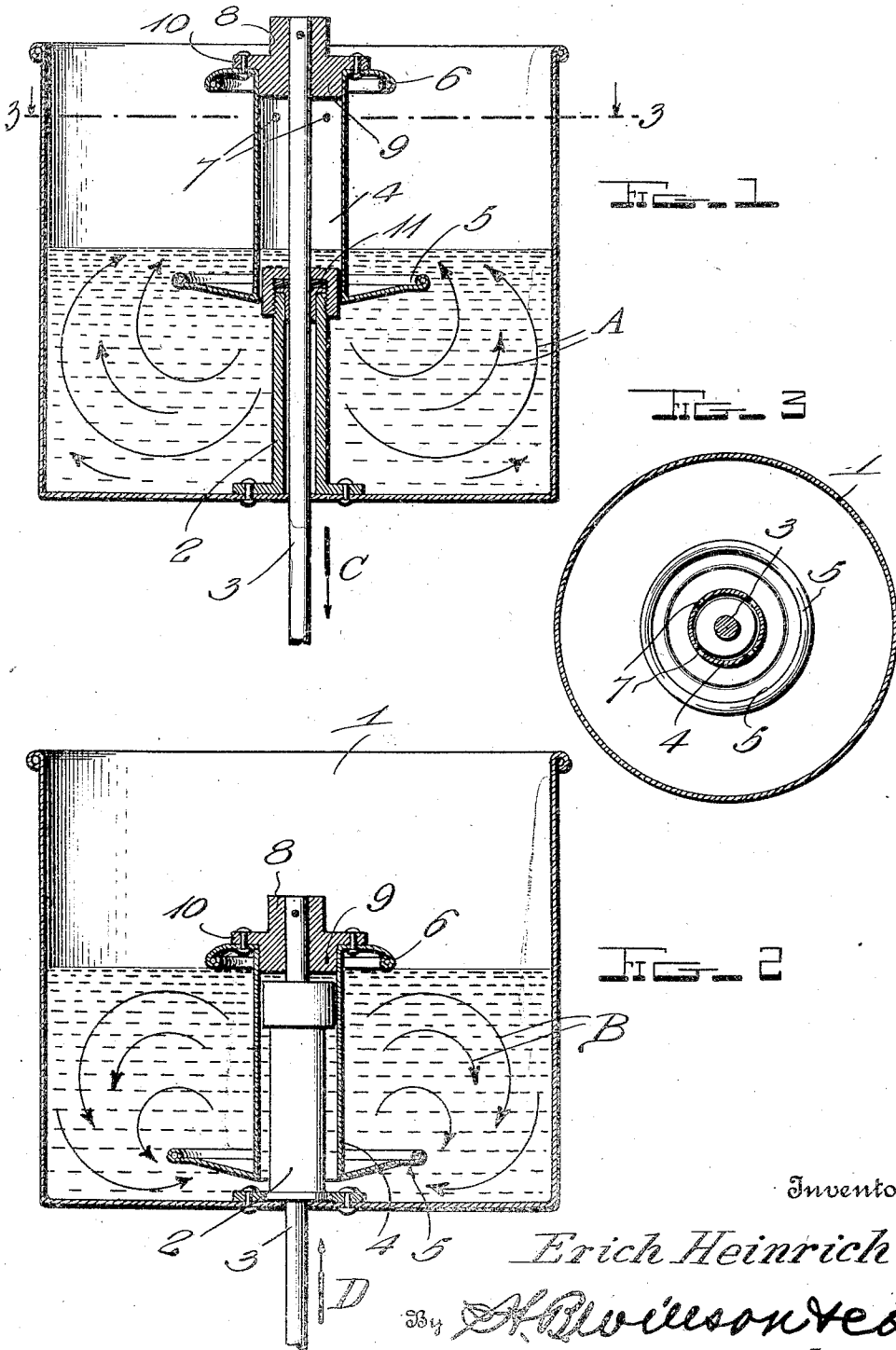


E. HEINRICH.  
 CLOTHES WASHING MACHINE.  
 APPLICATION FILED APR. 11, 1921.

1,408,596.

Patented Mar. 7, 1922.



Inventor

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# UNITED STATES PATENT OFFICE.

ERICH HEINRICH, OF DETROIT, MICHIGAN.

## CLOTHES-WASHING MACHINE.

1,408,596.

Specification of Letters Patent.

Patented Mar. 7, 1922.

Application filed April 11, 1921. Serial No. 460,314.

*To all whom it may concern:*

Be it known that I, ERICH HEINRICH, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Clothes-Washing Machines; and I do 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.

This invention relates to an improved machine which is primarily intended for washing clothes, but has the additional function of providing an effective means for thoroughly mixing paints, dyes, and other fluids.

The principal object of the invention is to generally improve upon and simplify machines of this class and to provide one embodying a novel agitator which acts on the fluid in such a way as to insure an effective circulation thereof which will absolutely remove all dirt from clothes in a very short time, the action of the fluid being such as to overcome possible injury to the clothes as occurs with the types of washing machines now on the market.

A further object of the invention is to provide a machine of the above mentioned type which embodies comparatively few, simple and inexpensive parts which are so connected together that they can be easily separated from one another for making repairs or for any other purpose desired.

A still further object of the invention is to provide a washing machine for clothes which embodies a novel agitator having on its lower end, an upwardly inclined annular deflector flange which serves to drive the water or cleaning fluid toward the sides of the tub both on the up stroke and down stroke of the operating rod. Experience with this device has disclosed the fact that it will float the clothes and forcibly drive the water through them to remove all dirt in the least possible amount of time.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification and in which like numerals are employed to designate like parts throughout the same:—

Figure 1 is a central vertical sectional view through a washing machine constructed in accordance with this invention show-

ing the agitator up, the arrows indicating the course that the cleaning fluid follows when the agitator is moved down.

Figure 2 is a view like Fig. 1 showing the agitator moved down to its lowermost position, the arrows indicating the course the fluid takes when the agitator is moved upwardly.

Figure 3 is a horizontal sectional view taken on the plane of the line 3—3 of Fig. 1.

Referring to the drawings by numerals, 1 designates a tub of suitable size and design having an internal centrally disposed upstanding guide post 2 through which an operating rod 3 is slidable. Surrounding and spaced from this guide post is a tubular open ended agitator 4. In order that this agitator may accomplish the end sought, it is equipped at its lower end with a relatively large annular deflector flange 5, the periphery of which is directed upwardly as shown to act on the cleaning fluid and cause it to take the various courses indicated by the arrows A and B. At its upper end, the agitator tube is equipped with a second lateral flange 6 which is smaller than the first named flange and serves to confine water between it and the inclined flange 5 on the upward stroke of the operating rod so as to insure that the water will be driven outwardly toward the sides of the tub and then inwardly as indicated by the arrows B. To insure effective operation of the agitator, it is equipped with one or more apertures 7 for passage of air. Referring now to the operating rod 3, it will be seen that it is equipped on its upper end with a head 8 which includes a cylindrical portion 9 depending into and closing the upper end of the agitator tube, together with an attaching flange 10 which is bolted or otherwise secured to the adjacent deflector flange 6. If desired, a stuffing box 11 of any suitable construction may be associated with the upper end of the guide post to prevent leakage of fluid from the tub.

In use the clothes are placed in the tub in the usual way, the latter being filled with water so that the level thereof will be about in the position indicated in the drawing. Assuming that the agitator and operating rod is in the position indicated in Fig. 1, it will be seen that when the operating rod is moved downward in the direction of the arrow C it will carry the agitator with it. In

so doing, the annular inclined deflector flange 5 on the lower end thereof will act on the water or fluid in such a way as to cause it to rush from the center of the tub toward the walls thereof and then upwardly and inwardly as indicated by the arrows "A." On the other hand, when the operating rod moves upwardly in the direction of the arrow "D," it will lift the water above it and cause the water to take the course indicated by the arrows "B." The water acting in this manner will cause the clothes to remain in a floating position and will flatten them out somewhat so as to permit the water to be easily driven through them. In this way, all movable matter will be taken from the clothes in a very short time. Furthermore, the clothes will be treated gently and possible injury thereof will be overcome.

20 A careful consideration of the foregoing description taken in connection with the accompanying drawings is thought to be sufficient to enable persons skilled in the art to obtain a clear understanding of the invention. Therefore, a more lengthy description is deemed unnecessary.

Since probably the best results may be obtained with the construction and arrangement herein shown and described, this construction and arrangement is taken as the preferred embodiment of the invention. However, slight minor changes coming within the scope of the subjoined claims may be resorted to.

35 I claim:—

1. A clothes washing machine comprising a tub, an upstanding tubular guide in said tub, an agitator surrounding said guide and having upper and lower outstanding flanges,

an operating rod slidable through the guide and extending through the agitator, and a head carried by the said rod and connected to the upper end of said agitator.

2. A clothes washing machine comprising a tub, a centrally disposed upstanding tubular guide post arranged therein, a tubular open ended agitator surrounding and spaced from said post, an operating rod slidable through the latter, and a head on the upper end of said rod, being connected to the agitator and serving to close the upper open end of the latter.

3. A clothes washing machine comprising a tub, an upstanding guide, a tubular agitator surrounding and spaced from the guide, being provided at its opposite ends with deflector flanges, the lower one of which has its periphery directed upwardly for the purpose set forth, and an operating rod slidable through the guide and connected to said agitator.

4. A clothes washing machine comprising a tub, a centrally disposed upstanding tubular guide post arranged inside of the tub, a tubular open-ended agitator surrounding and spaced from said post, being provided at its opposite ends with substantially circular deflector flanges, the lower one of which has its peripheral portion directed upwardly for the purpose set forth, an operating rod slidable through the post, and a head on the upper end of the rod connected to the agitator and serving to close the upper open end of the latter.

In testimony whereof I have hereunto set my hand.

ERICH HEINRICH.