

No. 675,305.

Patented May 28, 1901.

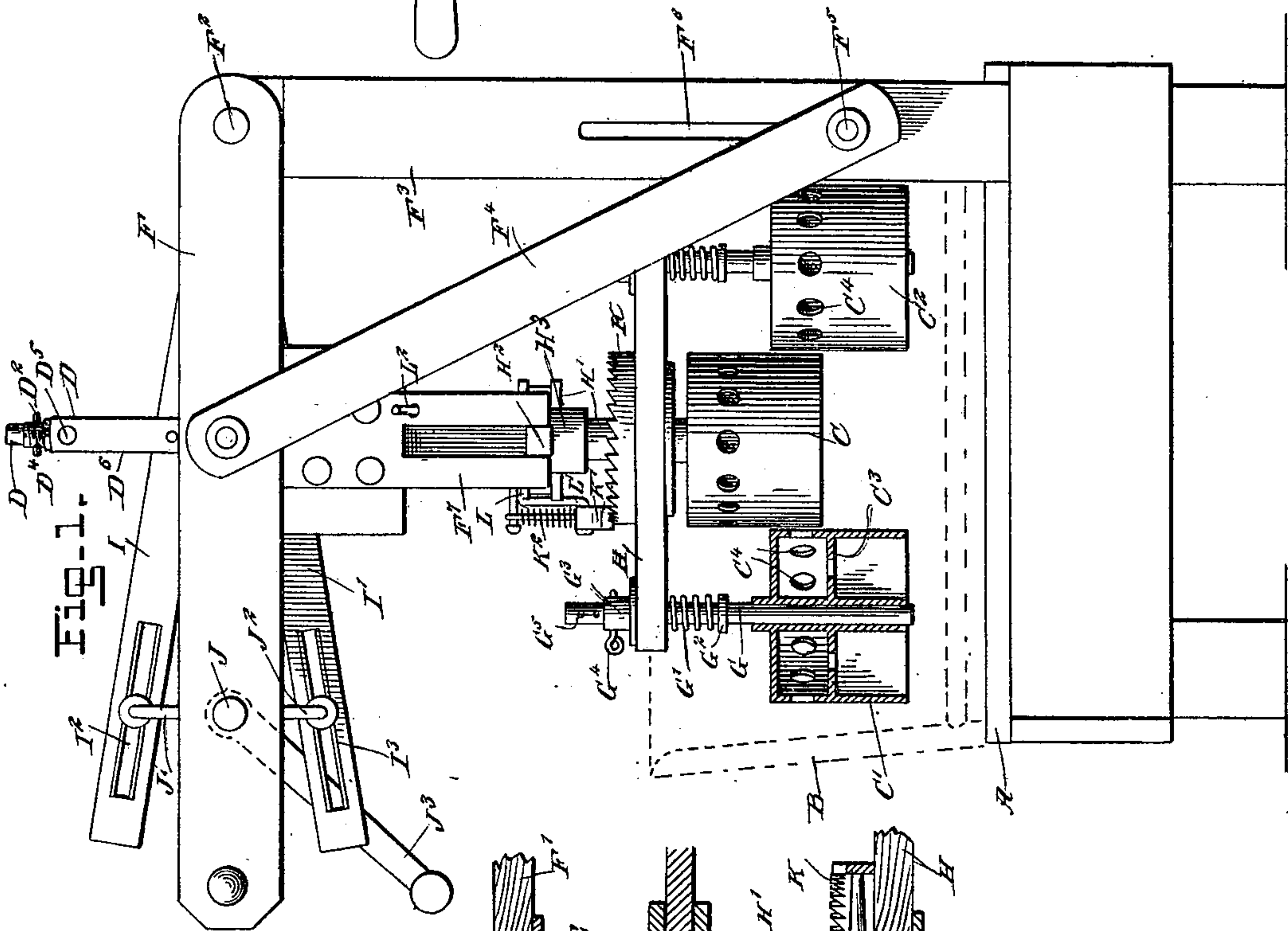
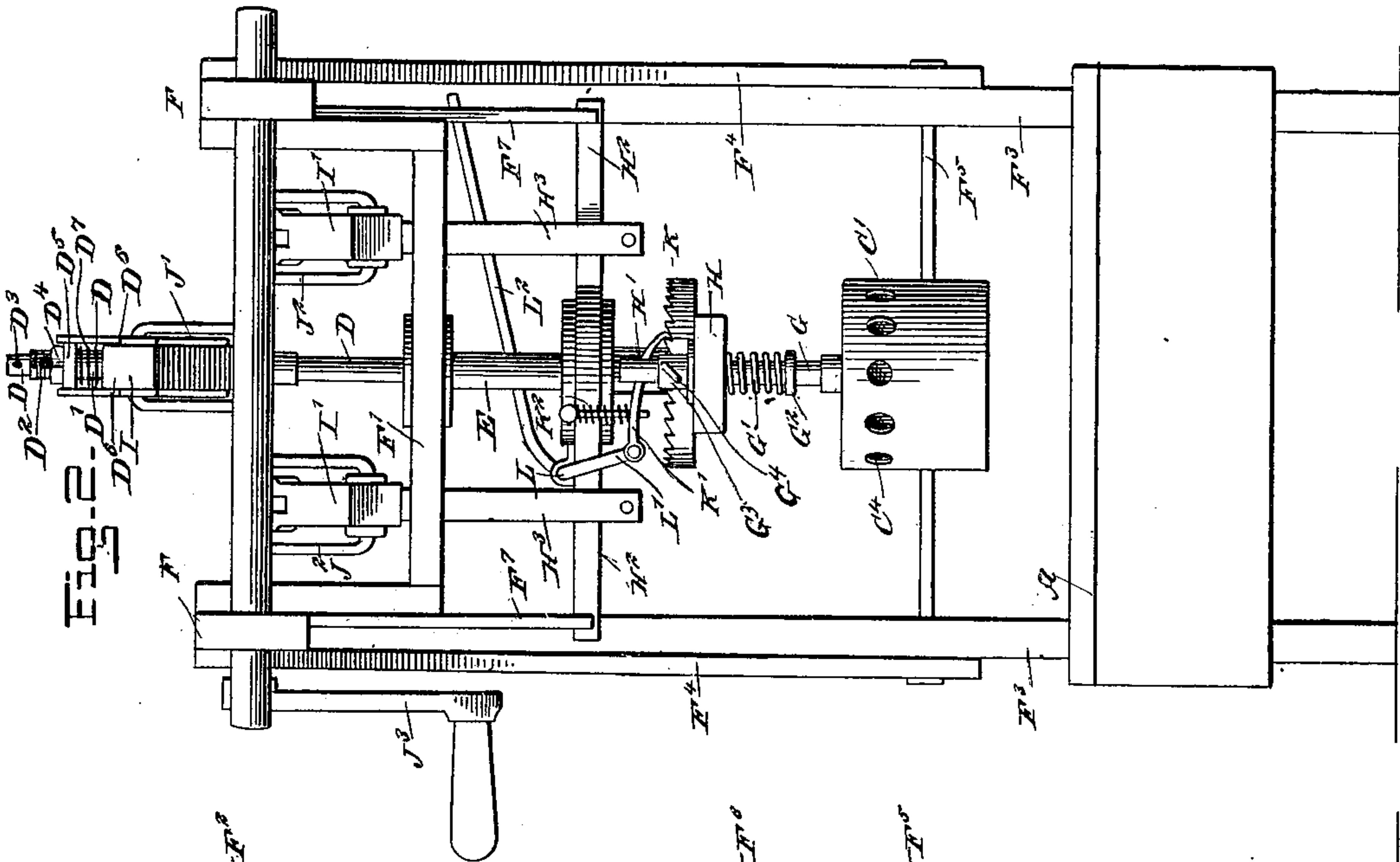
H. F. & R. H. STAGGS.

WASHING MACHINE.

(Application filed July 9, 1900.)

(No Model.)

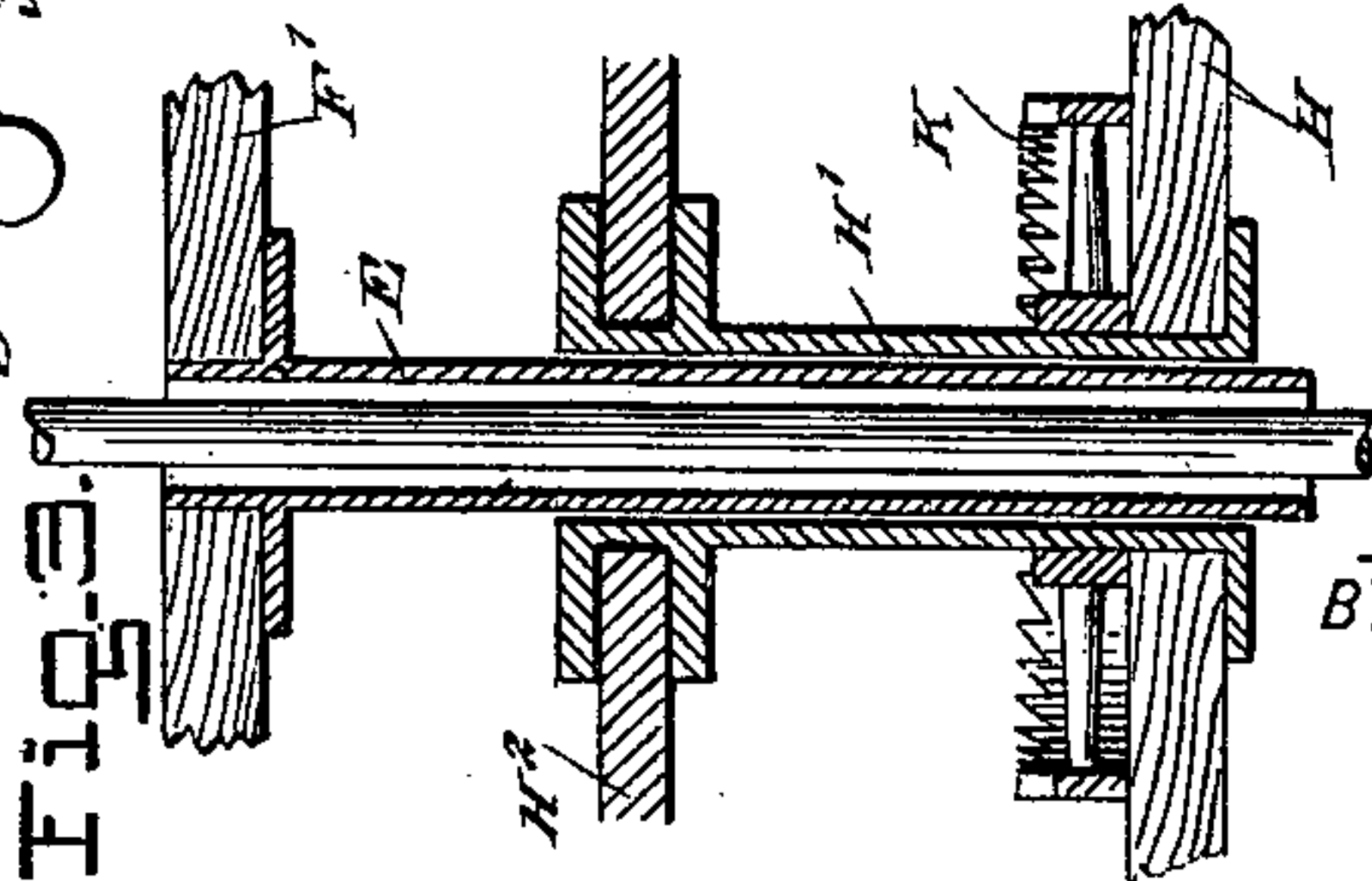
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FIG. 3



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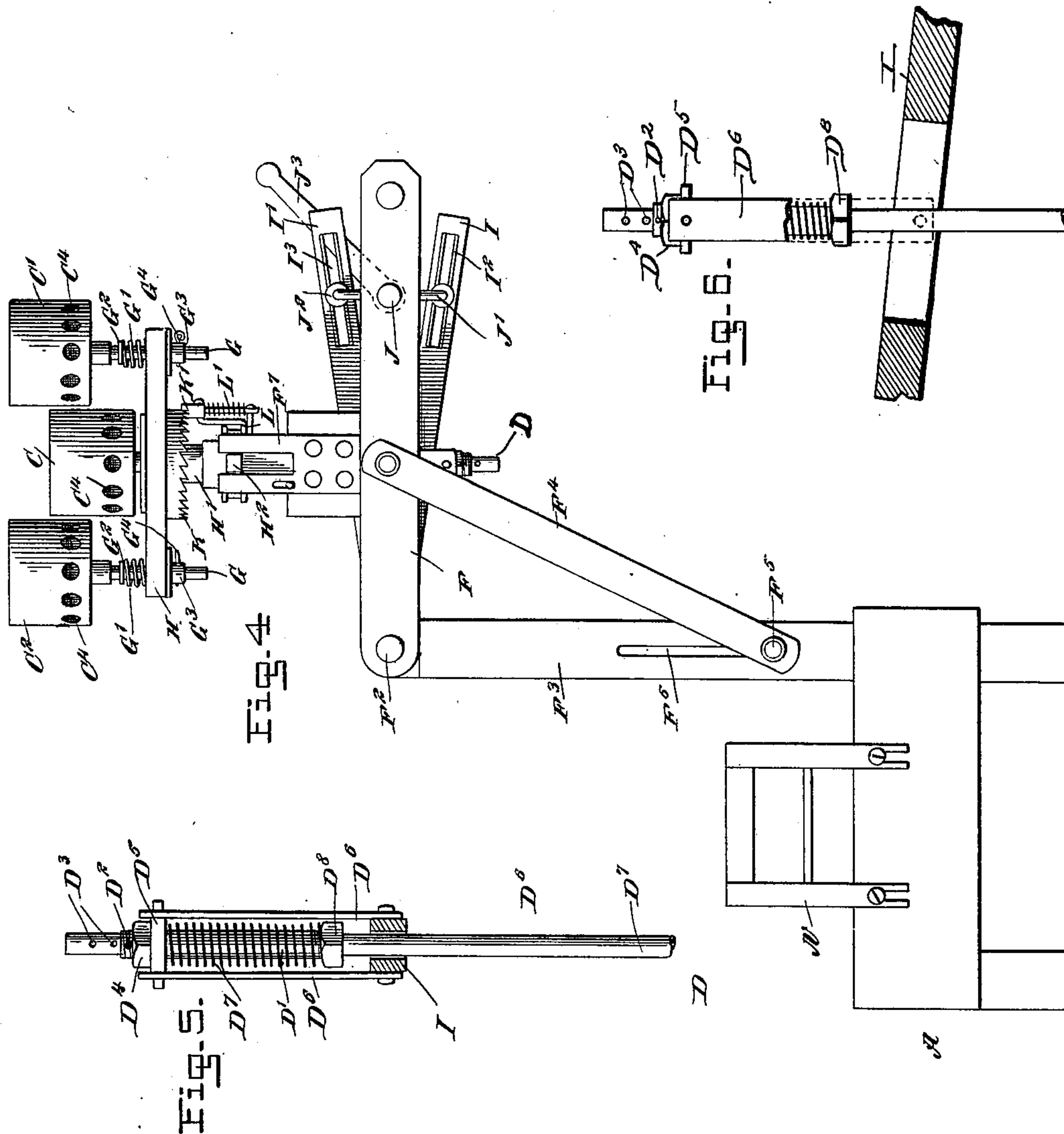
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UNITED STATES PATENT OFFICE.

HENRY F. STAGGS AND ROBERT H. STAGGS, OF MCKINNEY, TEXAS.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 675,305, dated May 28, 1901.

Application filed July 9, 1900. Serial No. 22,986. (No model.)

To all whom it may concern:

Be it known that we, HENRY FRANKLIN STAGGS and ROBERT HARRIS STAGGS, citizens of the United States, and residents of McKinney, in the county of Collin and State of Texas, have invented a new and Improved Washing-Machine, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved washing-machine arranged for use on any kind of tub and adapted to insure a perfect uniform washing of all the clothes in the tub by the use of yieldingly-mounted pounders, which intermittently change their position relatively to the clothes under treatment.

The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the improvement with parts in section. Fig. 2 is a front view of the same. Fig. 3 is an enlarged sectional front view of the support for the side pounders and the central pounder-rod. Fig. 4 is a reduced side elevation of the improvement, showing the washing-machine out of action. Fig. 5 is a front elevation of the central pounder-rod and adjacent parts with the lever in cross-section, and Fig. 6 is a detail view illustrating the central pounder-rod in its relation to the lever.

The washbench A is adapted to support an ordinary tub B, into which extend atmospheric pounders C C' C², of which the pounder C is centrally located relatively to the tub B, and the pounders C' C² are arranged on opposite sides of the central pounder C. Each of the pounders is made in inverted-cup shape and has a horizontal partition C³, with apertures opening into an upper compartment, from which lead apertures C⁴ to the outside. The central pounder C has an up-and-down reciprocating movement, while the side pounders C' C² have a similar reciprocating move-

ment, but at the same time turn around the central pounder C. For this purpose the following mechanism is provided:

The central pounder C is secured on the lower end of a rod D, extending loosely through a tube E, fixed on the cross-bar F' of a swinging frame F, fulcrumed on a rod F², carried on the upper ends of standards F³, erected on the washbench A. The swinging frame F is held in a horizontal position either forward over the washbench A, as shown in Fig. 1, or rearward at one side of the washbench, as indicated in Fig. 4, by means of braces F⁴, pivoted to the frame and having a connecting-bar F⁵ extending through elongated slots F⁶ in the standards F³. By this arrangement the swinging frame can be moved by the operator into either of the positions mentioned and shown and supported by the braces F⁴ in the desired position.

The side pounders C' C² are secured on rods G, fitted to slide vertically in a support H, having a hub H' mounted to turn in a cross-head H², fitted to slide vertically in guideways F⁷, depending from the swinging frame F, as indicated in the drawings. Each rod G, with its pounder C' or C², is pressed on by a spring G', one end of which rests on a collar G², secured to the rod G, the other end of the spring abutting against the under side of the support H. A collar G³ is adjustably held on the upper end of the rod G by means of a pin G⁴ extending through the collar and through one of a series of apertures G⁵ formed in the rod, so that the said collar G³ normally rests on the top of the support H; but when the latter moves downward, as hereinafter more fully described, and the pounder C' or C² comes in contact with the clothes in the tub B then the rod G is free to slide upward in the support H against the tension of the spring G', while the support H proceeds farther downward in the tub. When the support H recedes or moves in an upward direction, then the spring G' again moves the rod G and its pounder into a lowermost position relatively to the support H.

In order to give a reciprocating motion to the support H and the side pounders C' C², carried thereby, and to impart a like motion

to the central pounder C and to allow the latter to yield, the following device is provided: On the upper end of the rod D is adjustably secured a sleeve D' by means of a pin D² passing transversely through the sleeve and through one of a series of apertures D³ in the rod, as is plainly shown in Fig. 5. The sleeve D' is threaded at its upper end and on the latter screws a nut D⁴, normally seated on the top of a cross-head D⁵, pivoted on the side arms D⁶, attached to a lever I, receiving a reciprocating movement, as hereinafter more fully described. The cross-head D⁵ is pressed on at the under side by one end of a spring D⁷, coiled on the sleeve D' and resting with its other end on a collar D⁸, fixed at the lower end of the sleeve D', so that when the cross-head D⁵ is moved downward the sleeve D', rod D, and central pounder C are moved in a like direction; but when the pounder is resisted in its downward movement by the clothes in the washtub then the cross-head on its farther downward stroke compresses the spring D⁷ without moving the rod D farther downward, so that the pounder yieldingly pounds the clothes. By the yielding construction for the central pounder, as described, the operator is enabled to adjust the tension of the spring D⁷ to any desired degree by screwing the nut D⁴ up or down on the sleeve, and the pounder C and rod D may be moved up or down, according to the depth of the tub and the clothes therein by adjusting the rod D on the sleeve by the pin D². By having the cross-head pivoted in bearings carried by the lever I the rod is free to move straight up and down irrespective of the swinging movement of the lever I.

The rod D extends loosely through an elongated opening in the lever I, (see Fig. 5,) and this lever is fulcrumed on the rod F², and levers I', also fulcrumed on the said rod F², are connected by links II³ with the cross-head H² to impart a reciprocating movement to the side pounders C' C². The levers I I' are provided at their forward ends with elongated slots I² I³, of which the slot I² is engaged by a crank-arm J', and the slot I³ is engaged by crank-arms J², extending in opposite directions to the crank-arm J', but all forming part of a crank-shaft J, mounted to turn in suitable bearings in the forward end of the swinging frame F'. A handle J³ is secured on one outer end of the shaft J, so as to allow the operator to turn said shaft J and cause the crank-arms J' J² to impart an up-and-down swinging movement to the levers I I', but in such a manner that when the levers I move upward the levers I' swing downward, or vice versa. From the foregoing it is evident that the swinging movement of the levers I I' causes an up-and-down sliding motion of the rod D and the central pounder C and an up-and-down sliding movement of the cross-head H², hub H', and support H, to-

gether with the rods G, carrying the pounders C' and C².

In order to turn the support H intermittently in addition to the up-and-down movement above described, the following device is provided: On the support H is secured a ratchet-wheel K, concentric to the hub H' and adapted to be engaged by a pull-pawl K', fulcrumed on the arm L' of the lever L, fulcrumed on the top of the cross-head H², as is plainly indicated in Fig. 2. The lever L is provided with an arm L², loosely engaging an aperture in one of the guideways F⁷, so that when the cross-head H² moves up and down the said arm L² causes a swinging of the lever L to actuate the pawl K', so that the latter turns the ratchet-wheel K, and with it the support H and the pounders C' C², carried by said support H. A spring K² presses the pawl K' to hold the same in mesh with the teeth of the ratchet-wheel K. The ratchet-wheel K is turned during the upstroke of the cross-head H².

The operation is as follows: In order to place the tub B in position on the bench A, it is first necessary to swing the frame F into the position shown in Fig. 4, and when the tub is in position and the clothes to be washed are contained in said tub then the swinging frame F is swung back to an active position, so that the pounders C' C' C² extend in the tub. The operator now turns the handle J³ of the crank-shaft J to impart an up-and-down reciprocating motion to the pounders C' C' C², as above described, and also to turn the support H to move the pounders C' C² around the central pounder C at the time the support H moves into an uppermost position. It is understood that when the pounders C' C² move downward the support H is at the period of rest in its intermittent turning movement. By the arrangement described the pounders C' C' C² move in contact with the clothes, press and agitate the same, and cause the water or soapsuds to circulate through the clothes, so as to properly wash the same, it being understood that a very strong agitation of the water and clothes takes place, as the central pounder in moving down yieldingly holds the clothes at the middle of the tub, while at the same time the side pounders C' C² move upward out of engagement with the clothes. During this upward movement the side pounders C' C² shift position by the turning of the support H, and when the pounders C' C² move downward in contact with the clothes, but to a different place from that they previously occupied, then the central pounder C moves upward to reverse the agitating action of the pounders on the clothes and water. When the clothes have been washed, then the frame F and the pounders are swung upward into the position shown in Fig. 4, so as to give convenient access to the washed clothes in the tub. The clothes are now wrung from the tub

B by a suitable wringer into a basket or other receptacle, the said wringer being carried by a frame N, removably attached to the wash-bench A. (See Fig. 4.)

5 Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

1. A washing-machine having a pounder, a rod carrying the said pounder, a sleeve adjustable on the said rod, a cross-head, a lever, side arms connected with the lever and to which the cross-head is pivoted, a spring coiled on the said sleeve and engaging the under side of the cross-head, and a nut on the sleeve for adjusting the tension of the said spring, as set forth.

2. A washing-machine, comprising a central pounder and side pounders located on opposite sides of the central pounder, means for moving the central pounder and the side pounders vertically in opposite directions, and means for intermittently turning the side pounders around the central pounder, substantially as shown and described.

3. A washing-machine, comprising a central pounder and side pounders located on opposite sides of the central pounder, means for moving the central pounder and the side pounders vertically in opposite directions, and means for intermittently turning the side pounders around the central pounder, said means comprising a ratchet-wheel fixed on a support for the side pounders, a pawl for engagement with said ratchet-wheel, and a crank-lever carrying said pawl and fulcrumed on the said support, said crank-lever having an arm engaging a fixed part of the frame, substantially as shown and described.

4. A washing-machine, comprising a central pounder, side pounders located at opposite sides of the central pounder, a support carrying said side pounders, a cross-head in which said support is mounted to turn, a rod carrying said central pounder, levers connected by links with said cross-head and with said rod, and a crank-shaft having crank-arms extending in opposite directions and connected with said levers, to impart an up-and-down movement to said rod and said cross-head but in opposite directions, substantially as shown and described.

5. A washing-machine, comprising a central pounder, side pounders located at opposite sides of the central pounder, a support carrying said side pounders, a cross-head in which said support is mounted to turn, a rod carrying said central pounder, levers connected by links with said cross-head and with said rod, a crank-shaft having crank-arms extending in opposite directions and connected with said levers to impart an up-and-down movement to said rod and said cross-head but in opposite directions, a ratchet-wheel on said support, a pawl in mesh with said ratchet-

wheel, and a lever carrying said pawl, and having an arm engaging a fixed part of the frame, as set forth.

6. A washing-machine, comprising a central pounder, side pounders, a support in which the side pounders are fitted to slide vertically, means for moving the central pounder and the support for the side pounders vertically but in opposite directions, and means for intermittently turning the said support, substantially as set forth.

7. A washing-machine, comprising a frame mounted to swing, a plurality of pounders carried by said frame, one of which is arranged centrally and the others are located at the sides of the central pounder, a rod carrying said central pounder, a tube fixed to the frame and through which the said rod extends, a support mounted to turn around the said tube and in which the side pounders have a vertical reciprocating movement, means for moving the said rod and said support vertically but in opposite directions, and means for intermittently turning the said support, substantially as described.

8. A washing-machine, comprising a frame provided with a cross-bar, a tube secured to the cross-bar, a central pounder, a rod extending through said tube and carrying the central pounder, side pounders, a support carrying said side pounders and provided with a hub arranged concentric to the said tube, a cross-head having guided vertical movement and in which the said hub is mounted to turn, means for moving the said cross-head and the rod carrying the central pounder vertically, and means for intermittently turning the support carrying the side pounders, substantially as set forth.

9. A washing-machine, comprising a central pounder, side pounders, a support carrying said side pounders, a cross-head having vertical movement and in which said support is mounted to turn, a rod carrying said central pounder, levers fulcrumed at one end and provided with elongated slots at the other end, connections between the said levers and the cross-head and rod, a crank-shaft having crank-arms engaging the elongated slots in the levers, to impart an up-and-down movement to said rod and said cross-head, and means actuated by the movement of the cross-head for intermittently turning the support carrying the side pounders, substantially as set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

HENRY F. STAGGS.

ROBT. H. ^{his} × STAGGS.
mark

Witnesses:

W. M. LEE,
HUGH McCLELLAN.