

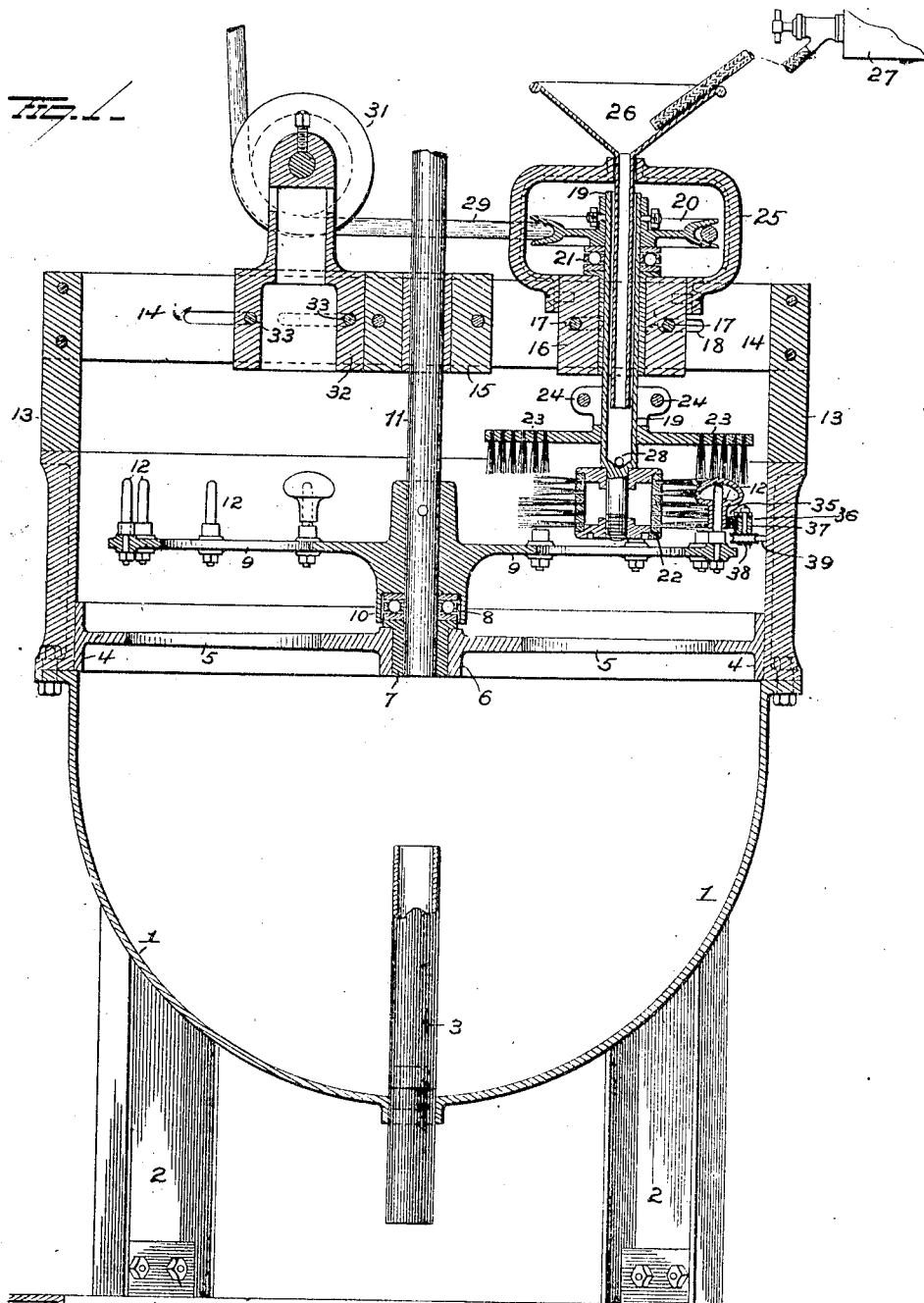
No. 892,129.

PATENTED JUNE 30, 1908.

D. F. BRODERICK.
MACHINE FOR SCOURING AND SCRATCH BRUSHING KNOBS
AND OTHER METAL ARTICLES.

APPLICATION FILED JULY 28, 1906.

2 SHEETS—SHEET 1.



WITNESSES
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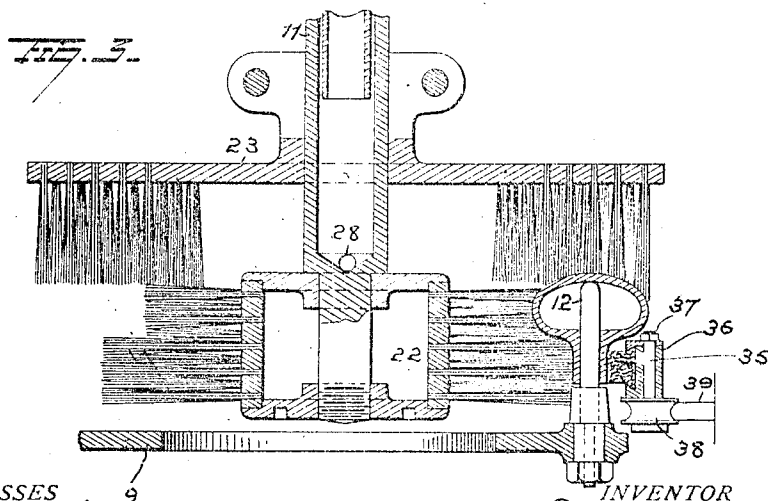
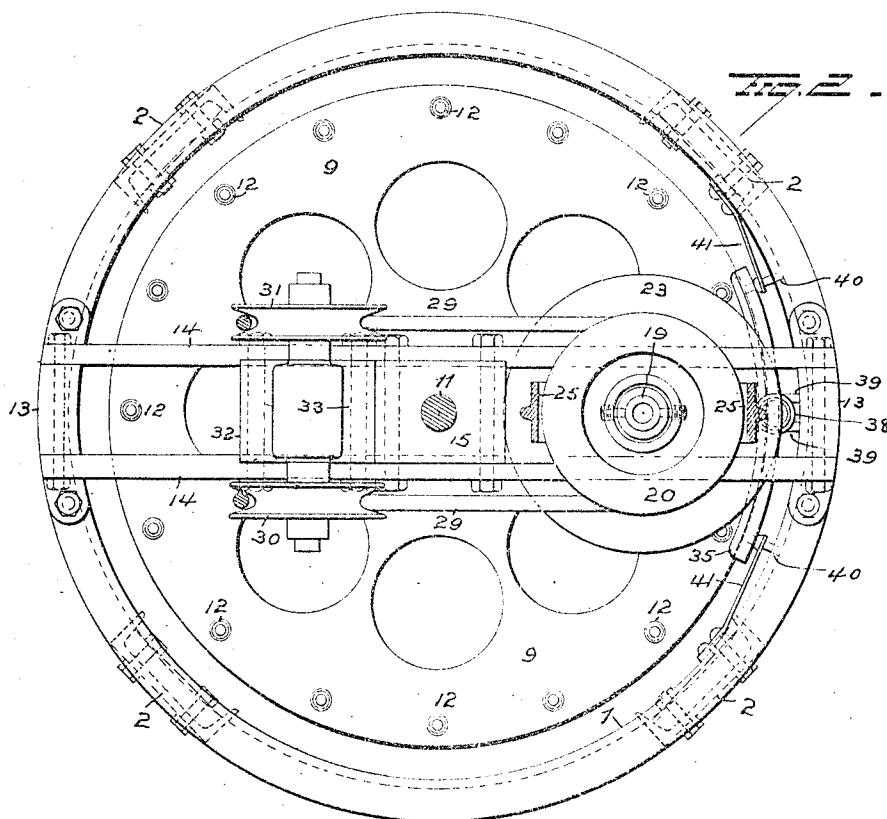
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UNITED STATES PATENT OFFICE.

DAVID FELIX BRODERICK, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS TO SARGENT & COMPANY, OF NEW HAVEN, CONNECTICUT, A CORPORATION OF CONNECTICUT.

MACHINE FOR SCOURING AND SCRATCH-BRUSHING KNOBS AND OTHER METAL ARTICLES.

No. 892,129.

Specification of Letters Patent.

Patented June 30, 1900.

Application filed July 23, 1906. Serial No. 328,271.

To all whom it may concern:

Be it known that I, DAVID FELIX BRODERICK, of New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Machines for Scouring and Scratch-Brushing Knobs and other Metal Articles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in machines for scouring and scratch brushing knobs, and other metal articles, and it consists broadly in a carrier adapted to convey the knobs or other articles successively to scouring brushes, and means for rotating the knobs or other articles on their supports while they are being acted upon by the brushes.

My invention further consists in the parts and combinations of parts as will be more fully explained and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in transverse vertical section of my improved machine, Fig. 2 is a plan view of the same, and Fig. 3 is an enlarged view in section showing the brush, knob support and means for rotating the knobs.

1 represents a receptacle of any approved shape, but preferably semi-spherical as shown, mounted on legs or supports 2. Passing centrally through the bottom of receptacle 1 is the overflow pipe 3 which latter terminates a distance above the bottom of the receptacle, thus forming a sediment chamber into which the pumice stone or other abrading material settles, while the surplus water passes off through the pipe 3.

4 is a ring located within and near the top of receptacle 1, and provided with inwardly projecting arms 5, terminating at the center in a step bearing 6. The bearing has a bushing 7 which latter forms a seat for the anti-friction bearing 8. Resting on the anti-friction or roller bearing 8 is the rotating table 9, the hub of which has a depending lip 10 forming a shield or cover for the roller bearing, and protecting the latter from the abrading material used in burnishing, as will be hereinafter explained. Passing centrally through the table 9 and bushing 7, and se-

cured to the table, is the shaft 11, which latter is rotated by a worm and screw or other device (not shown). This table is in skeleton form so as to permit the liquid and abrading material used in scouring and burnishing to readily pass into the receptacle 1, and is provided adjacent to its periphery with a series of upright pins 12 on which the knobs or other articles are loosely mounted as clearly shown to the right of Fig. 1. This table is preferably geared up to make about three revolutions a minute, and carries the knobs or other articles which are placed on the pins 12 around to and in contact with the rapidly revolving buffing, polishing or scouring brushes or grinding wheels shown.

Secured to the top rim of receptacle 1, are the uprights 13 to the opposite sides of which are secured the parallel bars 14. Secured between the bars 14 over the center of the machine is the bearing 15, through which shaft 11 passes, and to one side of the bearing 15, is the supporting block 16 adjustably secured in place by the bolts 17, which pass through elongated slots 18 in the bars 14. By means of the elongated slots, the block can be moved laterally sufficiently to accommodate the brushes or wheels to the various sizes of knobs or other articles, and also sufficient to compensate for all wear on the brushes or wheels.

Passing through the block 16 is the hollow shaft 19, provided near its upper end with the belt pulley or sheave 20, which rests on the anti-friction bearing 21 carried on block 16, and is provided at its lower end, with the cylindrical wheel or brush 22, the latter being so located and constructed as to engage the side of the knob or other article as clearly shown in Fig. 1.

Secured to shaft 19 above brush 22, is the disk shaped brush or wheel 23, having a split clamping collar by which it is adjustably secured on the shaft 19 by the screw 24. This brush or wheel rests over and in contact with the top of the knob or other article, and acts on the parts not engaged by brush 22.

Secured to the block 16 is the yoke 25 supporting the funnel 26, which receives pulverized pumice stone or other abrading material or a mixture of water and abrading material, or soap, water and abrading material, from the tank 27, and discharges same into the hollow shaft 19. This shaft is provided with

a series of openings 28 located just above the lower brush, so that the material or fluid discharged from said shaft, comes into direct and intimate contact with both brushes 22 and 23.

Shaft 19 is driven by the belt 29 which passes around pulley 20 thereon, and under pulleys 30 and 31 carried by the block 32, and up to a suitable source of power. Bolts 33 which secure block 32 in place between bars 14, pass through elongated slots 34 in said bars, thus permitting of sufficient lateral adjustment of the pulleys 30 and 31 to take up all slack due to the adjustment of block 16 as previously explained.

Located within receptacle 1, at a point above the table, and in a position to engage the knobs or other articles while the latter are in contact with the brushes, is the friction shoe 35 preferably made of rubber. This shoe is in the arc of a circle, preferably concentric with the path of movement of the pins 12, so as to engage the articles on said pins whereby when said knobs or articles are engaged by the shoe, the friction of the shoe thereagainst will cause the knobs or articles which are being carried under the brushes, to rotate or turn on their pins 12, and thus bring all parts of the outer face of the knob or article and its shank into position to be acted upon by the rapidly revolving brushes. The rear edge of this rubber or other elastic shoe, is secured to a two part frame 36, the parts of which are held together by a screw bolt 37, which carries the curved guide roller 39 at its lower end. This roller 38, rests between and moves on the pins 39 located on opposite sides of the roller, and forms a central support for the shoe, while the ends of the latter are supported on the pins 40.

Bearing against the rear face of the shoe at its ends are the flat springs 41, which yieldingly hold the shoe in the path of movement of the knob shanks.

The machine as above described can be used for removing grease or oil from the knobs or other articles or for grinding, buffing, and burnishing them. For removing grease or oil, scouring brushes like those shown in the drawings are used, and soap, water and pumice stone or other scouring agent is fed onto and against the rapidly revolving brushes through the opening in shaft 19. If it is desired to buff or polish knobs, cotton wheels are substituted for the bristle brushes shown, and for burnishing, as after plating, the steel or brass wire scratch brushes are used. In all of these operations, the knobs are placed on the pins 12 by an attendant located in advance of the brushes and are removed by an attendant located in rear of the brushes, or one attendant may both place and remove the articles. As the knobs approach the brushes they engage the friction shoe and bear thereagainst with sufficient

pressure to cause the knobs to be rotated as they are moved under the brushes. As the forward movement of the knobs is comparatively slow, and as the brushes make anywhere from six hundred to twelve hundred revolutions a minute, it will be seen that the knobs will be rotated several times during their contact with the brushes, thus bringing all parts of the outer surface of the knob and its shank into position to be repeatedly acted upon by the brushes.

While I have described the improvement as a knob scouring, polishing and burnishing machine I would have it understood that it is equally applicable for ferrules, escutcheons, rings, and all other circular or cylindrical articles, hence the term knob is intended to include any and all the articles that can be supported in a position to be acted upon by either of the two brushes, and be rotated while in contact with the brushes, so as to present its entire outer surface to the action of the brush or brushes.

It is evident that changes in the construction and relative arrangement of the several parts might be made without avoiding my invention and hence I would have it understood that I do not restrict myself to the particular construction and arrangement of parts shown and described, but,—

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

1. The combination with a rapidly rotating brush or wheel, of a table having a knob support thereon, the latter adapted to be moved to carry the knob into the path of movement of the brush or wheel, and means arranged to be engaged by the knob for rotating the same while it is being acted upon by the brush.

2. The combination with a rapidly rotating brush or wheel and a slowly rotating table carrying a series of upwardly projecting knob supporting pins the latter adapted to carry the knob into position to be acted upon by the brush, of a stationary yielding shoe for rotating the knobs while the latter are being moved by the table and acted upon by the brush.

3. The combination with a horizontal table having a series of upwardly projecting knob supporting pins, means for rotating said table, and a rapidly rotating brush located above the table in a position to successively engage the knobs carried by the pins, of a stationary yielding friction shoe arranged to engage the knobs while the latter are being moved by the table and acted upon by the brush.

4. The combination of a table having knob carrying means, a rotating wheel or brush comprising two members disposed at an angle to each other and adapted to engage the top and side of the knob, and means for

causing the knobs to rotate while being acted upon by the brush or wheel.

5. The combination with a revolving brush, a table having a series of knob carrying pins which latter are successively moved into the path of movement of said brush, and means for feeding a scouring or abrading material to the brush, of means for rotating the knobs on their carrying pins, while the knobs are being acted upon by the brush.

6. The combination with a revolving table having a series of knob carrying pins, a revolving shaft, and a brush carried by said shaft and engaging the top and side of knob on the pins, of means for rotating the knobs on their carrying pins while being acted upon by the brush, and means for feeding a scouring or abrading material to the brush.

7. The combination with a receptacle, a revolving table supported over same and provided with a series of knob supporting pins arranged concentric with the axis of the table and a rapidly rotating brush located in a position to successively engage the knobs on the pins, of means carried by the receptacle and disposed to be engaged by the knobs for rotating the knobs on their pins while they are being acted upon by the brush.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

DAVID FELIX BRODERICK.

Witnesses:

R. S. FERGUSON,
GEO. F. DOWNING.