

W. M. JOHNSTON.
WASHING MACHINE.
APPLICATION FILED OCT. 13, 1911.

1,053.607.

Patented Feb. 18, 1913.

2 SHEETS—SHEET 1.

Fig. 1.

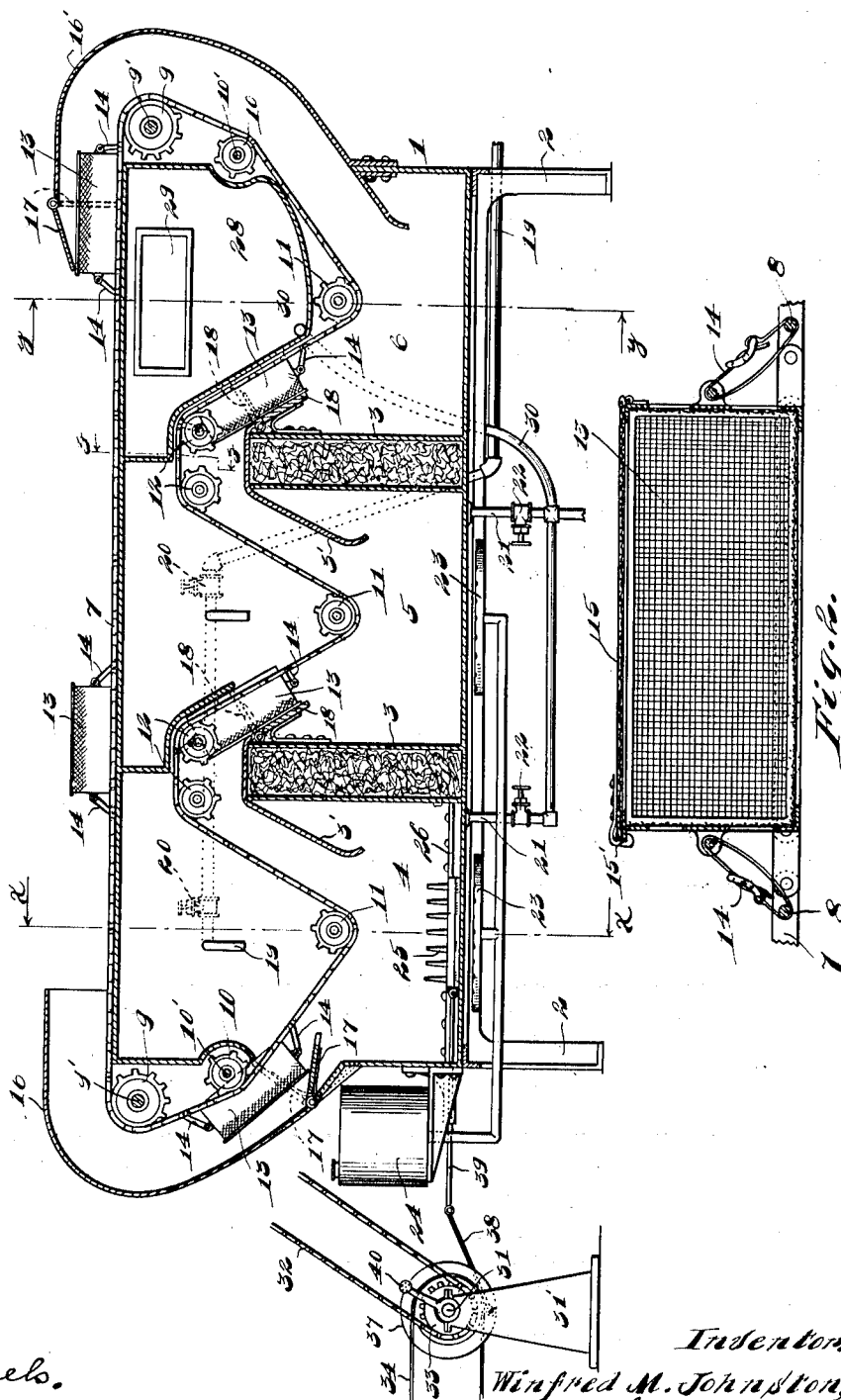


Fig. 2.

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2 SHEETS—SHEET 2.

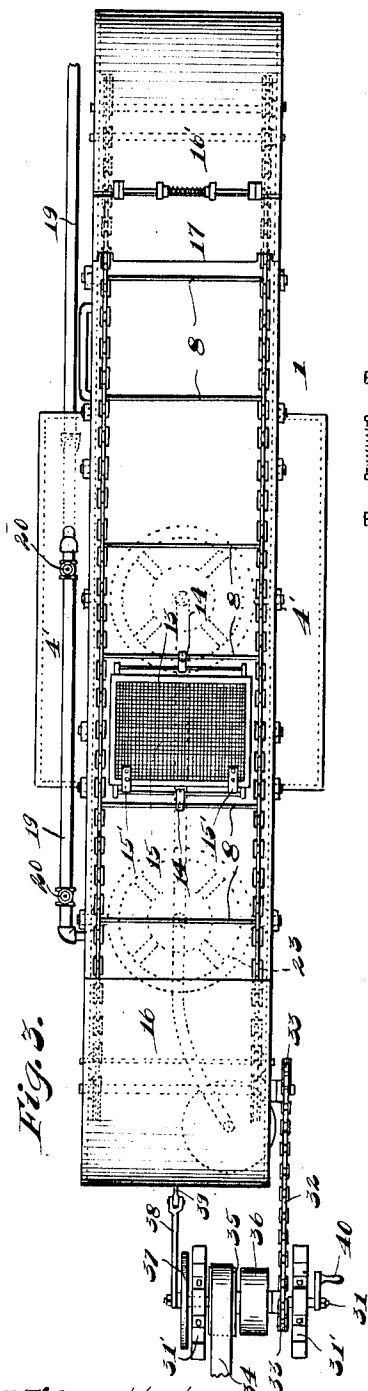


Fig. 3.

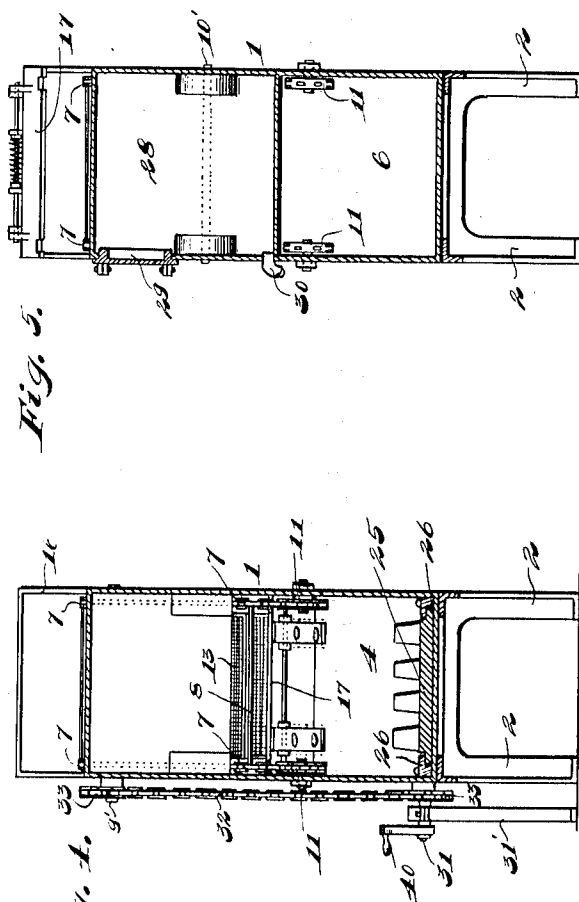


Fig. 4.

Fig. 5.

Fig. 6.

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UNITED STATES PATENT OFFICE.

WINFRED M. JOHNSTON, OF DALE, WISCONSIN.

WASHING-MACHINE.

1,053,607.

Specification of Letters Patent.

Patented Feb. 18, 1913.

Application filed October 13, 1911. Serial No. 654,459.

To all whom it may concern:

Be it known that I, WINFRED M. JOHNSTON, a citizen of the United States, and a resident of the city of Dale, county of Outagamie, and State of Wisconsin, have invented certain new and useful Improvements in Washing-Machines, of which the following is a specification.

My invention relates to improvements in washing machines and more specifically to a machine designed especially for use in the washing of tumblers, such as beer glasses and the like.

The object of my invention is the production of a machine of the character mentioned through the medium of which tumblers or glasses may be thoroughly washed and sterilized with great efficiency and expedition.

A further object is the production of a machine as mentioned which will be of durable and economical construction, one which will be automatic in its operation, and one which will be of high efficiency in operation.

Other objects will appear hereinafter.

With these objects in view the invention consists in the combinations and arrangements of parts all as will be hereinafter described and claimed.

My invention will be best understood by reference to the accompanying drawings forming a part of this specification, and in which,

Figure 1 is a central vertical longitudinal section of a washing machine embodying my invention, Fig. 2 is an enlarged longitudinal section of one of the carrier baskets included in the construction, showing a fragment of the conveyer to which the same is secured, Fig. 3 is a top plan view of the machine, Figs. 4 and 5 are vertical transverse sections taken on substantially lines $x-x$ and $y-y$ respectively of Fig. 1, and Fig. 6 is a sectional detail, the section being taken on substantially line $z-z$ of Fig. 1.

The preferred form of construction as illustrated in the drawings comprises a body 1 which is of substantially rectangular form and formed preferably of sheet metal. The body 1 is mounted upon a suitable base 2, the same being of such a height that the upper side, which constitutes a counter may be readily reached by one in standing position. The interior of the body 1 is divided by transversely extending partitions 3 into

compartments 4, 5 and 6, said partitions being preferably filled with a suitable insulation or non-heat conducting material so that the heat from one compartment, when the device is in operation will not be conducted to the next. The compartments 4 and 6 are provided with openings as shown in the end walls of the body 1, the upper ends of the partitions 3 being cut away to establish communication between the compartments 4 and 5, and 5 and 6, as clearly shown in Fig. 1.

Traveling over the top of the body 1 and through the respective openings of the several compartments is an endless flexible conveyer comprising chains 7 and transversely extending bars 8 which connect the chains 7 at intervals. The chains 7 engage sprocket wheels 9, 10, 11 and 12 as shown, which serve to guide the conveyer over the upper side of the body 1 and successively through the compartments 4, 5 and 6, the sprocket wheels 11 directing the conveyer downwardly into said compartments for a purpose which will be hereinafter described. Arranged upon said conveyer and spaced preferably at equal distances apart thereon are reticulate baskets 13 adapted for the carriage of the tumblers, glasses, or other articles which it is desired to wash. The baskets 13 are loosely secured to the conveyer by means of flexible links or straps 14 which engage with the cross bars 8 as clearly shown in Fig. 2. Each of the baskets 13 is provided with a hinged cover 15 for gaining access to the interior thereof, the cover being normally secured in closing position by means of a suitable lock or clasp 15'. Upon travel of the conveyer, the baskets 13 will evidently be successively carried into the compartments 4, 5 and 6, the loose connection of the links 14 with said conveyer permitting of the baskets passing in close proximity with the bottoms of the various compartments during travel therethrough for a purpose which will be hereinafter set forth. In order to afford clearance for the baskets in their passage the sprocket wheels 11 and 12 are preferably mounted upon short stud shafts, the sprocket wheels 9 and 10 being mounted upon shafts 9' and 10' which extend transversely of the body 1 the entire width thereof. The baskets are so spaced relative to the spacing of the compartments 4, 5 and 6 that three successive baskets will always be positioned in said compartments simultaneously, the remaining

two baskets, when the others are thus positioned, being positioned upon the upper side or counter of the body 1 for emptying or filling as the case may be. Provided at each of the partitions 3 is an inclined guide plate 3' disposed so as to serve to guide the baskets in their passage from one compartment to the next. At the extremities of the body 1 are provided tubular guides 16 and 16' which serve respectively to guide the baskets in their travel from the counter of the body 1 to the compartment 4 and from the compartment 6 to the counter of said body. The lower extremity of the guide passage 16, and the upper extremity of the guide passage 16' are normally closed by spring held closure members 17, the openings intermediate the compartments 4, 5 and 6 being normally closed by similar spring held hinged closure members 18. Said closures 17 and 18 are so mounted as to be adapted to swing in such a direction as to permit of the passage of the carrier baskets 13, as clearly shown in Fig. 1, the same being adapted, after passage of said baskets to automatically move to closing position.

Water is supplied to the compartments 4 and 5 by a water supply pipe 19, cocks 20 being arranged in said pipe to regulate the flow of water therethrough to said compartments. Drain pipes 21 extend from the bottoms of the compartments 4 and 5, the passage through said pipes being controlled by cocks 22. Arranged under the compartments 4 and 5 are suitable hydro-carbon burners 23 which are in communication as shown with a fuel supply tank 24. Arranged in the bottom of the compartment 24 is an agitator 25 which is mounted to reciprocate between guides 26, said agitator being adapted when the device is in operation to effect the thorough agitation of the water contained in the compartment 4 so that the articles contained in the carrier basket placed in said compartment will be thoroughly washed.

Formed in the upper end of the compartment 6 is an ice receptacle 28, access thereto being gained through a door 29 which is provided in one side of the member 28. Communicating with the bottom of the chamber 28 is a drain pipe 30 which connects as shown with the drain pipes 21 of the compartments 4 and 5. The provision of the ice receptacle 28 in the upper end of the compartment 6 evidently affords means for effecting a thorough cooling of said compartment when the device is in operation so that the glasses or tumblers contained in the baskets passing from the compartment 5 will be cooled in the compartment 6 before the same are returned to the counter of the body 1 for use.

In the operation of the washer the tumblers, or glasses or other articles to be

cleansed are first arranged in the baskets 13 positioned upon the counter of the body 1. Upon movement of the conveyer the baskets will be successively introduced into the compartments 4, 5 and 6. In the compartment 4 wherein will be contained hot water maintained at a high temperature by means of the burner 23 arranged thereunder the washing of the articles contained in the baskets will be effected, the agitation of the water in said compartment by the agitator 25 conducing to a most thorough washing. In the compartment 5 the articles contained in the baskets will be boiled in clean water which will be maintained at a boiling temperature by means of the burner 23 arranged thereunder. In the compartment 6, the articles, as above set forth are cooled and the water thereon evaporated before ascending the passage 16 and returned to the counter of body 1, this cooling of the glasses or tumblers being especially desirable where the same are used in dispensing beer or other liquor. The water in the compartments 4 and 5 may be drained therefrom when desired through the drain pipes 21 and fresh water supplied through the supply pipe 19.

Driving of the conveyer is effected through the medium of a counter shaft 31 which is mounted in suitable bearings 31', said shaft being connected with one of the shafts 9' by means of a sprocket chain 32 which travels over sprocket wheels 33. The counter shaft 31 may be driven by any suitable motive power through a belt 34 which is adapted to engage loose and fixed pulleys 35 and 36 respectively arranged upon the shaft 31. Also, provided upon the shaft 31 is a crank disk 37, the crank pin of which is connected by means of a link 38 with the stem 39 of the agitator 35. With this arrangement it will be seen that upon rotation of the shaft 31 the conveyer will be driven and in addition thereto the agitator reciprocated. The counter shaft is preferably intermittently driven, so that the carrier baskets 13 will each remain in each of the compartments 4, 5 and 6 a certain length of time, the conveyer being moved a distance sufficient to carry the baskets from one compartment to the next. A crank 40 is provided on shaft 31 so that the apparatus may be operated by hand if desired.

The front and rear walls of the compartment 5 are preferably constructed similar to the partitions 3, as shown at 41 in Fig. 3, so that the heat from said compartment will be confined therein and not permitted to escape and heat the room in which the machine is arranged.

A machine of the construction set forth is durable and economical in construction and positive and efficient in operation.

While I have illustrated and described the preferred form of construction for carrying

my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claim.

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

In a device of the class described, a body, partitions dividing said body into a plurality of compartments, there being openings in the upper portions of said partitions forming means of communication between said compartments, a conveyer extending through said openings and downwardly into

each of said compartments, a hinged closure for each of said openings, means for normally holding said closures in closed position, an upwardly and forwardly inclined guide extending to the lower edge of each opening and a downwardly and forwardly inclined guide on the opposite side of said partition from the first said guide and extending from the upper edge of said openings, substantially as described.

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

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Witnesses:

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