

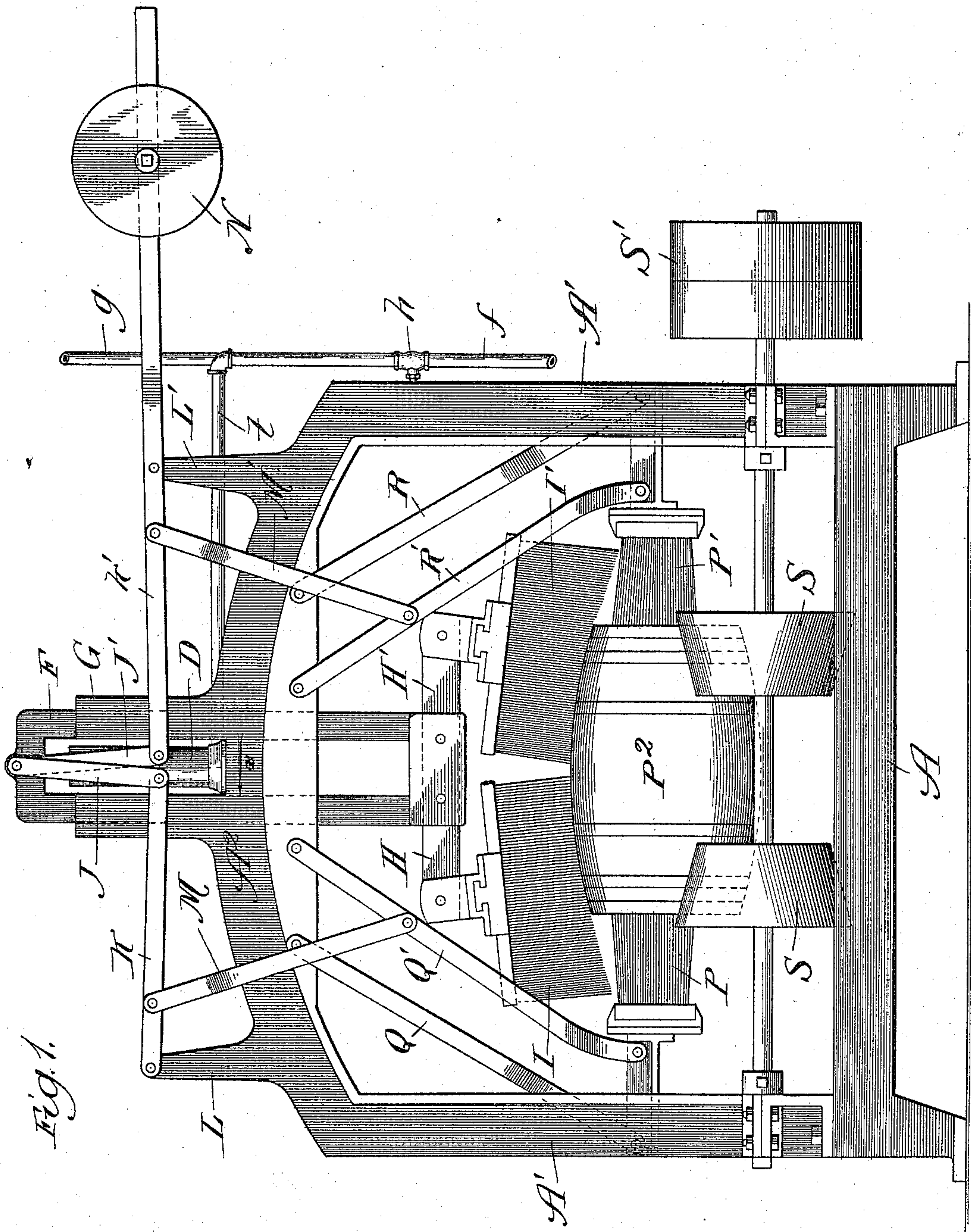
(No Model.)

2 Sheets—Sheet 1.

F. E. ANDERSON.
BARREL WASHER.

No. 582,163.

Patented May 11, 1897.



Witnesses:
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UNITED STATES PATENT OFFICE.

FREDERICK E. ANDERSON, OF CHICAGO, ILLINOIS.

BARREL-WASHER.

SPECIFICATION forming part of Letters Patent No. 582,163, dated May 11, 1897.

Application filed June 18, 1896. Serial No. 596,064. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK E. ANDERSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Barrel-Washing Machines, of which the following is a specification.

My invention relates to an improvement in barrel-washing machines, and more especially to an improvement in the brush-holding mechanism employed therewith; and my object is to provide such a construction therefor as to render the brushes self-adjusting and capable of being automatically withdrawn from the barrel being scrubbed to allow the latter to be discharged from the machine and replaced with another.

My present invention is in the nature of an improvement upon the barrel-washing machine described in Letters Patent No. 517,091, granted to me March 27, 1894; and it consists, as stated, in the novel construction and arrangement of the brush-holding mechanism and in such an adaptation of said mechanism as to allow of its being actuated by the barrels as they are successively fed into the machine in any suitable manner, as by the endless-chain mechanism described in Patent No. 489,066, granted to me on the 3d day of January, 1893, which operates to carry the barrels from the soaking-tank to the scrubbing-machine.

Generally stated, my invention comprises a system of levers upon which the brushes are mounted, so arranged as to hold the brushes properly, no matter what the size of the barrel being washed, a fluid-operated piston to move said levers, and means for automatically supplying pressure to the piston.

Referring to the accompanying drawings, Figure 1 is a view in elevation of the discharge end of a barrel-washing machine embodying my invention; Fig. 2, a side elevation of the same; Fig. 3, a broken section taken at the line 3 on Fig. 2 and viewed as indicated, and Fig. 4 a section of the cylinder employed.

A is the base of the frame, supporting the housings A' A' and their cross-beams A², which in their turn support at their tops a cylinder D, which may be either cast integral

with the frame or bolted thereto. The cylinder D is provided at its bottom with a pipe t, and working within the cylinder is a piston E, which carries an upwardly-extending rod s. The piston-rod s carries at its upper end a frame F, which slides within a guide G, which may be integral with the frame of the machine. The frame F extends downward to a considerable distance below the cross-beams A² and has at its lower end laterally-extending arms H H', to which are suitably attached the scrubbing-brushes I I', which wash the body of the barrel.

To the top of the frame F are pivoted downwardly-extending links J J', which are preferably in pairs in the form of a yoke embracing the frame F and are pivoted at their lower ends to levers K K'. The levers K are pivoted at their outer ends to lugs L upon the stationary frame and carry between their ends downwardly-inclined pivoted links M. The levers K' are pivoted upon similar lugs L', beyond which they project to carry a counterweight N. The levers K' are provided with downwardly-inclined pivoted links M', as shown.

The brushes P P', which wash the ends of the barrel, are suspended by inclined parallel links Q Q' and R R', respectively, pivotally connected to the shanks of the brushes and to the cross-beams A². One pair of each of these sets of links is pivoted between the ends to its corresponding pair of the links M and M', as shown, and in the operation, hereinafter described, acts as a lever of the third class to raise the brushes P P'.

Suitably journaled in the frame of the machine are barrel-supporting cones S, which may be turned by a pulley S' to give to a barrel P² a rotary movement.

T is a supporting frame or platform having downwardly and inwardly inclining top bars r, adapted to receive the barrels as they are fed into the machine in any suitable manner. Journaled in the frame T is a rod p, to which are rigidly attached arms n, disposed upon the shaft at a convenient distance apart and projecting upwardly and inwardly to make a predetermined angle with the top bars r. The rod p is also provided with a rigidly-attached bell-crank lever m, one arm

of which is provided with a counterweight *l* and the other arm of which is pivotally connected with a link *k*.

The pipe *t*, which communicates with the cylinder *D*, is arranged to communicate through a three-way cock *h*, operated by an arm *h'*, with a pressure-supply pipe *g* and a discharge-pipe *f*, and the operating-arm *h'* is pivotally connected with the link *k* to be actuated by the bell-crank lever *m*.

The operation is as follows: Barrels are thrown upon the platform *T* by any suitable feeding apparatus, arranged so as to bring them to the platform with the ends resting upon the top bars *r*. The body of the barrel engages the arms *n* and through the medium of the rod *p* rotates the bell-crank lever *m* to draw upon the link *k* and so turn the handle *h'* of the three-way cock *h*. This movement puts the pipe *t*, which in Fig. 2 is shown in communication with the discharge-pipe *f*, into communication with the pressure-supply pipe *g*. Pressure from the pipe *g*, which is preferably water-pressure, now enters the bottom of the cylinder *D* and forces up the piston *E* and so the frame *F*. The effect is to directly raise the brushes *I I'*, and, through the medium of the link mechanism above described, the brushes *P P'* are swung upwardly and outwardly. The momentum of the entering barrel is sufficient to force the cleansed barrel, now released from the action of the brushes, from the machine, the entering barrel becoming itself seated upon the revolving cones. As soon as the entering barrel has passed the arms *n* the counterweight upon the bell-crank lever reverses the movement of the three-way-cock handle, thus shutting off the pressure-supply and putting the cylinder into communication with the discharge-pipe *f*, when the piston at once settles down under the combined weight of the frame *F* and the brush-holders. The tension of the brushes in scrubbing may be regulated by adjustment of the counterweight *N*. The links *Q Q'* and *R R'* being parallel and of equal length the effect is to maintain the brushes *P P'* in their horizontal position when the links are swung upwardly, thus allowing the brushes to adapt themselves readily to barrels of any size within a reasonable range.

Obviously my improvement may be variously modified in matters of detail without departing from the spirit of my invention. Hence I do not limit it to the precise construction shown.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a barrel-washing machine, the combination with the supporting-frame and mechanism for supporting and turning a barrel, of movable brush-holding mechanism connected with the frame, a motor such as the hydraulic piston and cylinder, for operating said mechanism, to move the brushes into and out of contact with the barrel, and means in the path

of and actuated by the barrels as they are fed into the machine to start and stop the motor, substantially as and for the purpose set forth.

2. In a barrel-washing machine, the combination with the supporting-frame, and mechanism for supporting and turning a barrel and brushes for scouring the barrel, of means for throwing the brushes into and out of engagement with the barrel, comprising, in combination, a cylinder, a piston in the cylinder, and lever connections between the piston and brushes, whereby the brushes are moved by the movement of the piston under pressure applied thereto, substantially as set forth.

3. In a barrel-washing machine, the combination with the supporting-frame and mechanism for supporting and turning a barrel, of a cylinder, a piston moving therein, brush-holding mechanism connected with the piston, fluid supply and discharge pipes for the cylinder, means for controlling the inflow and discharge of the fluid, and means for automatically actuating said controlling means by a barrel as it is moved into the machine, substantially as described.

4. In a barrel-washing machine, the combination with the supporting-frame and mechanism for supporting and revolving a barrel, of a vertically-disposed cylinder, a pipe leading to the bottom thereof, a piston movable within the cylinder and carrying at its top a frame, barrel-body brushes connected to the frame at its lower end, lever mechanism pivoted to the machine-frame and to the upper part of the frame carried by the piston and carrying end brushes for the barrel, water supply and discharge pipes communicating with said cylinder-pipe through a three-way cock, and means for actuating said three-way cock comprising a barrel-receiving platform, a shaft journaled therein, barrel-engaging arms upon the shaft, and a bell-crank lever upon the shaft pivotally connected with the operating-handle of the three-way cock through the medium of a link, and provided at its free arm with a counterweight, all arranged to operate substantially as and for the purpose set forth.

5. In a barrel-washing machine, the combination with the supporting-frame and mechanism for supporting and revolving a barrel, of movable brush-holding mechanism, a motor actuating the same, and means for starting and stopping the motor, comprising a barrel-receiving platform, a shaft journaled therein, barrel-engaging arms upon the shaft, a bell-crank lever upon the shaft controlling the operating-motor, and a counterweight upon the bell-crank lever to rotate it back to shut off the supply to the motor after the latter has been started by the first movement of the bell-crank under the action of an entering barrel, substantially as described.

6. In a barrel-washing machine, the combination with the supporting-frame and mechanism for supporting and revolving a barrel,

of a vertically-disposed cylinder D, a pipe *t* leading to the bottom thereof, a piston E movable within said cylinder and carrying at its top a frame F which moves within a guide G upon the machine-frame, barrel-body brushes I I' connected to the frame F, links Q Q' and R R' substantially parallel and of equal length pivotally connected to the machine-frame and to the end brushes P P', link-and-lever mechanism pivotally connected to the machine-frame, to the top of the frame F, and to one pair of each set of said parallel links, a counterweight N upon one of the levers pivotally connected to the main frame and through the medium of a link to the frame F, water supply and discharge pipes *g* and *f* communi-

cating with the pipe *t* through a three-way cock *h*, and means for actuating said three-way cock comprising a barrel-receiving platform T, a shaft *p* journaled therein, barrel-engaging arms *n* thereon, and a bell-crank lever *m* upon the shaft pivotally connected through the medium of a link *k* with the operating-handle *h'* of said three-way cock, and provided at its free arm with a counterweight, all arranged to operate substantially as and for the purpose set forth.

FREDERICK E. ANDERSON.

In presence of—

J. H. LEE,

R. T. SPENCER.