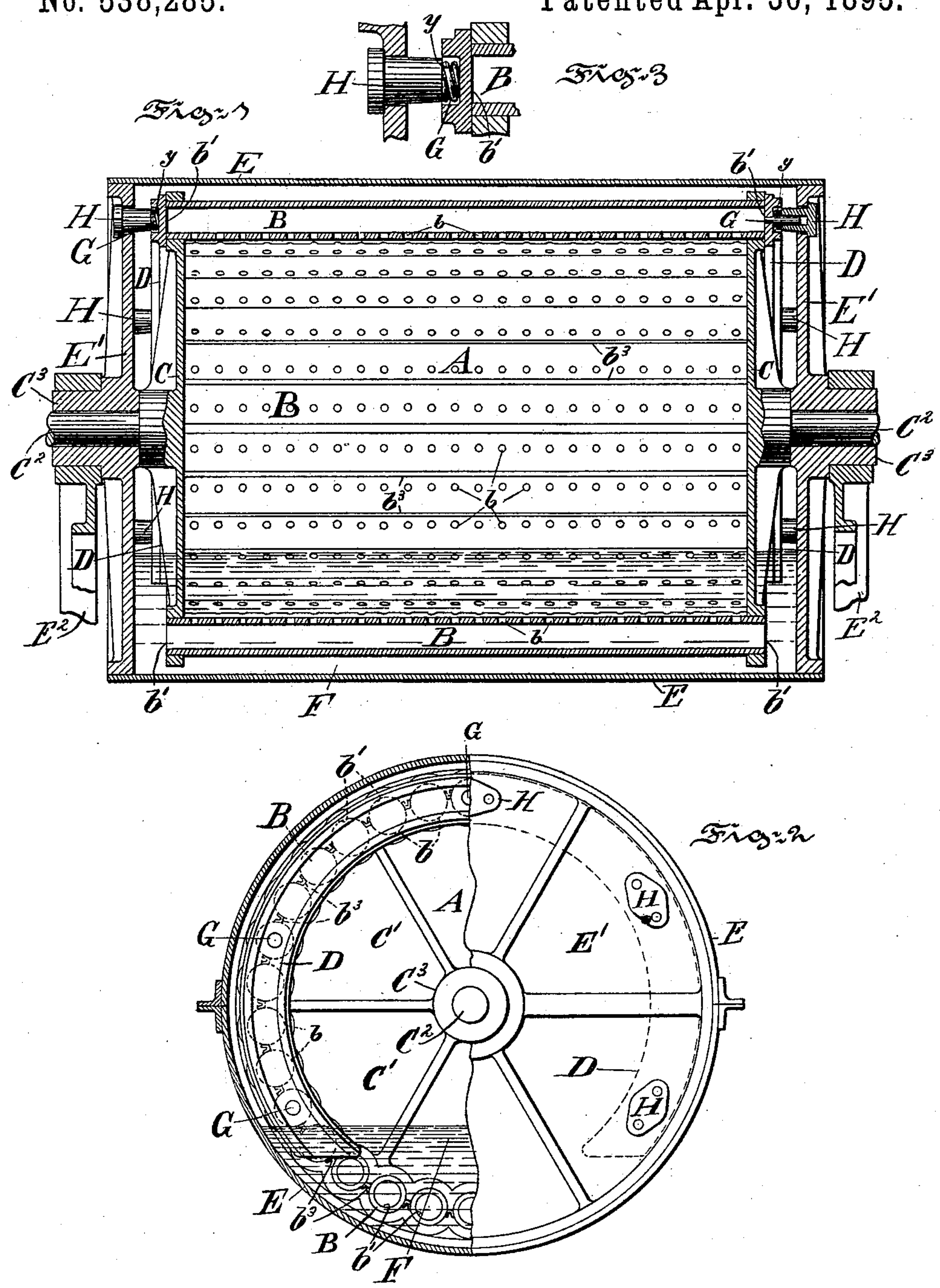


(No Model.)

R. SCHINDLER.
WASHING MACHINE.

No. 538,285.

Patented Apr. 30, 1895.



Witnesses
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UNITED STATES PATENT OFFICE.

ROBERT SCHINDLER, OF LUCERNE, SWITZERLAND.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 538,285, dated April 30, 1895.

Application filed January 25, 1895. Serial No. 536,227. (No model.)

To all whom it may concern:

Be it known that I, ROBERT SCHINDLER, a citizen of Switzerland, residing at Lucerne, in the canton of Lucerne and Republic of Switzerland, have invented certain new and useful Improvements in Washing-Machines, of which the following is a specification.

My invention has relation to a washing machine for cleansing clothes and other articles and of the class provided with a revoluble drum in which the articles to be washed are placed; and in such connection it relates more particularly to the general construction and arrangement of such a machine.

The principal objects of my invention are first, to provide a washing machine having an outer stationary drum containing the washing fluid and an inner revoluble drum adapted to receive the article to be washed, the periphery of said drum consisting of a series of tubes, the ends of which are open at one point in the revolution of the drum to receive and retain the washing fluid and when said drum revolves the ends are thereafter closed and the fluid discharged through perforations in the wall of the tubes, upon the material or article to be cleansed; and second, to provide a washing machine, consisting of an outer drum containing the washing fluid and an inner drum rotating within said outer drum and having a portion of its periphery submerged in said washing fluid, the periphery of said drum consisting of open ended tubes having a series of perforations in the walls and the tubes being guided in annular guide-ways connected with the respective heads of the outer drum and adapted to close the ends of the peripheral tubes as they emerge from the cleansing liquid, all arranged so that when the peripheral tubes of the inner drum revolve, they are filled by the cleansing fluid through their open ends while submerged therein, and the ends thereafter closed and the cleansing fluid discharged through the perforations in the walls thereof upon the article to be cleansed, when the filled tubes are elevated into the annular guide and above the cleansing fluid.

My invention stated in general terms, con-

sists of a washing machine, constructed and arranged in substantially the manner herein-after described and claimed.

The nature and general features of my invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, and in which—

Figure 1 is a longitudinal section through a washing machine embodying characteristic features of my invention. Fig. 2 is a view partly in cross section and partly in front elevation of the machine of my invention; and Fig. 3 is a view partly in elevation and partly in section on an enlarged scale, of one of the open end tubes, head of the drum, supports and guides and manner of clamping closely to the ends of said tubes said guides by means of coiled springs interposed between said guides and support.

Referring to the drawings, A represents the inner revolving drum, the periphery of which consists of a series of open ended tubes B, the walls of said tubes forming the inner periphery of the revolving drum A, being perforated as at b, all as clearly illustrated in Fig. 1 of the drawings. The heads of the drum A, consist of the spiders or frames C, through the openings C', of which the articles to be washed may be introduced or withdrawn from the interior of the inner drum A. This drum A, is provided at its respective heads with the journals or shafts C², rotating in suitable journals C³, in the heads E', of the outer stationary drum E, which stationary drum is held in horizontal position by the supports E². The drum E, is partially filled with a washing fluid F, such as soap and water, lye, &c., in which a portion of the periphery of the drum A, is submerged.

To either head E' of the drum E, and secured thereto by bolts G, fitting suitable supports H, of said heads, are placed the annular guides D, which are substantially horse shoe or segmental shaped and adapted to receive the open ends of the tubes B, as they are about to emerge from the liquid F, and to close said ends in the revolution of the tubes from the point where they emerge to

the point where they again enter the liquid, as clearly illustrated in Fig. 2, of the drawings.

The annular guides D, are clamped closely to the ends of the tubes B, by means of the springs *y*, interposed between said guides and the supports H, as shown in Fig. 1.

In operation the outer drum E is partially filled with a washing fluid, to a height slightly above the ends of the segmental guides D, submerging a certain number of the tubes B, of the drum A. The fluid F, fills the submerged tubes by flowing into the same through the open ends *b'*, thereof. As the drum A, rotates successive tubes B, will be filled and the filled tubes elevated into contact with the guides D, which guides close the ends *b'*, of said tubes and thereby prevent escape of the fluid from said tubes at said ends. The articles to be washed are introduced into the drum A, and as the filled tubes rotate their contents are discharged in showers through the perforations *b*, onto said articles to be washed, the greatest flow from said perforations occurring when the filled tubes are in their highest position. The articles to be washed by the rotation of drum A, are saturated or agitated in the liquid F, which penetrates into the interior of the drum A, through the spaces *b*³, between the tubes B, as illustrated in Fig. 2.

By such construction of a washing machine, the following advantages are gained: The tubes B, may be cleaned with brushes or otherwise when desired, without being removed from the drum A, as the interior of said tubes is readily accessible through the open ends *b'*, and the exterior is accessible from the inside and outside of the drum A.

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

1. In a washing machine, a stationary drum adapted to contain a washing fluid and a drum

rotating within said stationary drum and adapted to receive the articles to be washed, the periphery of said revoluble drum provided with a series of open ended tubes adapted, when submerged in a fluid in the stationary drum by the rotation of said drum to be filled by said fluid and a segmental guide interposed between the heads of the stationary drum and the open ends of said tubes and adapted to guide said tubes and close said ends during a certain portion of the revolution of said drum, and the said tubes being perforated to permit of the discharge of said fluid therefrom into the interior of said inner drum, all arranged so that said tubes are open at their ends when submerged in said fluid and closed during the period of emerging from and then again immersing in said fluid, substantially as and for the purposes set forth.

2. In a washing machine, the combination of an outer stationary drum, a segmental guide connected with either head thereof, springs interposed between each guide and heads, an inner revolving drum, the periphery of which consists of open ended partially perforated tubes adapted to be guided in said guides of the stationary drum and the ends of said tubes closed by said guides during a certain period in the revolution of said inner drum, said tubes being adapted to be filled with a fluid when not guided in said guides and to discharge said fluid through the perforations into the interior of the revolving drum, when the tubes are guided in said guides, substantially as and for the purposes set forth.

In testimony whereof I have hereunto set my signature in the presence of two subscribing witnesses.

ROBERT SCHINDLER. [L. S.]

Witnesses:

JOSEF BUCHER,
EDWARD BUCHER.