

No. 612,877.

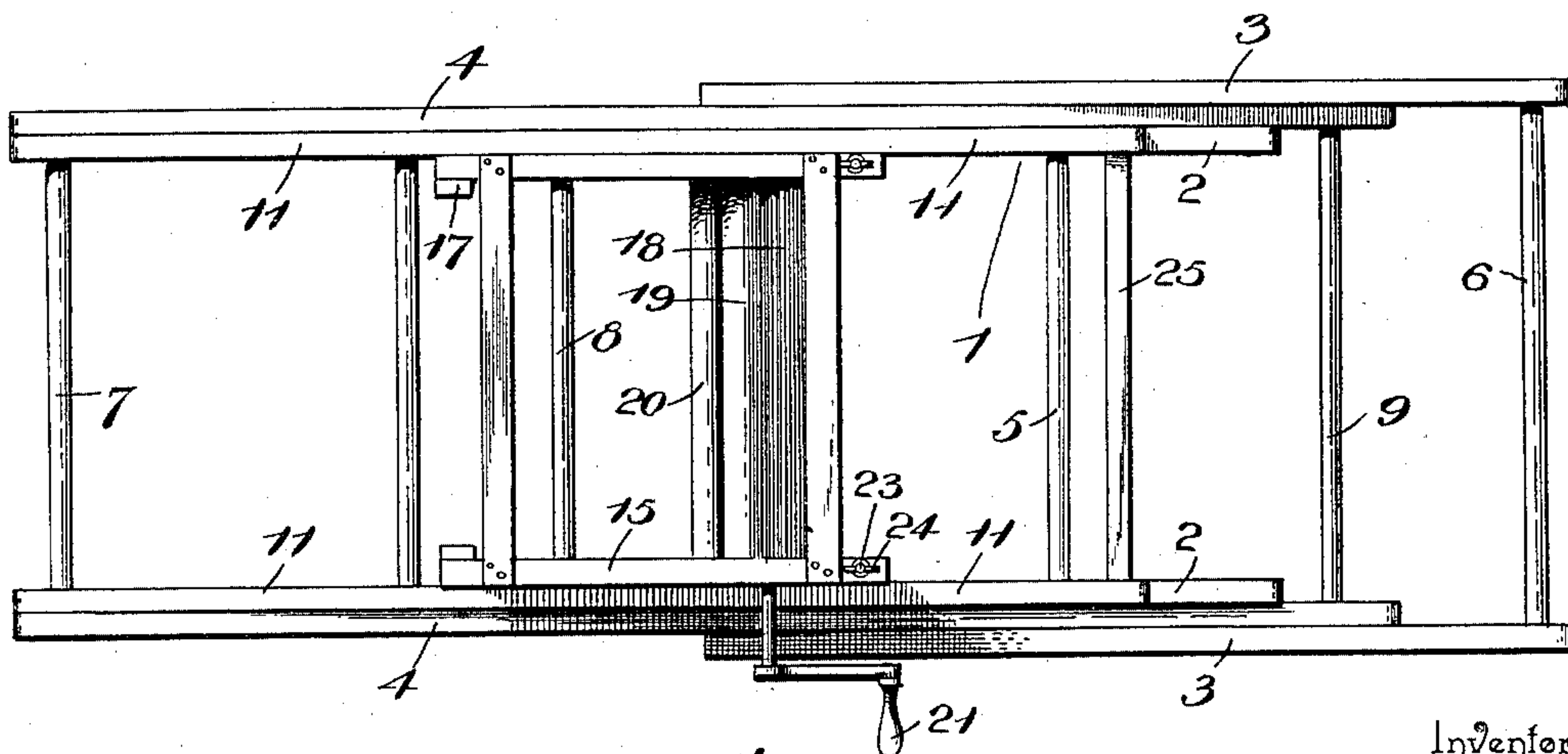
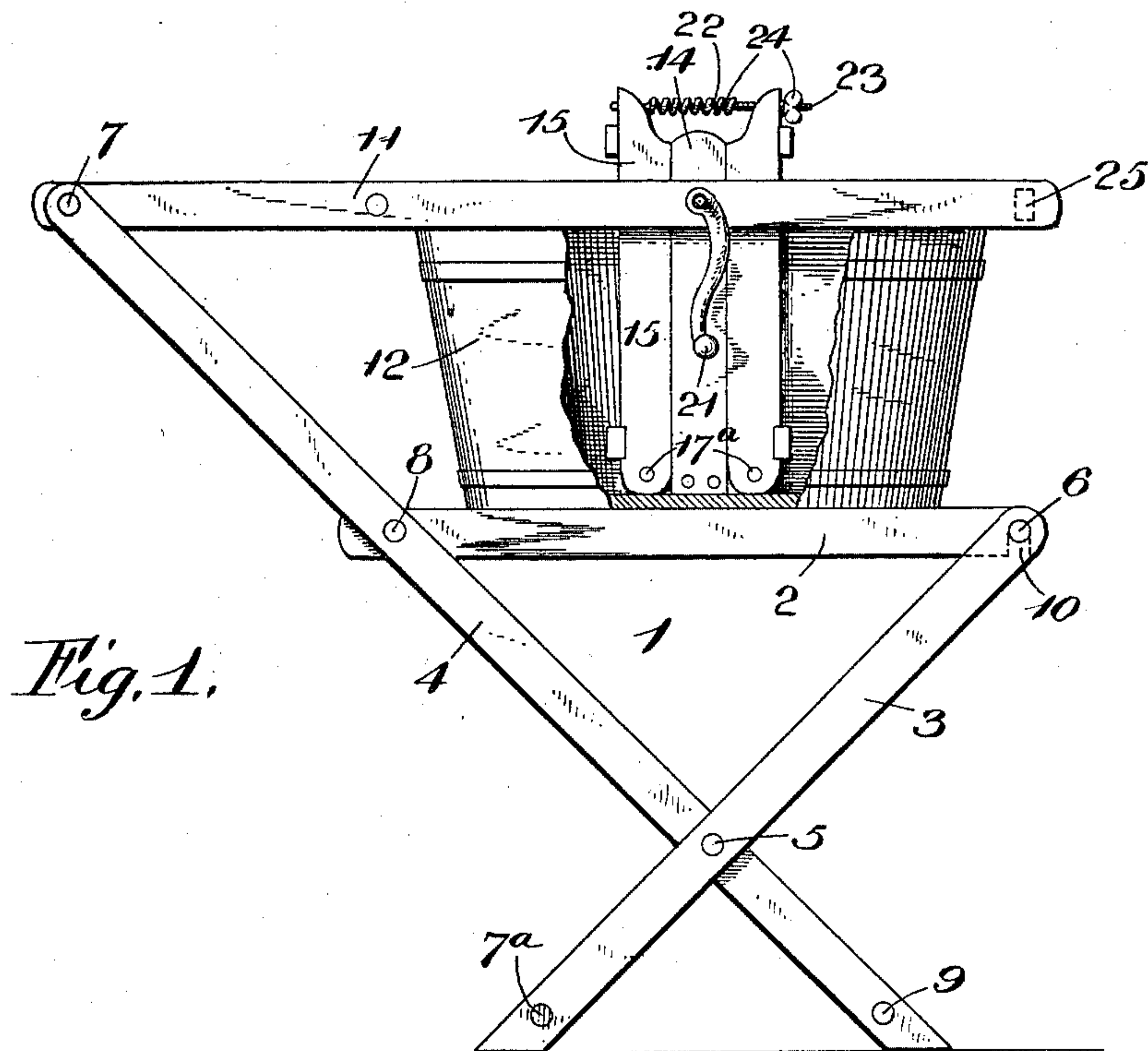
Patented Oct. 25, 1898.

J. K. P. SMITH.
WASHING MACHINE.

(Application filed Oct. 29, 1897.)

(No Model.)

2 Sheets—Sheet 1.



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Witnesses

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By *me* Attorneys,

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Fig. 4.

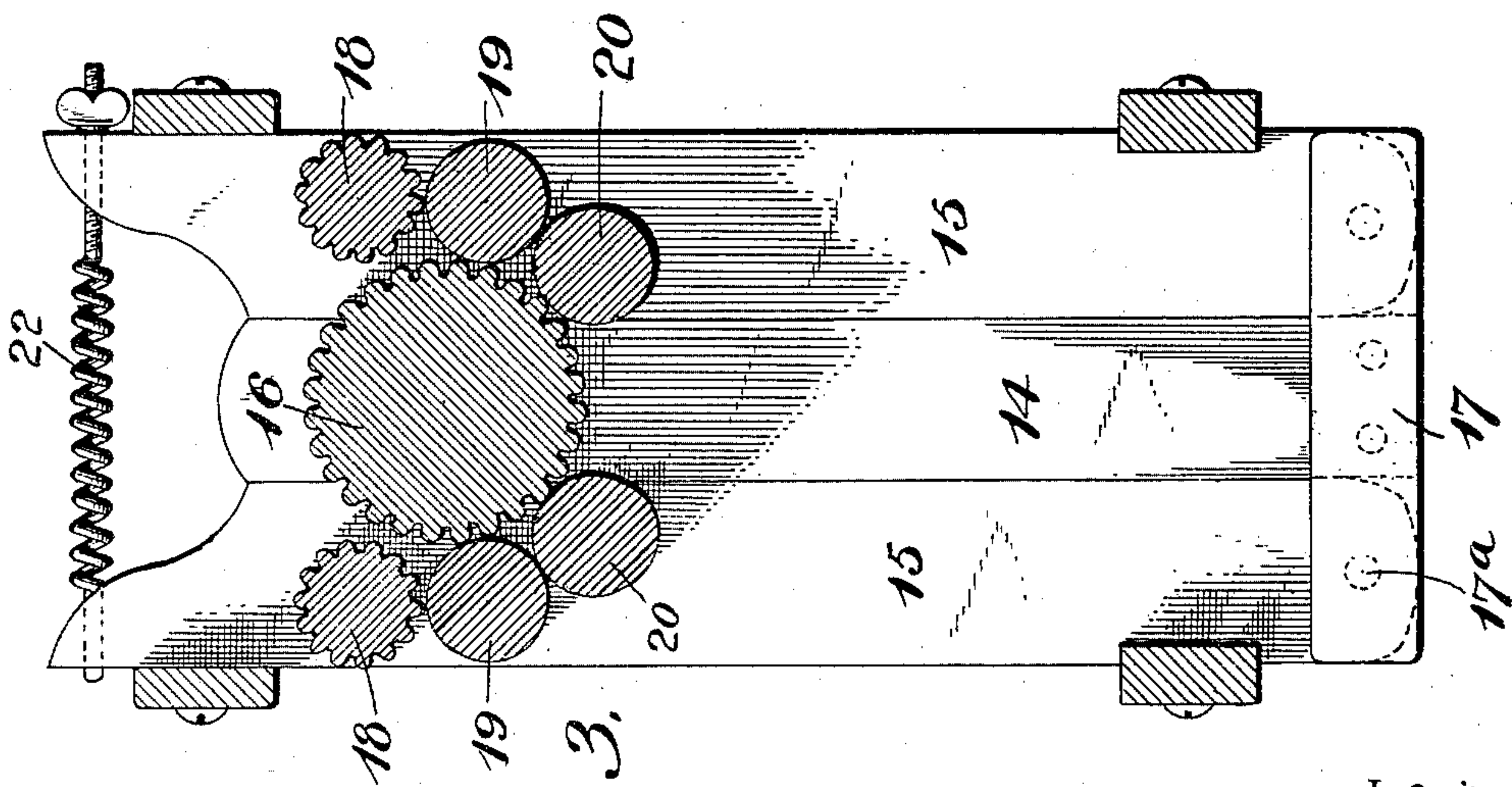
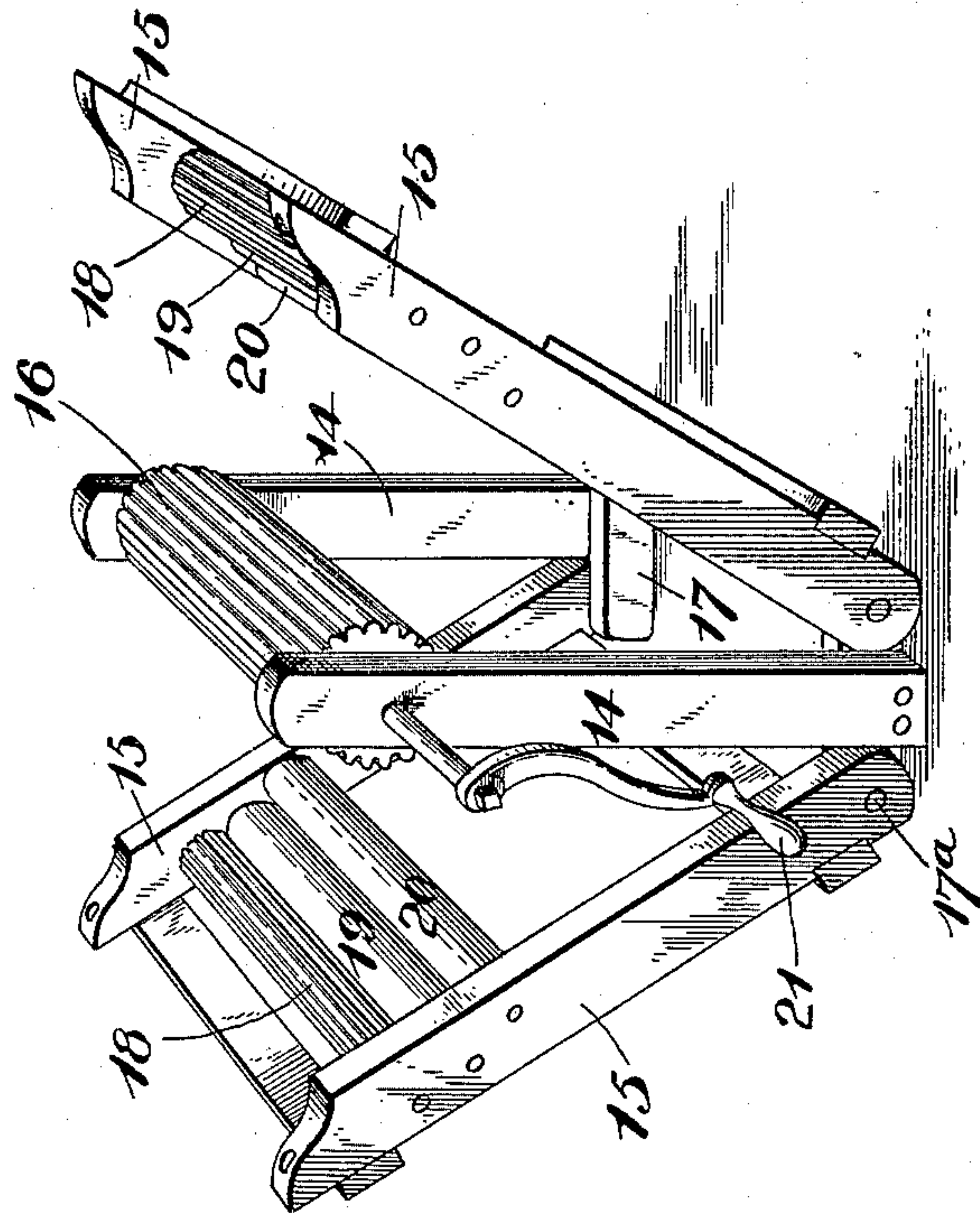


Fig. 3.

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UNITED STATES PATENT OFFICE.

JAMES KNOX POLK SMITH, OF ENNIS, TEXAS.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 612,877, dated October 25, 1898.

Application filed October 29, 1897. Serial No. 656,814. (No model.)

To all whom it may concern:

Be it known that I, JAMES KNOX POLK SMITH, a citizen of the United States, residing at Ennis, in the county of Ellis and State of Texas, have invented a new and useful Washing-Machine, of which the following is a specification.

The invention relates to improvements in washing-machines.

The object of the present invention is to improve the construction of washing-machines and to provide a simple, inexpensive, and efficient one adapted to wash clothes rapidly and thoroughly without injuring the fabrics and at the expenditure of a minimum amount of labor.

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

In the drawings, Figure 1 is a side elevation of a washing-machine constructed in accordance with this invention, the tub being partially broken away to show the washing mechanism. Fig. 2 is a plan view of the same, the machine being folded. Fig. 3 is an enlarged sectional view of the washing mechanism. Fig. 4 is a perspective view of the same, the springs being removed and the device being opened.

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

1 designates a tub support or stand comprising a horizontal supporting-frame 2 and front and rear inclined cross-bars arranged in pairs and pivoted together by a transverse rung 5 at a point between their ends. The front inclined bars 3 are connected at their upper and lower ends by transverse rungs 6 and 7^a, the upper rung being detachably engaged by side bars of the horizontal supporting-frame 2, and the rear inclined bars 4, which are extended above the frame 2, are connected at their ends and at an intermediate point by rungs 7, 8, and 9. The horizontal supporting-frame 2, which has its side bars located at the inner faces of the bars 3 and 4, is pivoted at its rear end on the rung 8 and is provided at its front end with recesses 10, detachably engaging the rung 6,

whereby the tub support or stand, which is adapted to fold, is locked in its operative position. The side bars of the supporting-frame 2 are disengaged from the rung 6 when it is desired to fold the tub or stand, and the supporting-frame and the bars 3 may then be swung inward against the bars 4.

The top rung 7 of the inclined bars 4 pivots a tub-engaging frame 11 to the tub support or stand, and this frame 11, which is composed of side bars suitably connected at the front and at an intermediate point, rests upon the upper edges of a tub 12 and carries the washing mechanism, which is arranged within the tub. The washing mechanism comprises a central frame 14 and similar side frames 15, pivotally connected at their lower ends with the central frame and arranged at opposite sides thereof, as clearly illustrated in Figs. 3 and 4 of the accompanying drawings. The central frame 14, which carries a main roll 16, is composed of vertical bars provided at their lower ends with horizontal pieces 17, which project beyond the same and receive the pivots 17^a of the side frames.

Each side frame is rectangular, being composed of side bars and upper and lower cross-bars, and between the side bars are journaled rolls 18, 19, and 20, arranged in a curved series substantially concentric with the main roll 16. The main roll 16 is corrugated, and the upper rolls 18, which are similarly corrugated, are adapted to feed the clothes being washed. The rolls 19 and 20, which are smooth, cooperate with the main roll and hold the clothes against the same, and thereby effect the operation of washing.

The main roll is suitably journaled on the central frame 14, the journals passing through the side bars of the tub-engaging frame 11, and one of the journals is extended and formed into a crank-handle 21, by means of which the washing-machine is operated. The clothes are fed into the washing mechanism at one side of the same, between the main roll and the adjacent small corrugated roll, and the crank-handle is rotated to wind the clothes around the main roll, after which the machine may be operated to rotate the main roll in either direction to produce the necessary rubbing operation.

The pressure on the clothes is obtained by

means of two coiled springs 22, arranged at the top of the washing mechanism and secured at their rear ends to the adjacent side frame and connected at their front ends to the other side frame by means of a screw 23 and a thumb-nut 24, which enables the tension of the spring to be readily regulated.

During the operation of the washing-machine the clothes are rubbed and are passed through the water, the water in the tub being designed to be sufficiently high to effect this result. By these means clothes and other fabrics may be rapidly and thoroughly washed without injuring them.

The front ends of the side bars of the frame 11 are connected by a transverse bar 25, which is designed to support a wringer of any suitable construction. The bar 25 supports the wringer in convenient position to receive the clothes after the latter have been operated on by the washing mechanism.

The invention has the following advantages:

The washing-machine is simple and comparatively inexpensive in construction, the springs apply a yielding pressure to the clothes or other fabrics being washed, and the pressure may be regulated so that there is no danger of wearing, tearing, or otherwise injuring the fabrics.

The machine is easily manipulated and is capable of rapidly and thoroughly washing clothes at the expenditure of a minimum amount of labor.

When the machine is not in use, it may be compactly folded, as shown in Fig. 2 of the accompanying drawings.

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 the central vertical horizontal main frame adapted to be readily arranged in and removed from a tub or analogous receptacle and composed of vertical sides provided at their lower ends with horizontal pieces 17 projecting beyond the edges of the sides, a main roll connecting the upper ends of the sides of the main frame, the rectangular side frames pivoted to the projecting ends of the pieces 17 and adapted to swing inward and outward from the main frame and having their sides extended above the same, rolls mounted on the side frames, and the coiled springs connecting the tops of the side frames and adjustably mounted on one of the latter, substantially as described.

2. In a washing-machine, the combination of a tub-supporting stand, a horizontal tub-engaging frame 11 pivotally connected to the stand and arranged to extend entirely across a tub and rest upon both sides thereof and provided at its front end with a wringer-supporting bar located in advance of the tub and washing mechanism pivotally mounted on the frame 11 between the ends thereof and arranged to rest upon the bottom of a tub, substantially as described.

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

JAMES KNOX POLK SMITH.

Witnesses:

B. R. PACKARD,
H. T. MCKAY.