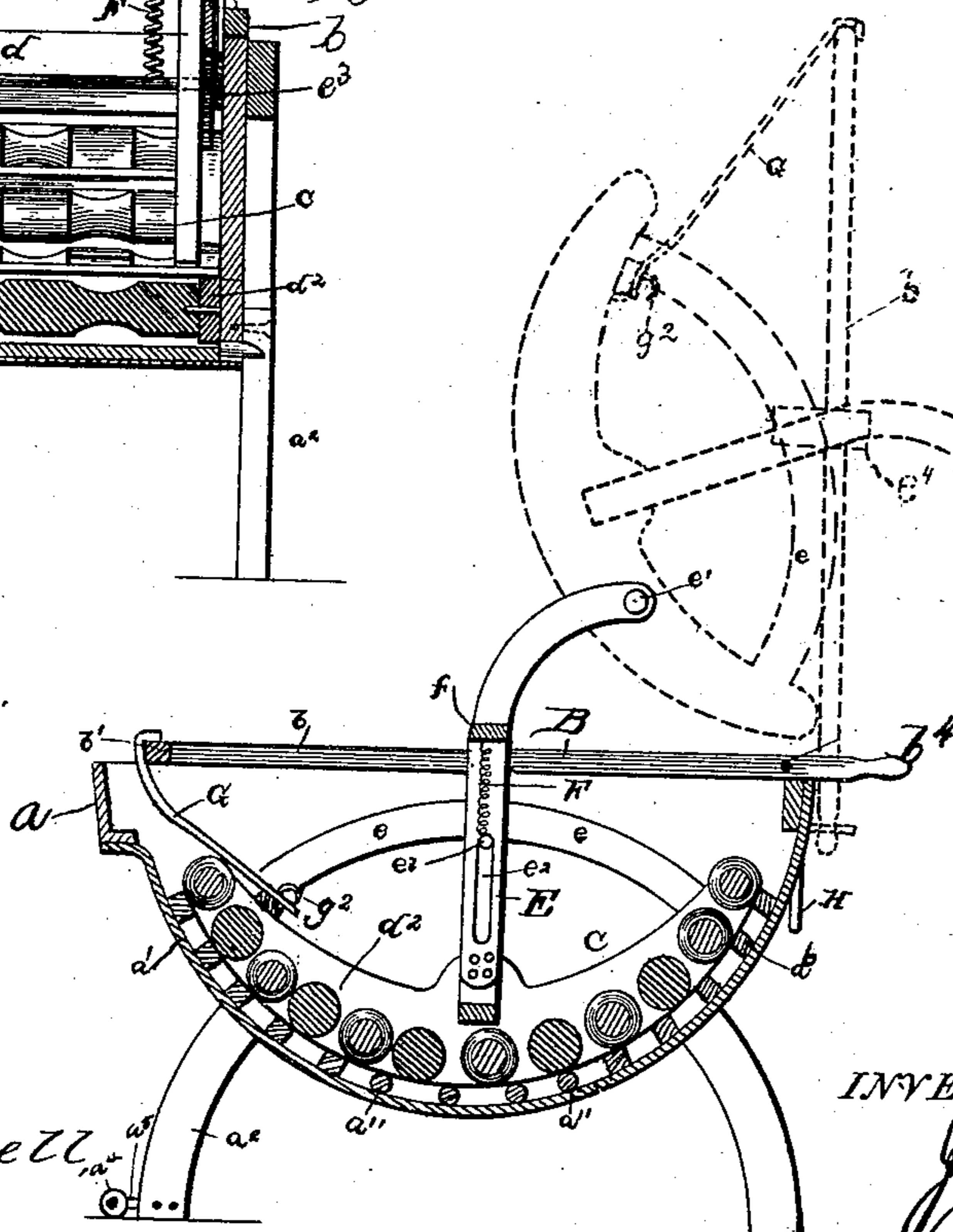
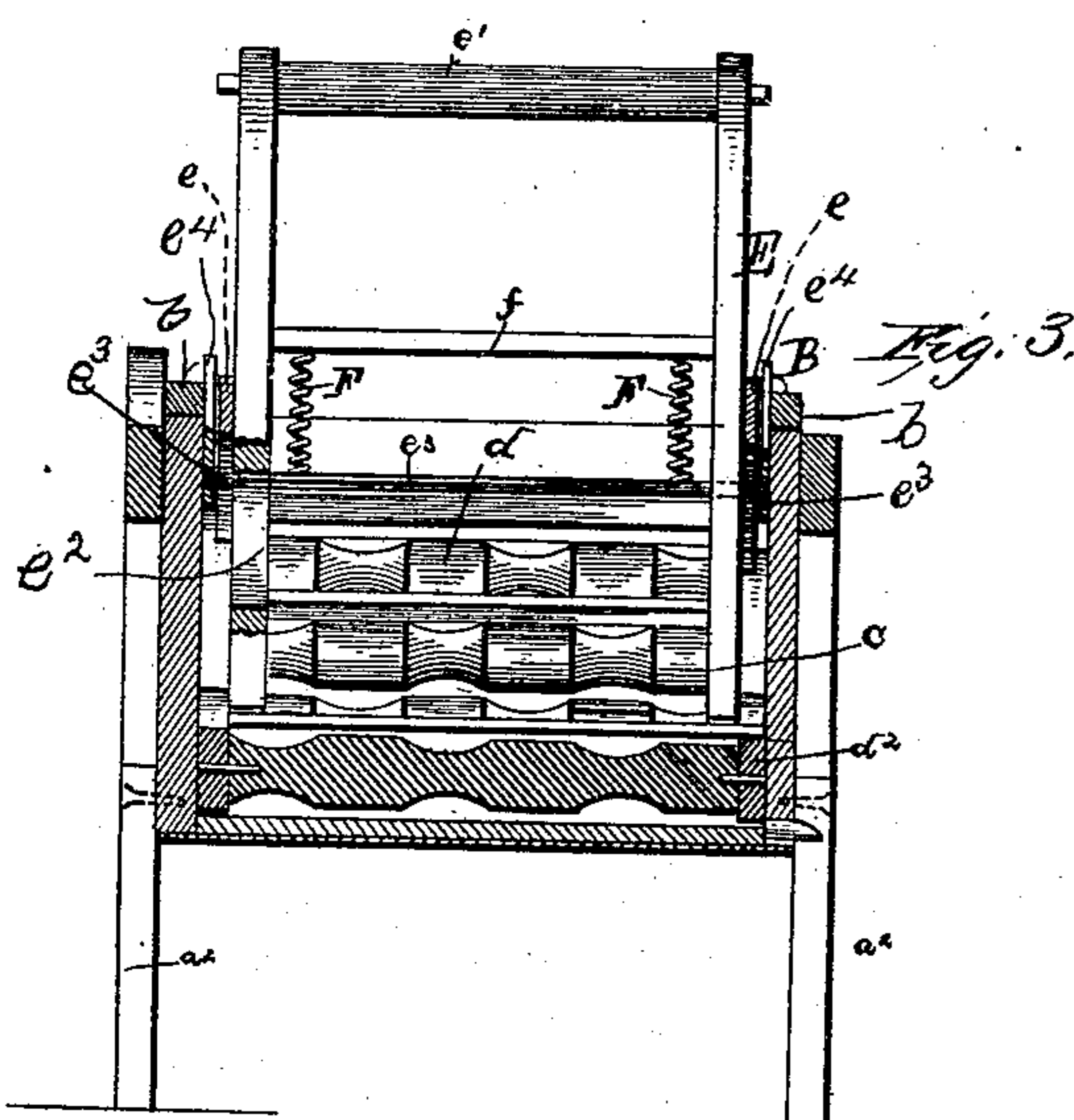
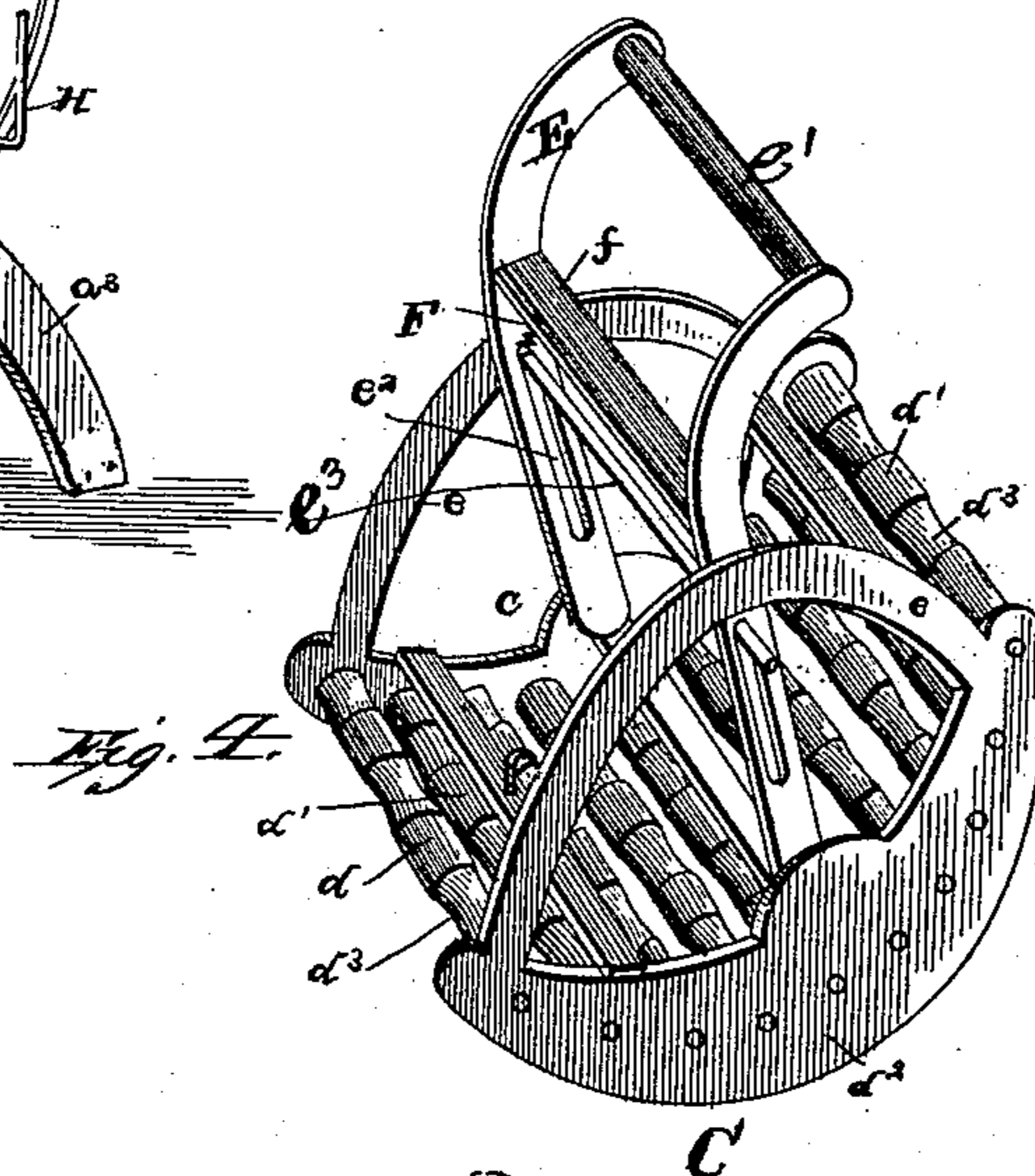
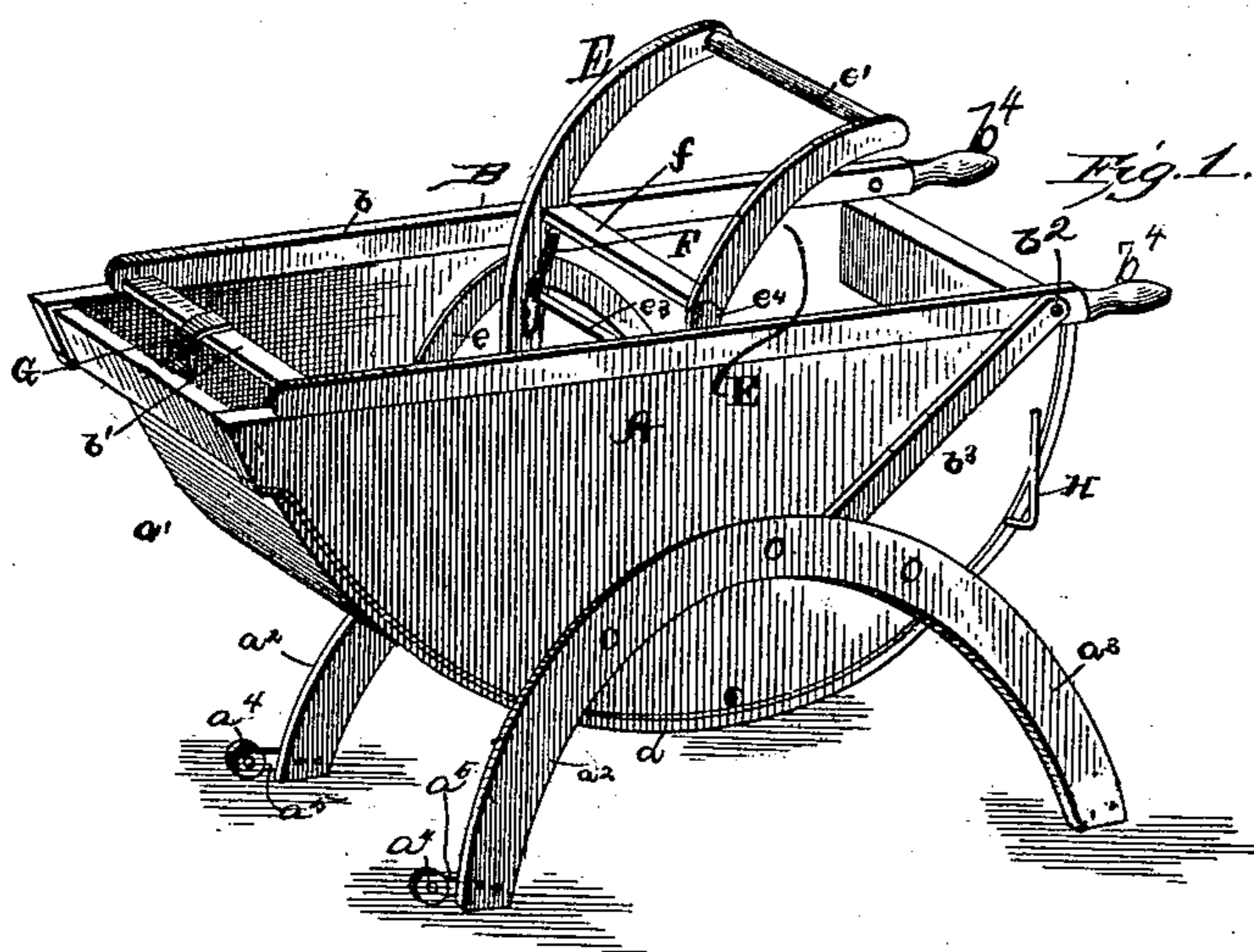


(No Model.)

J. LEE, Jr.
WASHING MACHINE.

No. 407,484.

Patented July 23, 1889.



WITNESSES

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J A Brown

INVENTOR

John Lee, Jr.
By *[Signature]*
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UNITED STATES PATENT OFFICE.

JOHN LEE, JR., OF STERLING, OHIO.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 407,484, dated July 23, 1889.

Application filed October 5, 1888. Serial No. 287,352. (No model.)

To all whom it may concern:

Be it known that I, JOHN LEE, Jr., a citizen of the United States of America, residing at Sterling, in the county of Wayne and State of Ohio, have invented certain new and useful Improvements in Washing - Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention pertains to certain new and useful improvements in washing-machines; and it comprises the detail construction, and combination and arrangement of parts, substantially as hereinafter fully set forth.

15 In the accompanying drawings, Figure 1 is a view in perspective of my improved washing-machine. Fig. 2 is a vertical sectional view thereof, showing parts in dotted lines. Fig. 3 is a central transverse sectional view, and Fig. 4 is a detail view of a portion of the rubber-bar.

Referring to the drawings, A designates the tub or receptacle of my improved washing-machine, the same being provided with a 25 semicircular metallic bottom a' , which at one end is secured to the under side of a ledge or projection a of tub A. To the vertical portion of this ledge a wringer may be secured, while upon its lower portion a cake of soap can be placed when not in use. Upon 30 the inner surface of bottom a' are disposed a series of transversely-arranged bars a^6 , as shown, and in the center are four (more or less) rollers a'' , free to revolve. The tub or receptacle is provided on each side with two 35 legs $a^2 a^3$, made out of one piece of bent material, as shown.

To the outer ends of the legs a^2 are secured small wheels or rollers $a^4 a^4$, the supporting- 40 brackets a^5 of which hug and are secured to the outer ends of said legs in such a position that the rollers shall be held normally above or out of contact with the floor. By tilting one end of tub A the rollers a^4 will be 45 brought to rest upon the floor, and by means thereof the tub can be readily moved to any desired point.

B is a frame composed of two parallel bars $b b$, connected at one end by a transverse bar 50 b' , and at their forward ends the same are pivotally secured to the upper outer ends of inclined bars b^3 , rigidly secured to the sides

of tub A. The extreme ends of these bars b have handles b^4 formed therewith to be grasped by the operator in moving the machine from place to place. 55

C is a rubber-bar composed of a series of rollers $d d'$, connected at their journaled ends to semicircular side boards $d^2 d^2$, so as to be free to revolve thereinbetween. These 60 rollers $d d'$ have each a series of grooves d^3 formed therein, the grooves of one roller being opposite to the thickened portion of the adjacent roller, as shown. The object of this arrangement is that in washing clothes 65 the water drawn in with the clothes beneath one of these grooves will be forced out therefrom by the thickened portion of the adjacent roll. By this means the clothes are thoroughly and quickly washed. 70

To the side boards of rubber C are connected the outer ends of two curved bent arms $e e$ of two vertical bars E E, the upper curved ends of which have a transverse handle-bar e' , which the operator grasps in moving and operating the rubber. These bars E 75 E are provided with slots $e^2 e^2$, formed therein, through which a cross-rod e^3 is passed and rigidly secured at its ends in short depending lugs or projections e^4 , rigidly attached to bars 80 $b b$ of frame B. Two springs F F are secured at their lower ends to this cross-rod e^3 , and their upper ends are attached to a transverse bar f of bars E E. By means of these 85 springs the rubber is permitted to conform to the quantity of clothes in tub A and to move up and down on the cross-rod e^3 .

A strap G, connected at one end to the frame B and apertured at its opposite end, serves, when frame B is placed in a vertical position 90 and the apertured end of said strap is caused to engage a hook g^2 , secured to a transverse bar of the rubber C, to hold said rubber in an approximately-vertical position, as shown in dotted lines in Fig. 2, and permit the drip- 95 pings therefrom to fall into tub A, said rubber being further held elevated together with the frame by means of a bent bar or bail H, pivoted to the tub.

From the foregoing description it will be 100 seen that I have produced a new and improved washing-machine embodying many advantages in point of simplicity, durability, and general efficiency and inexpensiveness,

and that by means thereof the washing operation is readily and quickly accomplished.

I claim as my invention—

5 The combination, with the frame having the depending lugs, of the rubber, the vertical bars, the short bars or plates having slots the cross-rod secured to said depending lugs, the transverse bar attached to said vertical

bars, the springs, and the handle-bar, substantially as described. 10

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

JOHN LEE, JR.

Witnesses:

JOHN LEE, Sr.,

G. W. ROSS.