W. M. KINCAID.

WASHING MACHINE.

APPLICATION FILED AUG. 1, 1912.

1,066,019. Patented July 1, 1913.

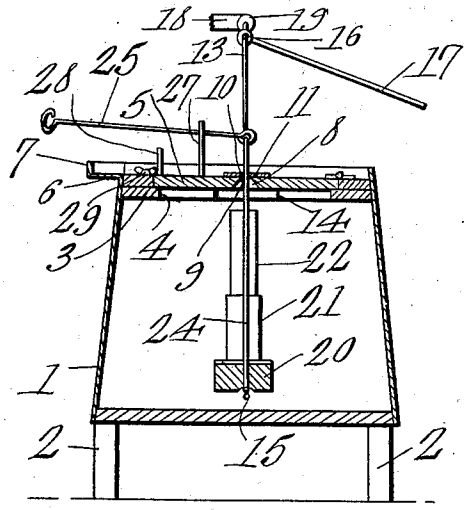

Fig. 1.

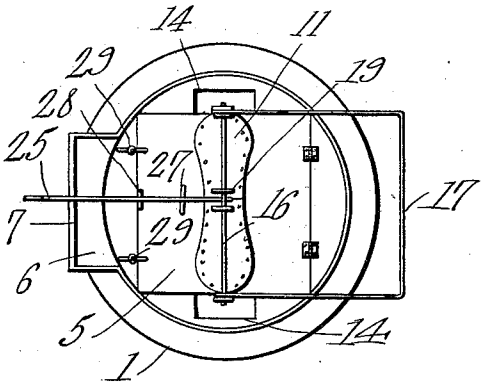

Fig. 4.

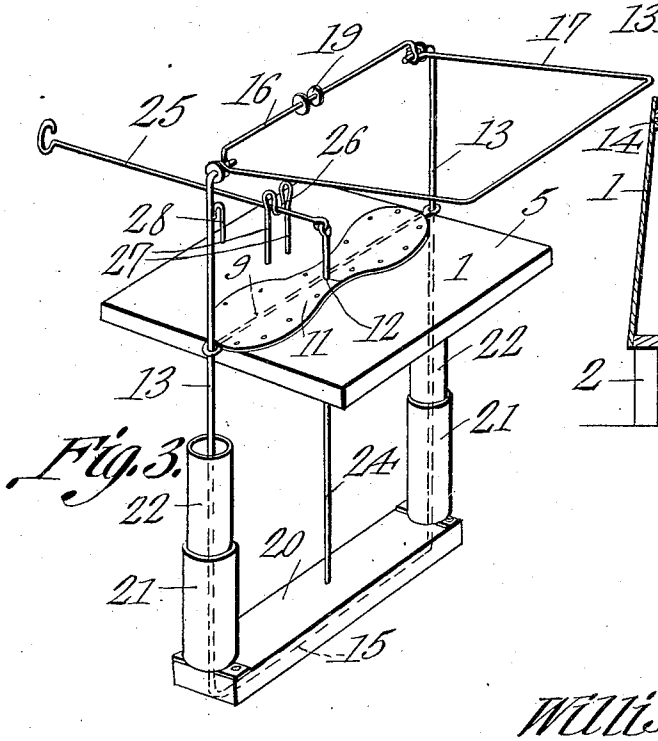

Fig. 3.

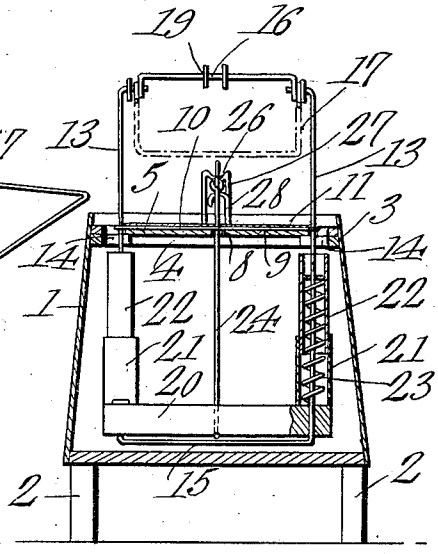

Fig. 2.

Witnesses

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UNITED STATES PATENT OFFICE.

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WASHING-MACHINE.

1,066,019. Specification of Letters Patent. Patented July 1, 1913.

Application filed August 1, 1912. Serial No. 712,696.

To all whom it may concern:

Be it known that I, WILLIS M. KINCAID, a citizen of the United States, residing at Grand Saline, in the county of Van Zandt and State of Texas, have invented a new and useful Washing-Machine, of which the following is a specification.

This invention relates to washing machines, one of its objects being to provide a novel form of fabric engaging element mounted for movement beneath the top of the machine, said element including means whereby the fabrics can be held yieldingly under ordinary conditions but can be readily released so as to thus be removed from the machine.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed, without departing from the spirit of the invention.

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

In said drawings:—Figure 1 is a vertical section through a washing machine having the present improvements combined therewith. Fig. 2 is a vertical transverse section through the machine. Fig. 3 is a perspective view of that portion of the machine constituting the present invention. Fig. 4 is a top plan view of a washing machine with the present improvements combined therewith.

Referring to the figures by characters of reference 1 designates a tub which is preferably frusto-conical and may be mounted on supporting legs 2. The upper end of the tub is provided with a head 3 having a rectangular opening 4 therein, the walls of the opening being stepped so as to form a seat for the closure 5 of the tub. The wall of the tub 1 extends upwardly above the head 3 and extending outwardly from said wall is a bracket 6 having upstanding flanges 7 to one of which a wringer may be attached. By having the wall of the tub extended above the head 3 it will be seen that any water accumulating on the head will be prevented from flowing from the head and onto the floor.

That portion of the structure constituting the present invention is carried by the closure 5. It will be noted that the closure is provided, at its center, with a slot 8 and that this slot intersects a groove 9 extending transversely of the upper face of the closure 5. A rod 10 is seated in this groove and is adapted to rotate therein, said rod being held in the groove by a retaining plate 11 secured in any suitable manner to the top face of the closure. An opening 12 is formed in the middle portion of the plate 11 and is adapted to register with the slot 8.

The ends of the rod 10 are fixedly connected to intermediate portions of swinging rods 13, these rods extending downwardly into the tub 1 and through recesses 14 formed in opposite sides of the opening 4. The lower ends of the rods 13 are connected by a cross rod 15 constituting a clamping member. The upper ends of the rods 13 are connected by a top rod 16. A bail 17 may be pivotally connected to the upper ends of the rods and by means thereof the said rods can be operated manually. Should it be desired to actuate the swinging rods by means of a motor, the pitman 18, driven by a motor, not shown, may be connected to the top rod 16, said pitman being held against lateral displacement by collars 19 secured to the top rod.

A fabric engaging element such as a cross head 20 is slidably mounted on the swinging rods 13 and mounted on the end portions of this cross head are tubular casings 21 which extend around and are concentric with the rods 13. Additional tubular casings 22 extend around and are secured to the rods 13 and project into casings 21, the two casings 21 and 22 on each side strip serving to house a spring 23, the lower end of the spring bearing downwardly on the fabric engaging element or cross head 20 while the upper end thereof bears upwardly against the upper end of the casing 22. Thus it will be seen that the springs 23 serve to press the fabric engaging element or cross head 20 yieldingly toward the clamping member 15. When, however, the cross head 20 is shifted upwardly along the rods 13, it will be apparent that the springs 23 will be compressed and the casings 21 will slide upwardly along the casings 22.

A rod 24 is secured at its lower end to the middle portion of the cross head 20 and extends upwardly through the slot 8 and the

opening 12. The upper end of the rod 24 is pivotally engaged by an adjusting lever 25 adapted to rest, at a point between its ends, within an inverted loop 26 supported by spaced standards 27 secured on the closure 5. A hook 28 extends upwardly from the closure and is so located that, when the free end of lever 25 is swung downwardly, said lever can be brought into engagement with the hook 28 and thus held against return movement. It will be apparent that this downward movement of the free end of the lever will result in the upward movement of the rod 24 and, consequently, the elevation of the cross head 20 along the rods 13, and the compression of the springs 23. Thus a considerable space can be formed between the rod or member 15 and the cross head 20 and the fabrics to be cleaned can be placed in this space. After being thus adjusted the lever 25 can be released from the hook 28 whereupon the springs 23 will shift the cross head 20 downwardly and cause it to clamp the fabrics tightly against the member 15. This operation can be effected before the closure 5 is placed in position. After the fabrics have been connected to the device, they, with the cross head 20, the clamping member 15 and the rods 13 can be inserted through the opening 4 until the closure 5 becomes located on its seat whereupon said closure can be fastened, as by means of turn buttons 29. Then, by oscillating the rods 13, it will be seen that the fabrics carried between the clamping member 15 and the cross head 20 will be caused to oscillate within the tub 1. Should the tub be filled with soapy water or any other suitable cleansing fluid, it will be seen that the fluid will be caused to pass back and forth through the fabrics during this movement so that the fabrics will soon be cleaned. The bail 17 constitutes efficient means whereby the device can be actuated readily without quickly fatiguing the operator. After the fabrics have been cleaned, the closure 5 can be removed, both the fabrics and the members engaging the same being movable with the closure from the tub. After the fabrics have thus been lifted out of the tub, lever 25 can be shifted into engagement with the hook 28 so as to cause the cross head 20 to shift away from the clamping member 15. The fabrics can then be easily removed from between the cross head and the clamping member 15. This means for disengaging the fabrics from the attachment is advantageous because it thus becomes possible to easily remove fabrics when saturated with boiling water.

What is claimed is:—

1. In a washing machine, the combination with a tub, of a closure upon the top thereof, rods carried by the closure and adapted to swing relative thereto, a clamping member connecting the lower ends of the rods, a cross head slidably mounted on the rods and below the closure, means upon the rods for pressing said cross head yieldingly toward the clamping member, a lever fulcrumed on the closure, a connection between the lever and the cross head for lifting said cross head away from the clamping member, and means upon the closure for engaging the lever to lock the cross head against movement when removed from the clamping member.

2. In a washing machine, the combination with a tub having an opening in the top thereof, of a closure, rods mounted to swing relative thereto, a clamping member connecting the swinging rods and constituting fabric engaging means, a cross head slidable on the swinging rods, telescopic housings mounted on the cross head and connected to the swinging rods, springs within said housings for holding the cross head normally pressed toward the clamping member, means for oscillating the swinging rods, and means carried by the closure for shifting the cross head away from the clamping member.

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

WILLIS MENEFEE KINCAID.

Witnesses:
ABE PINTER,
MRS. G. PARISH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."