

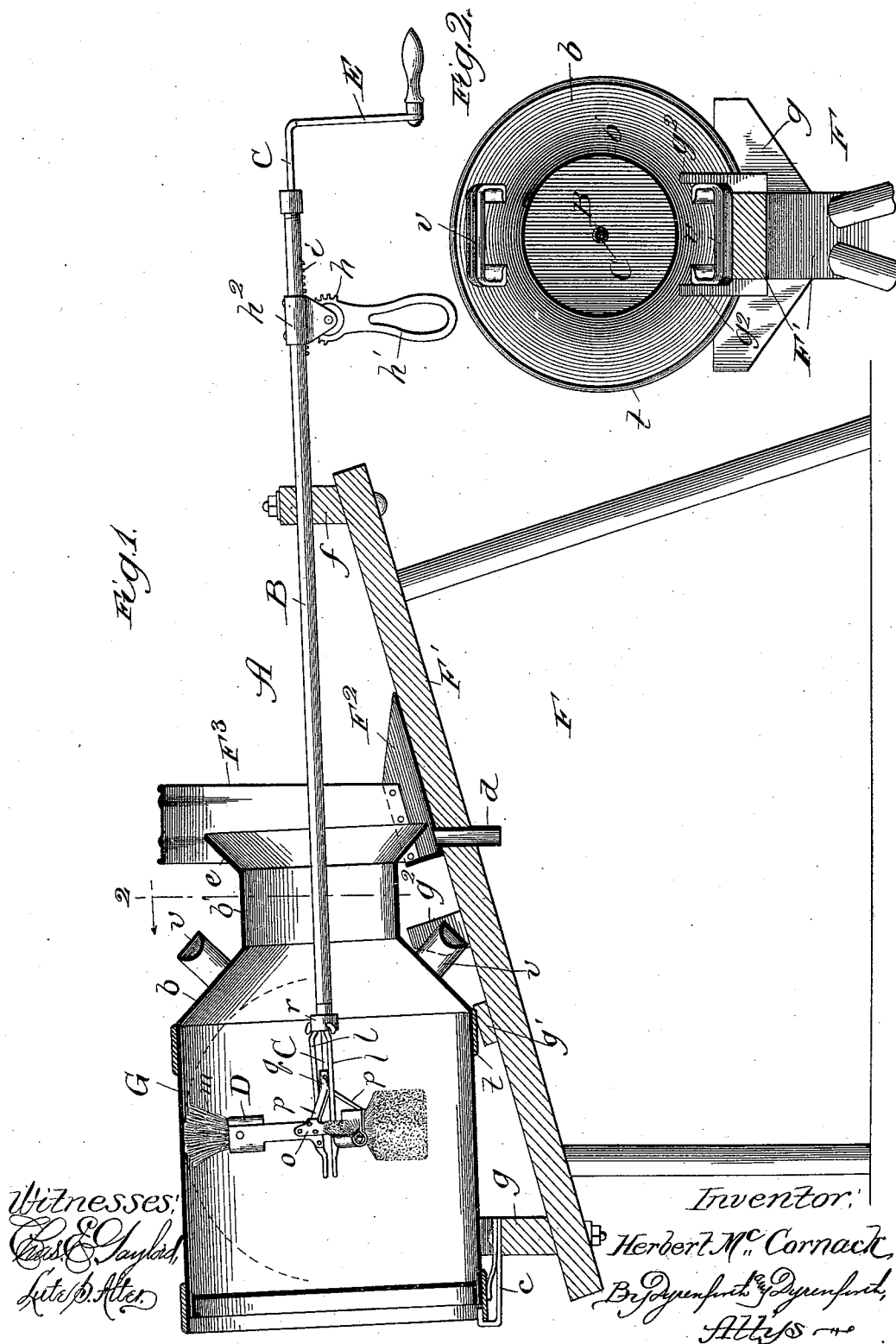
(No Model.)

2 Sheets—Sheet 1.

H. McCORNACK.
CAN CLEANER.

No. 563,505.

Patented July 7, 1896.



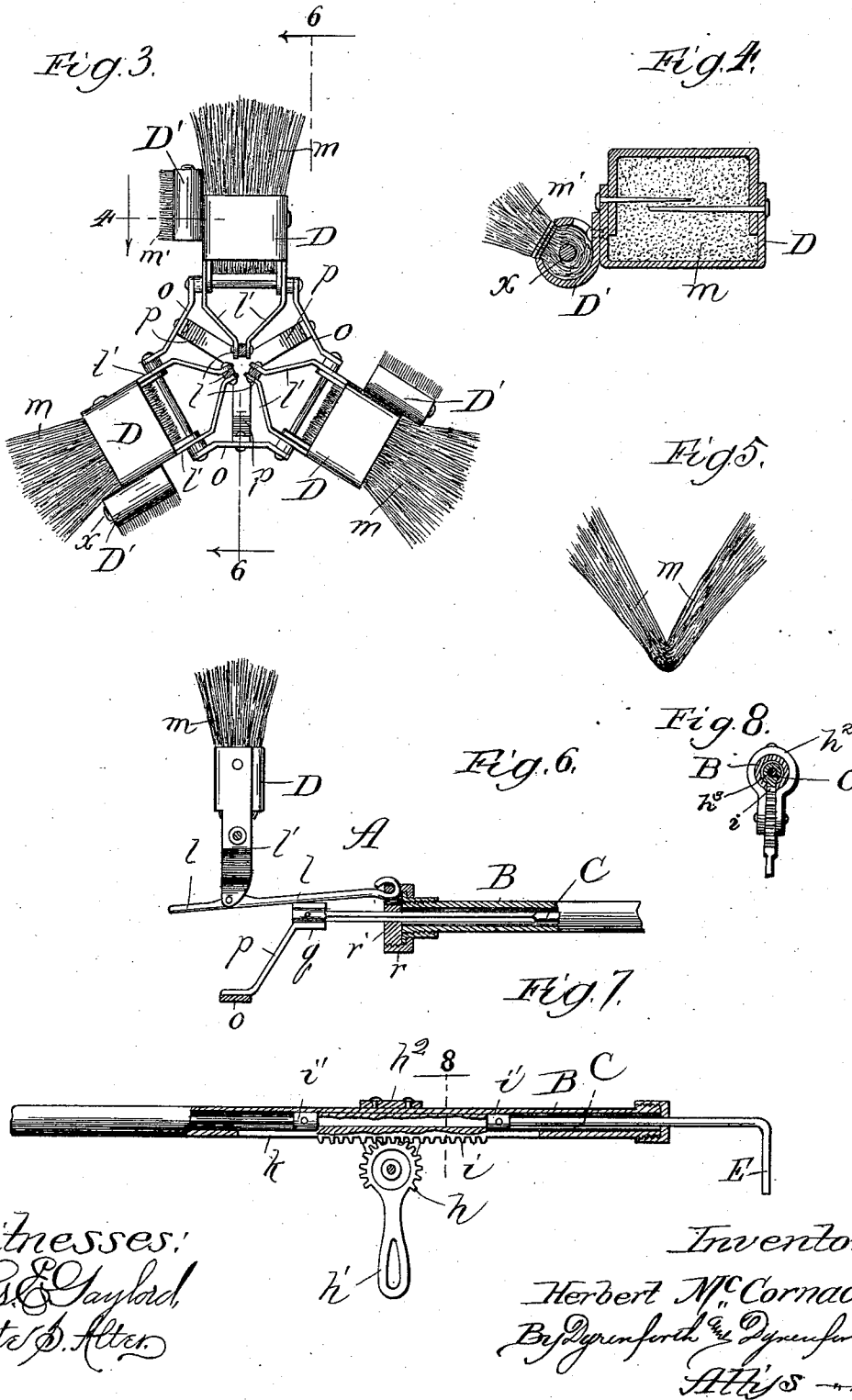
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UNITED STATES PATENT OFFICE.

HERBERT McCORNACK, OF ELGIN, ILLINOIS.

CAN-CLEANER.

SPECIFICATION forming part of Letters Patent No. 563,505, dated July 7, 1896.

Application filed January 27, 1894. Serial No. 498,253. (No model.)

To all whom it may concern:

Be it known that I, HERBERT McCORNACK, a citizen of the United States, residing at Elgin, in the county of Kane and State of Illinois, have invented a new and useful improvement in Milk-Can-Scouring Machines, of which the following is a specification.

My invention relates to an improvement in the class of machines for scouring and rinsing milk-cans in which is employed a rotary handle provided with a brush at the end inserted into the can.

My primary object is to provide a construction of the brush device on the insertion end of the rotary handle whereby it shall be readily adjustable to make the desired scouring contact with all parts of the interior surface of the can, and particularly the seams or corners, and also the constricted or shoulder and neck and funnel-mouth portions. My object is also to provide a peculiarly simple and desirable construction of brush for use in my improved machine; and it is further my object to provide an especially desirable novel construction of stand for supporting a milk-can while undergoing the washing operation with the brush apparatus, also having its bearing on the stand.

My invention consists in the general construction of my improved can-scouring machine; and it also consists in details of construction and combination of parts, all as hereinafter described, and pointed out in the claims.

Referring to the accompanying drawings, Figure 1 is a view in longitudinal sectional elevation, showing my improved machine as it appears in operation. Fig. 2 is a section taken at the line 2 on Fig. 1 and viewed in the direction of the arrow. Fig. 3 is a view of the end of the brush device which is inserted into the can. Fig. 4 is a section taken at the line 4 on Fig. 3 and viewed in the direction of the arrow. Fig. 5 is a view of one of the brushes, representing the manner of forming it and showing it separate from the holder. Fig. 6 is a sectional view, partly broken, the section being taken at the line 6 6 on Fig. 3 and viewed in the direction of the arrows. Fig. 7 is a view, mainly in longitudinal section through the handle portion of the brush device, showing the internal rotary

and lengthwise-reciprocating brush adjusting and operating stem and the means for reciprocating it. Fig. 8 is a section taken at the line 8 on Fig. 7 and viewed in the direction of the arrow.

A is the scouring device, the preferred construction of which is that illustrated and described as follows:

On one end of a bearing, shown as and affording a tubular handle B, is swiveled a nipple r , having a disk head r' , through the center of which passes the operating-stem C in the handle and which should be mainly cylindrical in shape but rectangular in cross-section, as shown, where it passes through the head r' in order to cause the latter to rotate with it and permit the stem to be readily reciprocated longitudinally through it. The end of the stem adjacent to the swivel connection with the tubular handle is fastened in the socket q of a spider, the diverging arms p of which incline slightly forward and terminate in cross-heads o . (See, particularly, Fig. 3.)

D represents the brush-holder, of which three are illustrated, though any desired number—thus fewer or more—may be employed without departure from my invention, provided the connection thereof with the stem C be such as to adapt it or them to be rotated therewith and swing pivotally back and forth in the direction lengthwise of the handle. Each brush-holder comprises a socket D, shown as substantially rectangular in shape, though of course the shape should be such as to conform to that of the brush m it is provided to hold, whatever that may be. Each socket D is flanked by rearward-extending converging arms l' , between which is pivotally fastened one end of a link l , hooked at its opposite end into the swiveled nipple r , and the cross-head o on each arm p extends between the adjacent sides of a pair of the brush-sockets and is pivotally fastened thereto.

The preferred construction of the brush m is that illustrated in Fig. 5, comprising an originally straight bunch of the brush material, (bristles, broom-corn, or the like,) bent upon itself at the center and stitched and crowded, at the bend, into the socket D and therein fastened. The end of the brush m

is cut to the V shape illustrated to present expanded surfaces, at opposite sides of the apex, to the can-surface when they are brought to bear against the latter, while, when extended to enter the seams or corners of the can, the wedge shape of the brush end adapts the latter to be compressed the better into the seams, thus enabling the brush to be applied the more thoroughly. On one side of each socket D, I furthermore provide, for a purpose hereinafter explained, a smaller supplemental brush, comprising a socket D' in the form of a longitudinally-slotted tube, into which, from one end, the brush m' , formed like the brush m , but smaller, is inserted and fastened, as by driving a nail x between the folds near the bend, to spread them apart and thus wedge the brush in its socket, which should be pivotally fastened to its holder D.

The stem C extends through the outer end of the tubular handle B, where it is provided with an operating crank-handle E, if the machine is to be operated by hand, or with any other suitable operating means. Near its outer end the tube B has a longitudinal slot k , coincident with which is a rack i , Fig. 7, on the stem confined endwise between collars i' , whereby it may be rotated without interference from the rack, and a pinion h is supported to engage the rack (and bears against the latter to hold it in place) in a bearing h' on the handle B and is provided with an operating-handle h' . The rack i projects through the slot k from a tubular body h^3 , surrounding the stem C inside the hollow handle B, and the collars i' , which are fast upon the stem, bear against the tubular body of the rack at its opposite ends to confine it against independent sliding movement.

As a convenient medium for the application of my improved can-scouring implement, (though it may be differently applied without departure from my invention,) I provide a stand F, having a top F' inclined to a degree that will support a milk-can G, imposed thereon (with its rear portion resting on a concave seat g , its upper band t resting on a bearing-strip g' and one of the handles v confined between a pair of lateral stops g^2) in position to extend its longitudinal center in about a horizontal plane, in line with which, on the higher end of the top, is a bearing f for the handle B. About at the point of the top F', to which the mouth e of the can reaches, I provide a basin F² to prevent slopping over of the cleansing-water and having an outlet-pipe d extending downward from it to direct the water into any suitable receptacle (not shown) placed in position below the stand. At the dish is also shown a vertical annular stationary band F³ to receive the flaring mouth of the can, which is held in place at its base end by a spring-catch c on the bearing g .

With a milk-can placed to be scoured in the position indicated in Fig. 1 and the scouring implement adjusted loosely in its bearing f , the scouring operation is performed as fol-

lows, with water introduced into the can: The radial limit of extent of the brushes m , when at right angles with the stem C, is such as to cause them to bear against the inner side of the cylindrical portion of the can, and to bring them to that position the stem C is moved longitudinally in the proper direction by turning the pinion h , whereby the pivotal spider or hinge connections of the stem with the brush-holders D work them on the pivotal connections of the arms l' with the links p . These connections, as will be seen, enable the rotation of the stem C to freely rotate the brush device while the tubular handle B may be moved longitudinally back and forth, and thus the brushes thoroughly scour the interior of the milk-can, and they also enable, by longitudinal reciprocation of the stem, while rotating it, the radial direction of extension of the brushes m with relation to the stem as their center, to be varied to any desired point within the nearly one hundred and eighty degrees of their capacity of adjustment, as indicated by the dotted lines in Fig. 1. Thus the brushes may all be caused to extend inward with relation to the can parallel with the stem, when they would all be bunched together for scouring the can-bottom. Then they may be caused to flare toward the can-bottom at such an angle as to introduce them into the seam or annular corner junction between the base and cylindrical body of the can. By causing them to flare in the opposite direction they may be extended into the corner forming the junction between the cylindrical body and conical shoulder portion b , and by still further contracting them and withdrawing the handle, so as to bring them against the surface of the conical shoulder portion, it may be thoroughly scoured. To scour the interior of the neck portion b' of the can, the handle B is withdrawn to bring the brushes m into that part; but they are then adjusted to extend parallel with the handle in the backward or outward direction, in which position the scouring is performed by the supplemental brushes m' , the pivotal fastening of which adapts them the better for the work.

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

1. A can-scouring machine having a handle provided with a rotatable and longitudinally-reciprocable brush-actuating stem, a rack connected with the stem as the medium for effecting its reciprocation, a pinion mounted on the handle and engaging the rack, and a brush device adjustably supported on the stem to be actuated by its reciprocation, substantially as described.

2. A can-scouring machine having a handle provided with a rotatable and longitudinally-reciprocable brush-actuating stem, a rack connected with the stem as the medium for effecting its reciprocation, a pinion mounted on the handle and engaging the rack and a brush device hinged to the stem and ad-

justable to different angles with relation to the stem by reciprocating it, substantially as described.

3. A can-scouring machine having a tubular handle containing a rotatable and longitudinally-reciprocable brush-actuating stem, a rack connected with the stem in the handle to move said stem longitudinally without obstructing its rotary motion and protruding through a longitudinal slot in said handle, a pinion mounted on the handle and engaging the rack, and a brush device hinged to the stem and adjustable to different angles with relation to the stem by reciprocating it, substantially as described.

4. A can-scouring machine having a tubular handle provided at one end with a swiveled nipple, a rotatable and longitudinally-reciprocable brush-actuating stem provided with means for reciprocating it and passing through the handle and nipple and in engagement with the latter, and a series of brushes in holders hinged to the stem and linked to the nipple to cause reciprocation of the stem to adjust them at different angles with relation thereto, substantially as described.

5. A can-scouring machine, having a tubular handle provided at one end with a swiveled nipple, a rotatable and longitudinally-reciprocable brush-actuating stem provided with means for reciprocating it and passing through the handle and nipple and in engagement with the latter, a series of brushes in

holders hinged to the stem and linked to the nipple to cause reciprocation of the stem to adjust them at different angles with relation thereto, and supplemental brushes on the said holders, substantially as described.

6. A can-scouring machine comprising, in combination, a tubular handle B, having at one end a swiveled nipple a rotatable and longitudinally-reciprocable brush-actuating stem C passing through the handle and nipple and in engagement with the latter and provided with a rack i protruding through a slot in the handle from its tubular body portion h^3 at which it surrounds and is confined on the stem, a pinion h supported on the handle to engage the rack, and a series of brush devices, comprising holders D containing brushes and provided with arms l' connected by links l with the nipple, and a spider connected at its socket with the stem and having its arms hinged to the brush-holders, substantially as described.

7. In combination, a scouring device A and a milk-can stand F having an inclined top F' provided at one end with a rest g , a bearing f for the scouring device at the opposite end of the top, intermediate bearings g' and g^2 , and a basin F² having an outlet, substantially as and for the purpose set forth.

HERBERT MCCORNACK.

In presence of—

M. J. FROST,

W. U. WILLIAMS.