

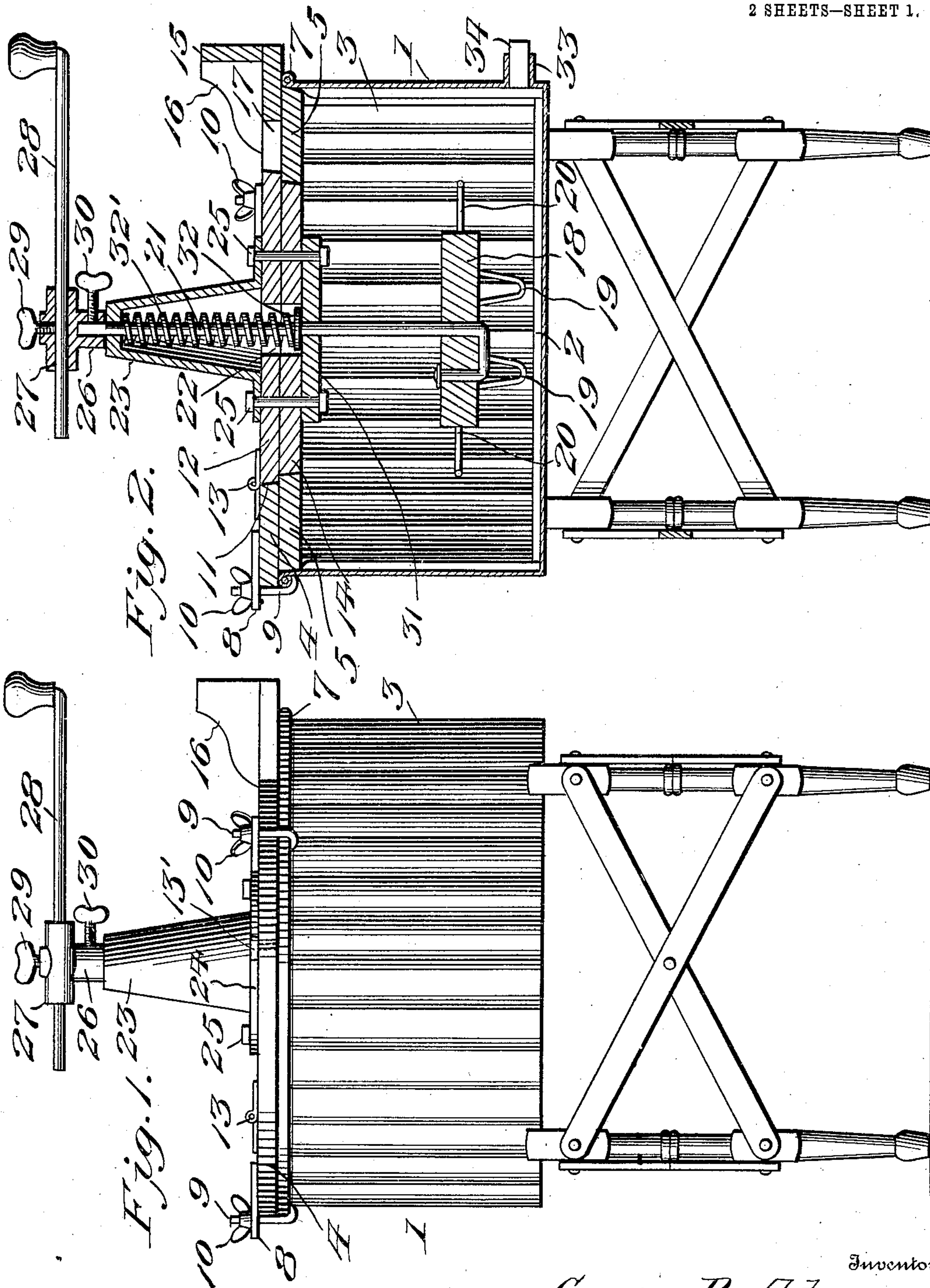
No. 828,170.

PATENTED AUG. 7, 1906.

G. R. ADAMS.
WASHING MACHINE.

APPLICATION FILED JULY 18, 1905.

2 SHEETS—SHEET 1.



Inventor

George R. Adams

2 Witnesses

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C. C. Hines.

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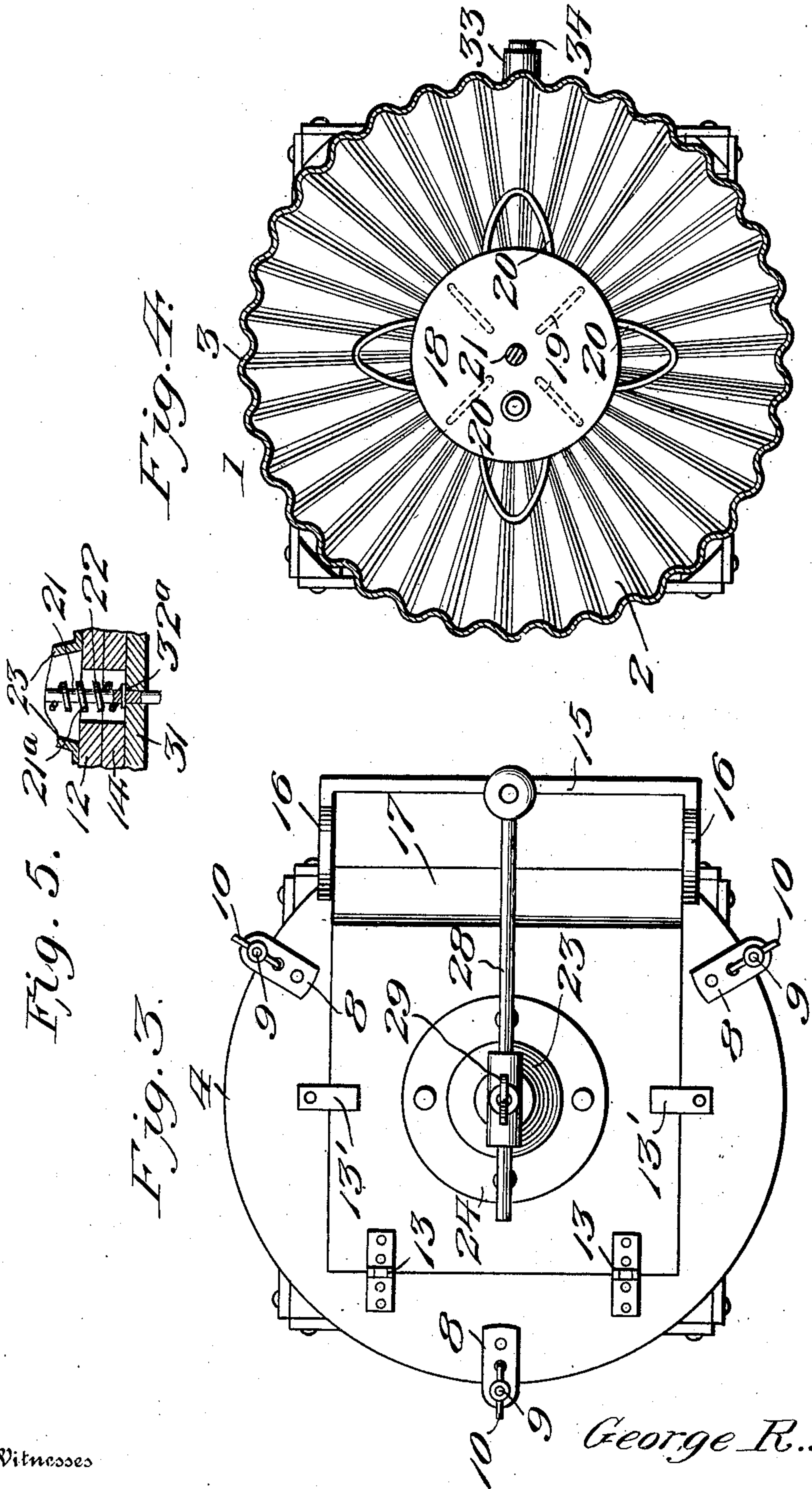
Attorney

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Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE R. ADAMS, OF HIAWATHA, KANSAS.

WASHING-MACHINE.

No. 828,170.

Specification of Letters Patent.

Patented Aug. 7, 1906.

Application filed July 18, 1905. Serial No. 270,259.

To all whom it may concern:

Be it known that I, GEORGE R. ADAMS, a citizen of the United States of America, residing at Hiawatha, in the county of Brown and State of Kansas, have invented new and useful Improvements in Washing-Machines, of which the following is a specification.

This invention relates to washing-machines of the oscillatory agitator type, and has for its object to provide a machine of this character in which the tub or receptacle for the clothes is so constructed as to facilitate the cleansing action and is adapted also to serve the ordinary function of a washboiler.

Another object is to provide a construction of agitator which is yieldable to press the clothes to be cleansed into contact with the rubbing-surface of the tub and to adjust itself to suit the depth or thickness of the body of clothes undergoing the washing process.

Another object is to provide a construction of agitator to which clothes which are intended to receive a thorough rubbing action may be directly attached and in which effective provision is made for the yielding movement of the agitator and the protection of the limiting-spring thereof.

Another object is to provide a construction of lid or cover for the tub which is adapted to support a wringer and is readily removable to permit the tub to be used as an ordinary washboiler or receptacle for hand-washing.

With the above and other objects in view the invention consists of the novel construction and combination of parts, hereinafter fully described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of a washing-machine embodying my invention. Fig. 2 is a central vertical section of the same. Fig. 3 is a top plan view. Fig. 4 is a horizontal section through the tub, and Fig. 5 is a detail view showing a modification in the mounting of the spring.

Referring now more particularly to the drawings, the numeral 1 represents the tub or suds-receptacle of the machine, which is preferably constructed of galvanized sheet metal and conforms in general shape to the construction of an ordinary washtub. This tub is provided with a corrugated bottom rubbing-surface 2 and a corrugated side rubbing-surface 3.

The tub is provided with a removable top

head or cover 4, having an annular bottom rim 5 adapted to fit within the upper open end of the tub to prevent the suds-water from being forced out through the joint between the tub and cover when the agitator is in operation. The cover rests at its outer edge upon a strengthening rib or bead 7, formed at the top of the tub-body, and is provided with suitable fastening devices to engage said rim. In the present instance I have shown the cover provided at intervals around its circumference with bracket-plates 8, having outwardly - projecting portions pierced for the reception of the shanks of clamping-hooks 9, the hooked portions of which are adapted to engage the rim 7 to firmly clamp the cover thereto, the upper ends of the shanks being threaded for the reception of wing-nuts 10 for holding the fastening devices in clamping position. By this construction the head or cover may be detached whenever desired, and as the tub is constructed of metal it may be employed upon a stove for heating the water to be used for washing purposes, thus adapting it to perform the function of an ordinary washboiler, and it may be also used for hand-washing when it is not desired to employ the agitating mechanism, as when a few pieces of the clothes only are to be washed. The cover may, however, be nailed, screwed, or otherwise rigidly secured to the tub.

The head or cover is provided with an opening 11, through which the soiled clothes may be inserted and the cleansed ones withdrawn. This opening is adapted to be closed by a lid 12, hinged at one side, as indicated at 13, to the cover and adapted to be held in closed position by ordinary turn-buttons 13'. The lid is provided with a base section or rim 14 to close the opening formed by the rim - flange 5 and to increase the strength of the lid, as well as to produce a tighter joint to prevent the escape of the suds-water during the washing operation. Disposed at the side of the head or cover adjacent to the outer or free edge of the lid 12 is a vertically-disposed bar or board 15, adapted to support an ordinary wringer and reinforced and held rigidly in position by end brackets 16. The lid 12 terminates when closed inside or short of the end of the opening 11, adjacent to the bar or board 15, leaving an interposed recess 17, into which the water expressed from the clothes by the

wringer may flow and from which such expressed water may run back into the tub when the lid is thrown back or open.

Arranged within the tub is an oscillatory
 5 agitator comprising a head 18, provided with depending agitating-fingers 19, adapted to co-operate with the bottom corrugations 2 to thoroughly affect the agitation and cleansing of the clothes. The head is also provided
 10 with laterally or radially extending agitating wings or fingers 20 to coöperate with the side rubbing-surface 3 of the tub. These agitating-fingers are preferably of open or loop form to catch and retain the clothes and
 15 turn them around in the oscillation of the agitator with the proper degree of force and also to permit soiled articles of clothing which require a vigorous rubbing action in cleansing to be attached directly to the agitator.

20 The head 18 is attached to the lower end of the shaft 21, which extends upwardly through coinciding openings 22 in the lid 12, and its base section or rim 14 and is journaled at its upper end in a bearing opening in the
 25 crown portion of a substantially frusto-conical shield or casing 23, said shield or casing being formed at its lower end with an out-turned flange 24, pierced for the passage of bolts 25 to secure said shield to the lid 12 and
 30 rim 14. The upper end of the shaft projects beyond the shield and is made of polygonal form to fit within a correspondingly-shaped socket in the head 26, having a transverse passage 27 to receive the stem of an actuating crank-handle 28, adapted to be adjust-
 35 ably secured to the head by a set-screw 29. The head is detachably secured to the polygonal end of the shaft by a set-screw 30 and is adapted to form a stop to limit the downward movement of the shaft and agitator, and
 40 thereby prevent the depending agitating-fingers 19 from coming into contact with the bottom corrugations 2 of the tub. Also secured by the bolts 25 to the lid is a cross-bar
 45 31, forming a bearing for the lower end of the shaft. The shaft carries a collar 32, which rests upon this bar, and coiled about the shaft between said collar and the crown portion of the casing 23 is a coiled spring 32',
 50 which normally holds said collar in contact with the cross-bar. This spring permits the agitator and agitator-shaft to yield upwardly, so that the agitator is rendered automatically adjustable to the depth or thickness of the
 55 body of clothes contained within the tub, so as to always maintain the same in contact with the rubbing-surfaces. The spring further permits the agitator to yield and prevent the clothes from contacting and becoming
 60 injured by excess pressure or torn by a

too violent action in the event of the clothes becoming massed together.

In operation the clothes are inserted within the tub, which is filled to the desired height with the suds-water, the lid 12 is then
 65 closed and fastened in position, after which the handle 28 is oscillated to impart corresponding movement to the agitator, whereby the clothes are cleansed. If desired, the
 70 spring 32' may be connected at one end directly with the shaft, as indicated at 32^a in Fig. 5, so that in one direction of movement of the crank-handle it will be put under tension and will therefore by reaction assist in
 75 returning the handle to its normal position, thus rendering the operation an easy one.

The tub 1 is provided with a drain-outlet 33, through which the suds-water may be discharged after the washing operation has been performed. This outlet may be closed by a
 80 plug or other suitable closure 34.

From the foregoing description, taken in connection with the accompanying drawings, the construction and mode of operation of the invention will be understood without a
 85 further extended description.

Changes in the form, proportions, and minor details of construction may be made within the scope of the invention without departing from the spirit or sacrificing any of
 90 the advantages thereof.

Having thus described the invention, what is claimed as new is—

1. In a washing-machine, the combination of a tub, a closure therefor having an opening
 95 therein, a bar extending across said opening, a casing on the exterior above the opening, fastenings for connecting the casing and cross-bar to the closure, an agitator-shaft extending through the opening, cross-bar and
 100 casing, a spring arranged in said casing and acting on the shaft, a head connected with the upper end of the shaft, and an actuating-handle connected with said head.

2. In a washing-machine, the combination
 105 of a tub, a closure therefor having an opening therein, a casing on the closure above the opening, an agitator-shaft extending through the opening and casing, a spring arranged in said casing and acting on the shaft, a head
 110 connected with the upper end of the shaft, and an actuating-handle connected to the said head.

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

GEORGE R. ADAMS.

Witnesses:

C. P. HEIMLICH,
 G. A. MEYER.