H. BINDER.
Barrel-Washer.

No. 204,288. **Patented May 28, 1878.**

FIG. 1.

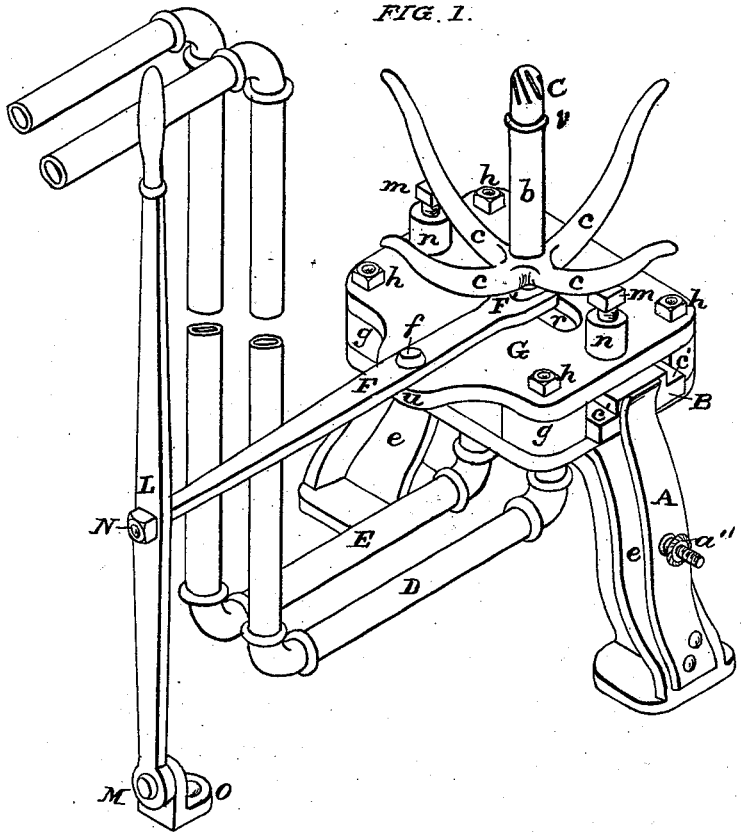
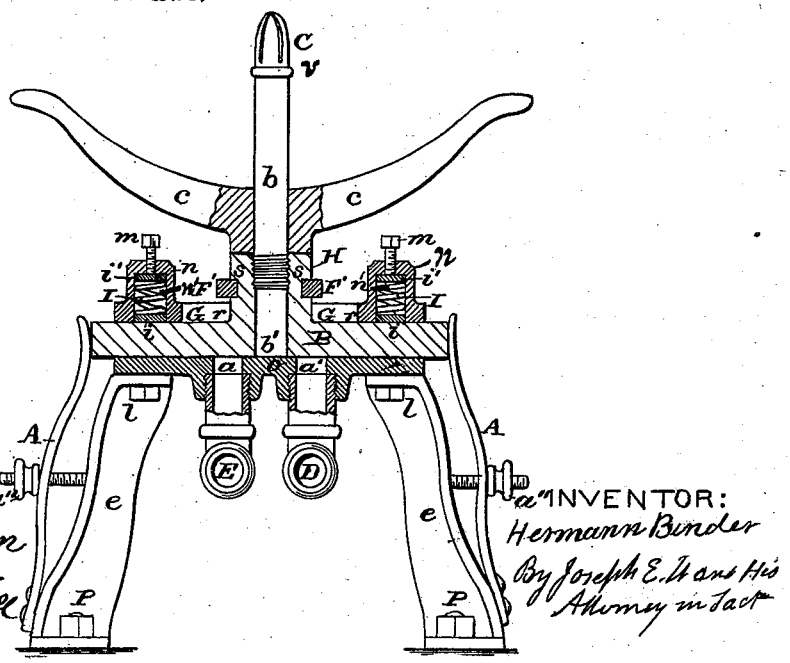


FIG. 2.



ATTEST:
Alex J. Thomson
Thomas E. Price

INVENTOR:
Hermann Binder
By Joseph E. Evans His
Attorney in fact

UNITED STATES PATENT OFFICE.

HERMANN BINDER, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN BARREL-WASHERS.

Specification forming part of Letters Patent No. **204,288**, dated May 28, 1878; application filed April 23, 1878.

To all whom it may concern:

Be it known that I, HERMANN BINDER, of St. Louis, and State of Missouri, have invented certain new and useful Improvements in Barrel-Washers; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to an improvement in the construction of barrel or keg washers, whereby a keg or barrel, when once placed over the nozzle, can be acted upon alternately by sheets or sprays of hot or cold water, to the complete removal of the old pitch coating or any other impurities, dispensing with the necessity for a removal of the barrel to separate stands, as becomes requisite with any other machine within my knowledge. I accomplish the result of combining the alternate discharge into a barrel, by a single handling of the barrel, of hot or cold water through the same nozzle, by so arranging a heating-coil within a tank, which is elevated high enough to give the force needed, or by passing hydrant or pumped water through an externally-heated coil or heater, wherein the water during its passage becomes heated before being forced into the machine and thence into the barrel or keg to be cleaned. The alternation of hot or cold water I produce by the passage of a nozzle-butt, which is inserted in a sliding plate, and which can be moved over the exit-orifices of a pair of supply-pipes, one of which contains hot water, while both sustain a considerable pressure, which delivers the discharge with the force due to the pressure arising from the elevation of the supply-head.

In the accompanying drawing, in which like letters of reference designate corresponding parts, Figure 1 is a perspective view, in which is seen the manner of attaching the machine and its lever-head to the floor. The supply-pipes are also shown, and the operation of the changing-lever, whereby the movement of said lever to the right or left will cause the injection at pleasure into the barrel of hot or cold water. The slit nozzle which enters the barrel through the bung-hole, and the four arms upon which the barrel is supported, are also shown. Fig. 2 is a section, in elevation, transverse to the position shown in Fig. 1.

In specific detail, the springs A are shown as closely bearing against the sliding plate B. By the adjustment of the screws a'' the said sliding plate B is held medially, as referring to the position of the nozzle-butt b' of split nozzle b. The nozzle-butt is formed in the center of the said sliding plate B by boring a suitably-sized hole through boss H, into the threaded part of which the said nozzle-pipe b is inserted, and by the screw-thread is held steadily in place. Into the boss-head H, which is cast upon the upper side of the cap-plate G, is formed the channel S. Into the said channel the fork F′ of the changing-lever F enters, the said lever F being pivoted at f on the projection u on the said cap-plate G. To the upright lever L, which is bolted to the lug M by the floor-bolt O, the said changing-lever F is secured to freely move. The said sliding plate B has its under face so true in conformity with the upper face of the bed-plate o as to form a perfect water-joint. Consequently, when the changing-lever F, by its being moved to the right or to the left, causes the sliding plate B to move the nozzle-butt b' in the slot r of the cap-plate G from its medial position to cover either of the orifices a or a', this coincidence of the openings violently injects either hot or cold water into the nozzle-pipe b, and, *via* its slits, into the barrel or keg. Thus, when the barrel, with its bung-hole receiving the nozzle-pipe, is lowered to the seat formed by the arms C, a right or left hand movement of the lever L causes, first, the hot-water outflow from the left-hand pipe, and, second, the cold-water outflow from the right-hand pipe, the water being injected in unbroken sheets through the slits of the nozzle C with great intensity and deterging effect. The swinging around of the barrel upon the axis of the arm-seat c causes all interior parts of the barrel to come alike within the purifying action of the water-sheet. Thirty-five to forty brewery barrels or kegs per hour can have their pitch and impurities entirely removed in this way. The arms c swing freely round the axis formed by the

nozzle-pipe *b* and the boss-head H. The springs I are provided to properly restrain the water in the pipes E D, the spring-pressure being adjusted not to impede the springs A in their medial adjustment of said sliding plate. The springs I and follower-plates *i' i'* are set in chambers *w'* within the nipples *u*, as shown, and receive the compressive force of the set-screws *m*. At the same time the general pressure upon the sliding plate should be well considered, to facilitate their quick action. The said bed-plate *o* is securely bolted to the legs *e* by the bolts *l*, and by the bolts P, the said legs *e* are bolted to the floor or to a platform. The supply-pipes E D are entered into bosses raised on the under side of the said bed-plate *o*, and firmly held by screw-threads.

The slit nozzle C I form in brass, and may alternate its use with that of a perforated nozzle, when advisable, the coupling-joint *v* readily allowing such change.

To operate my improved barrel-washer, it is desirable that the supply of water should be copious and the pressure considerable. A movement of the lever L to the left hand supplies hot water to the nozzle, and the diverse movement supplies cold water.

For convenience and economy in manual attendance upon these machines, any desirable number of machines can be worked in gang, and from one changing-lever, one lever man being sufficient therefor, while the barrel men may uninterruptedly attend to the handling of the barrels. The changing of nozzles can take place without cutting off the supply-water.

I do not claim as my invention the swinging arms or the spray-nozzle as constituent parts in machines for barrel-washing.

What I claim is—

1. The combination, in a barrel-washing machine, of the hot and cold water pipes E D, having delivery-openings *a a'* arranged beneath the plate B, the movable nozzle-pipe *b* mounted on said sliding plate B, and having its lower end *b'* adapted to engage alternately with either one of said pipes E D, and the lever F, all as set forth.

2. In a barrel-washer, the combination, with sliding plate B, carrying the nozzle *b*, adapted to engage alternately with the hot or cold water pipes E D, of adjusting-springs A A and the set-screws *a'' a''*, as set forth.

3. In a barrel-washer, the combination, with sliding plate B, pipe *b*, having plain vertical or spiral slits, hot and cold water pipes E D, springs A A, and lever F, of the pressure-springs I I, set in hollow bosses *n n*, and the plunger-screws *m m*, as and for the purposes set forth.

In testimony that I claim the foregoing as my own invention I affix my signature in presence of two witnesses.

HERMANN BINDER.

Witnesses:

JOHN C. GMEINER,

JOSEPH E. WARE.