

(No Model.)

2 Sheets—Sheet 1.

G. A. BIDWELL.
BARREL WASHER.

No. 445,534.

Patented Feb. 3, 1891.

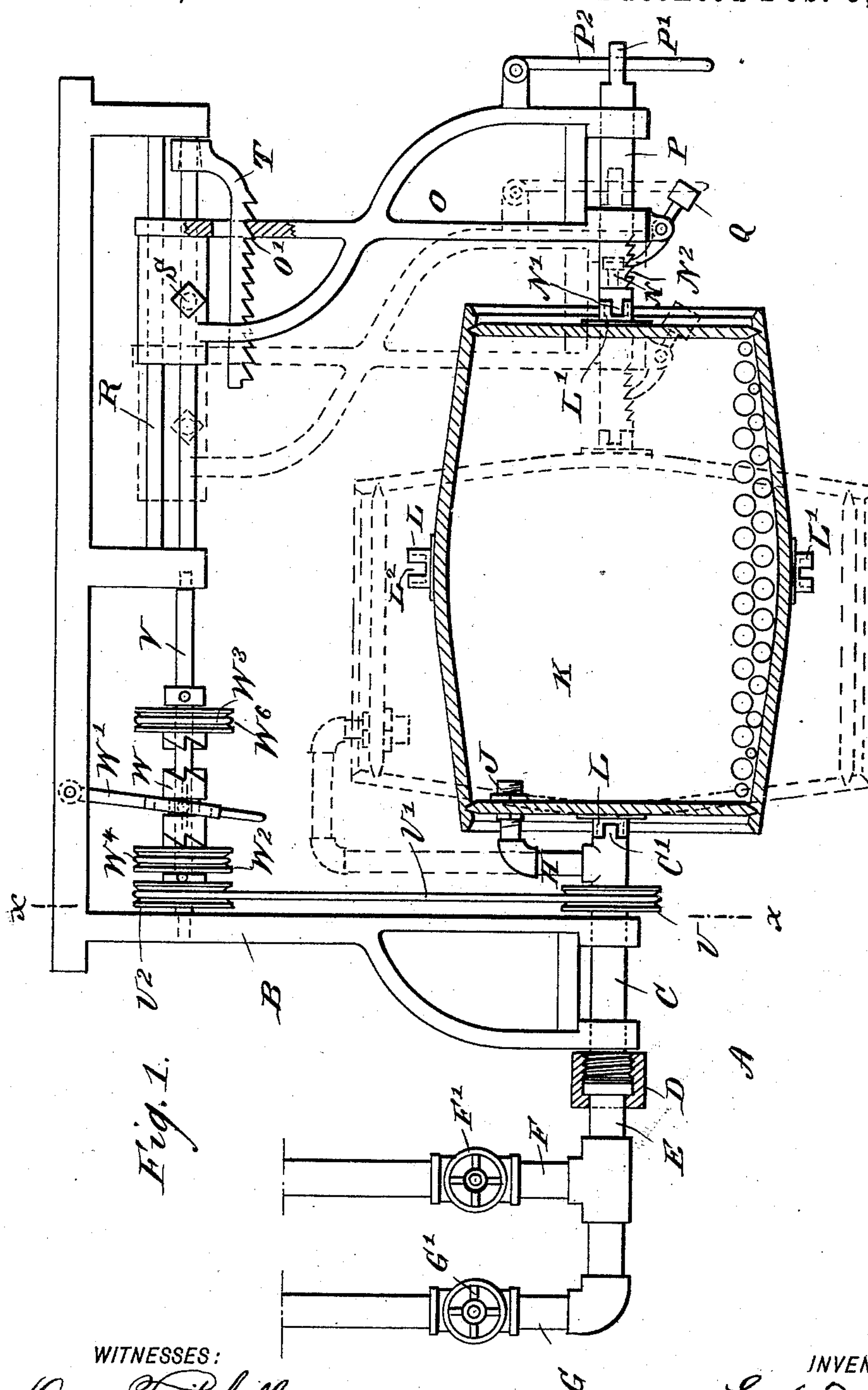


Fig. 1.

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Fig. 2.

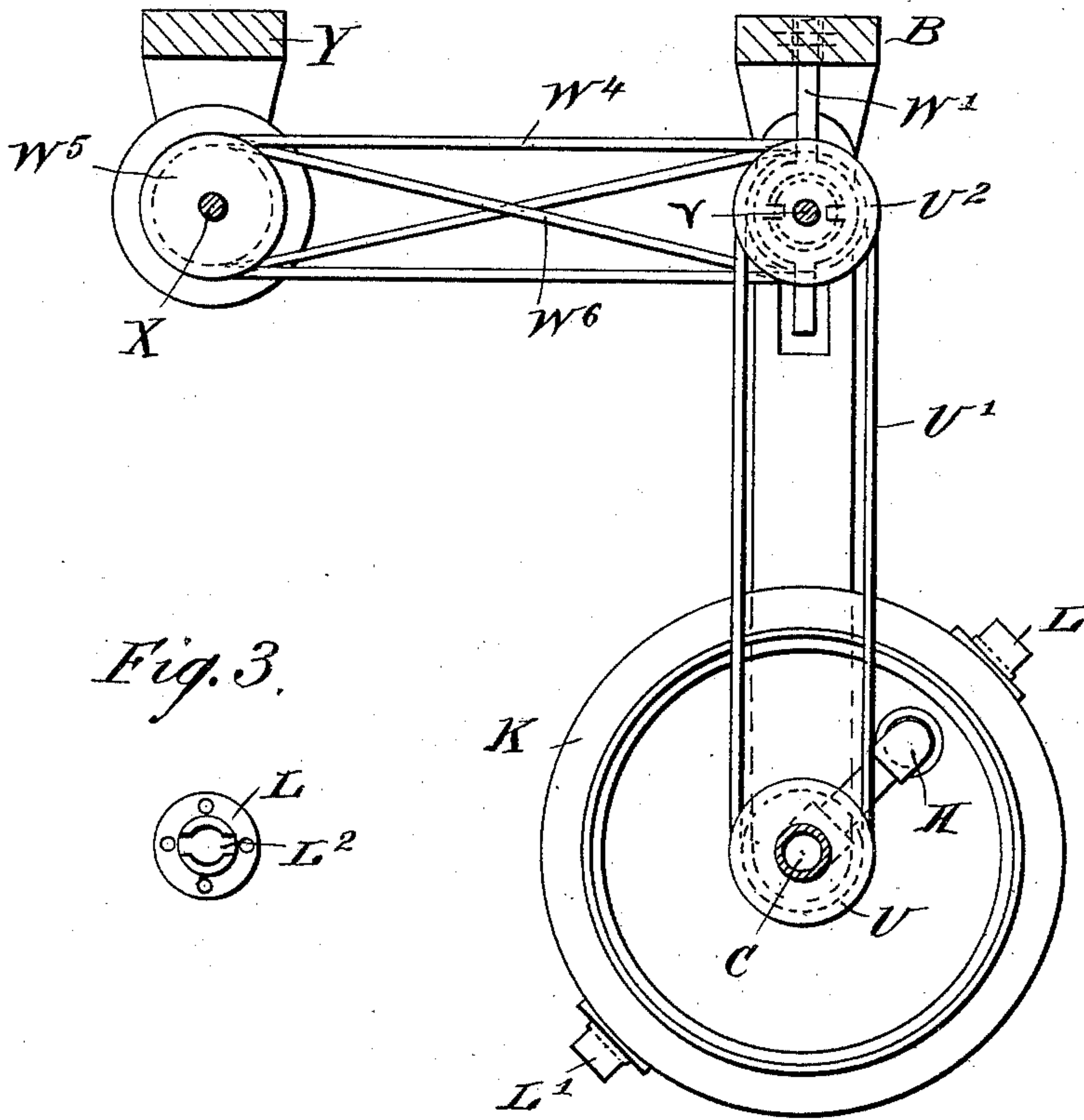
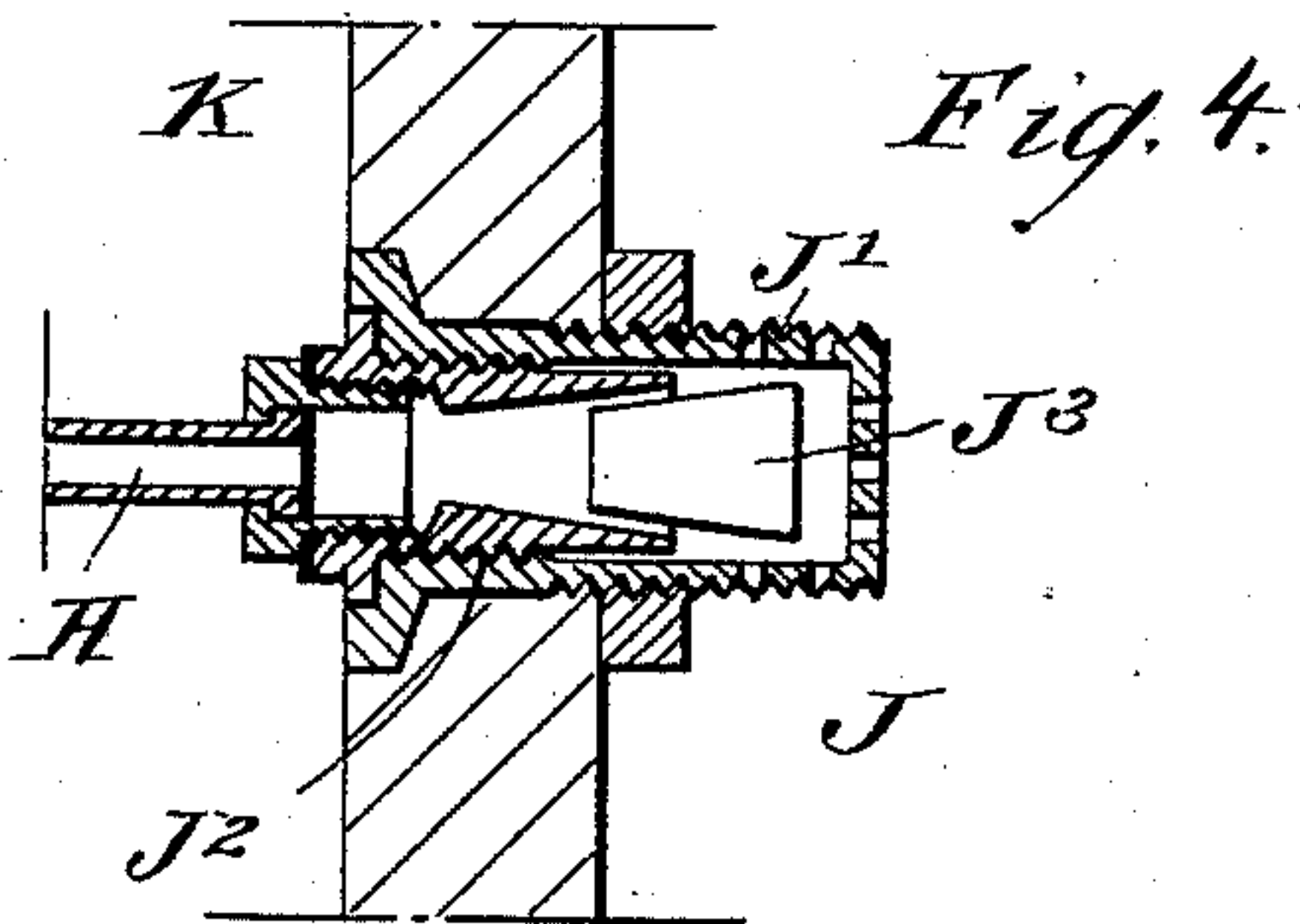
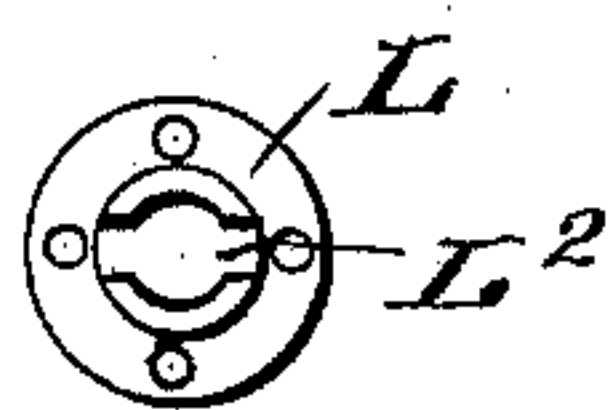


Fig. 3.



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UNITED STATES PATENT OFFICE.

GEORGE A. BIDWELL, OF PITTSFIELD, MASSACHUSETTS.

BARREL-WASHER.

SPECIFICATION forming part of Letters Patent No. 445,534, dated February 3, 1891.

Application filed May 22, 1890. Serial No. 352,723. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. BIDWELL, of Pittsfield, in the county of Berkshire and State of Massachusetts, have invented a new and Improved Barrel-Washer, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved barrel-washing machine which is simple and durable in construction and very effective in operation.

The invention consists of a hollow shaft mounted to rotate and adapted to connect at one end with a steam and water supply and to form at its other end a support for the barrel, a branch pipe leading from the said hollow shaft and adapted to discharge into the barrel, and an adjustable support for the barrel arranged in line with the said shaft.

The invention also consists in certain parts and details and combinations of the same, as will be described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a front view of the improvement with parts in section. Fig. 2 is a transverse section of the same on the line $x-x$ of Fig. 1. Fig. 3 is a face view of one of the barrel-bearings, and Fig. 4 is an enlarged sectional elevation of the barrel-inlet.

The improved barrel-washer is provided with a suitably-constructed frame B, preferably fastened on the ceiling of the building in which the barrels are to be washed. In one end of the frame B is mounted to turn in suitable bearings a hollow shaft C, connected at its outer end by a suitable coupling D with a fixed pipe E, into which open the pipes F and G for supplying the pipe E with steam and water, respectively. The pipes F and G are provided with valves F' and G' for regulating the supply of water and steam passing to the pipe E.

From the inner end of the hollow shaft C extends a branch pipe H, which opens into the barrel-inlet J, connected with one of the heads of the barrel and arranged in such a

manner as to open when the valves F' and G' are opened, so that water and steam flow through the pipe E, the hollow shaft C, and the branch pipe H into the interior of the barrel K to be washed.

The barrel is provided in the centers of its heads on the outside with bearings L and L', each of which is provided with a transverse recess L². (See Fig. 3.) The bearing L is engaged in its slot L² by a lug C', formed on the closed end of the hollow shaft C, so that when the latter is rotated the barrel K rotates with it. The other bearing L' is engaged by a lug N', formed on the end of a shaft N, mounted to turn in suitable bearings in a sleeve P, journaled in a movable frame O, fitted to slide on longitudinally-extending guide-bars R, held in the upper part of the main frame B. When the frame O has been adjusted according to the size of the barrel, it is fastened to one of the guide-bars R by a set-screw S.

In order to conveniently move the sleeve P longitudinally, the latter is provided with an eye P', engaged by a pivoted arm P², fulcrumed on the frame O and serving to move the sleeve P, with the shaft N, inward or outward, so as to engage the lugs N' C' with the recesses L² in the bearings L L' or disengage them from the same. In order to lock the shaft N in place, a weighted pawl Q is provided, engaging teeth N², formed on the sleeve P. The pawl Q has the tendency to move the shaft N inward toward the barrel K.

Instead of placing the bearings L and L' on the heads of the barrel, they may be placed on the staves and arranged diametrically opposite each other, as is plainly shown in Figs. 1 and 2. When arranged in this manner the pipe H is extended, as shown in dotted lines in Fig. 1, so as to make proper connection with the inlet J. The latter is preferably of the construction shown in Fig. 4, in which a bushing J' is provided, secured to the head of the barrel by suitable means, and in which screws a plug-seat J², in the front end of which opens the pipe H, and in the rear end of which is adapted to be seated a plug J³, opening inward onto the bushing J'. The bushing J' is provided at its inner end with suitable perforations to permit the liquid to pass into the

barrel. This especially-constructed inlet forms part of an application for Letters Patent for a faucet filed of even date herewith by me.

5 In order to prevent the frame O from sliding outward, a notched bar T is provided, adapted to pass through an opening in the said frame and engaging with one of its teeth a shoulder O' in the bottom of the said opening. The notched bar T is preferably held
10 on one of the guide-bars R.

The shaft C for turning the barrel K can be rotated in either direction, and for this purpose is provided with a pulley U, over
15 which passes a belt U', also passing over a pulley U², secured on a shaft V, mounted to turn in suitable bearings in the upper end of the main frame B.

On the shaft V is fitted to slide and to turn
20 the double clutch W, connected with the usual shifting-lever W', which when moved to the right or left changes the position of the clutch on the shaft. When the lever W' is moved to the left, one end of the double
25 clutch W engages a pulley W², mounted to turn loosely on the shaft V. When the lever W' is moved to the left, one end of the double clutch W engages a pulley W³, mounted to turn loosely on the shaft V. Over the pul-
30 ley W² passes a belt W⁴, also passing over a pulley W⁵, secured on the main driving-shaft X, mounted to turn in suitable bearings in hangers Y, arranged in the rear of the main
35 frame B. Over the pulley W³ passes a crossed belt W⁶, also passing over a pulley on the shaft X, so that when the latter is rotated and the double clutch W engages the pulley W², then the shaft V is rotated in one direc-
40 tion, and when the said double clutch W engages the other pulley W³ the said shaft V is rotated in an opposite direction from the main driving-shaft X. The rotary motion of the shaft V in one direction is transmitted to the shaft C by the pulleys U and U² and
45 the belt U'.

The operation is as follows: The barrel K is hoisted into the proper position by suitable means, so that one bearing L engages the shaft C and the other bearing L' is engaged
50 by the shaft N, as previously described. Shot is preferably placed in the barrel, which is closed at the bung-hole, and then the operator opens the valves F' and G', so as to admit steam and water into the barrel by means
55 of the hollow shaft C, the pipe H, and inlet J, previously mentioned. At the same time the double clutch W is thrown in contact with either of the pulleys W² or W³, so as to rotate the shaft C in either direction, where-
60 by the barrel K is turned and the shot in the barrel rolls around in the latter, and with the steam and water thoroughly scours the inner surface of the barrel. After a suitable length of time the shifting-lever W' is moved
65 so as to turn the shaft C in the opposite di-

rection to reverse the motion of the barrel K in order to insure complete scrubbing of all parts of the inside of the barrel. As the frame O can be shifted longitudinally, the shaft N, supported on the said frame, is moved
70 inward and outward, so that the device can be used for large or small barrels or for turning the barrels endwise, as is shown in dotted lines in Fig. 1.

Having thus described my invention, what
75 I claim as new, and desire to secure by Letters Patent, is—

1. A barrel-washer comprising a hollow shaft mounted to rotate and adapted to connect at one end with a steam and water supply and at its other end forming a support
80 for the barrel, a branch pipe leading from the said hollow shaft to discharge into the barrel, and an adjustable support for the barrel, arranged in line with the said shaft, substan-
85 tially as shown and described.

2. A barrel-washer comprising a hollow shaft mounted to rotate and adapted to connect at one end with a steam and water supply and at its other end forming a support
90 for the barrel, a branch pipe leading from the said hollow shaft to discharge into the barrel, an adjustable support for the barrel, arranged in line with the said shaft, and means, substantially as described, for imparting a for-
95 ward and backward motion to the said shaft to rotate the barrel in opposite directions, as set forth.

3. In a barrel-washer, the combination, with a hollow shaft mounted to turn in one direc-
100 tion, of a fixed pipe leading into one end of the said hollow shaft and connected with a water and steam supply, a branch pipe leading from the said hollow shaft and adapted to discharge into the barrel to be washed, and a
105 longitudinally-adjustable shaft forming with the said hollow shaft bearings for the barrel, so as to turn the latter, substantially as shown and described.

4. In a barrel-washer, the combination, with
110 a hollow shaft mounted to turn in one direction, of a fixed pipe leading into one end of the said hollow shaft and connected with a water and feed supply, a branch pipe leading from the said hollow shaft and adapted to dis-
115 charge into the barrel to be washed, a longitudinally-adjustable shaft forming with the said hollow shaft bearings for the barrel, so as to turn the latter, a longitudinally-adjustable frame supporting the said shaft, and means
120 for locking the adjustable frame, substantially as shown and described.

5. In a barrel-washer, the combination, with a longitudinally-adjustable frame, of a sleeve mounted to slide therein, a shaft connected
125 with the said sleeve and free to revolve therein, but sliding with the said sleeve, and a barrel-bearing adapted to be engaged by the outer end of the said shaft, substantially as shown and described.
130

6. In a barrel-washer, the combination, with
a longitudinally-adjustable frame, of a sleeve
mounted to slide therein, a shaft connected
with the said sleeve and free to revolve there-
5 in, but sliding with the said sleeve, a barrel-
bearing adapted to be engaged by the outer
end of the said shaft, and a hollow shaft

mounted to rotate and connected with a bar-
rel-bearing opposite the first-named shaft,
substantially as shown and described.

GEORGE A. BIDWELL.

Witnesses:

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E. J. COMBS.