A. M. RICKS & R. S. WILLIFORD.

CUSPIDOR CLEANER.

APPLICATION FILED JUNE 2, 1915.

1,197,667.

Patented Sept. 12, 1916.

2 SHEETS—SHEET 1.

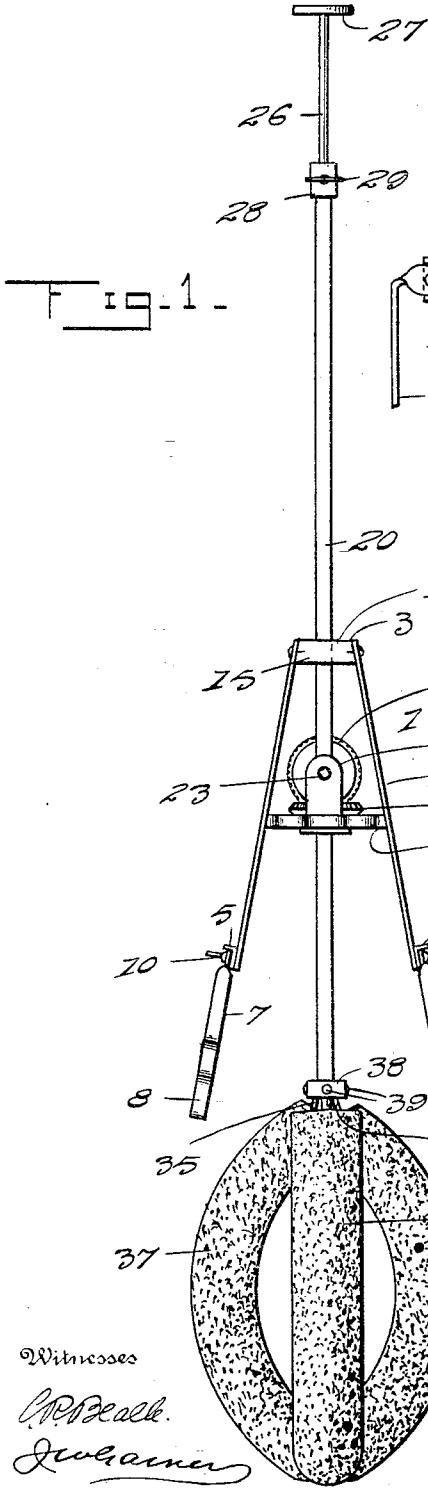


Fig. 1.

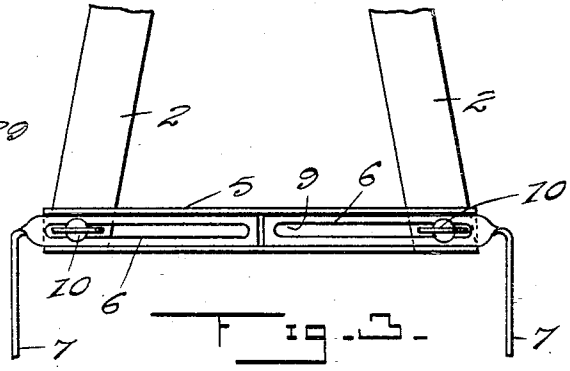
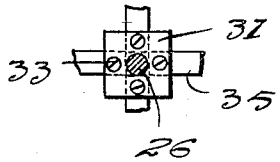


Fig. 3.

Fig. 7.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

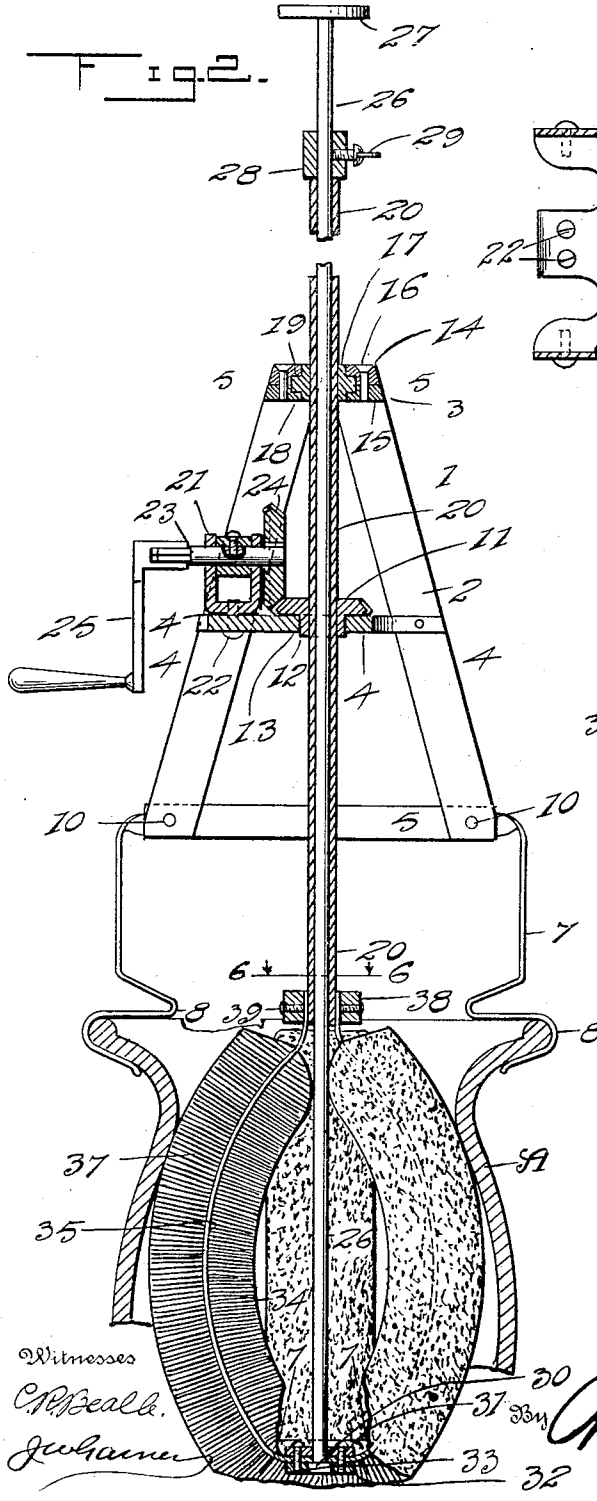


Fig. 4.

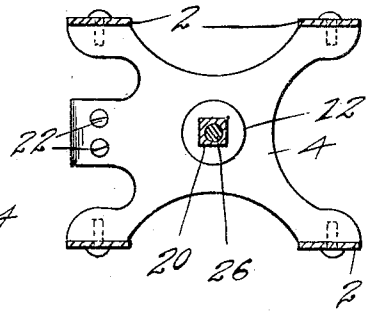


Fig. 6.

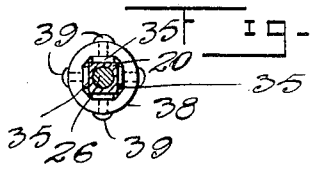
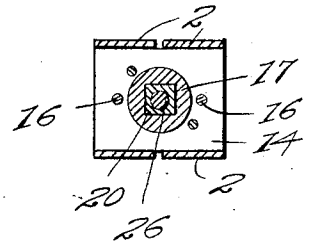


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

ALVA M. RICKS AND ROBERT S. WILLIFORD, OF LOS ANGELES, CALIFORNIA.

CUSPIDOR-CLEANER.

1,197,667. Specification of Letters Patent. Patented Sept. 12, 1916.

Application filed June 2, 1915. Serial No. 31,758.

To all whom it may concern:

Be it known that we, ALVA M. RICKS and ROBERT S. WILLIFORD, citizens of the United States of America, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Cuspidor-Cleaners; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention is an improved machine for use in cleaning cuspidors, and other like vessels and embodying flexible brushes, means to bend the brushes to cause them to conform to the shape of the vessel in which they are placed and means to revolve the brushes, the object of the invention being to provide an improved machine of this character which is cheap and simple, which may be readily applied to and removed from any cuspidor or other like vessel and adjusted to said vessel and by means of which the vessel may be readily cleaned.

The invention consists in the construction, combination and arrangement of devices hereinafter described and claimed.

In the accompanying drawings:—Figure 1 is a side elevation of a cuspidor cleaner constructed in accordance with our invention. Fig. 2 is a vertical sectional view of the same, showing the same arranged for use in cleaning a cuspidor. Fig. 3 is a detail side elevation. Fig. 4 is a detail horizontal sectional view on the plane indicated by the line 4—4 of Fig. 2. Fig. 5 is a similar view on the plane indicated by the line 5—5 of Fig. 2. Fig. 6 is a similar view on the plane indicated by the line 6—6 of Fig. 2. Fig. 7 is a similar view on the plane indicated by the line 7—7 of Fig. 2.

In the embodiment of our invention we provide a frame 1 which is here shown as comprising upwardly converging legs 2, a block 3, which connects the upper ends of the said legs and a block 4 which is arranged substantially midway between the upper and lower ends of the legs. On opposite sides of the frame are channel bars 5 which connect the lower ends of the legs and form supporting guides for the upper horizontal arms 6 of attaching feet 7 the lower ends of which are bent reversely as at 8 and thereby adapted to be engaged with the mouth of a cuspidor or other like vessel A as shown in Fig. 2. The arms 6 have longitudinal slots 9 which are engaged by set screws 10 and thereby the attaching feet may be adjusted toward or from each other and adapted to fit on the mouth of a vessel of any size, and secured in adjusted position. A miter gear 11 is arranged on the upper side of the block 4 and has a depending cylindrical hub 12 which has its bearing in a central opening 13 in said block. The block 3 comprises upper and lower members 14—15 which are detachably secured together by screws 16. A revoluble guide element 17 is mounted for rotation in a circular opening in the center of said block 3 and is provided with an annular circumferential flange 18 which engages in a corresponding groove 19 formed in the opposing sides of the members of the block 3, said revoluble guide element being thereby rotatably mounted in said block.

The guide element 17 and the miter gear 11 are each provided with a non-circular central guide opening through which extends a correspondingly shaped tube 20. A bracket 21 is secured on the block 4 as at 22 and has bearings for a shaft 23 which is provided at its inner end with a miter gear 24 that engages the gear 11. A crank 25 is provided for attachment to the outer end of said shaft whereby it may be turned to cause the crank to rotate the tube 20. Said tube is longitudinally movable in the guide element 17 and gear 11 as will be understood. A rod 26, which is longer than the tube 20 extends through and is longitudinally movable in said tube and is provided at its upper end with a suitable head 27. A stop collar 28 is slidably mounted on the rod 26, above the tube 20 and may be secured to said rod at any desired adjustment by means of a set screw 29. To the lower end of the rod 26 is attached a clamp 30 which comprises upper and lower members 31—32 and connecting screws 33. A series of brushes 24 are provided each of which comprises a flexible spring rod 35 and bristles 36 which are attached thereto and extend radially therefrom. The lower ends of these spring rods are clamped between the members 31—32 of the clamp 30 by screws 33, the said screws also passing through openings in said spring rods and the upper ends of said spring rods are secured on the lower portion of the tube 20 by a collar 38 and screws 39, said spring rods passing upwardly in the bore of said col-

lar and said screws clamping said spring rods and collar to the said tube. Hence the brushes, which are flexible and may be bowed outwardly or extend longitudinally as required are connected at their ends to the lower ends of the revoluble and longitudinally adjustable tube and rod. When the device is placed on the mouth of a cuspidor or other vessel the brushes are run down therein by pressing downwardly on the rod or tube and the tube is shifted as required to distend or bow out the brushes to make them conform to the shape of the vessel and when the brushes are thus arranged with the stop collar 28 clamped by the screw 29 to the rod, so that the brushes are held in this position, they are then revolved by turning the crank 25 and hence thoroughly clean the vessel and in a very short period of time, after which the machine may be removed and used on another cuspidor.

Having thus described our invention, we claim:—

1. A cuspidor cleaner comprising a frame, a tube rotatably mounted in said frame, a rod mounted in said tube, flexible brushes carried by said tube and rod, means to rotate said brushes, arms carried by said frame, and adapted to engage said cuspidor, said frame carrying said arms being adapted to be raised or lowered whereby any height of cuspidor can be cleaned and means to adjust the width of said arms.

2. A cuspidor cleaner comprising a frame, a tube mounted for longitudinal movement and also for rotation in the frame, a rod arranged for longitudinal movement in the tube and to be extended from one end thereof, flexible brushes carried by said rod and tube, a bracket carried by said frame, a horizontal shaft rotatably mounted in said bracket, a miter gear keyed to said shaft, means to rotate said shaft, a miter gear mounted on said tube and meshing with said miter gear on said shaft whereby said tube and rod and flexible brushes are rotated, arms carried by said frame and adapted to engage the cuspidor whereby said brushes are held to the cuspidor, and means for longitudinally adjusting said arms to accommodate any width of cuspidor.

3. A cuspidor cleaner comprising a frame having upwardly converging legs, a block connecting the upper part of said legs, a similar block connecting the central portion of said legs, and channel bars connecting the lower ends of the legs, arms adjustably secured to said channel bars adapted to engage a cuspidor, a gear rotatably mounted in the lower of said blocks, a guide rotatably mounted in the upper of said blocks, a tube slidably mounted in said guide and miter gear, a rod slidably mounted in said tube, flexible brushes carried by said tube and rod, means carried by said frame to rotate said miter gear, said tube being longitudinally adjustable in said guide and said miter gear so that said frame may be adjusted to any height of cuspidor.

4. A cuspidor cleaner comprising a frame having upwardly converging legs, blocks connecting the upper and central portion of said legs, channel bars connecting the lower portion of said arms, a tube rotatably mounted in said blocks, a rod mounted in said tube, flexible brushes carried by said rod and tube, means to rotate said tube, rods and brushes, a pair of arms having angular upper members slidably mounted in said channel bars, means to hold the arms in any set position whereby said arms can be adjusted for any width of cuspidor.

In testimony whereof we affix our signatures in presence of two witnesses.

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ROBERT S. WILLIFORD.

Witnesses:
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FANNIE M. SAWYER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."