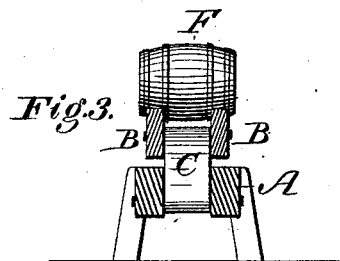
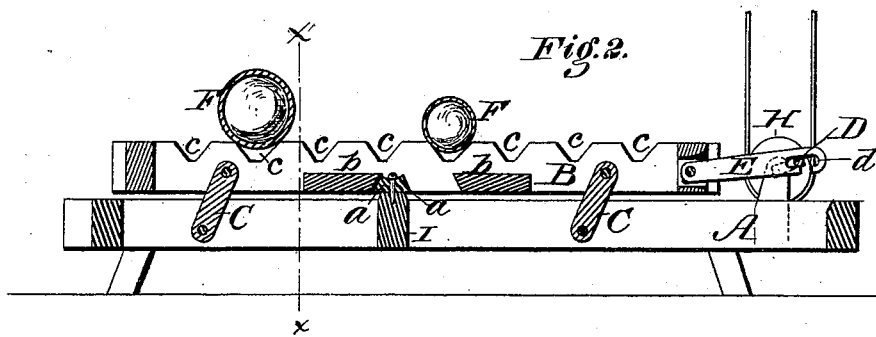
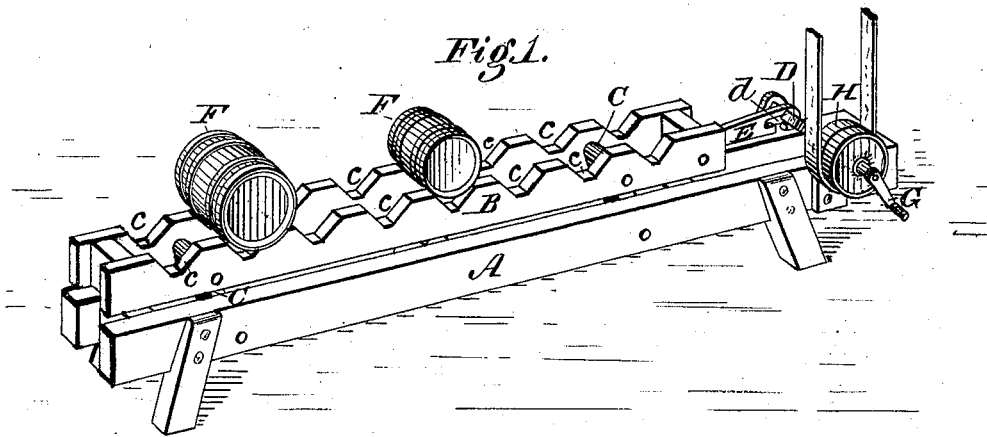


A. MUNTZENBERGER & H. M. UNDERWOOD.
Machine for Washing Casks.

No. 200,470.

Patented Feb. 19, 1878.



Witnesses:

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UNITED STATES PATENT OFFICE.

ADOLPH MUNTZENBERGER AND HENRY M. UNDERWOOD, OF KENOSHA,
WIS.; SAID UNDERWOOD ASSIGNOR TO SAID MUNTZENBERGER.

IMPROVEMENT IN MACHINES FOR WASHING CASKS.

Specification forming part of Letters Patent No. **200,470**, dated February 19, 1878; application filed
November 12, 1877.

To all whom it may concern:

Be it known that we, ADOLPH MUNTZENBERGER and HENRY M. UNDERWOOD, of Kenosha, in the county of Kenosha and State of Wisconsin, have invented certain Improvements in Machines for Washing Casks, of which the following is a specification:

Our invention relates to barrel-washing machines, and is designed as an improvement on the machine for which Letters Patent were granted Adolph Muntzenberger, November 25, 1873, No. 145,003, whereby the rack is adapted for the reception of barrels and casks of varying sizes, a more efficient action or motion is imparted to the same, and the power required to operate the machine is reduced, the invention consisting, mainly, in suddenly arresting the movements of the rack by stops or buffers; in elevating the rack by a positive movement, and permitting it to descend endwise, by gravity, against the stop or buffer; in a peculiar arrangement of the mechanical devices.

In the accompanying drawing, Figure 1 represents a perspective view of our improved device; Fig. 2, a longitudinal section of the same, and Fig. 3 a transverse vertical section on the line *x x* of Fig. 2.

In the machine above referred to a rack was employed having notches or seats to receive the casks or barrels, which rack was suspended by links from or within a strong frame, and received a reciprocating motion from a crank-shaft through the medium of a pitman, the latter being so connected to the crank-shaft as to move therewith without play or lost motion. The movement of the rack therefore corresponded with and was entirely controlled by that of the crank-shaft.

In constructing our improved machine, we so arrange the parts that the reciprocating rack in which the casks are carried has its movements checked suddenly by coming in contact with a stop or buffer, whereby the casks are strongly jolted and the water dashed violently about therein.

The best results are attained when the rack is given a slight rising and falling movement in addition to its reciprocation, the falling

movement to occur toward the end of the reciprocations.

Many arrangements of mechanism will suggest themselves to the expert for accomplishing the above action of the rack; but that shown in the accompanying drawing is considered the best for ordinary use.

In the present machine the rack, instead of being suspended from or within the frame, is supported upon wide links above the same, the links being pivoted at their upper ends to the rack, and at their lower ends to the frame.

A reciprocating motion is imparted to the rack from a crank-shaft through a pitman, which latter is so connected with the crank-shaft that it may move a certain distance independently of the same, the crank-shaft serving merely to throw the upper end of the links alternately one side and the other of their lower pivots, when the rack completes its movement by reason of its gravity, thus relieving the crank-shaft of a large amount of labor formerly required to operate the rack.

The movements of the rack are limited by suitable buffers, whereby the strain and wear formerly brought upon the crank-shaft at the end of each movement are avoided, and a sudden jar is given to the rack, whereby the action of the machine is improved.

In the drawings, A represents a strong frame, and B a rack, sustained above the same by broad links C, extending between the sides of the frame, and pivoted at their upper ends to the rack, and at their lower ends to the frame, as shown. At one end of the frame is mounted a transverse crank-shaft, D, provided with a driving-pulley, H, and a hand-crank, G, by either of which it may be driven.

E is a pitman connecting the rack B and crank-shaft D, for the purpose of imparting motion from the latter to the former. As shown at *d*, Figs. 1 and 2, the pitman is slotted at the point of connection with the crank-shaft D, in the direction of its length, thereby permitting a certain amount of movement independent of the crank-shaft, this movement being limited, as hereinafter explained.

When at the end of its movement, the rack stands in the position indicated in Fig. 2,

where it remains until the crank-shaft passes down and comes against the rear end of the slot *d*, when it begins to move the pitman and rack backward, this motion continuing until the upper pivots of the links C reach a point slightly in rear of the lower ones, when the weight of the rack and the casks thereon causes it to fall or pitch backward, the slotted pitman moving over the crank-shaft, and not being held or controlled thereby. Having reached the limit of its movement in this direction, the rack stands at rest until the crank of the shaft D traverses the length of the slot in the pitman E, and bears at the forward end of the same, as represented in Fig. 1, when the pitman and rack are moved forward until the upper pivots of the links C fall upon the other or forward side of their lower pivots, when the rack again drops down of its own gravity, the slotted pitman moving upon the crank of shaft D, as before.

It will thus be seen that the crank-shaft is required to move the pitman E but a very short distance in either direction.

In order to limit the movements of the rack B, and consequently those of the pitman E, a bumper-post, I, provided with rubber or other elastic or spring buffers *a* on its sides, is secured firmly to the frame A, and has its end extended upward between two cross-bars, *b*, of the rack, as shown in Fig. 2, in such position that one or the other of said cross-bars shall come in contact therewith when the rack has moved the required distance in either direction, they being so arranged as to stop the movement of the rack before the end of the slot in the pitman comes in contact with the crank of the shaft D, and thus all shock and jar upon the latter are obviated.

While we have described and prefer to use the machine with its rack arranged to meet a buffer at each end of its movement, a successful machine may be made in which the rack will simply strike a buffer when moving in one direction. It is also manifest that, instead of a crank and pitman, a yoke and eccentric, a lever and cam, or other devices commonly used in like cases, may be substituted to reciprocate the rack. It is also obvious that, instead of employing the links to sustain the rack, it may be given the same movements by providing it with rollers running on curved or doubly-inclined tracks.

In order to adapt the rack B for the reception of casks and barrels of varying sizes, and prevent their moving or rolling about thereon, it is furnished with a series of V-shaped notches, *c*, in both of its side rails or bars, in which the ends of the casks or barrels F seat themselves, and are firmly held, irrespective

of size or form. While the V-shaped notches are preferred as being more readily formed, it is apparent that the sides of the notches may be made convex and accomplish the same result, provided they are inclined or converge toward the bottom.

In order that the pitman E may be readily detached from the crank-shaft, an opening is made through its under side into the slot *d*, as shown in Figs. 1 and 2, so that it may be readily raised up off the crank when desired.

The above-described construction permits the machine to be operated by a comparatively small power, the crank-shaft being required to move the rack but a short distance in either direction. All jar and sudden strain on the crank-shaft are avoided, and the sudden stoppage of the rack and the casks thereon causes the water or other cleansing liquid contained in them to be violently agitated, and carried by its momentum entirely around the interior of the casks, thereby greatly increasing the efficiency of the action of the machine.

Having thus described our invention, what we claim is—

1. The combination of the rack B, supported on the upper ends of links C, a buffer or stop to limit the movement of the rack, and the slotted pitman and crank to impart motion thereto, substantially as shown and described.

2. In a machine for washing casks, the combination of a reciprocating frame to carry the casks, mechanism for throwing said frame endwise, and a buffer or buffers arranged to suddenly arrest the movement of the frame at each stroke, substantially as described.

3. In a cask-washing machine, a cask-carrying frame having a horizontal and vertical movement, which is repeatedly elevated by positive action, and permitted to descend by gravity against a stop or buffer.

4. In a cask-washing machine, a reciprocating cask-carrying frame, a buffer or stop therefor, and operating mechanism, said members being combined and arranged substantially as shown.

5. In a cask-washing machine, a cask-carrying frame elevated by positive acting mechanism, and permitted to descend endwise to the right and left alternately against stops or buffers.

6. In combination with the reciprocating rack B, mounted on the links C, the double elastic buffer *a a*.

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Witnesses:

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