

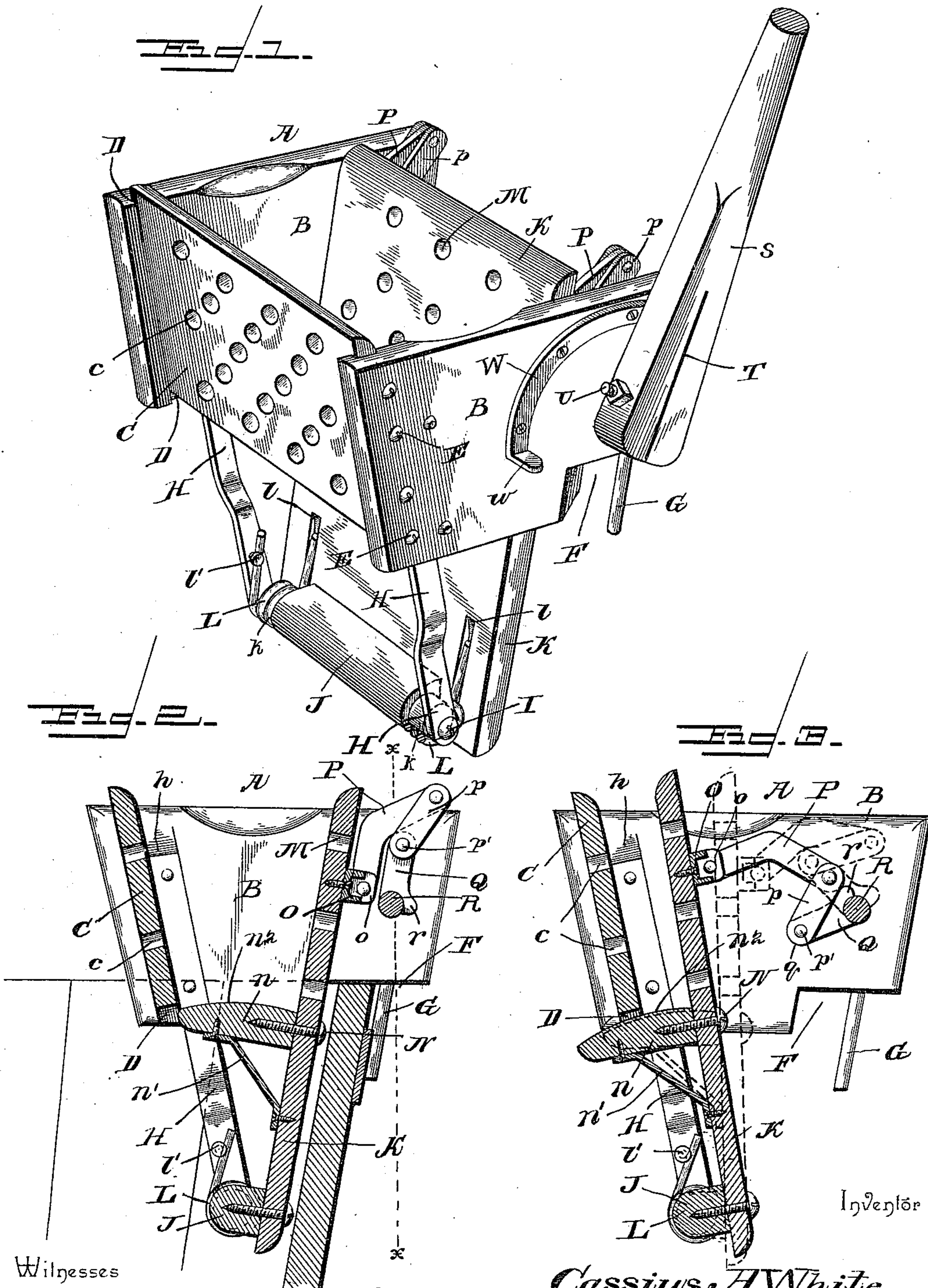
(No Model.)

2 Sheets—Sheet 1.

C. A. WHITE.  
MOP WRINGER.

No. 525,803.

Patented Sept. 11, 1894.



Witnesses

*E. H. Stewart*  
*S. T. Hollander*

By *his* Attorneys.

*Cassius A. White*

*C. A. Snow & Co.*

Inventor



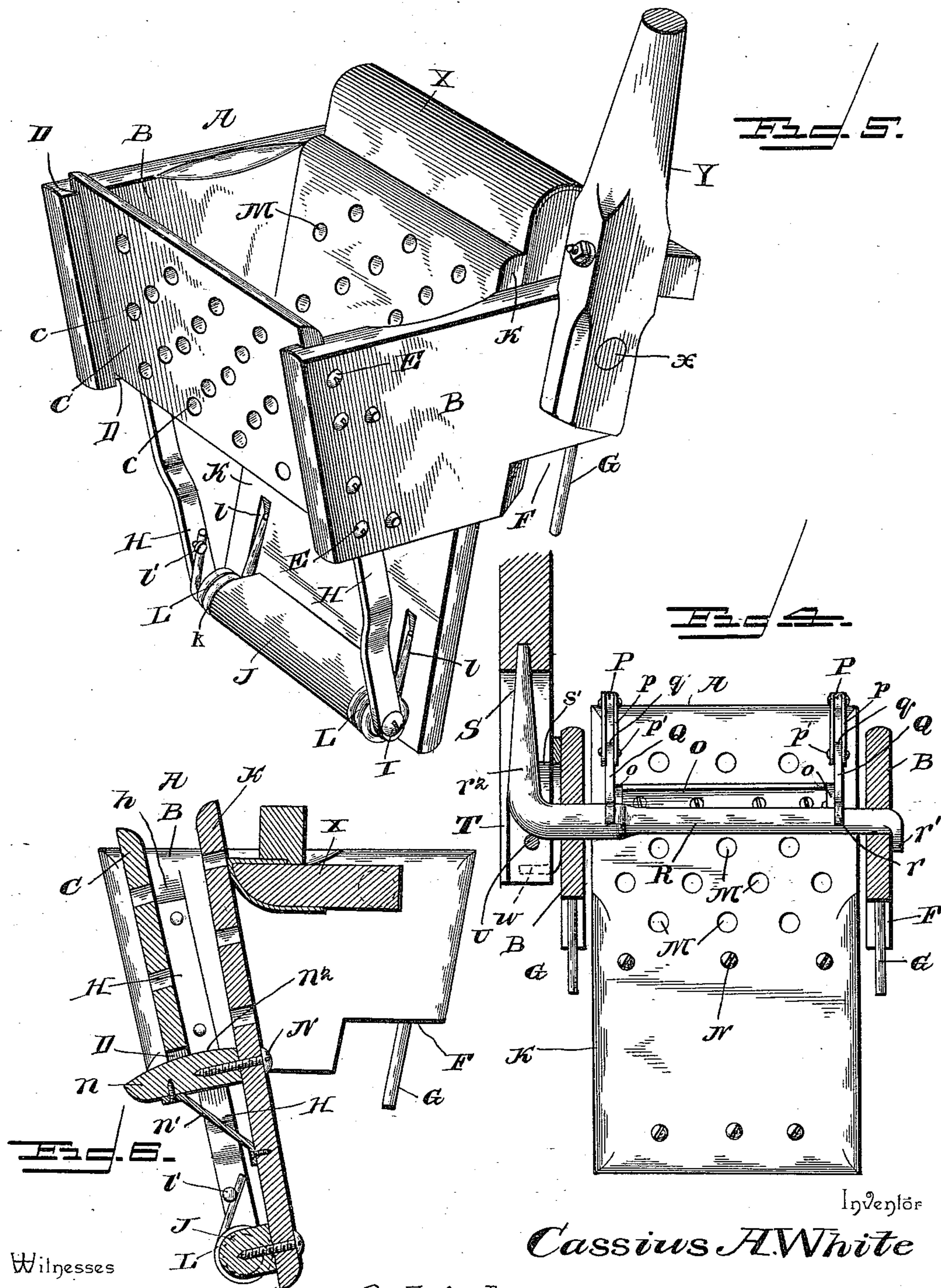
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# UNITED STATES PATENT OFFICE.

CASSIUS A. WHITE, OF JAMAICA, VERMONT.

## MOP-WRINGER.

SPECIFICATION forming part of Letters Patent No. 525,803, dated September 11, 1894.

Application filed March 2, 1894. Serial No. 502,132. (No model.)

*To all whom it may concern:*

Be it known that I, CASSIUS A. WHITE, a citizen of the United States, residing at Jamaica, in the county of Windham and State of Vermont, have invented a new and useful Mop-Wringer, of which the following is a specification.

This invention relates to mop wringers; and it has for its object to effect certain improvements in that class of mop wringers adapted to be attached to an ordinary pail, and to provide means for relieving the mop of an excess of water before using the same to mop up a surface.

To this end the main and primary object of the present invention is to construct a simple, inexpensive and efficient mop wringer, which can be readily attached to and detached from a pail, while at the same time providing novel and efficient means for thoroughly and effectively wringing a mop.

With these and other objects in view which will readily appear as the nature of the invention is better understood, the same consists in the novel combination, construction, and arrangement of parts hereinafter more fully described, illustrated and claimed.

In the drawings:—Figure 1 is a perspective view of an improved mop wringer constructed in accordance with this invention. Fig. 2 is a central vertical longitudinal sectional view, of the wringer attached to a pail and in its open position. Fig. 3 is a similar view of the wringer unattached and showing in full lines the movable press board or plate closed, and showing in dotted lines the several positions of the leverage devices between the open and closed positions of the movable press-board or plate. Fig. 4 is a vertical sectional view on the line  $x-x$  of Fig. 2. Fig. 5 is a perspective view of the wringer provided with a simplified or modified form of operating device. Fig. 6 is a central vertical sectional view of the construction shown in Fig. 5, with the wringer closed.

Referring to the accompanying drawings, A represents a stationary press frame consisting of the opposite imperforate side walls, and the perforated stationary press board C, connecting one end of said side walls. The side walls B, of the stationary press frame are

provided in their inner faces near one end with the inclined grooves D, adapted to receive the opposite side edges of the stationary press board C, which is securely held between the said side walls by means of screws E, or other suitable fastening devices, and said side walls B, are provided in their lower edges with the pail notches F, leading from the unconnected ends of the side walls, and at a point near the unconnected extremities are arranged the metallic pail pins G, fitted at one end into the lower edges of the opposite side walls B, and projecting therebelow, said pins being adapted to engage at one side of the upper edge of the pail when the wringer is placed in position on the pail with the notches F, embracing the upper edges thereof.

The stationary press board C, is provided with any number of perforations  $c$ , therein, to allow the water from the mop to run back into the pail, and extended below the said stationary press board are the opposite frame legs or arms H. The opposite frame legs or arms H, are made of suitable length metal straps, and are securely riveted or bolted at their upper ends to the inner sides of the opposite side walls B, directly at one side of the stationary press board C, and the upper attached ends of said frame legs are preferably fitted in the grooves  $h$ , formed in the side walls for their reception, so as to leave no projecting edges. The lower extremities of the opposite depending frame legs are perforated to receive the pivot screws I, working therein and engaging the opposite ends of the turning pivot block J, securely fastened to the movable presser board or plate K, and at one side of the same.

The opposite extremities of the turning pivot block J, are preferably reduced as at  $k$ , to receive the spring coils, L, thereon, one extremity of the opposite spring coils fitting in the grooves  $l$ , formed in one side of the board or plate K, near its lower end, while the other extremities of said coils engage at one side of the holding studs  $l'$ , projected from the inner sides of the legs H, near their lower ends. By reason of the normal tension of the spring coils the upwardly disposed ends or arms thereof naturally tend to spring away from



each other, and this tension serves to normally hold the movable presser board or plate K, away from the stationary board or plate C.

The movable presser board K, works within the stationary press frame between the opposite imperforate side walls and at one side of the stationary press board, and the upper half or portion of the movable press board, corresponding to the width of the board C, is provided with a number of drain openings or perforations M, which also allow a free egress for the water from the mop being wrung, and securely attached by the screws or other fastening devices N. To one side of the movable presser board or plate is the solid or imperforate bottom board *n*. The imperforate bottom board *n*, which is projected from one side of the movable board K, below the line of its perforations, is of a width sufficient to close in the space between the lower edge of the board C and the board K, when the latter is in its normal spring-opened position, and said board is securely braced in its projected position by means of the brace iron or strap *n'*, secured to the under side of said bottom board and to the movable presser board K. The said imperforate bottom board *n*, is provided with a beveled or inclined top face *n*<sup>2</sup>, which serves to direct the water toward the center of the pail and prevent it from running out over the edge of the pail when the mop is being wrung, and it is to be observed that the imperforate bottom board is located in a plane slightly below the lower edge of the board C, so as to freely pass thereunder when the movable presser board is moved toward the stationary board.

The movable presser board or plate has attached to the outer side thereof near its upper end the transverse ear plate O, extending nearly the entire width of said movable presser board, and provided at its opposite extremities with the perforated ears *o*, to which are pivotally connected the inner ends of the bell crank lever arms P. The bell crank lever arms P, have their angles disposed upwardly, and have pivotally connected to their outer ends or extremities one end of a pair of connecting links *p*, the other ends of which are pivotally connected at *p'*, to the outer ends of the rock arms Q, the outer ends of which are rounded as at *q*, to fit in the curved angles of the bell crank lever arms P. The rock arms Q, are projected from the transverse operating rock shaft R, near the opposite ends thereof, and at the inner ends of said rock arms are projected the rounded shaft lugs *r*, which are adapted to ride against the outer rounded ends of the bell crank lever arms P, just before the movable presser board or plate has reached its inward limit of movement.

The operating rock shaft R, is journaled transversely of the stationary press frame in the unconnected ends of the imperforate side walls and is provided at one end with the retaining flange *r'*, which prevents the spread-

ing apart of said unconnected ends of the imperforate side walls, and at its opposite end the said shaft is provided with a right-angulantly disposed tapered pin *r*<sup>2</sup> adapted to removably fit into a correspondingly shaped socket S, formed in the lower end of the handle lever *s*. The said lower end of the handle lever *s*, is further provided therein and at one side with the shaft notch *s'*, which embraces the horizontal portion of the shaft. A longitudinally disposed kerf or slit T, extends into the inner socketed end of the handle lever to form separate clamping jaws, and a bolt U, is adapted to pass transversely through the handle lever below the horizontal portion of the shaft to removably clamp the lever in position thereon as will be readily understood. The handle lever *s* is adapted to play between the flanged stops W, turned out from the opposite extremities of the curved stop plates *w*, secured to one side of the stationary press frame and providing means for limiting the opening and closing of the movable presser board or plate.

In operation, the wet mop is placed into the stationary press frame between the stationary and movable boards thereof, and by grasping the handle lever and moving the same toward the stationary press board, the movable press board, through the medium of the lever connections, will be moved with great force toward the stationary board so as to thoroughly wring out the mop as completely as desired, and by reason of the specific connections described, the movable presser board will gather a mop faster on the first half of the sweep of the handle lever, and slower and more powerfully on the last half, thereby giving increased pressure on the mop and less required force to be exerted on the handle lever, and thus providing for suddenly and enormously increasing the leverage at the point where most needed. By reference to the drawings it will be seen that, when first started, the rock arms Q, through the medium of the links *p*, pull directly down on the outer extremities of the bell crank lever arms, and after passing the half sweep of the handle lever, the said outer ends of the bell crank lever arms will have been brought into contact with the projected shaft lugs *r*. A continued rotation of the shaft causes these shaft lugs to exert a cam effect on the inner ends of the said lever arms and move the same powerfully toward the inner limit of the movable presser board or plate, whereby the desired leverage will be secured. By releasing the handle lever, the springs L, will move the movable presser board or plate away from the stationary board, and will also elevate the handle lever *s*, and in this movement the round ends of the rock arms Q, strike in the angles of the bell crank lever arms and lift their outer ends away from and above the shaft lugs to the normal position shown in some of the figures of the drawings.

While I have described the preferred man-



ner of operating the removable presser board or plate, it will be obvious that I may advantageously employ other simpler operating devices such as shown in Figs. 5 and 6 of the drawings, in which I have illustrated an eccentrically disposed cam plate X, projected from one side of the shaft  $\alpha$ , journaled in the side walls B, and having a handle lever Y, suitably attached to one end thereof to provide for moving said cam plate against the outer sides of the movable presser board or plate, as is clearly shown in the drawings.

Other changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. In a mop wringer, the combination of a stationary press frame having opposite depending frame legs, a movable presser board or plate arranged to work within said press frame and pivotally connected at its lower end to said frame legs, an imperforate bottom board attached to one side of the movable presser board and adapted to work below and beyond the stationary presser frame, and means for opening and closing the movable presser board or plate, substantially as set forth.

2. In a mop wringer, the combination of a stationary press frame having a perforated press board, opposite depending frame legs secured at their upper ends to the press frame, a movable presser board or plate pivotally connected at its lower end to said frame legs and provided with an upper perforated portion, an imperforate bottom board projecting from one side of the movable board below its perforations and provided with a beveled or inclined top face adapted to work under the stationary press board, and means for opening and closing the movable presser board or plate, substantially as set forth.

3. In a wringer, a stationary press frame consisting of opposite imperforate side walls and a perforated stationary press board connecting one end of said side walls, opposite depending frame legs attached at their upper ends to the frame side walls and provided with lower perforated ends and holding studs projected from their inner sides near such ends, a movable perforated presser board working within the press frame and provided at its lower end and at one side with a turning pivot block having reduced extremities, pivot screws passing through the lower perforated ends of the frame legs into the pivot blocks, opening-springs coiled on the reduced extremities of the pivot block, and having their extremities disposed at one side of said holding studs and against the mov-

able presser board, respectively, and means for moving the movable presser board against the tension of the opening springs, substantially as set forth.

4. In a mop wringer, the combination with the stationary press frame and the movable spring-opened presser board working within said frame; of a transversely arranged operating shaft journaled in the press frame, and jointed lever connections connected with said shaft and the outer side of the movable presser board, substantially as set forth.

5. In a mop wringer, the combination with the stationary press frame and the movable spring-opened presser board working within said frame; of a transversely arranged rock shaft journaled in the press frame, power multiplying lever connections between said shaft and the movable presser board, a handle lever connected to one end of the shaft, and spaced stops arranged at one side of the press frame to limit the movement of the handle lever, substantially as set forth.

6. In a mop wringer, the combination with the stationary press frame having opposite side walls, and the movable spring-opened presser board or plate mounted within said frame, an operating rock shaft journaled in said side walls and provided at one end with a retaining flange outside of one of the side walls, and at its opposite end with a right-angled tapered pin, lever connections between the shaft and the movable board, a handle lever provided in its lower end with a longitudinal kerf and a tapered socket removably receiving the pin of said shaft, a clamping bolt passed through the lower end of the handle lever below the shaft, and a stop plate attached to one side of the press frame and having stop flanges at its extremities, substantially as set forth.

7. In a mop wringer, the combination with the stationary press frame and the movable spring-opened presser board working within the frame; of a transversely arranged operating shaft journaled in the press frame and provided with oppositely disposed rock arms and projected shaft lugs at the inner ends of said rock arms, an ear plate attached transversely to one side of the movable presser board, bell crank lever arms pivotally connected at their inner ends to opposite ends of said ear plate, and connecting links pivotally connected at one end to the outer ends of said bell crank lever arms and at their other ends to the outer extremities of said rock arms, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CASSIUS A. WHITE.

Witnesses:

JOHN C. ROBINSON,  
OLIN N. WARDWELL.