

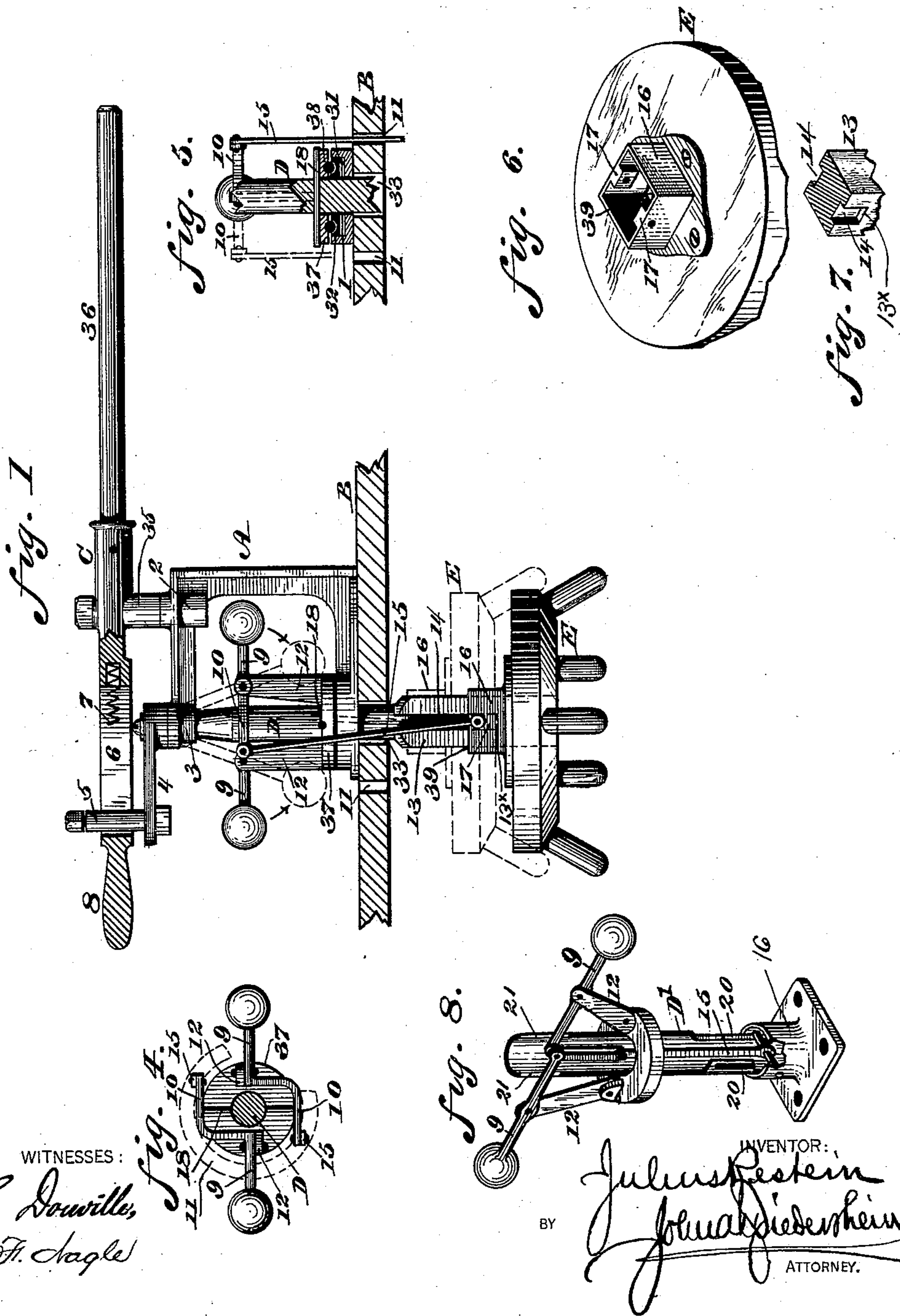
(No Model.)

2 Sheets—Sheet 1.

J. RESTEIN.  
WASHING MACHINE.

No. 466,575.

Patented Jan. 5, 1892.



WITNESSES:  
*L. Douville,*  
*P. F. Nagle*

INVENTOR:  
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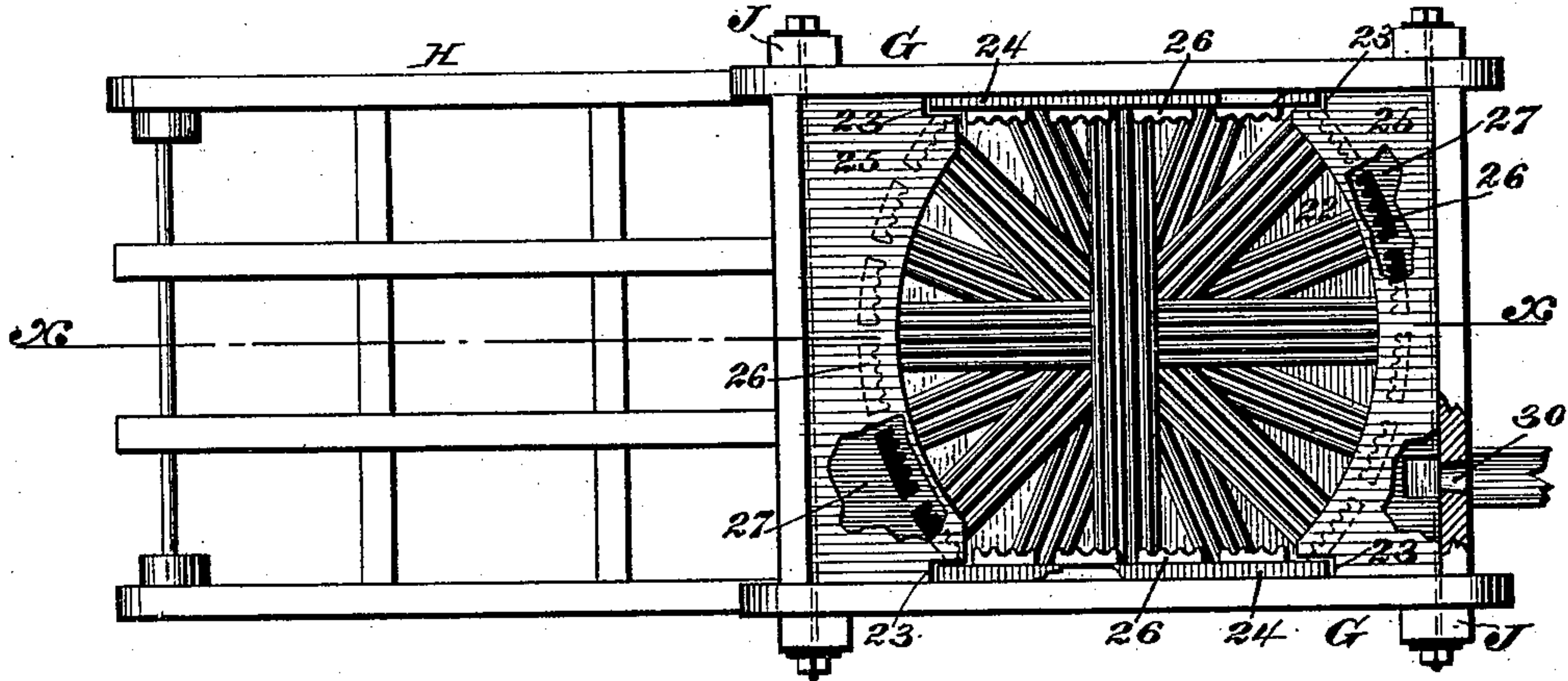
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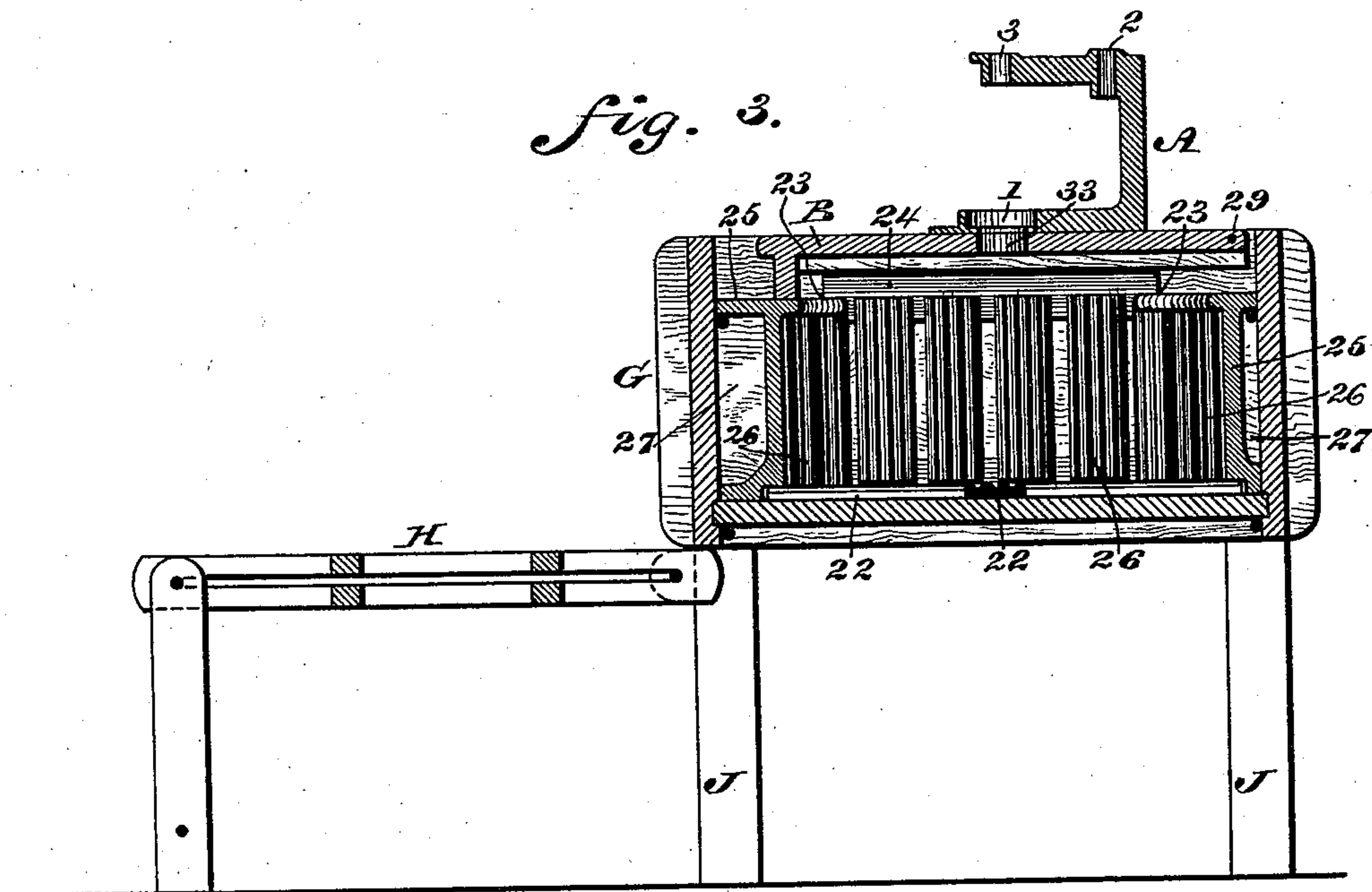
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*fig. 2.*



*fig. 3.*



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# UNITED STATES PATENT OFFICE.

JULIUS RESTEIN, OF PHILADELPHIA, PENNSYLVANIA.

## WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 466,575, dated January 5, 1892.

Application filed April 5, 1890. Serial No. 346,699. (No model.)

*To all whom it may concern:*

Be it known that I, JULIUS RESTEIN, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Washing-Machines, which improvement is fully set forth in the following specification and accompanying drawings.

My invention relates to washing-machines; and it consists, first, of the novel construction of the tub or box, and, next, of mechanism for operating the pounder or agitator, as will be more fully hereinafter set forth.

Figure 1 represents a sectional side elevation of a pounder or agitator operating mechanism embodying my invention. Fig. 2 represents a top plan view of my improved washing-box, showing the cover and pounder removed and broken away at different points. Fig. 3 represents a longitudinal vertical section of the box with the cover in position. Fig. 4 represents a detail top plan view of the governor mechanism shown applied in Fig. 1. Fig. 5 represents a detail view in elevation of the governor, showing the lower part thereof broken away. Fig. 6 represents a detail perspective view of the top part of the pounder or agitator. Fig. 7 represents a detail sectional perspective view of part of the lower extension of the vertical shaft of the pounder. Fig. 8 represents a broken perspective view of a modification of the governing mechanism.

Similar letters and numerals of reference indicate corresponding parts in the several figures.

Referring to the drawings, A designates an angle-arm formed with a lower apertured socket 1 and journal-bearings 2 and 3 in the upper horizontal member thereof, the same being adapted to be secured to the cover B of the washing-box G. Said cover B is formed with a semicircular slot 11 and a central aperture 33, adapted to align with the aperture of socket 1, said covering being hinged to said box G, as shown at 29, Fig. 3. A vertical shaft D, having an upper reduced end, is mounted in the apertures of cover B and socket 1, and the said reduced end thereof projects through the bearing 3. A crank-arm 4 is attached to the upper end of said shaft and has an anti-frictional wrist-pin 5 mounted in a vertical

position at the outer end thereof. A lever C is located above the arm A and has a vertical trunnion 35 journaled in bearing 2 of said arm. The one end of this lever is formed with a grip 8 and the other end with a socket to receive a hand-bar 36. A straight slot 6 is also formed in said lever, through which projects the wrist-pin 5, and in the inner wall thereof is mounted a spring 7. A collar 37 surrounds the shaft D and has a circular groove 38 in its under side and arms 12 projecting upward from the top surface thereof. A washer 31, preferably of leather, is placed in the socket 1, and thereover is mounted a rubber gasket 32, having a circular groove in its top surface to receive anti-frictional balls or rollers. The shaft D extends centrally through the washer 31 and gasket 32, and the under groove 38 of collar 37 is pushed down on the balls in the groove of said gasket and held in position by a pin 18, passing transversely through the shaft D. This construction provides an anti-frictional bearing and the rubber gasket deadens the sound of jarring parts.

The arms 9 of the governor-balls are pivoted to the upper ends of arms 12 and have angular extensions 10, to the outer ends of which are attached the upper ends of pitmen 15. The lower ends of said pitmen are pivotally connected to opposite sides of a hollow angular casting 16, attached to the top side of the pounder or agitator E, and have interior integral lugs 17. An aperture 39 is formed in the center of the said pounder or agitator, aligning with the opening in said casting.

An angular extension 13, having slots 14 in opposite sides, is attached to the lower end of shaft D, and on said extension is mounted the pounder or agitator E. The lugs 17 of the casting 16 engage the slots 14 of the extension 13 and limit the downward movement of the pounder E by striking the lower terminating wall 13<sup>x</sup> of the said slots 14. (Shown in Fig. 7.) The form and area of said extension are similar to those of the interior of the casting 16, and thereby the pounder or agitator is retained in proper alignment with the mechanism above the same.

The lever C is given a semi-rotation by grasping the grip 8 and hand-bar 36, and the wrist-pin 5 travels backward and forward in



slot 6 of said lever. The said wrist-pin is provided with a loose sleeve, which acts as an anti-frictional roller in the slot 6. Through arm 4 the motion of the wrist-pin is imparted to the shaft D, collar 37, and the pounder or agitator E, and during said movement the pitmen 15 travel in the semicircular slot 11 in the cover B. Owing to the centrifugal motion of the balls of the governor, the same are raised to the position shown in full lines in the drawings, thereby lowering the pounder or agitator so that it is in close contact with the clothes in the washing-box. When the shaft is stopped in its semi-rotation, the centrifugal force is also stopped or lost and the balls are lowered to the position shown in dotted lines, thus raising the pounder from the clothes.

The pounder or agitator is adapted to be used with the washing-box shown in Figs. 2 and 3. The said box is provided with a folding rack H and legs J, and on the inner side of the bottom thereof a series of horizontal radial, corrugated, or fluted rubbers 22 is arranged and preferably formed of metal. Two ends of the box have removable frames 25, to which are attached a series of vertically-disposed rubbers 26, having spaces between the opposing edges thereof, giving access of the water to a sediment-chamber 27, and an out-flow-chamber having an aperture 30, with a drain-spout in proximity thereto. The inner edges of the frames 25 are formed with slots 23, in which are held the two edges of removable boards 24, also provided with rubbers 26.

The pounder or agitator heretofore described is removably mounted between the rubber 26 and over the rubbers 22. In its operation it is given a semi-rotative movement in reverse directions, and at intervals, as before set forth, a vertical reciprocation is imparted thereto. The first movement causes the articles being washed to roll around from one side of the box to the other, and the second movement, or when the pounder is raised, tends to raise the articles from the bottom of the tub, it being understood that the pegs of the pounder change the position of the said articles. The dirt and sediment-water will in a measure be caught and retained in cham-

ber 27 as the water is forced backward and forward between the rubbers 26.

In Fig. 8 a single pitman is shown as extending through a hollow shaft D', formed with lower and upper slots 20 and 21 to permit a semi-rotating movement of the shaft when operated and also provide for attachment of the governor-arms to the pitman and of the pitman to the casting 16.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a washing-machine, a frame supporting a vertical shaft, a crank-arm thereon, a lever in connection with said crank-arm, vertically-adjusting governing mechanism operated by centrifugal action, a pounder or agitator, and a washing-box, all of said parts being combined and arranged substantially as described.

2. In a washing-machine, a vertical shaft having a governor mounted thereon, and a pounder or agitator on the lower end of said shaft adapted to be vertically reciprocated by the said governor, substantially as described.

3. In a washing-machine, a vertical shaft having a pounder or agitator on the lower end thereof and a crank-arm on the upper, with a wrist-pin attached thereto, and a lever formed with a slot having a spring secured to one wall thereof, and automatically-operating vertically-adjusting governing mechanism attached to said pounder, substantially as described.

4. In a washing-machine, the combination of a vertical shaft having a lower slotted extension and a crank-arm on its upper end, to which is attached a wrist-pin, a slotted lever, pivotally-mounted governor-arms on said shaft, a pounder or agitator provided with a top casting having interior lugs adapted to engage the slotted extension of the shaft, and pitmen attached to the governor-arms and to the casting of the pounder or agitator, substantially as described.

JULIUS RESTEIN.

Witnesses:

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