

No. 706,418.

Patented Aug. 5, 1902.

A. C. ISRAEL.
WASHING MACHINE.

(Application filed Aug. 21, 1901.)

(No Model.)

2 Sheets—Sheet 1.

FIG-2.

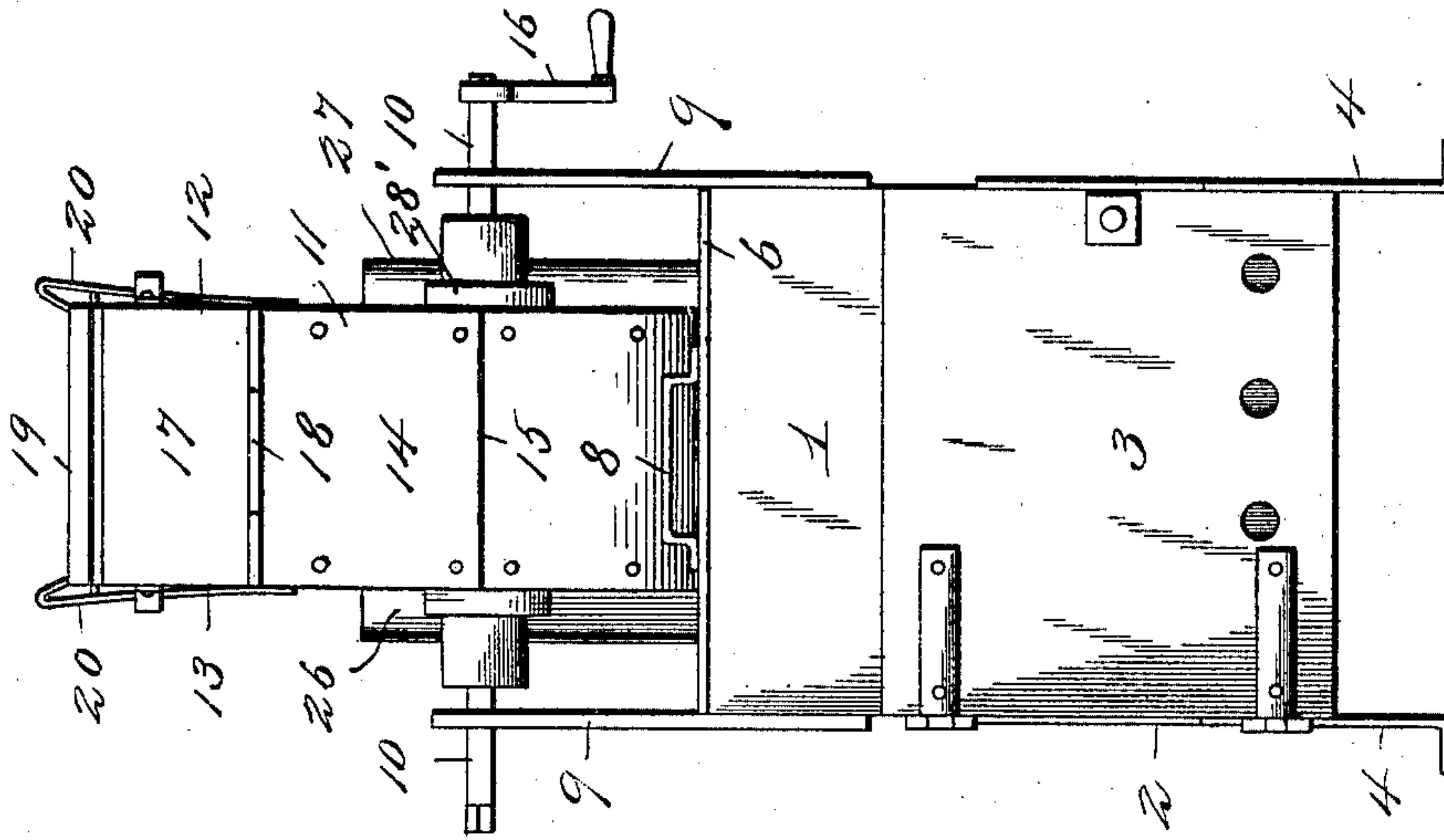
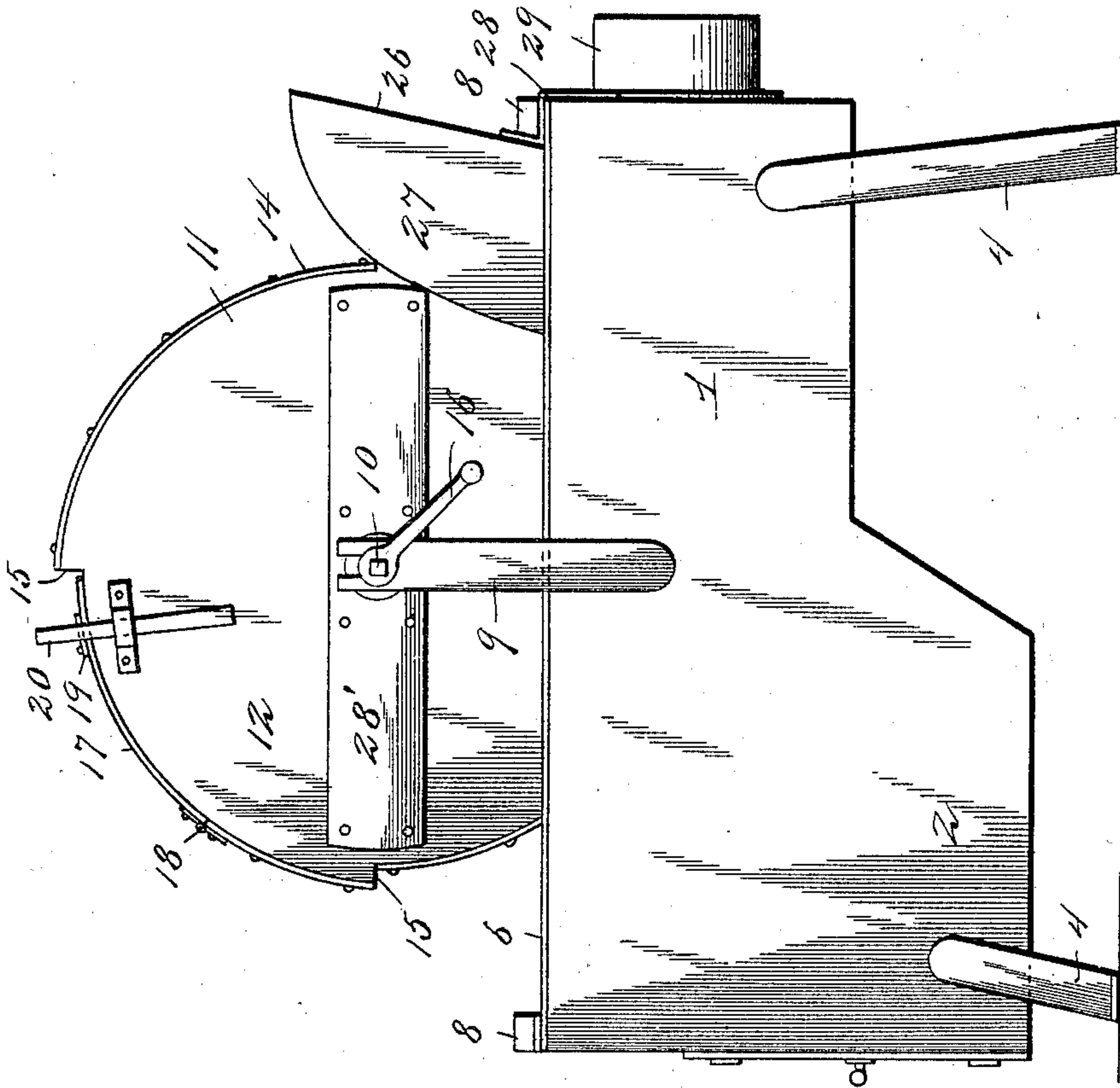


FIG-1.



Inventor

Alexander C. Israel.

Witnesses

H. L. Amer,
Arthur Maddox

By

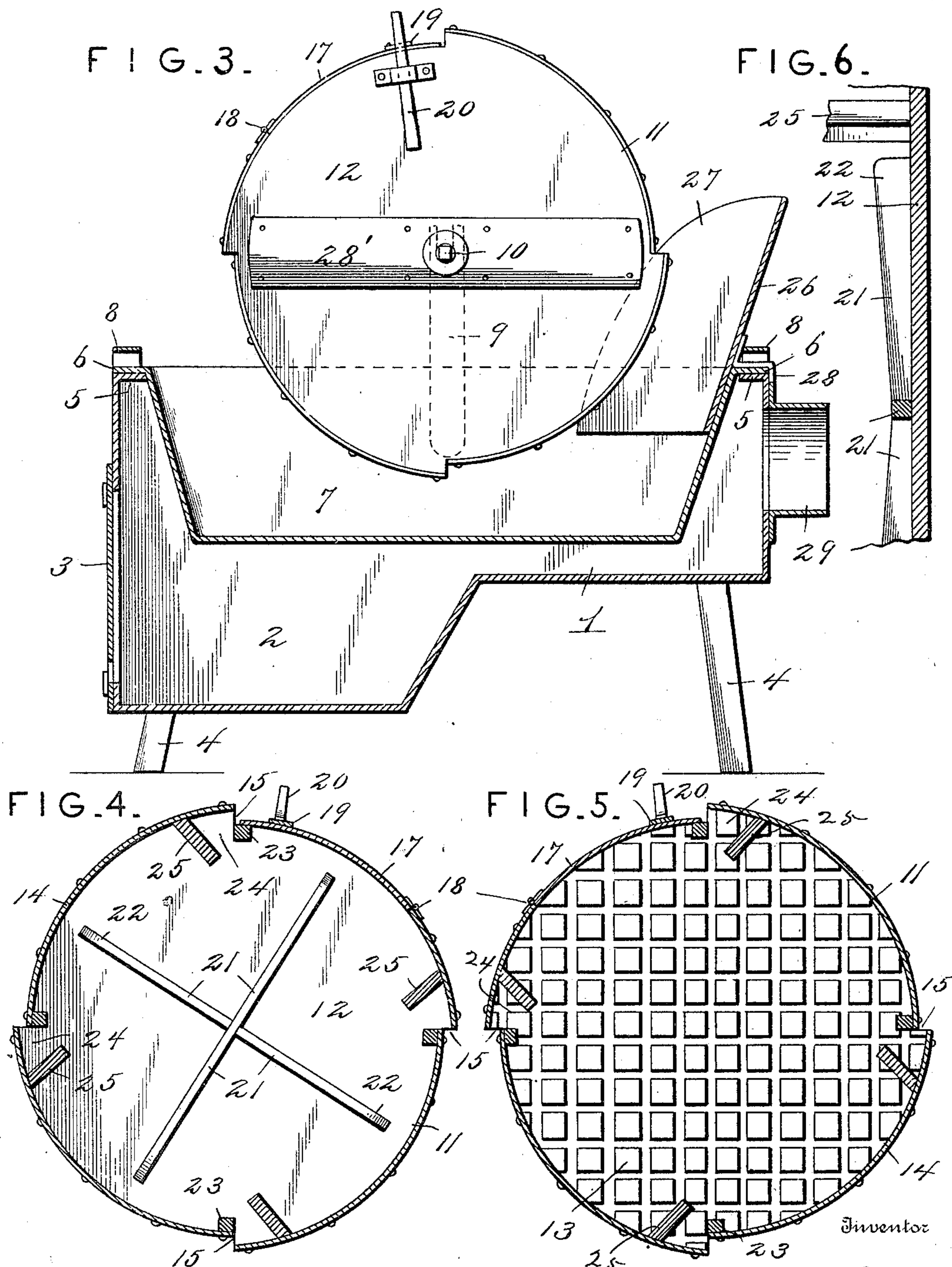
Victor J. Evans
Attorney

A. C. ISRAEL.
WASHING MACHINE.

Application filed Aug. 21, 1901.

(No Model.)

2 Sheets—Sheet 2.



Witnesses

H. L. Amer.
Arthur Madaos

Inventor
Alexander C. Israel.

By Victor J. Evans
Attorney

UNITED STATES PATENT OFFICE.

ALEXANDER C. ISRAEL, OF LAPORTE, TEXAS.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 706,418, dated August 5, 1902.

Application filed August 21, 1901. Serial No. 72,833. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER C. ISRAEL, a citizen of the United States, residing at Laporte, in the county of Harris and State of Texas, have invented new and useful Improvements in Washing-Machines, of which the following is a specification.

This invention relates to washing-machines and is in the nature of an improvement upon Letters Patent No. 161,793, granted to me April 6, 1875.

The invention has reference to that type of machines in which a revoluble drum is employed for containing and agitating the clothes, which drum is mounted to turn and be partially submerged in a boiler, which is in turn supported by and mounted in a heater, whereby the clothes are simultaneously subjected to a boiling and scouring action.

One object of the present invention is to improve the interior construction of the drum, whereby one side is made to constitute a rotary washboard or rubber, while the other side is provided with means for elevating and dropping the clothes.

Another object of the invention is to provide novel means whereby the boiling water is carried upward by the drum and poured over the clothes simultaneously with the scouring action.

With the above and other objects in view the invention consists in the novel construction, combination, and arrangement of parts hereinafter fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a side elevation of a washing-machine complete constructed in accordance with the present invention. Fig. 2 is an end view of the same. Fig. 3 is a vertical longitudinal section through the machine. Fig. 4 is a central vertical section through the drum looking toward the ribbed side thereof. Fig. 5 is a similar view looking toward the opposite side, which constitutes the rotary washboard or rubber. Fig. 6 is a detail section showing the form of the clothes-lifting ribs.

Similar numerals of reference designate corresponding parts in all the views.

Referring to the drawings, 1 designates a heater, which is preferably constructed of sheet metal and of a depth sufficient to receive

a boiler adapted to contain the required amount of boiling water and also to partially contain the clothes-carrying drum, hereinafter described. At its forward portion the bottom of the heater is depressed to form a fire-box 2, which is closed at the front by a fuel-door 3, the heater as a whole being supported upon suitable legs 4. At the top the heater is provided with an inturned flange 5, extending all the way around the top of the heater and forming a seat or ledge, upon which rests the outwardly-projecting flange 6 of the boiler 7. The boiler is provided at its opposite ends with lifting-handles 8, adapting it to be removed from the heater for cleaning purposes when necessary.

Extending upward from the heater 1 and arranged on opposite sides thereof are bearing-standards 9, adapted to receive the oppositely-projecting journals 10 of a rotary drum 11. This drum comprises opposite heads 12 and 13, which are connected at their peripheries by an outer shell 14, composed of a plurality of sections eccentrically arranged with respect to the axis of the drum, so as to leave slots 15, which extend transversely of the periphery of the drum and are arranged at suitable intervals, said slots serving as intakes for the boiling water as the drum is revolved by means of an operating crank-handle 16, applicable to either journal 10, said journals being provided with squared extremities to receive the operating-handle. A portion of the periphery of the drum forms a door 17, which is hinged, as shown at 18, and provided at or near its free end with a cross-bar 19, adapted to be engaged by a pair of oppositely-located spring-catches 20, secured to the sides or heads of the drum. These catches engage the door as it is closed and prevent the accidental opening thereof during the revolution of the drum. The door serves as a means for inserting and removing the clothes.

The inner surface of one of the heads of the drum, as 13, is cross-hatched, as shown in Fig. 5, and constitutes a rotary washboard or rubber for scouring the clothes. The opposite head 12 is provided with a series of radiating ribs 21, which are thickest or widest adjacent to their outer ends, as shown at 22. During the revolution of the drum the outer ends of the ribs 22 engage the clothes and

carry the same upward to the top of the drum, whereupon by reason of the vertical disposition of the upper rib the clothes are allowed to drop to the bottom of the drum, where they
5 are again caught by another rib and carried upward.

Adjacent to each slot 15 the drum is provided with an internal transverse rib 23, which not only serves to brace and strengthen the
10 drum at that point, but also constitutes one wall of a bucket 24, the opposite or main wall of which is formed by an inclined board 25, extending transversely across the drum and arranged just in rear of the slot 15. In its
15 rotary movement the drum takes in boiling water through each slot 15, where it is caught in the bucket 24 and carried upward. At the uppermost point in its movement the boiling water is poured from the bucket over the
20 clothes, thus carrying off any dirt which may have been loosened by the scouring action of the rotary washboard.

In order to prevent the boiling water from splashing from the boiler 7, I make use of
25 what I term a "splasher," which is illustrated in Figs. 1, 2, and 3, said splasher comprising an outer wall 26, with oppositely-lying parallel cheek-pieces or side portions 27 and a pair of spring clips or fingers 28, which extend
30 backward from the wall 26 and are adapted to fit over one end of the boiler and also over the corresponding end of the heater, as shown best in Figs. 1 and 2, said clips or fingers serving to hold the splasher in place. The
35 side portions or cheek-pieces 27 partially embrace the rotary drum, catching any water which may splash from the buckets of the drum and causing the same to flow backward into the boiler.

40 28' shows diametrically-disposed strengthening-cleats applied to the outside surfaces of the drumheads and carrying the journals of

29 represents a collar or thimble for receiving a suitable stovepipe for carrying off the
45 products of combustion.

From the foregoing description it will be understood that the clothes are thoroughly washed or scoured and boiled at the same time. The clothes are thoroughly cleaned
50 without danger of injuring or tearing the same, and the machine is adapted for washing the finest fabrics—lace curtains and the like. The water is kept constantly boiling by the heater and is continuously circulated
55 through the revolving drum and brought into contact with the clothes contained therein. The clothes are constantly carried upward and dropped by means of the radially-disposed ribs and are at the same time subjected
60 to the scouring or rubbing action of the rotary washboard.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—
65

In a washing-machine, the combination with the drum having intake-slots arranged at equidistances apart therein and projecting upwardly and out of line with the periphery of the drum, and transverse ribs secured below the slots, and transverse inclined boards
70 arranged in rear of said slots, said ribs and said boards being spaced apart to form buckets between them, a cross-hatched head at one end of the drum, and radial cross-arms
75 at the other end of said drum, and the said cross-arms increasing in width from their central points of connection toward their outer ends, substantially as and for the purpose
80 specified.

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

ALEXANDER C. ISRAEL.

Witnesses:

C. W. LAVINS,
H. J. O'NEILL.