W. J. WILDE.

GEARING.

APPLICATION FILED OCT. 22, 1907.

900,631.

Patented Oct. 6, 1908.

FIG. 1.

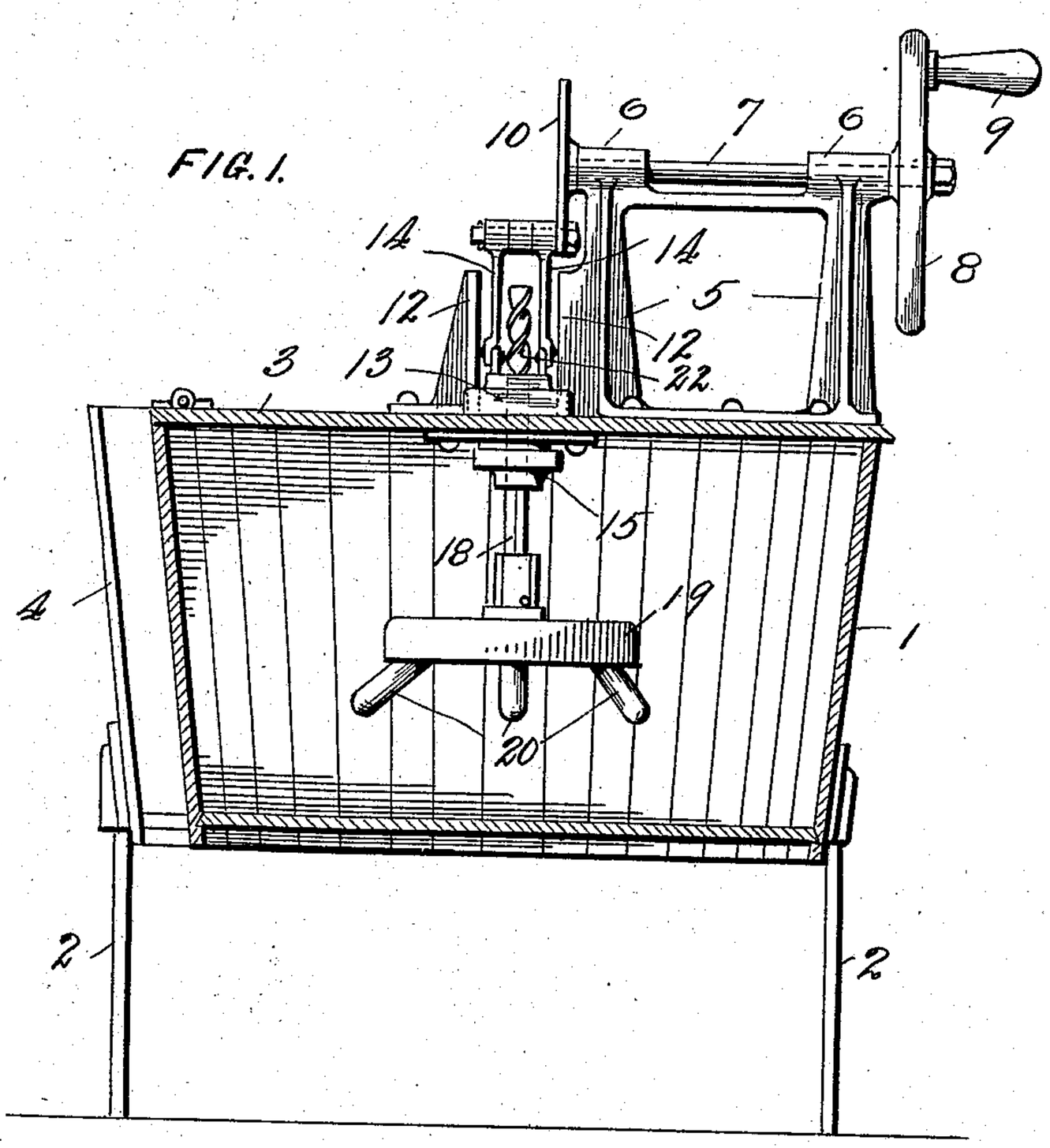


FIG. 2.

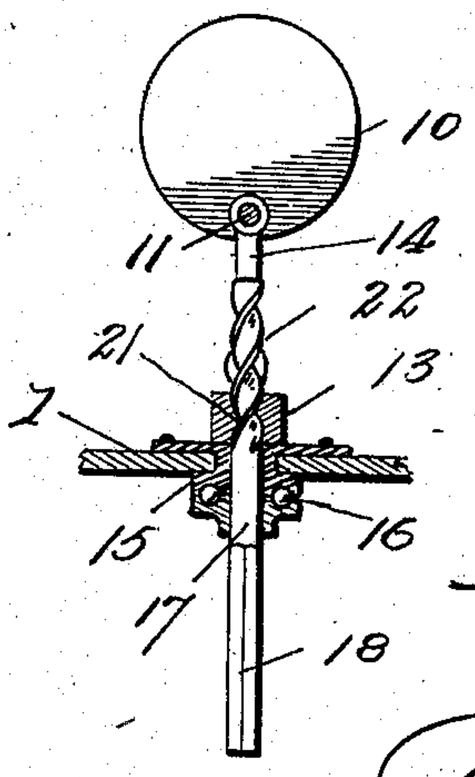
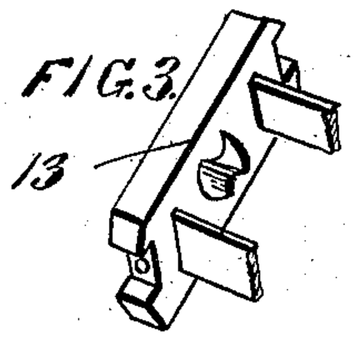


FIG. 3.



WITNESSES:

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WALTER J. WILDE, OF AMERICAN FORK, UTAH.

GEARING.

No. 900,631. Specification of Letters Patent. Patented Oct. 6, 1908.

Application filed October 22, 1907. Serial No. 398,612.

To all whom it may concern:

Be it known that I, WALTER J. WILDE, a citizen of the United States, residing at American Fork, in the county of Utah and State of Utah, have invented certain new and useful Improvements in Gearings, of which the following is a specification.

My invention relates to improvements in washing machines, and has for its object the provision of a cheap, simply and durably constructed clothes cleaning device which shall operate with efficiency to thoroughly cleanse the clothes with the expenditure of a minimum amount of energy.

With these and other objects in view, my invention consists of a tub or receiver, a fixed nut carried thereby, a spirally grooved shaft engaged in said nut and carrying a clothes engaging device on its lower end, and crank mechanism for causing reciprocating and rotary movement of the shaft.

My invention further comprises a clothes washer embodying certain other novel features of construction, combination and arrangements of parts substantially as disclosed herein and as illustrated in the accompanying drawings, in which:

Figure 1, is a central vertical section of my improved washing machine, the shaft and driving mechanism being shown in elevation. Fig. 2, is a detail broken view of the shaft and crank mechanism. Fig. 3, is a detail view of the sliding block showing the opening therein to receive the vertical shaft with the oppositely arranged lugs to engage the thread of the shaft, and also showing the manner of securing the connecting rods thereto.

In the drawings: The numeral 1, designates the tub or receptacle in which the clothes are placed, the same being of the usual and ordinary construction and preferably mounted upon legs or standards 2. The tub is provided with a hinged cover 3, and a wringer support 4, is provided at one side of the tub.

Upon the cover of the tub are mounted the pair of standards 5, formed at their upper ends with journal boxings 6, in which is journaled the horizontal driving shaft 7. A balance wheel 8, provided with a crank handle 9 is mounted upon the outer end of the driving shaft, and this wheel may be operated by manual or other power. A crank disk 10, is mounted upon the opposite inner end of the horizontal driving shaft, and a crank pin or wrist pin 11, is carried by the crank disk. Upstanding vertical guides or posts 12, are mounted at the central portion of the cover, and a block 13, is slidably engaged between said guides and adapted for vertical sliding movement. Connecting rods 14, are pivotally engaged between the wrist pin on the crank disk and the slidable block, so that as the horizontal shaft is rotated by means of the driving wheel, the block is caused to reciprocate between the vertical guides.

A ball bearing 15, carrying the balls 16, serves as a journal support for the vertical shaft 17. The lower portion of the vertical shaft extends down into the tub and is squared or polygonal in shape as at 18, and upon this angular portion of the shaft is slidably mounted the "dolly" 19, which is provided with prongs or pins 20, to engage and agitate the clothing in the tub. The vertically slidable block is in the form of a nut, it being interiorly threaded as at 21, and the upper portion of the vertical shaft extending above the cover is formed with spirally arranged grooves or threads 22, which are engaged in the sliding nut or block 13.

After the clothes have been placed in the tub with the proper amount of water and soap, the balance wheel is rotated by any suitable available power and the rotary motion of the horizontal shaft, by means of the crank disk and connecting rods, causes a vertical reciprocating motion of the nut block. The threads in the nut block engage the spiral grooves in the upper end of the agitator shaft, causing a rotary and reversing motion of the agitator shaft. The agitator on the end of the vertical shaft thus rubs the clothes, rapidly and thoroughly cleansing the same.

From the foregoing description taken in connection with the drawings, the operation and advantages of my improved washing machine will be readily understood and appreciated, and it will further be apparent that I have produced such a device which satisfactorily accomplishes all the results herein aimed at as the objects of the invention.

I claim:

In combination with a support, a vertical shaft passed therethrough and having spiral screw threads on its upper exposed end, ball bearings between the support and shaft, up-

standing guides on the support closely adjacent to the shaft on opposite sides thereof, a nut block recessed in its opposite ends to receive the guides and provided with an opening to receive the spiral portion of the shaft, oppositely disposed lugs projecting inward from the edges of said opening engaging the screw threads in the shaft, standards on the support, a horizontal shaft journaled in the standards, a crank fly wheel on the outer end of the shaft, a crank disk on the inner end of the shaft, a wrist pin carried by the disk, connecting rods journaled at one end to the wrist pin, the nut block having sockets on opposite sides of the spiral shaft to receive the lower ends of the rods, and fastenings passed inward through the ends of the nut block through the sockets and ends of the connecting rods to pivot the connecting rods in the nut block.

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

WALTER J. WILDE.

Witnesses:

D. J. BLAKE,

GEO. E. BARTON.