

No. 614,154.

Patented Nov. 15, 1898.

A. G. WILBER, Dec'd.

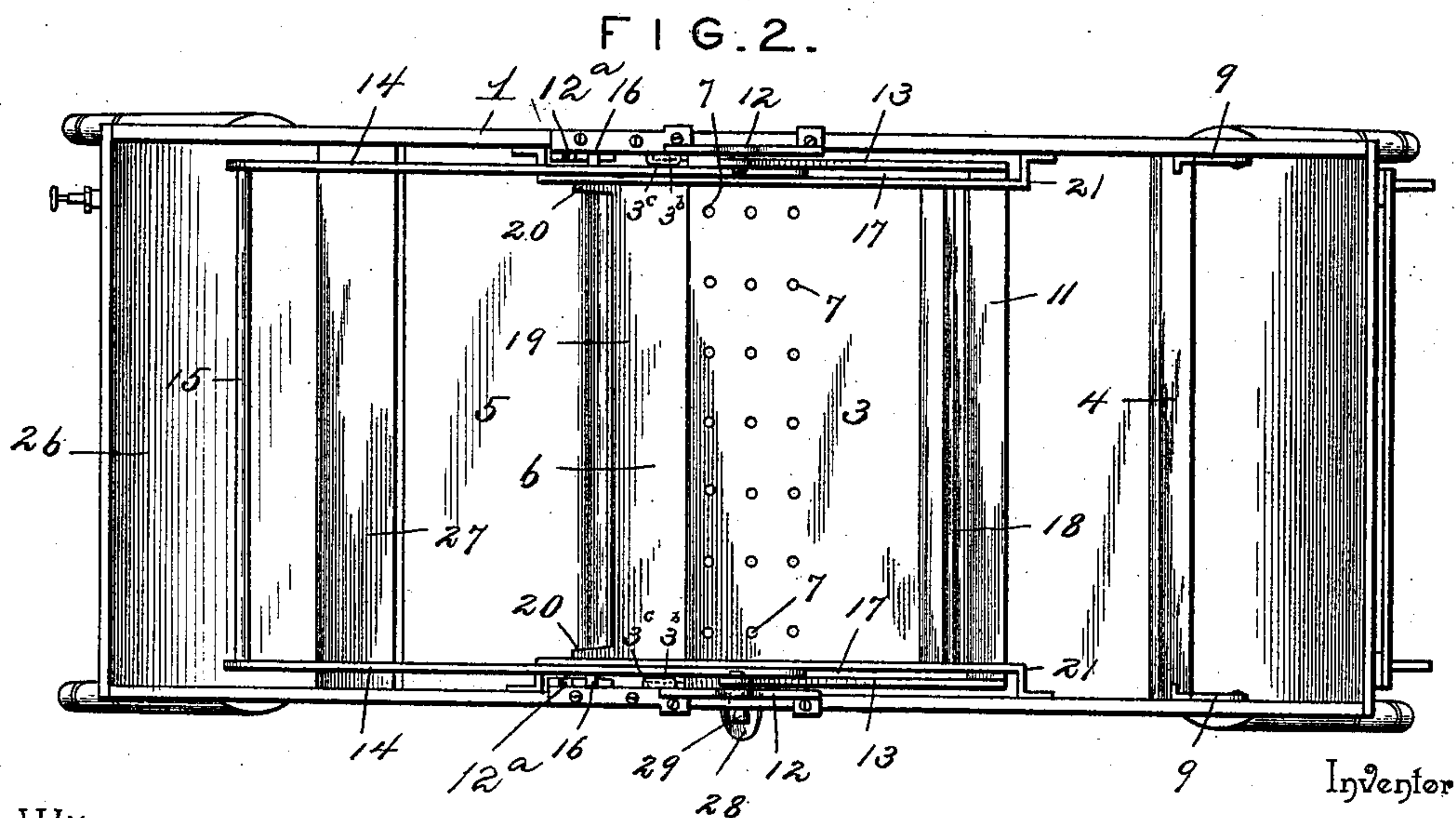
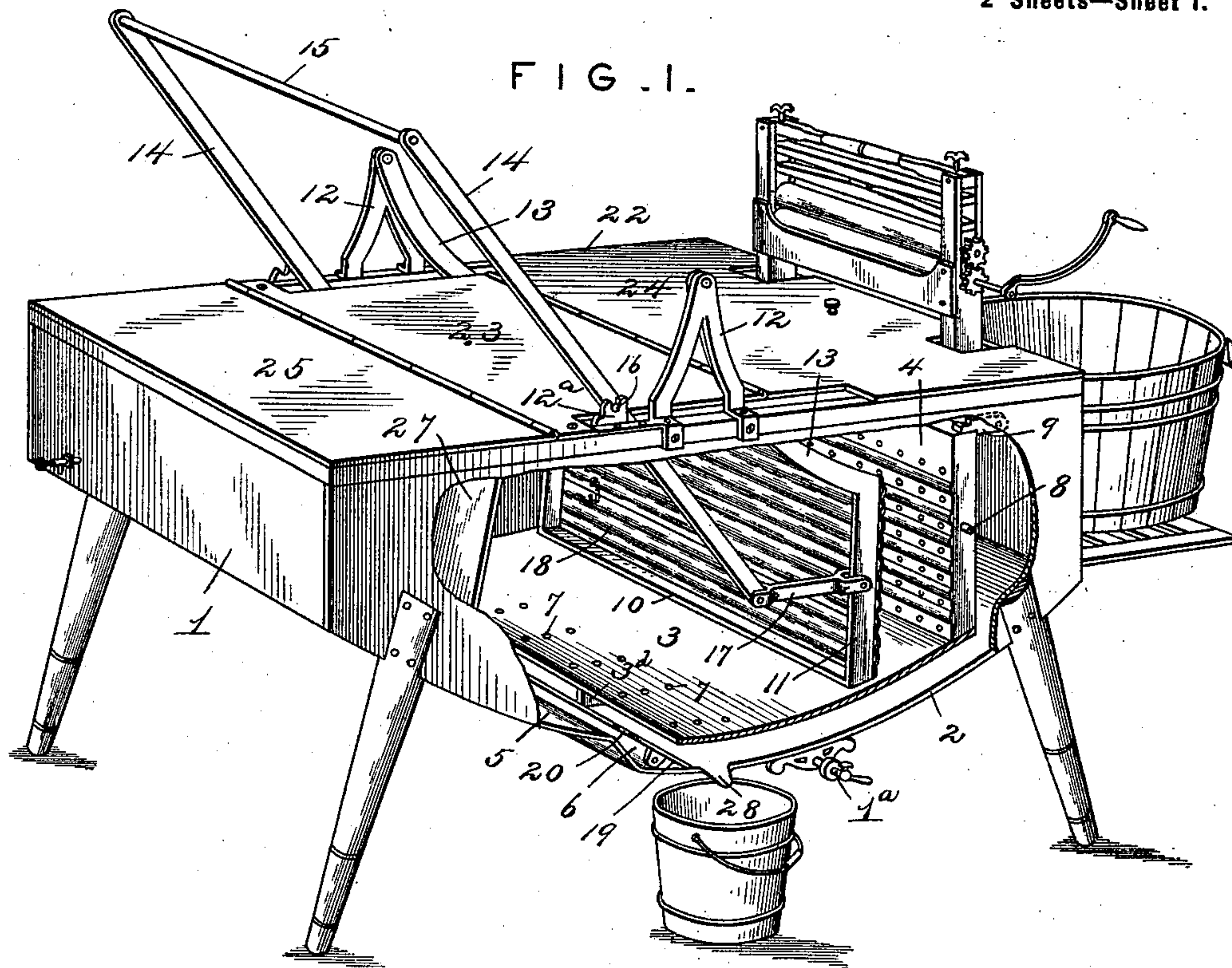
J. I. WILBER, Administratrix.

WASHING MACHINE.

(Application filed Apr. 10, 1896.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses

Harry L. Amer.

J. F. Pley

By his Attorneys,

Albert G. Wilber.

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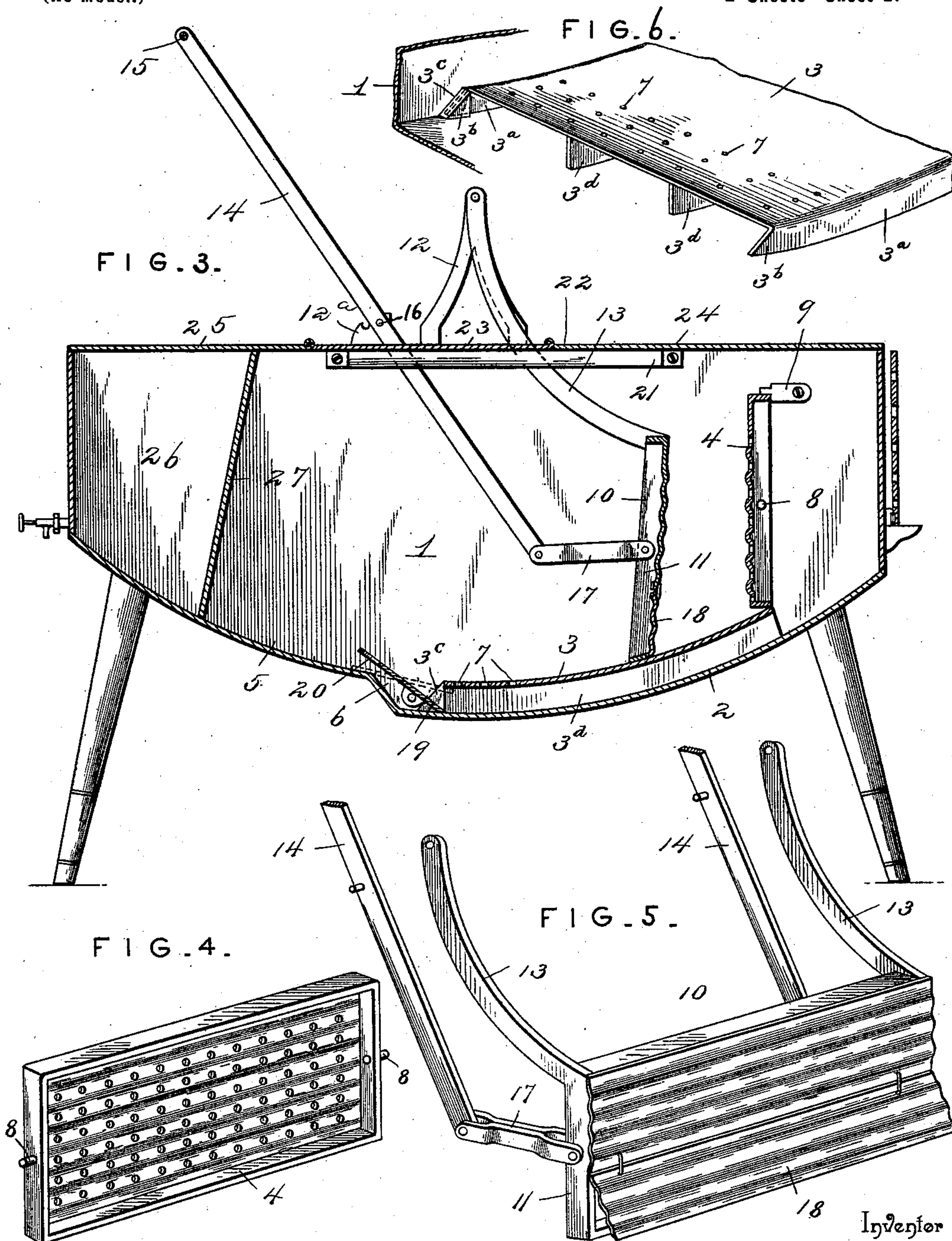
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2 Sheets—Sheet 2.



Witnesses

Harry L. Ames,
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UNITED STATES PATENT OFFICE.

ALBERT G. WILBER, OF AURORA, ILLINOIS; JULIA I. WILBER ADMINISTRATRIX OF SAID ALBERT G. WILBER, DECEASED.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 614,154, dated November 15, 1898.

Application filed April 10, 1896. Serial No. 587,015. (No model.)

To all whom it may concern:

Be it known that I, ALBERT G. WILBER, a citizen of the United States, residing at Aurora, in the county of Kane and State of Illinois, have invented a new and useful Washing-Machine, of which the following is a specification.

The invention relates to improvements in washing-machines.

10 The object of the present invention is to improve the construction of washing-machines and to provide a simple and effective one capable of rapidly and thoroughly washing clothes without wearing, tearing, or otherwise injuring the fabrics.

15 A further object of the invention is to cause the dirt removed from the clothes to settle and collect at the bottom of the washing-machine body and to enable such dirt to be drawn off from time to time.

20 Another object of the invention is to provide a washing-machine which may be compactly arranged for shipping and storing.

25 The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

30 In the drawings, Figure 1 is a perspective view of a washing-machine constructed in accordance with this invention. Fig. 2 is a plan view, the top being removed. Fig. 3 is a longitudinal sectional view. Fig. 4 is a detail perspective view of the washboard. Fig. 5 is a similar view of the oscillating pounder. Fig. 6 is a detail perspective view illustrating the construction of the curved plate or partition.

35 Like numerals of reference designate corresponding parts in all the figures of the drawings.

40 1 designates a washing-machine body, constructed of any suitable material, preferably sheet metal, and provided with legs, preferably of wood, and the washing-machine body is adapted to operate as a boiler for heating water, and any suitable heating apparatus may be employed for this purpose.

45 The bottom of the washing-machine body is curved and is downwardly offset at 2, and a curved plate or partition 3 is arranged above

the offset portion 2 to provide a passage to permit water forced through and expelled from the clothes to be conducted from a point back of a washboard 4 to a position in front of the same in order that the water may be again forced through the clothes by means hereinafter described. The curved plate or partition 3 is arranged in the same plane as the portion 5 of the bottom and is slightly separated therefrom to provide a transverse space or opening 6 and is provided adjacent to the space or opening 6 with a series of perforations 7.

50 In order to enable the washing-machine body to be thoroughly cleaned, the curved plate or partition 3 is removably mounted in it and is detachably locked in position by the washboard 4, which is adapted to be swung out of engagement with it to enable the curved plate or partition to be disengaged from the washing-machine body. The removable plate or partition is provided at its side edges with depending longitudinal flanges or supports 3^a, which are formed by bending the side edges of the plate or partition downward. The inner terminals of the longitudinal side flanges or supports project beyond the plate or partition and are cut at an angle to form triangular extensions 3^b, which when the plate or extension is interlocked with the washing-machine body are received by a pair of triangular loops 3^c, and the latter are soldered or otherwise secured to the sides of the washing-machine body at a point intermediate of the ends thereof. The triangular loops form recesses to receive the extensions 3^b of the side flanges 3^a, and they lock the inner end of the curved plate or partition against upward movement. The curved plate or partition, which is provided with central supports 3^d, is locked at its outer end by the washboard, which when disengaged from the curved plate or partition permits the same to move longitudinally of the washing-machine body sufficiently to withdraw the extensions 3^b from the loops 3^c. The central supports 3^d consist of longitudinal flanges or strips soldered or otherwise secured to the lower face of the plate or partition and curved to conform to the configuration of the same.

The washboard is arranged vertically at one

end of the curved plate or partition 3 and is pivotally mounted, being provided at opposite sides with journals or pintles 8, arranged in suitable bearings of the sides of the washing-machine body, and the washboard, which is retained in a vertical position by pivoted buttons 9, may be constructed of any suitable material, but is preferably constructed of sheet metal, supported by a suitable frame. The sheet metal of the washboard is corrugated horizontally and is provided in the grooves or spaces between the corrugations with perforations for the passage of water. The pivoted buttons 9 are mounted on the inner faces of the sides of the washing-machine body and engage the washboard at the top thereof, being located beyond the washboard and locking the top portion against outward movement, whereby the washboard is maintained in a vertical position. By swinging the buttons upward the washboard may be arranged in an inclined position.

An oscillating presser 10, which coöperates with the washboard, is constructed of corrugated sheet metal or other suitable material, which is supported by a rectangular frame 11, similar to the washboard. The oscillating presser, which fits snugly between the sides of the washing-machine body and against the curved plate or partition 3, is adapted when swung forward in the direction of the washboard to carry water and suds with it and force the same through the clothes, and it is also adapted to squeeze the clothes and expel the water therefrom, whereby the clothes are rapidly and thoroughly washed without rubbing, wearing, or otherwise injuring the fabrics. The presser is suspended from bearing-brackets 12 by upwardly-extending rearwardly-disposed bars or arms 13, which are rigid with the presser and pivotally connected at their upper ends to the bearing-brackets.

The oscillation of the presser is effected by means of a pair of levers 14, located at opposite sides of the washing-machine body and fulcrumed at points between their ends on extensions of the bearing-brackets 12, and the upper ends of the levers are connected by a transverse handle-bar 15. The bearing-brackets 12 are inverted-V-shaped, and the lower ends of the sides of the same are angularly bent to fit the upper edges of the sides of the washing-machine body, to which they are secured by means of screws or other suitable fastening devices. The extensions of the bearing-brackets consist of flat plates arranged on and secured to the upper edges of the sides of the washing-machine body and are provided with vertical flanges 12^a, having open bearing-recesses receiving the laterally-extending journals 16 of the operating-levers 14. The journals are detachably arranged in the bearing-recesses, and the operating-levers 14, which extend through slots or openings of the top of the washing-machine body, are connected at their lower ends with the sides of the frame of the presser by links 17, dis-

posed horizontally and bifurcated for the reception of the lower ends and the side bars of the frame, to which parts they are pivotally connected.

The oscillating presser is provided with a hinged lower section or gate 18, connected by any suitable form of hinges to the upper portion of the presser and supported rigidly against the lower portion of the frame during the forward swinging movement of the presser. When the oscillating presser moves backward away from the washboard, the hinged lower section or gate 18 opens and the water and suds flow freely through the presser.

The water which is forced through and expelled from the clothes by the forward movement of the presser returns through the passage-way beneath the curved plate or partition 3 and flows through the opening or space 6, which is located at the center of the washing-machine body, substantially at the lowest point.

The flow of water through the oscillating presser when the latter moves backward prevents the clothes from moving backward as rapidly as the said presser, and in order to prevent the clothes from floating back and settling down in the opening 6 after the presser has reached the limit of its rearward movement a trap or plate 19 is pivotally mounted at its ends in the space or opening 6 and is adapted to span the same and cover such opening or space. The trap or plate 19, which has greater weight in advance of the pivotal point than in rear of the same, is capable of opening automatically when its front portion is free to drop, and it is closed by the oscillating presser, which engages it in rear of the pivotal point. The rear portion of the plate or trap is provided with rearwardly-extending tongues 20, arranged to be engaged by the oscillating presser, whereby the latter is permitted to move rearward beyond the trap without allowing the latter to open. A full rearward movement of the oscillating presser is necessary in order to cause a considerable body of water to flow through it when it moves rearward, so that when it moves forward there may be enough water in advance of it to produce the desired effect on the clothes.

The dirt resulting from the washing operation settles at the bottom of the space beneath the curved plate or partition 3, where the dirty water may be drawn off, leaving the cleaner water in the washing-machine body, thereby obviating the necessity of keeping the clothes in contact with the dirty water during the entire operation of washing. The perforations 7 are provided for the purpose of permitting any dirt settling on the curved plate or partition to pass through the latter to the space or passage below the same. The curved bars or arms and the oscillating levers 14 are arranged in horizontal guides 21, and the washing-machine body is provided with a cover 22, composed of a central section 23

and hinged lids 24 and 25. The hinged lid 25 is arranged over a compartment 26, divided off from the rest of the washing-machine body by an inclined transverse partition 27, and this compartment 26 may, if desired, be employed as a reservoir for gasoline or the like.

The washing-machine may be compactly arranged for packing and shipping, and the rear ends of the guides 21, which are detachably secured to the washing-machine body, are unfastened and dropped down, and the top of the washing-machine body is removed to allow the levers 14 to swing downward within the body. The bearing-brackets 12 are then detached and packed within the body, and by arranging the machine in this manner it may be shipped at a much less cost than it could be if the parts were incapable of being folded or arranged within the body.

The body is provided at one side with a vent or opening and a spout 28, and the vent or opening is adapted to receive a plug 29 during the operation of washing.

It will be seen that the washing-machine is simple and comparatively inexpensive in construction, that it is positive and reliable in operation, and that it is capable of thoroughly and rapidly washing clothes without rubbing, wearing, or otherwise injuring the fabrics, and that it has a large capacity for clothes and necessitates only a minimum amount of water to effect the operation of washing.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What I claim is—

1. In a washing-machine, the combination of a body provided at its bottom with a passage extending longitudinally of the body and open at its ends, a washboard located at one end of the passage, a transversely-disposed presser capable of movement longitudinally of the body, and an automatically-opening trap located at the inner end of said passage and arranged to be engaged and closed by the presser when the latter is moved backward to a position beyond the inner end of the said passage, whereby the latter is closed to prevent the clothes being washed from settling into it, substantially as and for the purpose described.

2. In a washing-machine, the combination of a body provided at its bottom with a curved plate or partition forming a passage-way, said passage-way being open, a presser capable of movement longitudinally of the body, and a pivotally-mounted automatically-opening plate mounted at the inner end of the partition, forming a trap and arranged to be engaged and automatically closed by the presser, whereby clothes are prevented from settling into the passage when the presser is in rear of the same, substantially as described.

3. In a washing-machine, the combination of a body provided at its bottom with a

curved plate or partition forming a passage-way and provided at its rear end with perforations, said passage being open at both ends, a transverse washboard located at the front end of the partition, a pivotally-mounted plate arranged at the rear end of the partition and forming a trap for covering the opening and provided with rearwardly-extending arms, and an oscillating presser disposed transversely of the body and arranged to engage the arms to close the pivoted plate or trap, substantially as described.

4. The combination of a body, a curved plate or partition located above the bottom of the body, forming a passage-way and terminating short of the adjacent end of the body, a washboard located above the outer end of the plate or partition and engaging the same, said washboard being centrally pivoted at opposite sides to the body, catches mounted on the body and engaging the top of the washboard, and a presser, substantially as described.

5. In a washing-machine, the combination of a body provided at opposite sides at points intermediate of its ends with recesses, a detachable plate or partition arranged within the washing-machine body, located above the bottom thereof to form a passage-way and provided with longitudinal supports or flanges, said plate or partition being provided with extensions or projections interlocked with the said recesses, a movable washboard mounted in the washing-machine body, engaging the curved plate or partition, and detachably holding the same in its engagement with the recesses of the washing-machine, and an oscillating presser cooperating with the washboard, substantially as described.

6. In a washing-machine, the combination of a body having a portion of its bottom downwardly offset, triangular loops secured to the body at opposite sides thereof, a detachable plate or partition arranged above the offset portion of the bottom of the body and provided with depending side flanges having triangular projections located at one end of the plate or partition and fitting in the triangular loops of the body, a washboard pivotally mounted intermediate of its ends and located at the other end of the partition or plate and engaging the same, means for locking the washboard in engagement with the plate or partition, and a presser, substantially as described.

7. In a washing-machine, the combination of a washing-machine body, an oscillating presser provided with a rigid upwardly-extending arm pivotally connected with the washing-machine body, whereby the presser is suspended in the same, an oscillating lever fulcrumed between its ends on the washing-machine body and disposed at a slight inclination, the lower portion of the lever being arranged within the body, and a substantially horizontal link extending rearward from the presser and pivoted to the same and to

the lower end of the lever, substantially as described.

8. In a washing-machine, the combination
of a body having a cover provided at oppo-
5 site sides with slots or openings, bearing-
brackets having open bearing-recesses, an
oscillating presser, the curved arms 13 rigid
with the presser and extending upward and
rearward from the top thereof and pivoted
10 to the bearing-brackets and suspending the
presser within the body, oscillating levers
passing through the slots or openings of the
cover of the washing-machine body and pro-
15 tachably arranged in the bearing-recesses,

horizontal guides arranged on the inner faces
of the sides of the washing-machine body and
receiving the levers, said guides being piv-
oted at one end and detachably secured at
the other end, and horizontal links extend- 20
ing forward from the lower ends of the levers
and pivoted to the same and to the presser,
substantially as described.

In testimony that I claim the foregoing as
my own I have hereto affixed my signature in 25
the presence of two witnesses.

ALBERT G. WILBER.

Witnesses:

T. A. BRÜHL,

CHAS. D. LINSLEY.