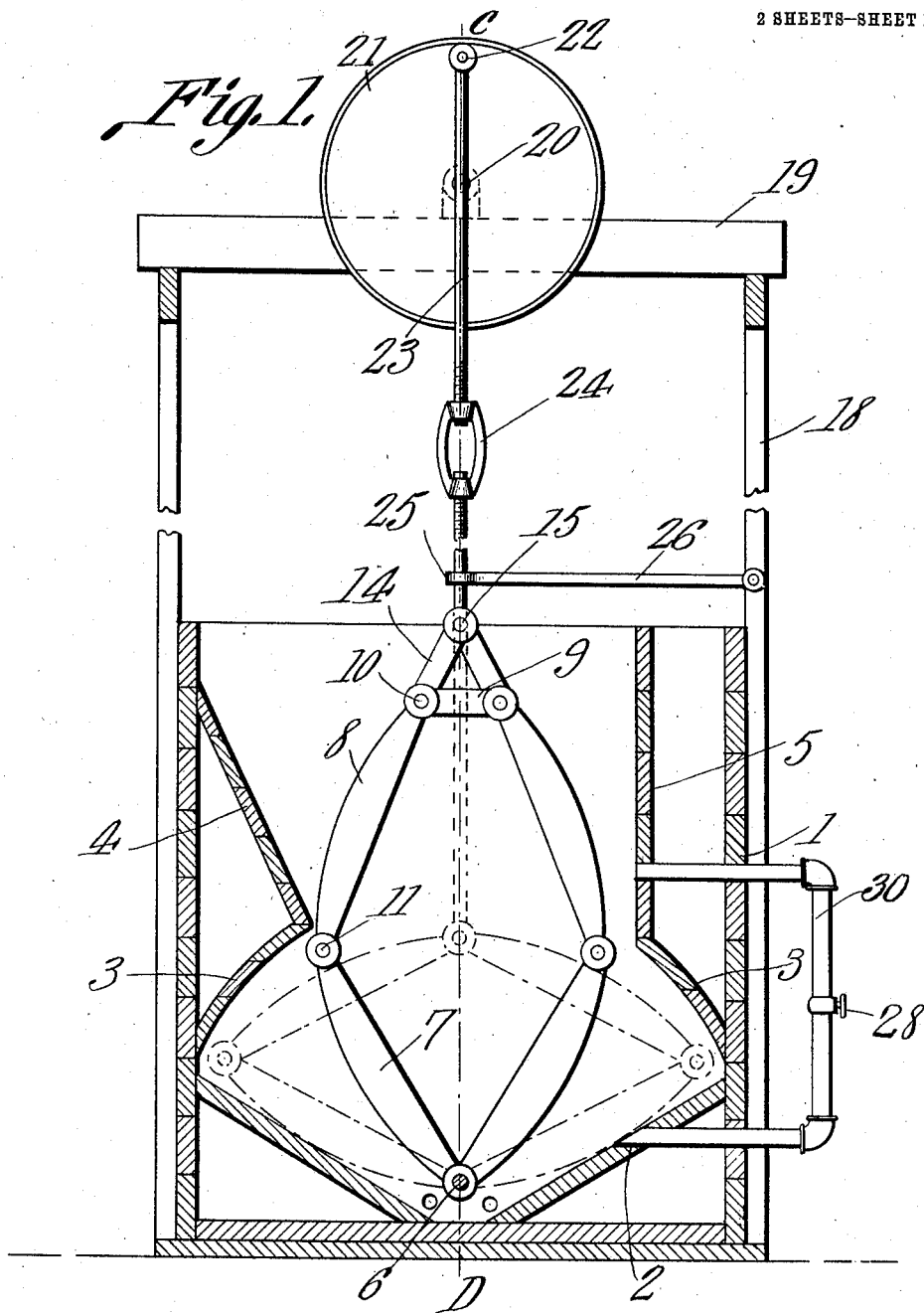


H. L. FREEMAN.
WASHING MACHINE.
APPLICATION FILED JULY 18, 1910.

1,003,177.

Patented Sept. 12, 1911.

2 SHEETS-SHEET 1.



Horace L. Freeman,

Inventor

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Attorneys

Witnesses

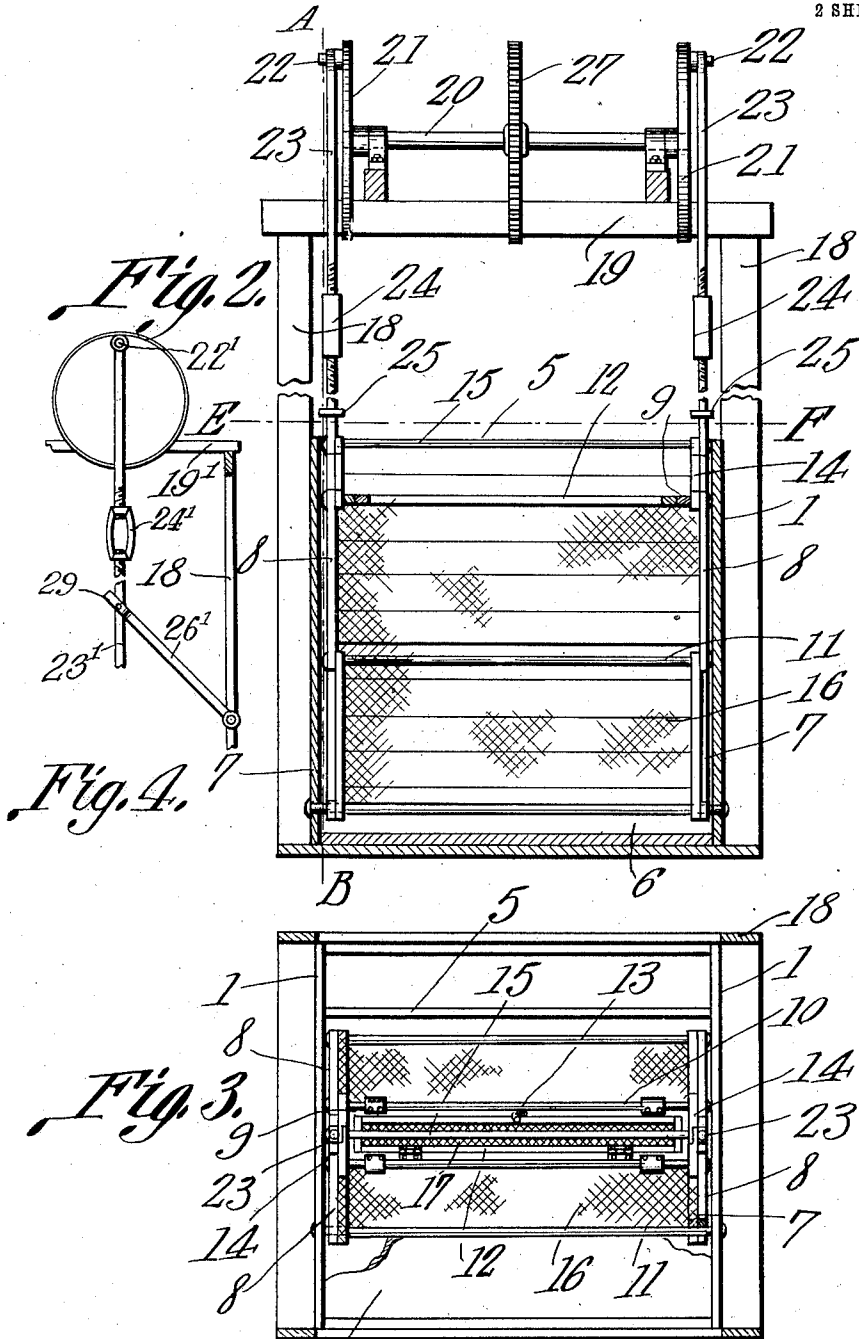
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UNITED STATES PATENT OFFICE.

HORACE L. FREEMAN, OF WEST DURHAM, NORTH CAROLINA.

WASHING-MACHINE.

1,003,177.

Specification of Letters Patent.

Patented Sept. 12, 1911.

Application filed July 18, 1910. Serial No. 572,568.

To all whom it may concern:

Be it known that I, HORACE L. FREEMAN, a citizen of the United States, residing at West Durham, in the county of Durham and State of North Carolina, have invented a new and useful Washing-Machine, of which the following is a specification.

This invention relates to washing machines and its object is to provide a machine of this character having a fabric holding basket designed to be collapsed and extended so as to subject the contents thereof to intermittent compression, portions of the basket coöperating with the walls of the tub in which the basket is located, to constitute plungers or pistons for the purpose of trapping the liquid contents of the tub and forcing the same into the basket and through the fabrics contained therein.

A further object is to provide a machine of this character which is easy to operate and which will not readily get out of order.

With these and other objects in view the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings: Figure 1 is a vertical transverse section through the machine, said section being taken on the line A—B Fig. 2. Fig. 2 is a central vertical section through the machine on the line C—D Fig. 1. Fig. 3 is a section on line E—F Fig. 2. Fig. 4 is a view on a reduced scale of a portion of a modified form of machine.

Referring to the figures by characters of reference 1 designates the frame work of the tub, the same being provided with a false bottom 2 made up of downwardly converging portions. This false bottom extends at its front and rear portions under overhanging supplemental walls 3, there being an inner upstanding wall 4 extending from one of these overhanging walls and a vertical upstanding wall 5 extending from the other overhanging portion 3. A pivot rod 6 extends longitudinally within the receptacle 1 and adjacent the lower meeting portion of the sections of the supplemental bottom, it being noted that the overhanging walls 3 are curved along lines concentric with the rod 6. Side strips 7 are pivotally mounted upon the end portions of the rod 6 and close

to the end walls of the receptacle 1, these strips being preferably arranged in pairs and are pivotally connected, at their upper ends, to additional or upper strips 8. These upper strips are connected at their upper ends by a frame which is pivotally mounted on the rods 10 engaging the strips 8, it being understood also that the meeting portions of the strips 7 and 8 are mounted on rods 11 extending longitudinally within the receptacle 1. The frame 9 has a door 12 hingedly mounted therein, there being any suitable fastening such as shown at 13 for the purpose of securing the door in closed position.

Links 14 extend upwardly from the corner portions of the frame 9 and are pivotally mounted on the rods 10, these links being mounted, at their upper ends, upon a rod 15.

The arms 7 on each side of the rod 6 are connected by a heavy wire fabric such as indicated at 16 or by perforated metal or the like and the arms 8 are provided with similar material so that the said arms and the coverings thereon form a basket extending throughout the length of the receptacle 1 and which is adapted to fold as a result of the swinging movement of the arms 8 relative to the arms 7. The door 12 is also preferably provided with an open metal or screen covering such as has been shown at 17.

Standards 18 extend upwardly from the corner portions of the receptacle 1 and support a head 19 on which is journaled a shaft 20. A wheel 21 is secured to the shaft adjacent each end thereof and has a wrist pin 22 to which is connected a pitman 23. Each pitman is preferably formed of two threaded sections connected by means of a turn buckle 24 and the lower section of each pitman is loosely mounted within an eye 25 formed at one end of a guide arm 26 extending from one of the standards 18. A sprocket wheel 27 may be mounted upon the middle portion of the shaft 20 so as to receive motion through a chain from any suitable motor. In using the machine which has been described the pitmen 23 are simultaneously elevated so as to bring the basket into the position shown by full lines in Fig. 1. The receptacle 1 is then filled with water up to the upper ends of the overhanging walls 3 and door 12 is then opened and the fabrics to be cleaned are placed within the basket formed by the arms 7 and 8 and the fabric coverings

thereon. The door is then secured and the shaft 20 set in motion. During the downward movement of the pitmen 23, the arms 8 and their coverings will fold downwardly 5 onto the arms 7, as indicated by dotted lines, the said arms 7 working under the overhanging portions 3 and working as plungers or pistons for the purpose of trapping the water in the path thereof and per- 10 mitting it to escape only through the fabric connections between the arms and the fabric contents of the baskets.

During the second half of the movement of the pitmen or, in other words, during 15 the upward movement thereof, the arms 7 and 8 will be moved apart, as indicated by full lines in Fig. 1, a vacuum being thus formed between the false bottom 2 and the basket and the water above the fabrics being elevated and being sucked downward 20 through the fabrics and into the space below the basket. It will thus be seen that the water will be positively directed back and forth through the fabrics during the 25 collapsing and vertical extension of the basket and the dirt contained within the fabrics will therefore be quickly removed therefrom.

As the pitmen are movably engaged by 30 the guide arms 26, they will cause the upper end of the pentagonal basket to swing to a slight extent about the pivot rod 6 during the collapsing and elevation of the basket, and inasmuch as the various parts 35 of the basket are pivotally connected, it will be seen that this swinging movement will result in a slight upward movement of one side of the basket relative to the other side and the basket sections will exert a 40 rubbing action upon the contents of the basket as a result of this oscillation of the pitmen.

Instead of mounting the rod 23 to reciprocate within the end of the guide arm 45 26 said arm may be pivotally attached to the rod as well as to the upright 18. This modified structure has been illustrated in Fig. 4, the arm being shown at 26' and being provided with a forked end 29 pivotally engaging the rod 23'. The parts must 50 be so disposed that the arm 26' reaches its horizontal position when the wrist pin 22' assumes a position in the same horizontal plane with shaft 20.

A by-pass 30 may be extended from the upper to the lower portion of the tub, this by-pass being provided with a valve 28 whereby the passage of liquid through the 55 by-pass may be controlled.

60 While the device is particularly useful as a washing machine, it is to be under-

stood that it can also be employed effectively in dyeing hosiery, etc.

Various changes can of course be made in the construction and arrangement of the 65 parts without departing from the spirit or sacrificing any of the advantages of the invention as defined in the appended claims.

What is claimed is:—

1. A washing machine including a receptacle having oppositely disposed curved 70 walls, said walls overhanging the bottom of the receptacle, a jointed basket pivotally mounted within the receptacle, said curved walls being concentric with the pivot there- 75 of and means for successively collapsing and vertically extending the basket within the receptacle to move the sides thereof along lines close to and concentric with the curved walls of the receptacle. 80

2. A washing machine including a receptacle having oppositely disposed curved walls overhanging the bottom thereof, a basket made up of pivotally connected sections, said basket being pivotally mounted 85 within the receptacle, the said curved walls being concentric with the pivot of the basket, means for successively collapsing the basket and extending it vertically, means mounted for oscillation and coöper- 90 ating with said first mentioned means for imparting a lateral movement to the basket during the extension and collapsing thereof to effect a rubbing action upon the contents of the basket, the sides of the basket 95 being movable along lines close to and parallel with the overhanging curved walls of the receptacle.

3. A washing machine including a receptacle having oppositely disposed curved 100 walls overhanging the bottom of the receptacle, a sectional basket made up of pivotally connected panels, said basket being pivotally connected to the bottom portion of the receptacle and the said curved walls 105 being concentric with the pivot of the basket, means for successively collapsing the basket and extending it vertically, the sides of the basket being movable, during such movement, along lines close to and 110 parallel with the curved walls of the receptacle, said basket and its contents constituting means for trapping liquid within the receptacle and below the basket and said curved walls. 115

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

HORACE L. FREEMAN.

Witnesses:

W. H. MUSE, Jr.,
J. M. KNIGHT.