body member has a series of lugs 13 and 14 spaced to receive the wire core or body 15 of the border brush 16. This border brush is, before being applied to the body, of cylindrical form, its core being of twisted wire. The body member is provided with a pair of spaced perforated lugs 18 through which the overlapped ends of the brush body are passed and bent as at 19 to secure the brush.

Thus mounted, the border brush covers the holes 12 so that the water discharged through these holes is discharged through the border brush, and by overlapping the ends of the brush, there is no break therein. The water discharged from the buckets is discharged between the border brush and the brush carried by the rotor.

In the modification shown in Fig. XI, the bucket walls 5' are curved. The straight wall buckets shown in Fig. X are, however, of advantage in that the rotors may be conveniently formed by die casting.

An annular deflector plate 20 is mounted on the rotor so that it is supported between the border and rotor brushes and in alinement with and in spaced relation to the discharge ends of the buckets. This deflector plate directs the water thrown from the buckets into the brushes and provides an even distribution of water in the brushes keeping them flooded and the dirt washed therefrom. The deflector is preferably mounted by means of the lugs 21 and rivets 22—see Fig. V.

With this arrangement of parts, I provide a washing brush which is highly efficient and convenient to use. The water is discharged so that the brushes are not only supplied with water but the surface is flooded with water direct from the buckets so that the loose dirt and grit is washed or carried away, thus avoiding unnecessary abrading or grinding action on the surface being washed.

Further, the water is effectively delivered to the work and is not splashed upon the operator.

Brushes embodying the features of my invention as manufactured for the market are light in weight and very efficient and convenient to use.

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

1. In a device of the class described, the combination of a chambered body having a flange forming a peripheral wall with a series of openings therein and spaced series of peripheral lugs and a pair of spaced perforated lugs, said body member having a handle constituting a supply connection, a border brush having a wire core disposed between said series of lugs on said body member with its ends overlapped and secured in said perforated lugs whereby the border brush is secured over said peripheral openings of the body, a rotor mounted in said body and having a series of annularly disposed buckets open at the top and bottom, said supply connection being provided with a nozzle delivering to said buckets above the rotor and a delivery passage delivering to the chamber above the rotor, and a brush on said rotor at the inner side of its buckets.

2. In a device of the class described, the combination of a chambered body having a flange forming a peripheral wall with a series of openings therein and spaced series of peripheral lugs and a pair of perforated lugs, said body member having a handle constituting a supply connection, a border brush having a wire core disposed between said series of lugs on said body member with its ends overlapping and engaged with said perforated lugs, whereby the border brush is secured over said peripheral openings of the body, a rotor mounted in said body and having a series of annularly disposed buckets open at the top and bottom, said supply connection delivering to said buckets above the rotor, and a brush on said rotor at the inner side of its buckets.

3. In a device of the class described, the combination of a chambered body having a flange forming a peripheral wall with a series of openings therein, said body member having a handle constituting a supply connection, a border brush mounted over said openings, a rotor mounted in said body and having a series of annularly disposed buckets open at the top and bottom, said supply connection delivering to said buckets above the rotor, and a brush on said rotor at the inner side of its buckets.

4. In a device of the class described, the combination of a chambered body having a flange forming a peripheral wall with a series of openings therein and spaced series of peripheral lugs and spaced perforated lugs, a border brush having a wire core disposed between said series of lugs on said body member with its ends engaged with said perforated lugs, whereby the border brush is secured over said peripheral openings of the body, a rotor provided with a brush mounted in said body, and a supply connection delivering above said rotor.

5. In a device of the class described, the combination of a chambered body having a flange forming a peripheral wall with a series of openings therein and spaced series of peripheral lugs, a border brush having a wire core disposed between said series of lugs on said body member, a rotor provided with a brush mounted in said body, and a supply connection delivering above said rotor.

6. In a device of the class described, the combination of a chambered body, a border brush mounted on said body, said body having openings therein for delivering water to said border brush, a rotor mounted within said body and having an annular series of buckets open at the top and bottom, a brush mounted on said rotor at the inner side of its buckets, and a water delivery connection provided with a nozzle delivering to said buckets.

7. In a device of the class described, the combination of a chambered body having peripheral openings therein, a border brush mounted on said body so that water is delivered from said openings through said brush, a rotor provided with a brush mounted in said casing, said rotor having openings for the discharge of water to the brush mounted thereon, and a supply connection delivering in said casing above said rotor to drive the rotor and discharge water through said border and rotor brushes.

8. In a device of the class described, the combination of a chambered body having a flange forming a peripheral wall with a series of openings therein, said body having a handle constituting a supply connection, a border brush mounted on said body over said openings, a rotor mounted in said body and having annularly disposed buckets open at the top and bottom, said supply connection delivering to said body above the rotor, a brush mounted on said rotor at the inner side of its buckets, and an annular deflector plate disposed between said brushes and in alinement with and in a spaced relation to the open discharge ends of the buckets.

9. In a device of the class described, the combination of a chambered body, a border brush mounted on said body, a rotor mounted in said body and having annularly disposed buckets open at the top and bottom, a supply connection delivering to said buckets above the rotor, a brush mounted on said rotor at the inner side of its buckets, and an annular deflector plate mounted on said rotor between said brushes and in alinement with and in a spaced relation to the open discharge ends of the buckets.

10. In a device of the class described, the combination of a chambered body, a border brush mounted on said body, a rotor mounted in said body and having annularly disposed buckets open at the top and bottom, a supply connection delivering to said buckets above the rotor, a brush mounted on said rotor at the inner side of its buckets, and an annular deflector plate disposed between said brushes and in alinement with and in a spaced relation to the open discharge ends of the buckets.

In witness whereof, I have hereunto set my hand and seal in the presence of two witnesses.

JESSE R. MASSER. [L. S.]

Witnesses:
MYRON K. FELLOWS,
R. J. WADE.