

No. 750,354.

PATENTED JAN. 26, 1904.

C. S. FOWLER & F. C. WETZLER.

MOP WRINGER.

APPLICATION FILED JUNE 29, 1903.

NO MODEL.

3 SHEETS—SHEET 1.

Fig. 2 -

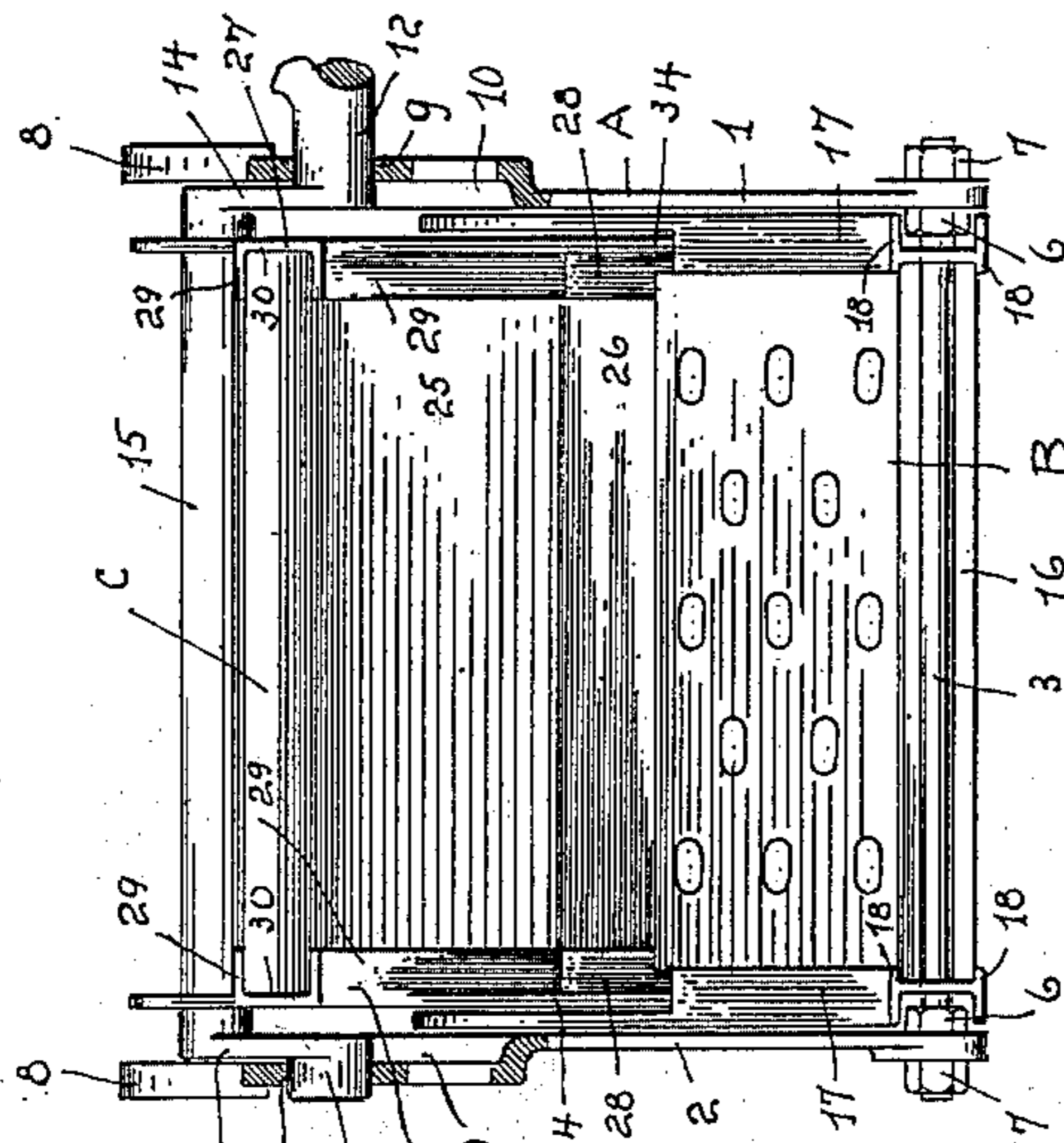
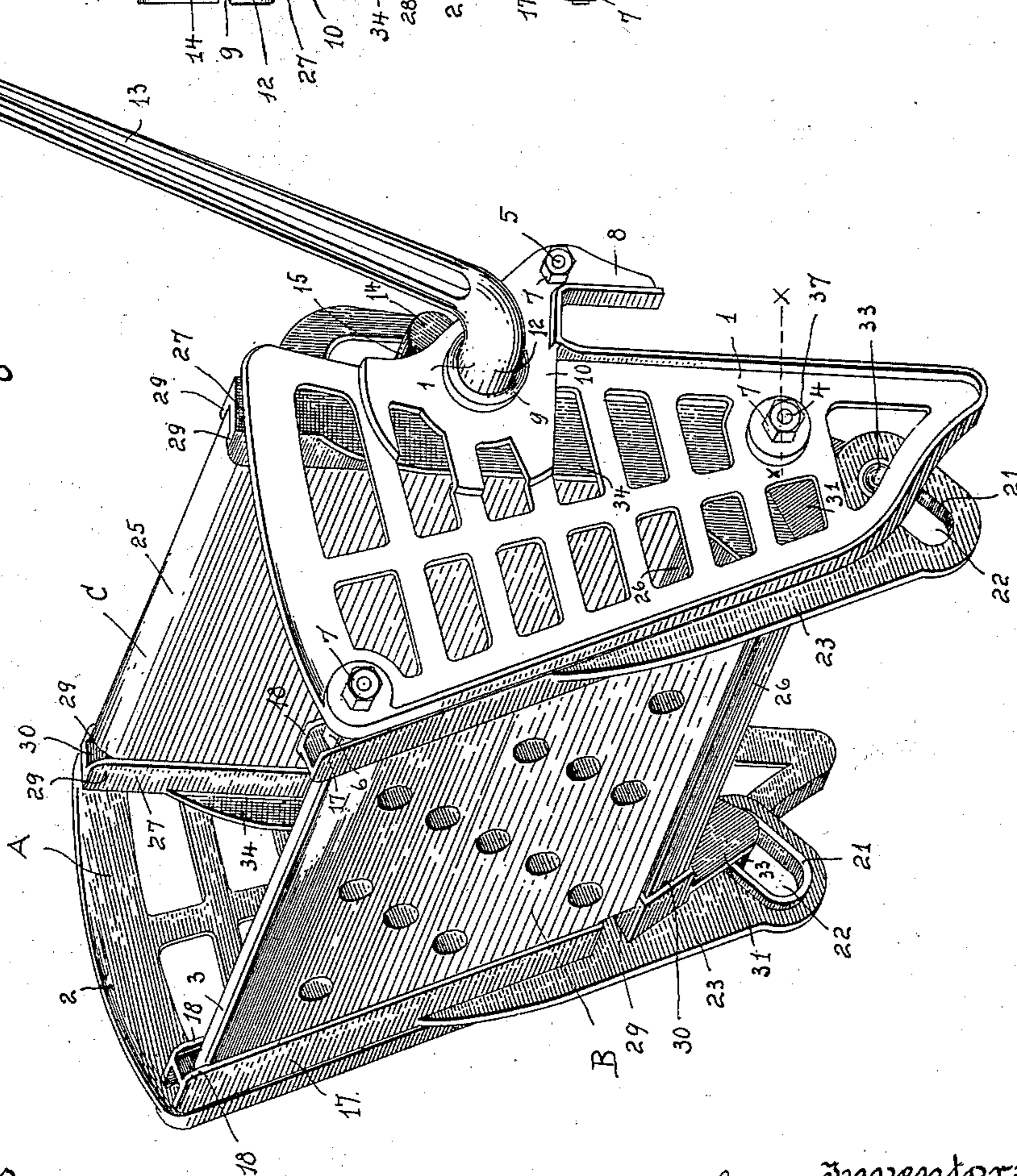


Fig. 1 -



witnesses -
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3 SHEETS—SHEET 3.

Fig. 9—

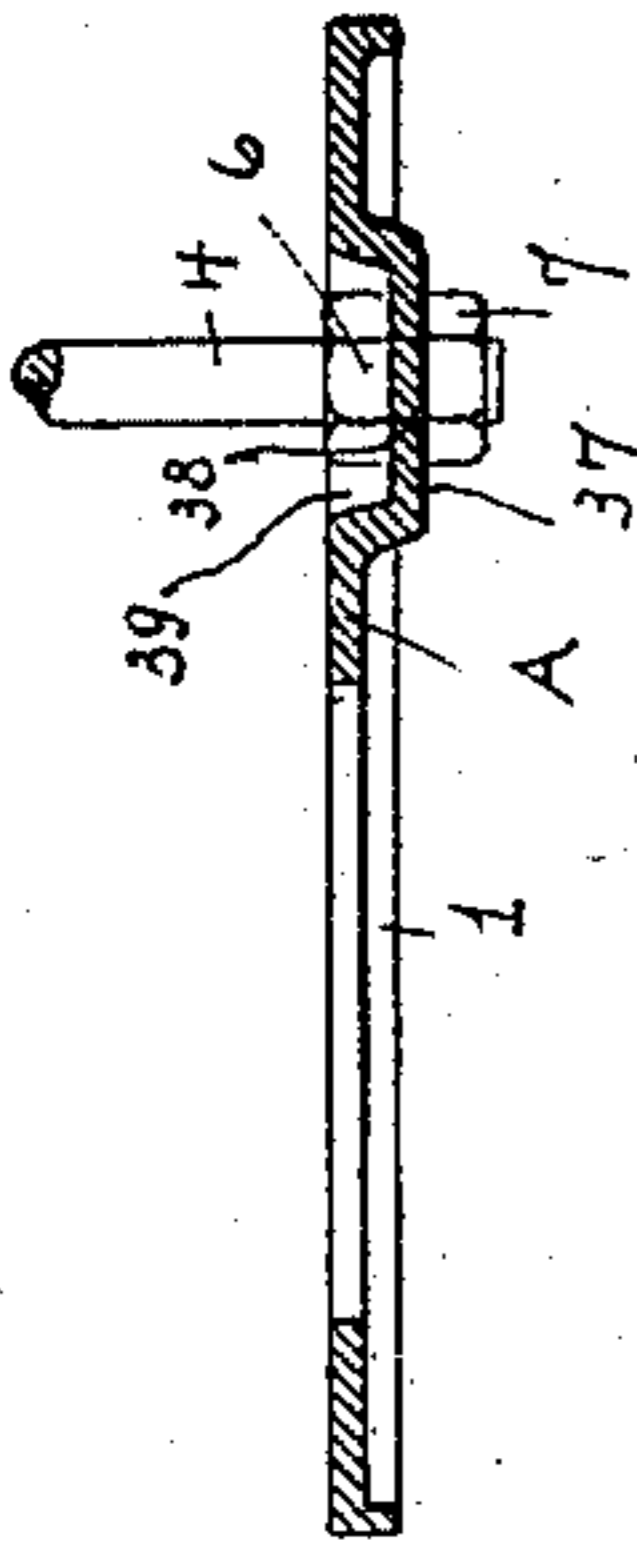


Fig. 8—

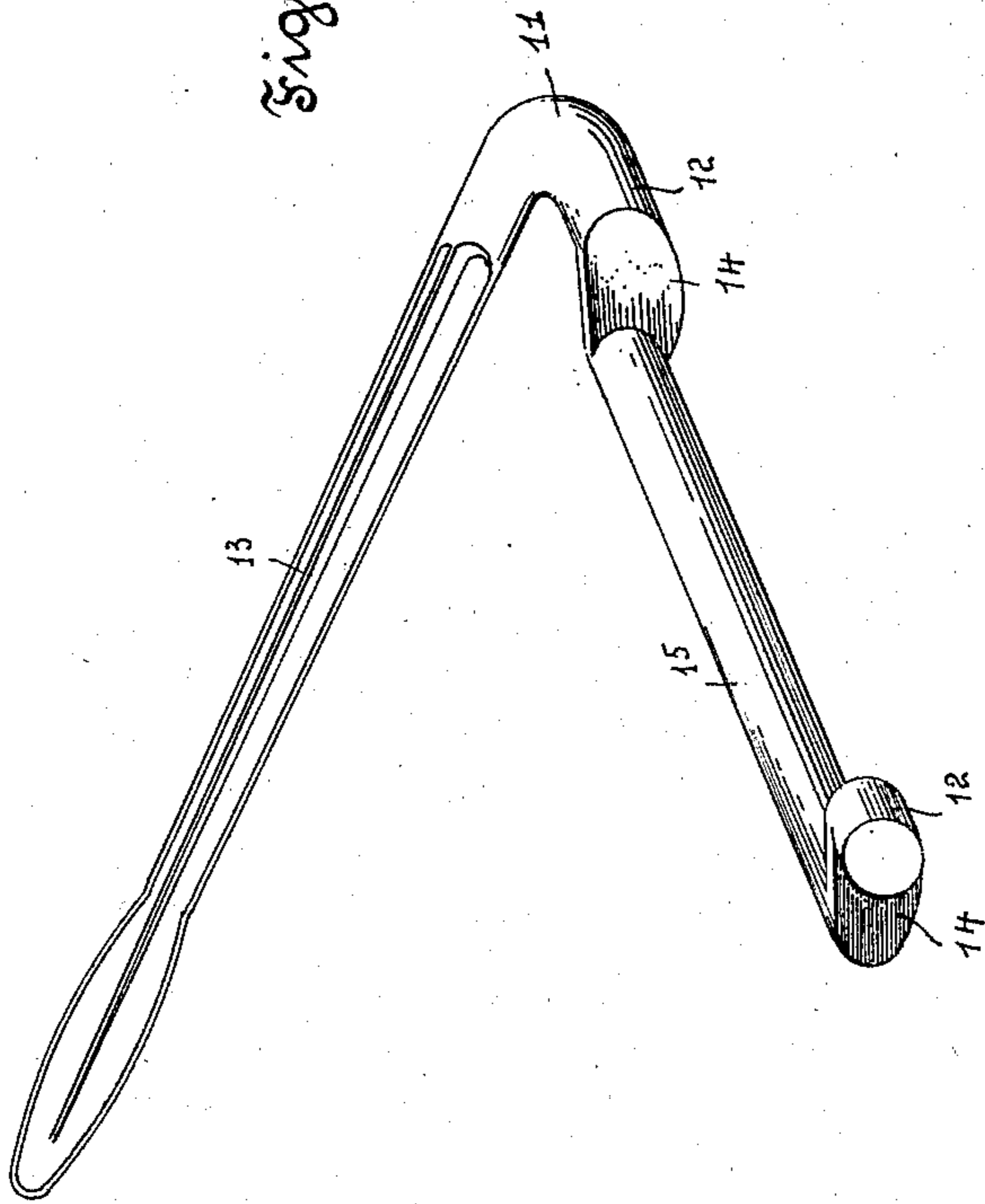
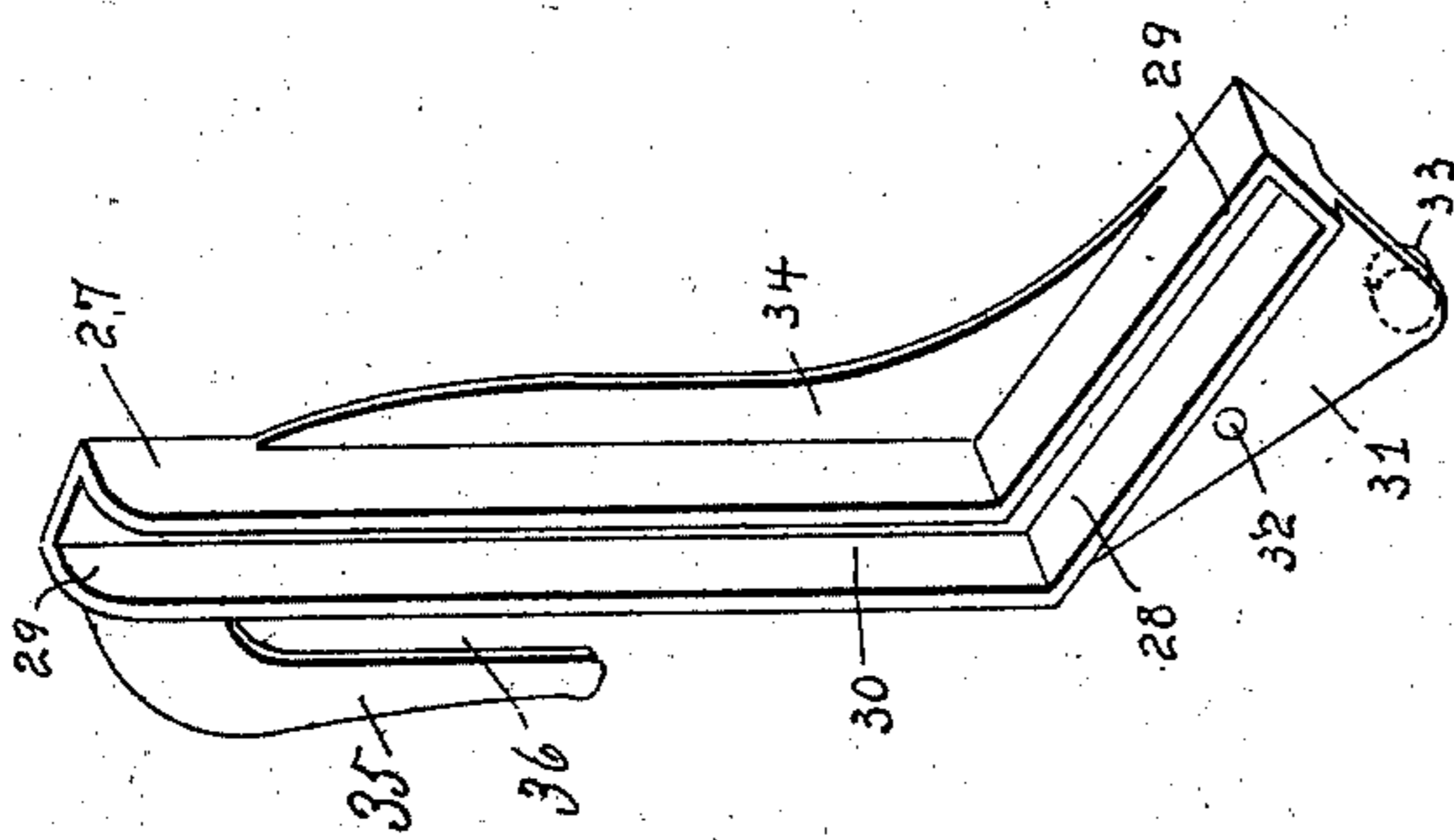


Fig. 2.



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UNITED STATES PATENT OFFICE.

CHARLES S. FOWLER AND FRANK C. WETZLER, OF TOLEDO, OHIO.

MOP-WRINGER.

SPECIFICATION forming part of Letters Patent No. 750,354, dated January 26, 1904.

Application filed June 29, 1903. Serial No. 163,516. (No model.)

To all whom it may concern:

Be it known that we, CHARLES S. FOWLER and FRANK C. WETZLER, citizens of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented a new and useful Improvement in Mop-Wringers, of which the following is a specification.

Our invention relates to a mop-wringer, and has for its object to provide a strong, durable, and efficient device of the kind of simple construction which may be readily attached to the rim of a bucket or other vessel and by which a powerful pressure may be evenly exerted upon a saturated mop-head to express the water therefrom into the vessel.

The objects of our invention are accomplished as hereinafter described, and illustrated in the drawings, in which—

Figure 1 is an isometric view of our invention. Fig. 2 is a top plan view of the same. Fig. 3 is a transverse vertical section through our mop-wringer, showing the pressure-boards opened to receive a mop. Fig. 4 is also a transverse vertical section showing the pressure-boards in position when closed upon a mop. Fig. 5 is a side elevation of one of the arms of the front pressure-board. Fig. 6 is a detail of a front upper corner of the frame, showing a front edge view of a side plate and a part section through the front pressure-frame hinged thereto. Fig. 7 is an isometric view of an arm of the rear pressure-board. Fig. 8 is an isometric view of the cam-rod and operating-handle, and Fig. 9 is a section through a side plate on line X-x of Fig. 1.

The frame A of our mop-wringer is formed of the oblong latticed side plates 1 and 2, which are formed broad and arched at the top and narrowed toward the lower end, and the cross-rods 3, 4, and 5, and as a preferred manner of connecting the side plates to the ends of the rods the rods are threaded at their ends to receive nuts 6 and 7, between which the plates are compressed and held rigidly in position. From the rear edge of each side plate a hook 8 is extended outward and downward and so arranged that when the frame is inserted within a bucket or other suitable vessel the hooks will engage the rim of the vessel and hold it in position, with the main

portions of the sides extending downward therein. The apertures in the side plates through which the rods 3 and 4 are inserted are so located that those rods operate as pivots for the pressure-boards. The rod 5 rigidly connects the hooks 8 of the side plates. Each side plate is provided with a bearing 9, and the bearings are arranged opposite to each other in outwardly-dished portions 10, so located in the sides that the bearings are above the hooks 8 and a short distance inward from the back edges of the side plates. In the bearing 9 is journaled the pressure-rod 11, having the portion between the bearings formed crankwise to the journal portions and an extension of one of the journal portions bent at right angles thereto to form the operating-lever 13, as shown in Fig. 8. The crank portion of the pressure-rod between the bearings is provided with the flattened cranks 14 and their connection 15, which latter is of a length to locate the cranks 14 within the recessed portions 10 of the side plates, which are of sufficient area and depth to allow the free movement of the cranks 14 therein through the arcs they describe. Within the frame thus constructed are pivotally mounted the coacting pressure-frames B and C, which are respectively constructed as hereinafter described.

Frame B comprises the perforated front pressure-board 16 and the arms 17, having inwardly-turned flanges 18 running parallel and forming sockets or channels 19 to receive the ends of the board, to which the arms are secured by nails or screws 20, inserted through suitable perforations in the arms and driven or run into the ends of the board. The arms 17 extend below the lower edge of the pressure-board 16 and at their lower ends are provided with the inwardly and upwardly inclined bosses 21, which have formed therein the elongated slots 22 of like inclination. Arms 17 are also provided with the reinforcing-ribs 23, which extend from the bosses upward along the outer edges of the arms toward the top ends of the arms. The upper ends of the arms 17 are also extended above the upper edge of the pressure-board 16 and oppositely there-through. The upper extensions are provided

with the perforations 24 to receive the cross-rod 3 of the frame A, upon which they are pivotally mounted, the pressure-frame B thus constructed being of a width to locate the arms 17 adjacent to the inner faces of the side plates 1 and 2 and swing between them.

Frame C comprises the imperforated pressure-board 25, the bottom board 26, and the arms 27, which latter have lower end portions 28, obtusely angled inward and downward therefrom. Along the inner faces of the arms 27 and their angled lower end portions 28 are provided inwardly-projecting parallel flanges 29, forming the angled sockets or channels 30 to receive the ends of the pressure-board 25 and of the bottom board 26, as shown in Figs. 3 and 4, to which the arms 27 and their angled lower portions 28 are respectively secured in like manner as the arms 17 are secured to the pressure-board 16. Below the angled portions 28 are extended the triangular lips 31. Oppositely through the lips 31 are provided the pivot-holes 32, by which the arms 27 are pivoted on cross-rod 4, and the lips 31 of the arms 27 are set inward to pass between the lower ends of the arms 17, and oppositely through the lips are provided the pivot-holes 32, by means of which the arms 27 are pivoted on cross-rod 4. The lips 31 at their lower end portions are each also provided with a pin-follower 33, which projects outwardly into the slot 22 of the adjacent arm 17, whereby the frames B and C are so connected that when the frame C is moved inward at the top the frame B is also drawn inward by the pins as the portion of the bottom board 26 below the rod 4 is moved downward and outward, and thereby bringing the frames B and C at the limit of their inward movement into the parallel and closed position shown in Fig. 4, and, vice versa, when the frame C is moved outward at the top the frame B is swung outward at the bottom. The arms 27 are also provided with the reinforcing-ribs 34, extending flush with their outer faces upward from the angled lower portions 28 along their inner edges toward their tops. Arms 27 are also provided at their back edges near their tops with the hooks 35, projecting outward and downward, with their inner faces parallel with the back edges of the arms and extending over the connection 15 of the cranks 14 of the pressure-rod, forming, with the arms, a slot 36, within which the crank-rod 15 travels through the arc of its movement as the lever 13 is thrown forward and backward, thereby moving the frame C forward and backward as the lever is moved, the frame C also moving the frame B reversely to the frame C, as described. By locating the cranks 14 in the recesses 10 the arms 27 pass freely between the cranks when the frame C is moved outward to the position shown in Figs. 1 and 3. In order that the frames B and C may move closely but freely between the side plates, the latter

are provided with the outwardly-projecting bosses 37, through which are formed the orifices 38 for the cross-rod 4, and the bosses are recessed from the inner faces of the plates to a depth to receive within them the nuts 6, as shown in Fig. 9. For a like purpose the perforated upper end portions of the arms 17 are provided with recesses 39 to receive the nuts 6 on the cross-rod 3, as shown in Fig. 6. Thus constructed and suspended by the hooks 8 on the rim of a bucket when the lever 13 is thrown backward in the position as shown in Figs. 1 and 3 the pressure-frames B and C are opened outward at the top and bottom, with the pressure-boards and side plates forming a pocket, across the lower end of which extends the bottom board 26, inclined downward toward and underneath the lower edge of the front pressure-board 16. If now a saturated mop-head be dropped into the pocket when the lever 13 is thrown forward, the pressure-board 25 is pushed inward and forward by the crank-rod 15, thereby causing the lower portion of the bottom board 26 to move downward and outward, the front pressure-board 17 to be drawn inward and upward along the bottom board, and the pressure-boards to gradually approach the parallel position shown in Fig. 4. In this movement the power of the lever and the pressure on the mop increase, as in a toggle, as the cranks 14 approach a horizontal position, whereby the mop-head is subjected to a powerful and evenly-distributed pressure to express the water therefrom, which flows back into the bucket through the latticed side plates and the perforated front pressure-board.

In the pressure-rod 11 we have provided a simple and powerful means for actuating the pressure-frames and compressing them on an interposed mop-head, and by the construction and operation of the pivoted coacting pressure-frames of our wringer we obtain a wide pocket into which the mop may be freely inserted and a speedy closing and even parallel pressure of the pressure-frames from top to bottom of the mop-head in an inclined position adapted to drain the expressed water quickly and directly from all parts of the head at the same time and without tendency to force the water upward through the mop from the bottom toward the top.

What we claim to be new is—

1. In a mop-wringer, the combination with a stationary frame comprising side plates secured in parallel position by cross-rods, of co-actingly-connected front and rear pressure-frames inversely pivoted respectively to top and bottom cross-rods and reversely movable laterally between the side plates by the movement of the rear pressure-frame, and means to actuate the rear pressure-frame and thereby move the front pressure-frame oppositely thereto substantially as set forth.

2. In a mop-wringer, the combination with

a stationary frame comprising side plates secured in parallel position by cross-rods and means for rigidly suspending the frame within a vessel by its rim, of front and rear pressure-plates coactingly connected and inversely pivoted to diagonally opposite cross-rods, and reversely movable laterally between the side plates of the stationary frame by the pivotal movement of the rear pressure-plate, and means to actuate the rear pressure-plate and thereby move the front pressure-plate oppositely thereto, substantially as set forth.

3. In a mop-wringer, the combination with a stationary frame comprising side plates secured in parallel position by cross-rods, and means for rigidly suspending the frame within a vessel by its rim, of front and rear pressure-frames coactingly connected and inversely pivoted to diagonally opposite cross-rods, and reversely movable laterally between the side plates of the stationary frame by the pivotal movement of the rear pressure-frame, a rock-shaft pivotally mounted in the stationary frame, and having a double crank engaging the rear frame and adapted to move it pivotally, forward or backward, and thereby move the front pressure-frame reversely thereto, substantially as set forth.

4. The herein-described mop-wringer, comprising a stationary frame formed of side plates secured in parallel position by cross-rods, and having hooked portions for engaging the rim of a vessel and rigidly suspending the frame within the vessel, a rock-shaft journaled in the side plates parallel with the cross-rods and having a double crank extending from side plate to side plate, and a lever for operating the shaft, a front pressure-frame

comprising a perforated pressure-board and arms secured to the ends of the board having slotted lower end extensions, and upper end extensions pivotally mounted on an upper cross-rod of the stationary frame, a rear pressure-frame comprising a pressure-board, a bottom board, and angled arms secured to the ends of the pressure-board and the bottom board, and adapted to hold the bottom board inclined to an obtuse angle from the pressure-board, the arms having oppositely-perforated lip extensions projecting downward from their lower angled portions and hooks projecting rearward and downward over the crank-rod of the shaft from their upper portions, the rear pressure-frame being pivotally mounted by the perforations of the lips on a lower cross-rod of the stationary frame with the pressure-board extending upward between the side plates opposite the front pressure-board and with the bottom board inclined downward beneath the pressure-board of the front pressure-frame, and with the lip extensions of the arms of the rear pressure-frame between the lower extensions of the arms of the front pressure-frame, and projections secured to the lower portions of the lips and extended into the slots of the lower extensions of the arms of the front pressure-frame, substantially as set forth.

In witness whereof we have hereunto set our hands this 18th day of June, A. D. 1903.

CHARLES S. FOWLER.
FRANK C. WETZLER.

Witnesses:

F. S. MACOMBER,
EVA M. WARREN.