

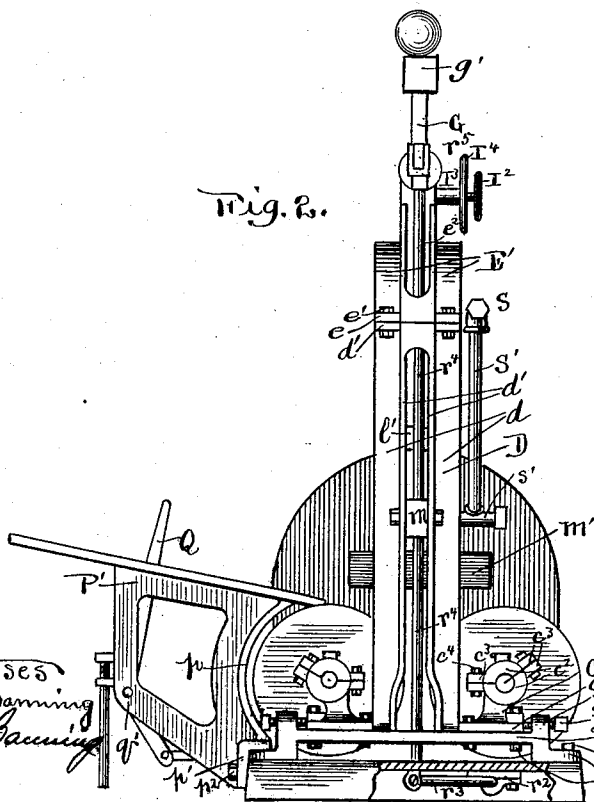
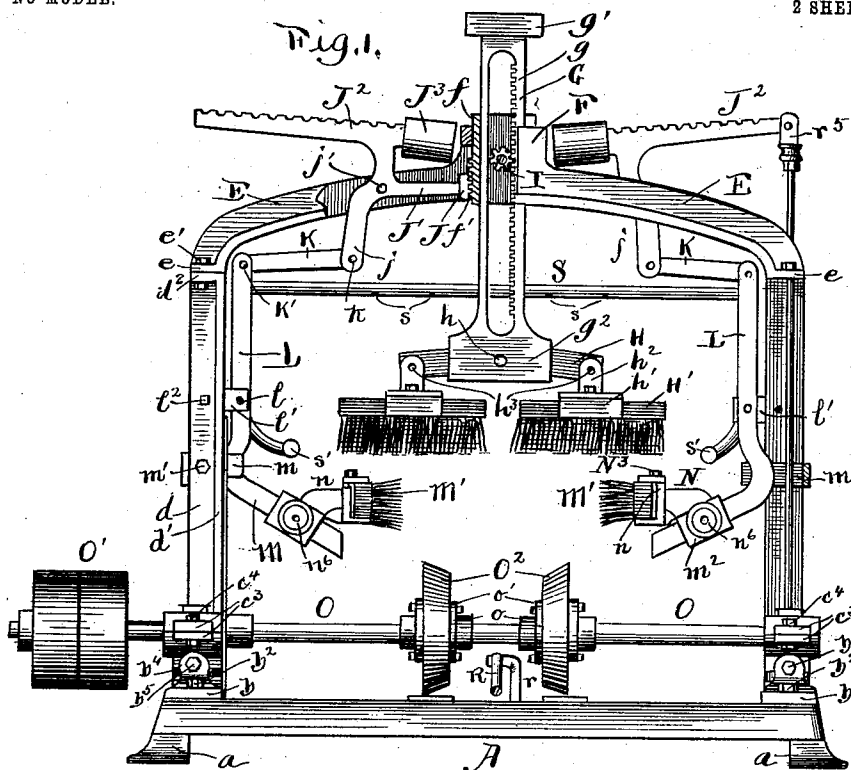
No. 734,280.

PATENTED JULY 21, 1903.

H. OLSEN.
BARREL SCRUBBING MACHINE.
APPLICATION FILED NOV. 1, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses
Samuel Banning
Walker Banning

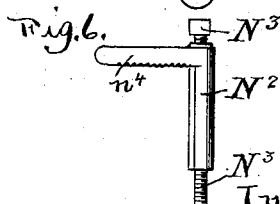
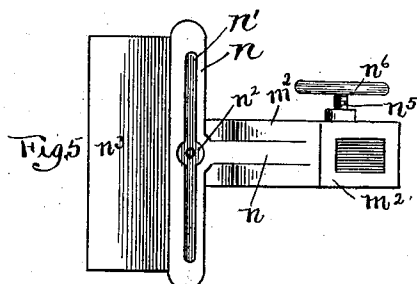
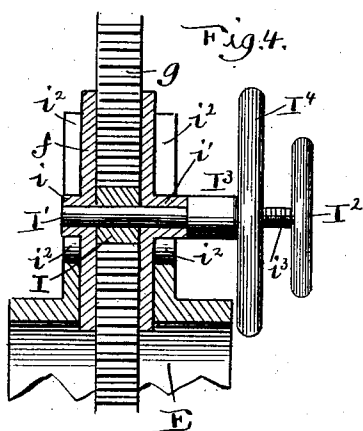
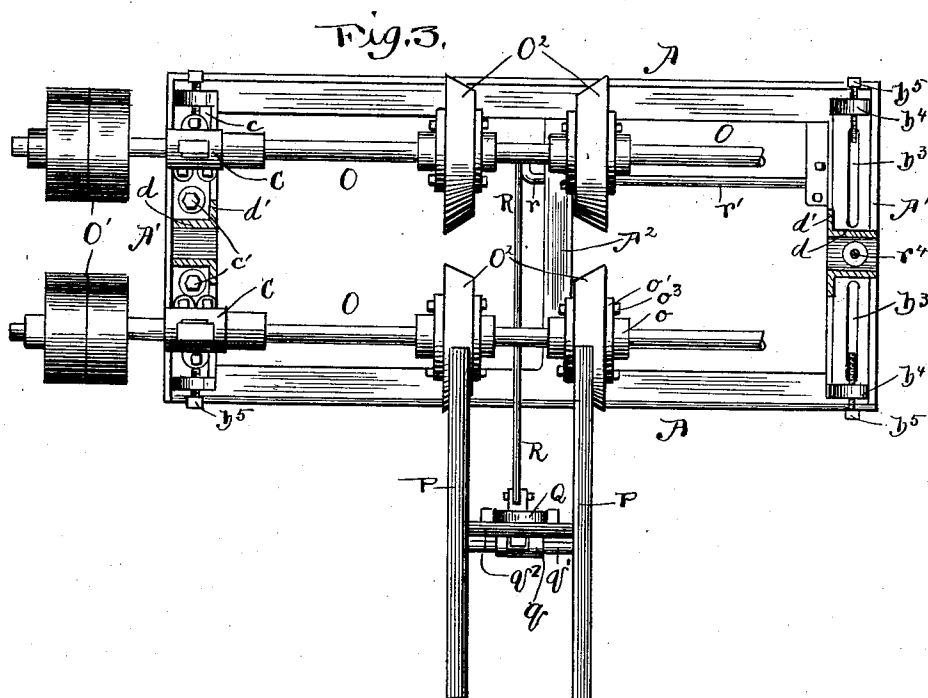
Inventor:
Henry Olsen
By Banning & Banning
Atys.

H. OLSEN.
BARREL SCRUBBING MACHINE.

APPLICATION FILED NOV. 1, 1902.

NO MODEL.

2 SHEETS—SHEET 2.



Witnesses
Samuel Banning.
Walker Banning.

Inventor
Henry Olsen.
By Banning Banning
HHS

UNITED STATES PATENT OFFICE.

HENRY OLSEN, OF CHICAGO, ILLINOIS, ASSIGNOR TO OLSEN & TILGNER MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION.

BARREL-SCRUBBING MACHINE.

SPECIFICATION forming part of Letters Patent No. 734,280, dated July 21, 1903.

Application filed November 1, 1902. Serial No. 129,739. (No model.)

To all whom it may concern:

Be it known that I, HENRY OLSEN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have
 5 invented certain new and useful Improvements in Barrel-Scrubbing Machines, of which the following is a specification.

The object of this invention is to provide an apparatus for scrubbing the exterior of
 10 beer-barrels which is automatic in its operation and so arranged as to be adjustable to barrels of varying size.

Further objects of this invention are to so arrange the parts as to make them operative,
 15 as far as possible, by the action of the barrel passing onto the scrubber, thereby eliminating the necessity for constant regulation of the machine when in use.

The invention consists of the features and
 20 combinations of parts hereinafter described and claimed.

In the drawings, Figure 1 is an elevation of the entire device with the exception of a runway for the barrels. Fig. 2 is an end elevation
 25 of the scrubber with the runway in place; Fig. 3, a top or plan view with the superstructure cut away; Fig. 4, a sectional view of a portion of the regulating mechanism, and Figs. 5 and 6 detail views of the clamp
 30 for holding the brush-heads.

The scrubber of this invention is constructed with a base consisting of side rails A, end rails A', and a cross-rail A². The base
 35 may be constructed of a single casting or may be made in sections and afterward secured together by bolts or otherwise, and, as shown, the base rests upon feet a. Mounted upon the end rails are supporting-plates B, best
 40 shown in Fig. 2, each supporting-plate being provided with a foot b, secured to the base by means of bolts b² or otherwise, and the supporting-plates are so arranged as to be raised above the base, leaving spaces below them.
 45 Each of the supporting-plates is provided with two slots b³, extending longitudinally of the plate, and the plates are further provided at their ends with upwardly-projecting ears b⁴, through which are screw-threaded set-screws b⁵. Mounted upon the supporting-
 50 plates are four journal-boxes C, two at each end, each of the journal-boxes located over

one of the slots hereinbefore described, and the journal-boxes consist of base-plates c, provided with bolts c', which extend down
 through the slots in the supporting-plates 55 and enable the journal-boxes to be moved by means of the set-screws in order to change the relation of the parts carried by the journal-boxes. Each of the journal-boxes consists of upper and lower sections c², provided
 60 with ears c³, through which extend bolts c⁴, securing the sections of the journal-boxes together in the usual manner.

Rising from the center of each of the supporting-plates is an upright support or frame
 65 D, consisting of sections d with a space between them, and each of the sections is provided with an outwardly-extending flange d' on its inner edge. The upright support or frame is provided at its top with ears d² for
 70 supporting the cross-frame E, which, as shown, is of curved formation and provided at its ends with ears e, coinciding with the ears d² and connected therewith by means of bolts e'. The cross-frame E is composed of
 75 two sections E' with a space e² between them for the insertion therein of certain operative parts of the scrubber. In the center of the cross-frame is an upwardly-turned neck F, which provides a runway or guide for the
 80 movement therein of a slidable casing f, which latter is provided on each of its side faces with a short rack f' for the purpose of imparting movement to the casing. Carried
 85 within the casing and mounted therein is a sliding frame G of suitable length to provide for a considerable degree of adjustment, and such slidable frame is provided on one of its
 inner faces with a rack g, extending throughout approximately its entire length. The
 90 sliding frame is provided at its upper end with a cross-head g' and at its lower end with a supporting-head g², carrying a cross-arm H, pivoted within the supporting-head by means of a pivot-pin h, thereby allowing
 95 a slight movement to the cross-arm within the supporting-head. At the ends of the cross-arm are carried brushes H', two in number, secured within clamps h', which latter are pivotally fastened to the cross-arm by
 100 means of hangers h², fixedly attached to the clamps and pivoted to the cross-arm by means

of pivot-pins h^3 . The vertical adjustment of the sliding frame within the casing is effected by means of a pinion I, which meshes with the teeth of the rack g , and said pinion is fixedly mounted on a shaft I', which latter is carried by the casing f and journaled within journal-bosses i and i' , as shown in Fig. 4. The entire casing F is slidably mounted within the neck of the cross-frame, which latter is provided on each side with a slot i^2 for the vertical movement therein of the journal-bosses i and i' as the casing is carried up and down. The shaft I' is provided with screw-threads i^3 on its outer or free end, and thereonto is fixedly attached a regulating-wheel I² for the purpose of revolving the shaft and the pinion carried thereby for the vertical adjustment of the adjustable frame, and a locking sleeve or jamb I³, screw-threaded onto the shaft and operated by means of a wheel I⁴, serves to lock the shaft and pinion after the adjustment of the various parts.

Meshed with the racks f' on each side of the slidably casing are toothed dogs J, one of which is shown in Fig. 1, where the wall of the cross-frame has been cut away. These dogs are carried on rocking arms J', which latter terminate in depending arms j , forming a lever pivoted by means of a pivot-pin j' at the point of intersection of the arms, and said lever is provided with a T-arm J², provided on its inner end with a weight J³, slidably mounted on the arm to regulate the pressure exerted thereby through the levers on the brushes. To the free ends of each of the depending arms are attached the inner ends of links K by means of pivot-pins k , and said links are attached at their outer ends by means of pivot-pins k' to depending levers L, fulcrumed by means of pivot-pins l , which extend through ears l' , carried between the sections of the upright frames and secured thereonto by means of bolts l^2 or otherwise. The depending levers terminate in angular supporting-arms M, and the movement of the entire lever is regulated by means of guide-plates m , carried between the sections of the uprights and secured thereonto by means of bolts m' or otherwise. The supporting-arms are set at an angle to the lever which will enable the brushes carried thereon to be moved up and down the arms in order to regulate them to meet the requirements of their use, and in order to effect such regulation the brushes M' are carried by means of sleeves m^2 , slidably mounted upon the supporting-arms and illustrated in detail in Figs. 5 and 6. Each sleeve is provided on its upper face with an inwardly-projecting bar N, set at such angle to the sleeve as to support the brush carried thereby in a horizontal position with reference to the base of the machine. Attached to the bar and in transverse relation thereto is a socket n , provided with a longitudinally-extending slot n' in its body and provided with a hole n^2 in its cen-

ter, and to the bottom of the socket is attached a shelf n^3 for the support of the brush-head. Within the slot and hole in the socket is carried a plate N², through the center of which passes a screw-threaded bolt N³ for regulating the adjustment of the plate within the slot, and the plate is provided with a forwardly-projecting top n^4 for compressing the brush-head between the top and the shelf after the brush has been inserted into place. The adjustment of the sleeve on the supporting-arm is effected by means of a set-screw n^5 , operated by means of a wheel n^6 .

Mounted within the journal-boxes are two longitudinally-extending shafts O, each of which is provided with a fast and loose pulley-wheel O' for imparting rotation to the shaft, and these pulley-wheels should be of the same size in order that uniform rotation may be imparted to the two shafts. Fixedly mounted on the shafts are supporting-rollers O², two on each shaft, and formed to have converging faces to adapt them to the contour of a barrel when placed thereon, and said rollers are made to fit between collars o , provided with flanges o' , to which the rollers are secured by means of bolts o^3 , as shown in Fig. 3, thereby rigidly securing the rollers onto the shafts and preventing them from becoming loosened by reason of the vibratory motion of the barrels thereon. Leading down onto the forward pair of rollers are runways P, suitably spaced to carry the barrel down onto the rollers, and the runways are mounted upon brackets P', which latter have curved inner faces p to conform with the contour of the rollers and are provided at their lower corners with flanged shoulders p' , which fit over the side rails of the base and are secured thereto by means of bolts p^2 or otherwise. Between the brackets is an angular trip-lever Q, provided at the angle with a sleeve q , which sleeve encircles a pivotal rod q' , carried between the brackets, thereby allowing the trip-lever to be moved, and a cross-rod q^2 , fixedly secured between the brackets, limits the backward thrust of the trip-lever. To the lower end of the lever is attached a rod R, which rod is pivotally mounted to an upwardly-extending arm r on a longitudinal rock-shaft r' , which latter is carried by suitable journal-bearings r^2 , depending from the base or frame, and the rock-shaft terminates in a rack-arm r^3 , as shown in Fig. 2. To the end of the rack-arm r^3 is pivotally attached an operating-rod r^4 , which terminates in a pivotal head r^5 , into which the outer end of one of the T-arms J² is pivoted, thereby providing a means for imparting motion through the T-arm and through the levers and links connected therewith to the brushes carried on the supporting-arms, and simultaneously imparting motion through the toothed dogs to the sliding casing and the sliding frame carried thereby to the brushes supported by the cross-arm on the sliding

frame. A water-pipe S extends longitudinally of the scrubber above the brushes and is provided with a series of jet-holes s, and from the pipe S depend auxiliary pipes S', which terminate in cross-pipes s', provided with a series of jet-holes for spraying water inwardly onto the ends of the barrels.

The operation of the scrubber may be briefly stated as follows: As a barrel is rolled down the guideways it strikes and depresses the trip-lever, thereby imparting motion to the rod R and through the rack-shaft and the frame thereon to the operating-rod, which latter pulls down the end of the T-lever, causing the arm J' and the toothed dog thereon to rise, thereby raising the sliding casing f and the sliding frame and brushes carried thereby and at the same time throwing the depending arms inwardly and imparting a motion through the links K, which causes the supporting-arms of the angular levers L to be drawn back, thereby at one and the same operation raising the brushes H' and withdrawing the brushes M' and allowing the barrel to roll down onto the rollers and be rotated thereby against the friction of the brushes, which, as the barrel passes onto the rollers, are released from their withdrawn position and carried down in contact with the barrel by the action of the weights J³ and the weight of the different parts. The water meanwhile sprayed from the main and auxiliary water-pipes serves to thoroughly wet the barrels and enable them to be scrubbed by the brushes.

Although the invention herein has been described with considerable minuteness, it is plain that the parts composing the same may be considerably varied without departing from the spirit of the invention. The shape of the framework and apparatus may be changed and the arrangement of arms and levers considerably modified and the method of journaling shafts revised without changing the general character of the invention, the principal feature of which is the arrangement of brushes simultaneously operated as the barrel is rolled in place on the rollers.

What I regard as new and desire to claim is—

1. In a barrel-scrubber, the combination of a frame, rollers rotatably mounted thereon, pivoted levers terminating in obliquely-disposed supporting-arms, end brushes slidably mounted on the supporting-arms, a sliding frame, carrying top brushes, an L-lever pivoted to the frame and communicating between the sliding frame and the pivoted levers, and means for imparting motion to the L-lever to raise the sliding frame and top brushes carried thereby and simultaneously withdraw the supporting-arms and end brushes carried thereby, substantially as described.

2. In a barrel-scrubber, a pivoted lever terminating in an obliquely-disposed sup-

porting-arm, a sleeve slidably mounted on the supporting-arm, a clamp carried by the sleeve, and a brush held within the clamp, substantially as described.

3. In a barrel-scrubber, the combination of a frame, consisting of a base, uprights mounted thereon, and a cross-frame bridging the uprights, rollers rotatably mounted on the frame, pivoted levers terminating in supporting-arms, end brushes slidably mounted on the supporting-arms, an adjustable sliding frame carrying top brushes, a sliding casing in which the sliding frame is adjustably mounted, and levers imparting motion simultaneously to the sliding casing and the pivoted levers with the supporting-arms thereon, substantially as described.

4. In a barrel-scrubber, the combination of a frame consisting of a base, uprights mounted on the frame, a cross-frame bridging the uprights, journal-boxes adjustably mounted on the base, rollers rotatably mounted within the journal-boxes, pivoted levers terminating in supporting-arms, end brushes slidably mounted on the supporting-arms, a sliding casing mounted within the cross-frame, a sliding frame mounted within the sliding casing and provided with a rack, a pinion meshing with the rack for adjusting the sliding frame, and levers arranged to impart motion simultaneously to the sliding casing and the pivoted levers carrying the end brushes, substantially as described.

5. In a barrel-scrubber, the combination of pivoted levers terminating in obliquely-disposed supporting-arms, end brushes slidably mounted on the supporting-arms, a sliding frame carrying top brushes and provided with a rack, a sliding casing in which the sliding frame is adjustably carried, a pinion meshing with the teeth of the rack on the sliding frame, a locking sleeve or jamb for locking the pinion in its adjusted position, an L-lever for simultaneously imparting motion to the sliding casing and the pivoted lever and supporting-arms thereon, substantially as described.

6. In a barrel-scrubber, the combination of pivoted levers terminating in obliquely-disposed supporting-arms, end brushes slidably mounted on the supporting-arms, a sliding frame having on its inner face a longitudinally-disposed rack, a cross-arm carried by the sliding frame, top brushes carried by the supporting-arm, a sliding casing in which the sliding frame is carried, a pinion within the casing meshing with the teeth of the rack on the sliding frame, racks on the exterior of the sliding casing, L-levers terminating in toothed dogs engaging with the teeth of the racks on the sliding casing, T-levers connected with the L-levers for imparting motion thereto, and links connecting the depending ends of the L-levers with the upper ends of the pivoted levers carrying the end brushes for simultaneously imparting motion

to the sliding frame and pivoted levers for withdrawing the brushes, substantially as described.

7. In a barrel-scrubber, the combination of
5 rotatably-mounted rollers, runways leading to the rollers, brackets supporting the runways, a lever pivoted to the brackets normally projecting above the plane of the runways and operated by the passage of a barrel
10 thereover, brushes located in suitable relation to the rollers, and means for withdrawing the brushes actuated by the depression

of the aforesaid lever, substantially as described.

8. In a barrel-scrubber, a clamp consisting 15
of upper and lower sections, the lower section having a rear wall with a slot therein and the upper section being provided with a plate fitting within the slot and held in place therein
20 by a set-screw, substantially as described.

HENRY OLSEN.

Witnesses:

WALKER BANNING,
SAMUEL W. BANNING.