

No. 617,850.

Patented Jan. 17, 1899.

W. E. BROWN.
WASHING MACHINE.

(Application filed Mar. 14, 1898.)

(No Model.)

2 Sheets—Sheet 1.

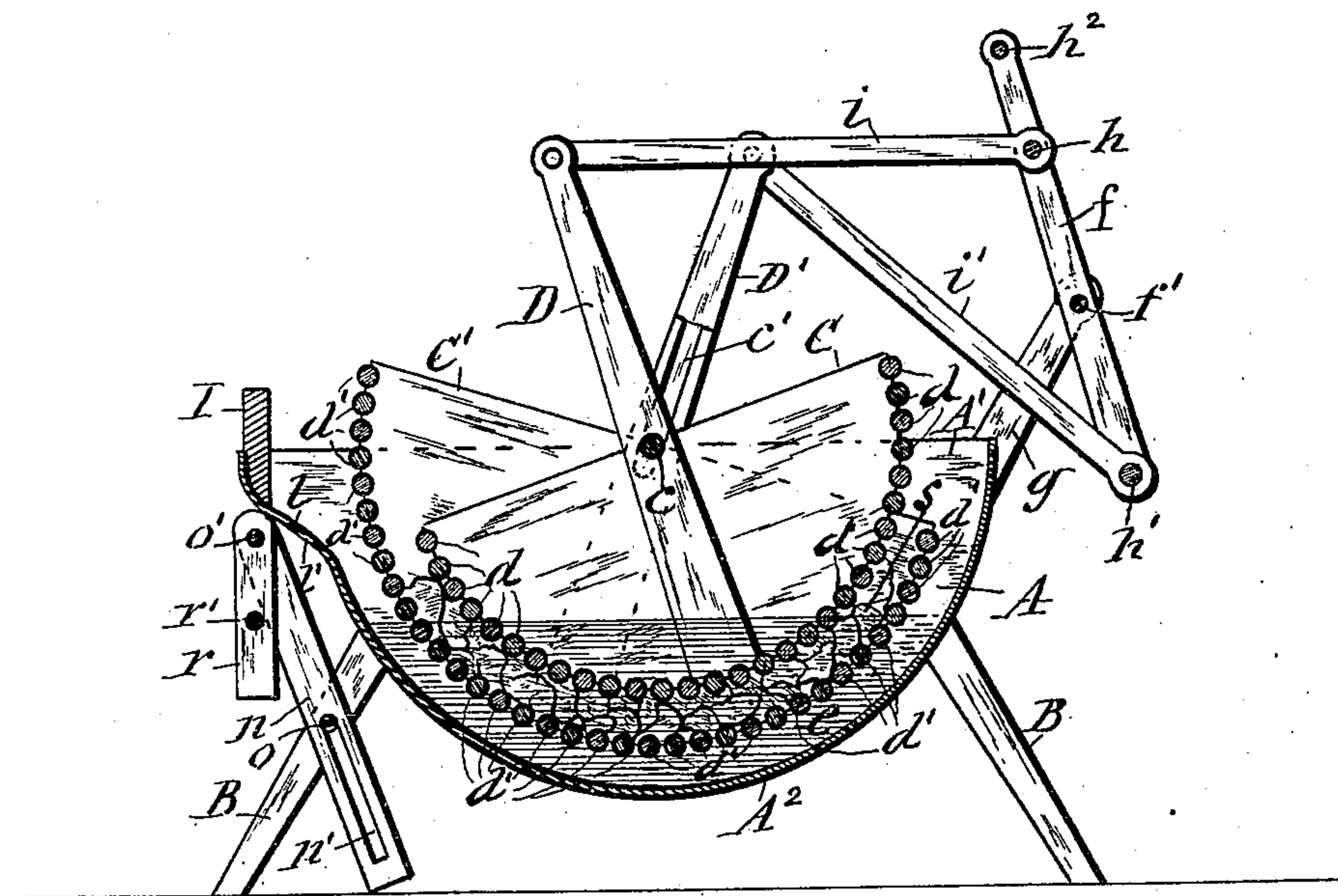
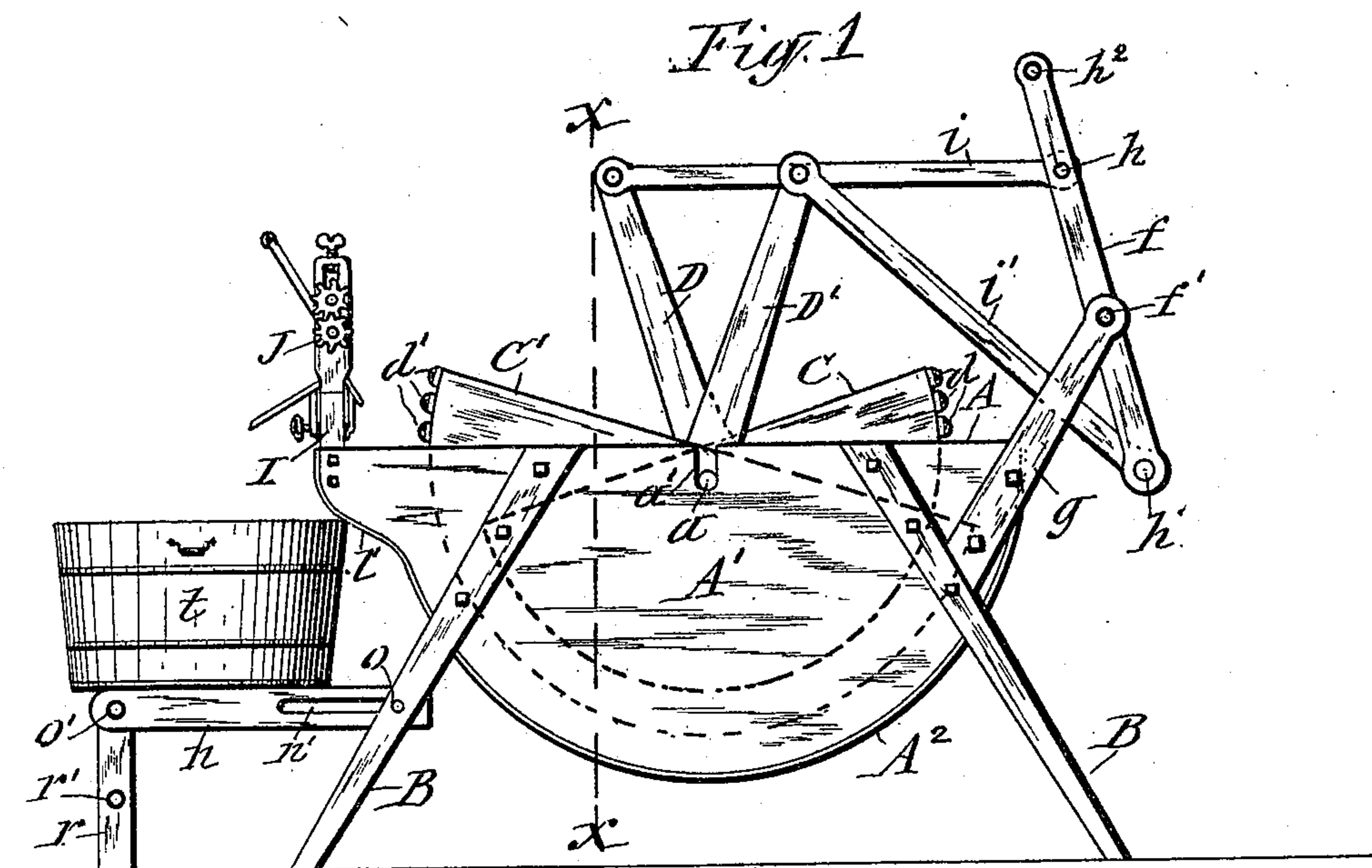


Fig. 2

WITNESSES:

H. B. Smith.

J. J. Laass.

INVENTOR:

William E. Brown

By E. Laass

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Fig. 3

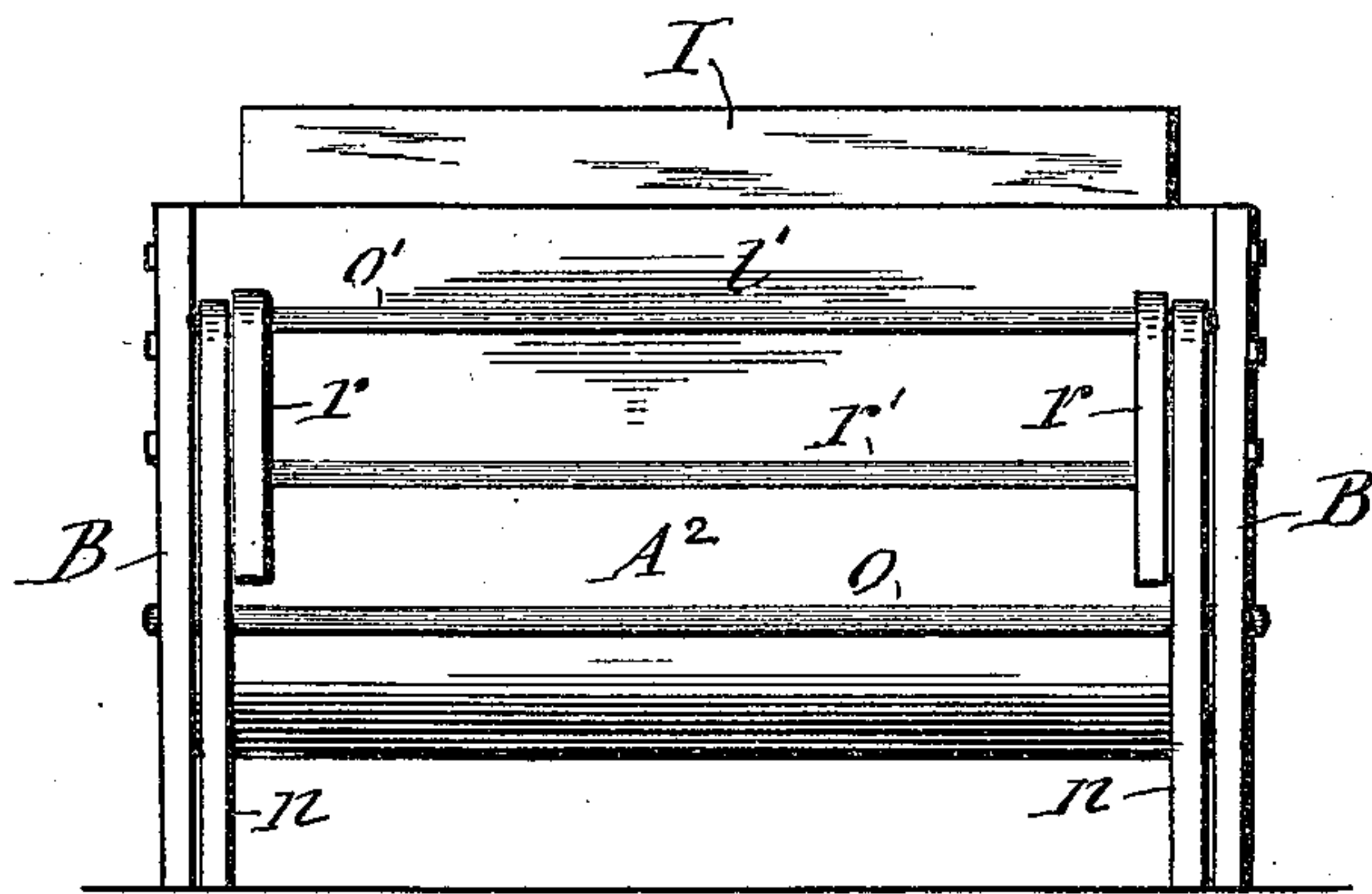
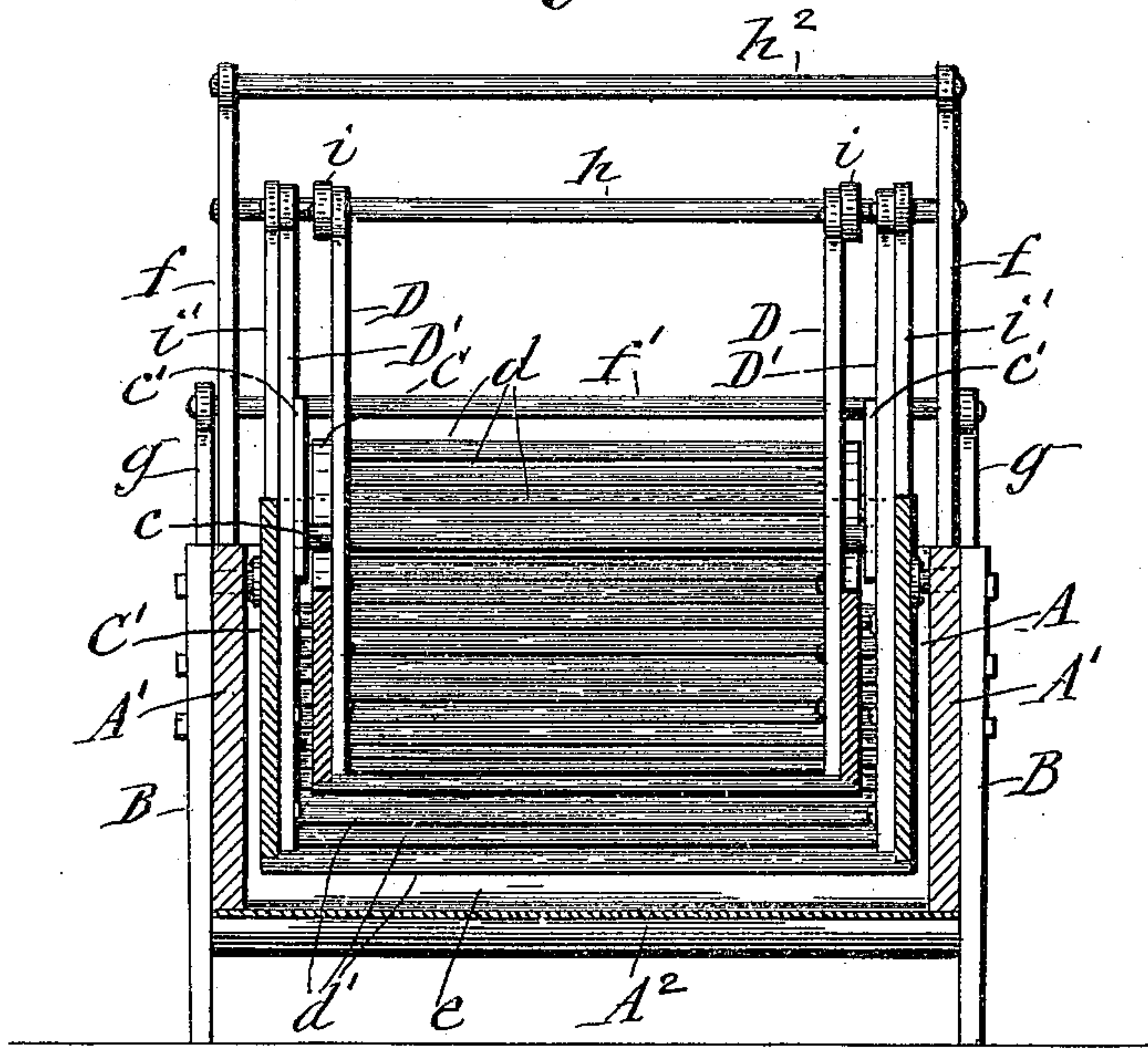


Fig. 4

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UNITED STATES PATENT OFFICE.

WILLIAM E. BROWN, OF ELBRIDGE, NEW YORK.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 617,850, dated January 17, 1899.

Application filed March 14, 1898. Serial No. 673,729. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. BROWN, of Elbridge, in the county of Onondaga, in the State of New York, have invented new and
5 useful Improvements in Washing-Machines, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to the class of washing-machines which are equipped with two reversely-oscillating semicylindrical rubbers arranged one within the other and receiving
10 between them the clothes to be washed.

The invention consists in novel devices for
15 imparting the requisite oscillatory motion to the rubbers, which devices are operated by a person standing at the center of the end of the machine and thus in a convenient position for operating the machine, and in said
20 operation the arms of the operator move only in a small arc of a circle and apply the power direct and with great efficiency to the actuating devices, and consequently the operation of the machine is greatly facilitated.

In the annexed drawings, Figure 1 is a side
25 view of a washing-machine embodying my invention. Fig. 2 is a vertical longitudinal section through the center of said machine without the wringer and with the tub-bench
30 folded back from its projecting operative position. Fig. 3 is a vertical transverse section on line X X in Fig. 1, and Fig. 4 is an elevation of the end of the vat to which the tub-bench is connected.

35 Similar letters of reference indicate corresponding parts.

A represents the vat in which the washing is to be effected. This vat is of semicylindrical shape and preferably formed of semicircular sides A', to the peripheral edges of
40 which is fastened the correspondingly-curved sheet-metal bottom A². Said vat is supported by means of a suitable frame, preferably consisting of inclined legs B B, fastened to the
45 exteriors of the sides A'.

C C' represent the two semicylindrical rubbers, which are arranged one within the other and adapted to receive between them the clothes to be washed, as shown at s. The
50 sides of the outer rubber C' are provided at the centers of their top portions with trunnions a, by which said rubber is hung in

notches a' in the top edges of the sides A' of the vat, which notches allow said rubber to be lifted out of the vat when desired. The
55 inner rubber C is pivoted to the outer rubber C' by means of a cross-bar c, passing through the center of the upper part of said inner rubber and inserted at its ends into vertically-grooved blocks c' on arms D' D', attached to
60 the outer rubber. The grooves of said blocks allow the inner rubber to accommodate itself to varying bulks of clothes interposed between it and the outer rubber, and the upper ends of the grooves are open to allow the in-
65 ner rubber to be removed when required for introducing and removing the clothes into and from between the two rubbers, the rubbing-surfaces of which are formed of bars d d', preferably cylindrically-shaped and rigidly
70 attached at their ends to the peripheral edges of the side plates of the rubbers.

In order to allow the suds to freely circulate in the vat and to effectually permeate the clothes in the process of washing the same
75 and thus enhance the efficiency of the machine, I support the outer rubber C' in such a position as to cause the rubbing-face thereof to be carried sufficiently remote from the bottom of the interior of the vat to form un-
80 der said rubbing-face a compartment e for collecting the sediments of the suds. To allow these sediments to freely precipitate to said compartment, I place the bars d' d' of the outer rubber C' sufficient distances apart
85 to form openings between them for the passage of the suds. Inasmuch as the rubbing-face of the outer rubber is parallel with the curvature of the bottom of the vat the oscillation of said rubber causes the suds to be more
90 uniformly agitated over said bottom and to be more effectually forced through the clothes in the process of washing the same.

For imparting the required reversely-oscillating motions to the two rubbers I employ
95 my improved simple and efficient mechanism, consisting of oscillatory levers f, fulcrumed intermediate their ends on a cross-bar f', which is attached to and ties together the free ends of posts or braces g, which are rigidly
100 attached to the sides A' of the vat A and preferably extended from one end thereof. Said levers are rigidly tied together by transverse rails h h', attached to the ends of the

levers and serving to maintain said levers parallel and form therewith a properly-braced rectangular frame. The lower rail h' is connected by pitmen $i' i'$ to the free ends of the arms $D' D'$, fastened to the side plates of the outer rubber C' , while the upper rail h is connected in a similar manner by pitmen $i i$ to the free ends of arms $D D$, attached to the side plates of the inner rubber C . An additional transverse rail h^2 may be attached to upward extensions of the levers f to serve as handles for operating the machine.

By attaching the arms D and D' centrally across the side plates of the rubbers said plates are strengthened and the arms obtain firm holds thereon, and by extending said arms directly and radially from the plates and connecting the free ends of the arms by the pitmen i and i' directly to the pivoted levers $f f$, which are framed together, as described and shown, I obtain a very strong, durable, and effective mechanism for operating the machine.

I represents a bar or board secured transversely to one end of the vat for the purpose of supporting a clothes-wringer J , as shown in Fig. 1 of the drawings.

In order to convey back into the vat the liquid wrung from the clothes, I provide a suitable conductor l , leading from under the wringer J to the vat. To prevent the said wringer from interfering with the oscillation of the rubber C' , I place the supporting-bar I beyond the end of the vat proper and form the conductor l by deflecting the end portion of the metallic bottom of the vat outward and upward, as shown at l' , and attach the wringer-supporting bar I to the inner side of the upwardly-extending end portion of the deflection l' , as more clearly shown in Fig. 2 of the drawings. Beneath this deflected end of the vat I place a bench for supporting a tub

t or other suitable receptacle for receiving the wrung clothes from the wringer J . Said bench is composed of bars n , which are each provided in one end portion with a longitudinal slot n' , through which passes a horizontal rail or rod o , extending across the machine beneath the aforesaid end of the vat and secured to the legs $B B$ thereat. The free ends of said bars are tied to each other by a transverse rail or rod o' , on which are hung two props r , which are connected together by a transverse rail r' to brace said props. Said bench can be folded from its horizontal supporting position back to a retired position under the end portion of the vat, as represented in Fig. 2 of the drawings, by pushing the bars n endwise toward the vat A and at the same time raising the outer ends of said bars and swinging them back against the end of the vat. When the bench is thus folded and the wringer removed from the bar I , the machine is in a compact condition for storing or transporting it.

What I claim is—

In combination with the semicylindrical vat, oscillatory rubbers, arms $D D'$ extending upward from the sides of said rubbers, and posts extending from the sides of one end of said vat, the cross-bar f' tying together the free ends of said posts, the oscillatory levers $f f$, mounted intermediate their ends on said cross-bar, the transverse rails h and h' tying together the ends of said levers and bracing the same to form a rectangular frame therewith and the pitmen i and i' connected respectively to the rails h and h' substantially as described and shown.

WILLIAM E. BROWN.

Witnesses:

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C. B. SMITH.