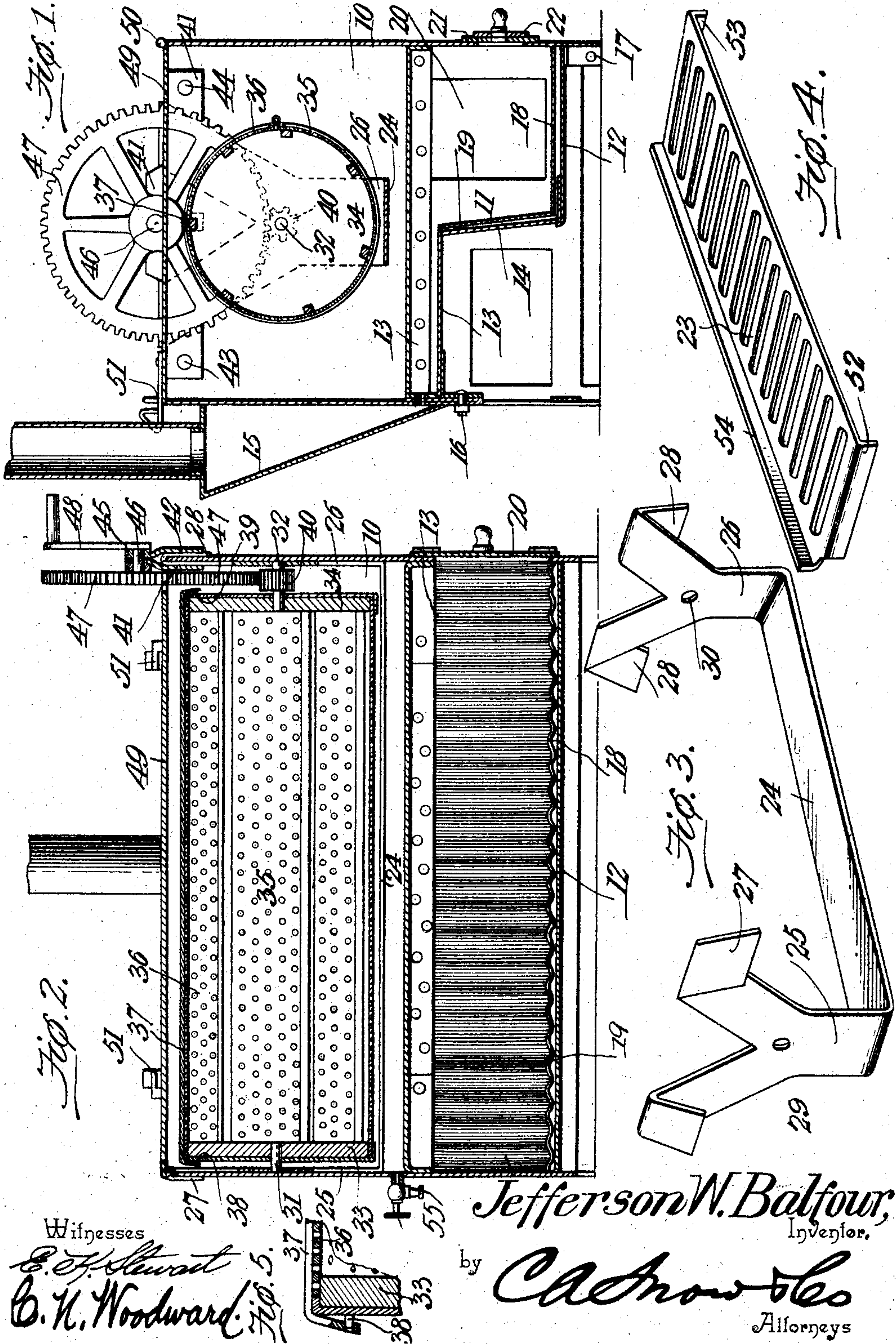


No. 772,493.

PATENTED OCT. 18, 1904.

J. W. BALFOUR.  
WASHING MACHINE.  
APPLICATION FILED DEC. 9, 1903.

NO MODEL.



Witnesses  
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# UNITED STATES PATENT OFFICE.

JEFFERSON WALTON BALFOUR, OF ABBEVILLE, MISSISSIPPI.

## WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 772,493, dated October 18, 1904.

Application filed December 9, 1903. Serial No. 184,441. (No model.)

*To all whom it may concern:*

Be it known that I, JEFFERSON WALTON BALFOUR, a citizen of the United States, residing at Abbeville, in the county of Lafayette and State of Mississippi, have invented a new and useful Washing-Machine, of which the following is a specification.

This invention relates to washing-machines, more particularly to the class wherein a tank for the wash-water is employed, with means for heating the water therein and provided with a rotating perforated receptacle for the clothes, and has for its object to improve the construction and operation and expedite the process of washing; and the invention consists in certain novel features of construction, as hereinafter shown and described, and specified in the claims.

In the drawings illustrative of the invention, in which corresponding parts are denoted by like designating characters, Figure 1 is a transverse section, and Fig. 2 is a longitudinal sectional elevation. Fig. 3 is a perspective view of the hanger-frame detached. Fig. 4 is a perspective view of the auxiliary grate to be employed when coal is employed for fuel. Fig. 5 is an enlarged sectional detail of the receptacle closure-clamp.

The improved apparatus comprises a tank 10 of any desired form and capacity for the wash-water and having a furnace 11 beneath it, by which the necessary heat may be imparted thereto. The walls of the tank are extended downwardly to form the side and end walls for the furnace, as shown. The bottom of the furnace comprises the depressed portion 12, forming the fireplace at one side, and the elevated portion 13, forming the passage for the smoke and other products of combustion and connected by the vertical portion 14 and leading to the smoke-flue 15, as shown. The portions 13 and 14 are preferably in one single piece of sheet metal united to the portion 12 and secured detachably in place by a bolt 16 and buttons 17, as indicated. The portions 12 and 14 are protected by detachable fire-plates 18 19, preferably corrugated, which may be readily renewed when burned out. The fire-door is located at one end, as at 20, while the front of the

fireplace is also provided with a hinged door 21, having the usual draft-slide 22.

When wood is employed for fuel, the fireplace will be supplied with the fire-plates 18 19 only; but when coal is employed as fuel an extra removable grate, as at 23, will be supplied. The grate 23 is provided at its ends with legs 52 53, by which it is supported above the bottom member 18 to provide for a draft beneath the grate, and also with a front longitudinal rib 54 to confine the fuel and prevent its escape when the door 21 is opened. By this simple arrangement, whereby the bottom member may be quickly and easily detached, the device may be adapted for wood or coal, as required.

Suspended within the tank 10 is a framework comprising a longitudinal portion 24 and vertical end members 25 26, the latter bifurcated and terminating in hooks 27 28, spaced apart and adapted to detachably engage the upper rim of the tank at the ends, as shown. The portions 25 26 of the frame are provided, respectively, with bearings 29 30 to receive trunnions 31 32, centrally disposed upon spaced disks 33 34, connected by a web 35 of perforated material, the end disks and web forming the receptacle for the clothes to be washed, which is rotative on the trunnions, as will be obvious. The web 35 is provided with a hinged portion 36, by which the clothes may be inserted into and removed from the receptacle. The section forming the cover 36 is provided with a binding-strip 37, having its ends turned at right angles and projecting over the end members 33 34 and perforated and engaging pins or studs 38 39 on the end disks, the turned ends having sufficient resiliency to cause them to retain their places upon the pins and prevent accidental displacement. The trunnion 32 is provided with a gear-pinion 40, as shown. Detachably connected to the tank 10 is a gear-supporting frame comprising spaced members 41 42, embracing opposite sides of the rim of the tank adjacent to the member 26 and its hooks 28 and connected to the tank, as by bolts 43 44 or other suitable easily-removable means. The frame 41 42 is provided with a lateral sleeve 45, forming a bearing for a shaft 46, having on one end a



gear-wheel 47 for engagement with the pinion 40 and on the other end an operating-crank 48, as shown. The tank 10 is provided with a swinging cover 49, hinged at one side, as at 5 50, and with detachable catches 51 at the other side, as shown. A draw-off valve 55 will be attached to the tank at a suitable point. By this simple means the receptacle can be readily removed from the tank when required by 10 merely disconnecting the two bolts 43 44, removing the gear-supporting frame, and lifting the frame 24, 25, and 26 and its connected receptacle from the tank. By this means the tank and other parts may be readily cleansed 15 and thoroughly dried and aired, so that no accumulation of dirt or other foreign matter will adhere thereto between the washings. Another great advantage of this construction is found in the fact that the receptacle for the 20 clothes may be entirely submerged in the tank, thereby obtaining the full benefit of a large body of water and securing thereby a more thorough and rapid action than could be obtained by a partially-submerged receptacle. 25 The material employed will preferably be of sheet-steel or other metal, and the parts exposed to the water and detergent elements will be galvanized or otherwise protected from oxidizing influence. 30 The parts may be of any suitable size to adapt the machine for use wherever required, and is thus adaptable for use in small or large families or for the largest laundries or hotels, and may likewise be employed in manufac- 35 turing establishments where fabrics of various kinds or other objects or material are to be subjected to the action of water or other liquids, either heated or otherwise. The machine is thus adapted to a wide range of uses, 40 and I do not therefore desire to be limited in any manner in its use and reserve the right to its use in any locality or for any purpose for which it is adapted, and I also reserve the

right to make such alterations and modifications as will fall within the scope of the claims. 45

Having thus described the invention, what I claim is—

1. In a washing-machine, an outer tank, a hanger-frame comprising a longitudinal portion having vertical end portions terminating 50 in spaced hooks for detachable engagement with the rim of the tank, said vertical portions having intermediate bearings, a receptacle for the clothes having trunnions for rotative engagement with said bearings, and 55 means carried by said tank for imparting motion to said receptacle, substantially as described.

2. In a washing-machine, a tank, hangers having hooked upper terminals removably 60 embracing the upper edge of the tank, a clothes-receptacle rotatably supported by the hangers, and a removable cover for the tank, said cover engaging the hangers to prevent displacement thereof during the operation of 65 the machine.

3. In a washing-machine, a tank, hangers having hooked upper ends detachably embracing the upper edge of the tank, a clothes-receptacle having trunnions rotatably mounted 70 upon the hangers, a pinion upon one of the trunnions, a gear-wheel supported upon the top of the tank and provided with operating means, and a removable cover for the tank, said cover engaging the upper ends of the 75 hangers to prevent accidental displacement thereof during the operation of the machine and also having an opening for the reception of the gear.

In testimony that I claim the foregoing as 80 my own I have hereto affixed my signature in the presence of two witnesses.

JEFFERSON WALTON BALFOUR.

Witnesses:

C. L. SIVLEY,

W. A. McDONALD.