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No. 822,050. PATENTED MAY 29, 1906.

T. R. JENKINS, JR.

ROTARY SCRUBBING MACHINE

APPLICATION FILED MAR. 3, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

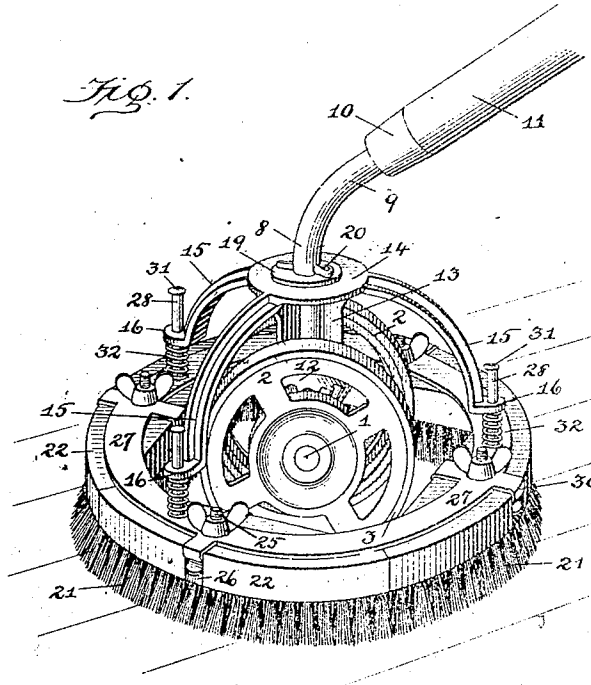
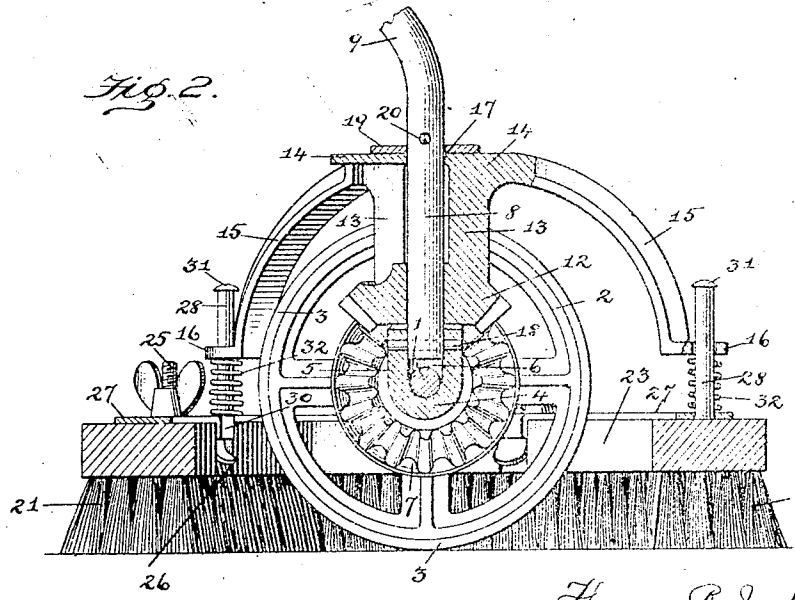


Fig. 2.



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No. 822,050. PATENTED MAY 29, 1906.

T. R. JENKINS, JR.

ROTARY SCRUBBING MACHINE.

APPLICATION FILED MAR. 8, 1905.

2 SHEETS—SHEET 2.

Fig. 3

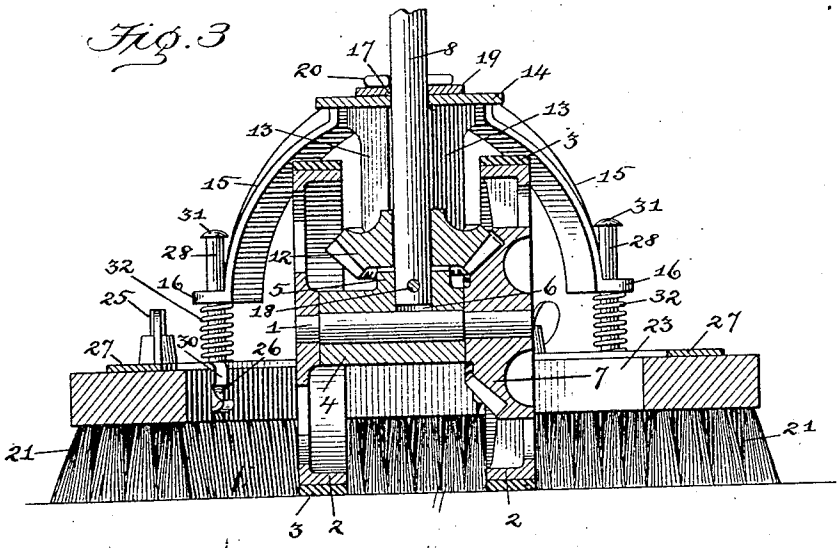


Fig. 4.

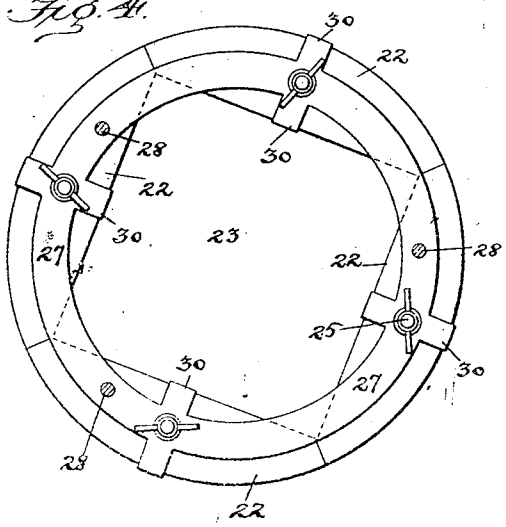


Fig. 5.

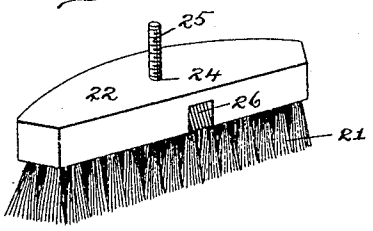
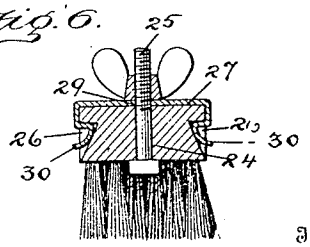


Fig. 6.



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UNITED STATES PATENT OFFICE.

THOMAS R. JENKINS, JR., OF BALTIMORE, MARYLAND.

ROTARY SCRUBBING-MACHINE.

No. 822,050. Specification of Letters Patent. Patented May 29, 1906.

Application filed March 8 1905. Serial No. 249,012.

To all whom it may concern:

Be it known that I, THOMAS R. JENKINS, Jr., a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Rotary Scrubbing-Machines, of which the following is a specification.

My invention relates to improvements in rotary scrubbing-machines.

The objects of the invention are to provide a machine of such construction that the brush may be maintained in contact with the surface which is being polished or scrubbed irrespective of the slight variations of inclination of the handle which necessarily occur in making the reciprocating or back-and-forth movement of the handle to rotate the brush.

Another object is to provide a construction which, while permitting the slight variations just referred to in the ordinary operation of the device without interfering with the contact, will enable the brush to be rocked by a greater change in the elevation of the handle than ordinarily takes place in the back-and-forth movement.

Another object of the invention is to provide a construction whereby the supporting and driving wheels will have a central position with respect to the polishing or scrubbing brush, so that in the operation of polishing or scrubbing all marks of the wheels on the surface will be eliminated.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 illustrates a perspective view of the improved device; Fig. 2, a central vertical cross-section, on an enlarged scale, the section being taken on a line between the driving-wheels and in a direction at right angles to the driving-shaft. Fig. 3 illustrates another central cross-section taken on a line at right angles to the section shown in Fig. 2 and parallel with the driving-shaft. Fig. 4 shows a plan view of the brush-sections and the ring-plate to which they are secured. Fig. 5 illustrates a perspective view of one of the brush-sections, and Fig. 6 illustrates a vertical section through the center of one of the brush-sections and ring-plate.

Referring to the drawings by numerals, 1 designates a short horizontal shaft on which the supporting and driving wheels 2 are rigidly mounted. A tire or band 3 of suitable yielding soft material encircles the faces of the wheels 2 and has frictional contact with the surface to be polished or scrubbed to revolve the shaft. A sleeve 4 has position on the horizontal shaft between the wheels 2, and said sleeve is loose on said shaft so that the latter may revolve therein, and this sleeve is provided on its upper side and midway between the wheels with a projecting shoulder 5, which latter is provided with a socket or recess 6, which extends in a direction at right angles with respect to the shaft 1.

At one end of the sleeve the shaft 1 carries a bevel-gear 7, which is secured to said shaft in any suitable manner and which revolves in a vertical plane with the driving-wheels. A stem 8 has its lower end seated in the socket or recess 6 of the shoulder on the sleeve, and said stem extends vertically from said socket and its upper end 9 is bent laterally and carries a tubular socket 10, in which the lower end of the handle 11 is secured. A bevel-gear 12 revolves freely around the lower end of the stem, and said gear rests on the upper surface of the shoulder 5 and its teeth engage or mesh with the teeth on the gear 7, which impart a rotary motion to it when the driving-wheels and horizontal shaft are revolved. Projecting upwardly from the gear 12 are a plurality of vertical arms 13, and a circular head 14 is formed at the upper ends of said vertical arms. At the side of said head and curving outwardly and downwardly therefrom are a plurality of curved arms 15, which are provided at their lower ends with laterally-extending perforated flanges 16. A central perforation or hole 17 is also provided in the head, through which the stem 8 projects. A pin 18 passes through the sleeve 4 and also through the lower end of the stem and serves to prevent the withdrawal of the stem.

It will be understood that the gear 12, arms 13, circular head 14, and curved arms 15 are all cast in a single piece.

Above the head and fitting loosely on the stem is a collar 19, which is held from vertical movement on the stem by a cotter-pin 20.

It will thus be seen that the head and curved arms are capable of revolving around the stem and over the wheels 2 when the latter are revolved.

In the present instance a brush 21 is employed and is circular in form and comprises a plurality of segmental sections 22, which when joined or secured together form a circular central recess 23. The outer surface of each of the brush-sections is segmental, while the in-

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ner sides are straight. These sections are each provided with a vertical perforation 24, through which a bolt 25 is passed, so as to project at the upper side, and the vertical sides of said brush-sections are provided with undercuts or recesses 26.

A ring-plate 27 has position beneath the flanges 16 of the head, and said plate is provided with a plurality of vertically-projecting guide-pins 28, which project through the perforations in the flanges 16 of the curved arms of the head. The ring-plate is also provided with a plurality of perforations 29, through which the bolts 25 pass, and at opposite sides of each perforation the ring-plate is also provided with spring clip-arms 30, which engage the recess 26 in the brush-sections. A head 31 is provided on the upper ends of the guide-pins 28 and serve to prevent the flanges of the curved arms from being entirely withdrawn from the guide-pins when the machine is lifted. A spring 32 surrounds each guide-pin and its position is such as to require its compression between the flanges of the curved arms and the ring-plate 27, so as to separate the curved arms and ring-plate. The projecting ends of the bolts 25 after passing through the brush-sections 22 and through the perforations 29 in the ring-plate are engaged by wing-nuts 33, which serve to hold the brush-sections close against the bottom surface of the ring-plate, while the spring clip-arms 30 enter the side recess 26 in the brush-sections and prevent the latter from turning on the bolts. It will thus be seen that the brush is suspended from the curved arms and head and that it is yieldingly sustained below the head. It is obvious that this yielding connection between the head and brush permits slight movements of the head by vibrating or rocking the handle without disturbing the contact of the brush with the surface being treated, but that upon rocking the handle to a greater degree the brush may be made to press harder against the surface at one side than another. It will also be understood that the rotation of the gear 12 and head will cause the ring-plate and brush to be revolved through the yielding resilient connections between them.

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

1. In a machine of the character described the combination with the driving-wheels, of gears revolved by the rotation of said wheels; a head carried by and revolving with one of said gears; a ring-plate yieldingly sustained below said head, and a plurality of brush-sections detachably secured to said ring-plate.

2. In a machine of the character described the combination with the driving-wheels, of gears revolved by the rotation of said wheels; a head revolving with one of said gears; a ring-plate having a plurality of perforations; a brush comprising a plurality of sections each of which is provided with a perforation; a bolt passing through each of said sections and also through a perforation in the ring-plate, and means for connecting the head and ring-plate.

3. In a machine of the character described the combination with the driving-wheels, of gears revolved by the rotation of said wheels; a head revolving with one of said gears; a ring-plate surrounding said driving-wheels; a brush having a plurality of segmental sections; a bolt for securing each of said sections to the ring-plate; means on the ring-plate for preventing the brush-sections from turning on said bolt, and means for connecting the head and ring-plate.

4. In a machine of the character described the combination with the driving-wheels, of gears revolved by the rotation of said wheels; a head revolving with one of said gears; a ring-plate having a plurality of perforations and also having a plurality of spring-arms; a brush having a plurality of brush-sections and each section being provided with means at its side with which the spring-arms on the ring-plate engage; a bolt passing through each section and also through a perforation in the ring-plate for holding the sections against the ring-plate, and connections between the head and ring-plate.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS R. JENKINS, JR.

Witnesses:

CHARLES B. MANN, JR.,

G. FERDINAND VOGT.