

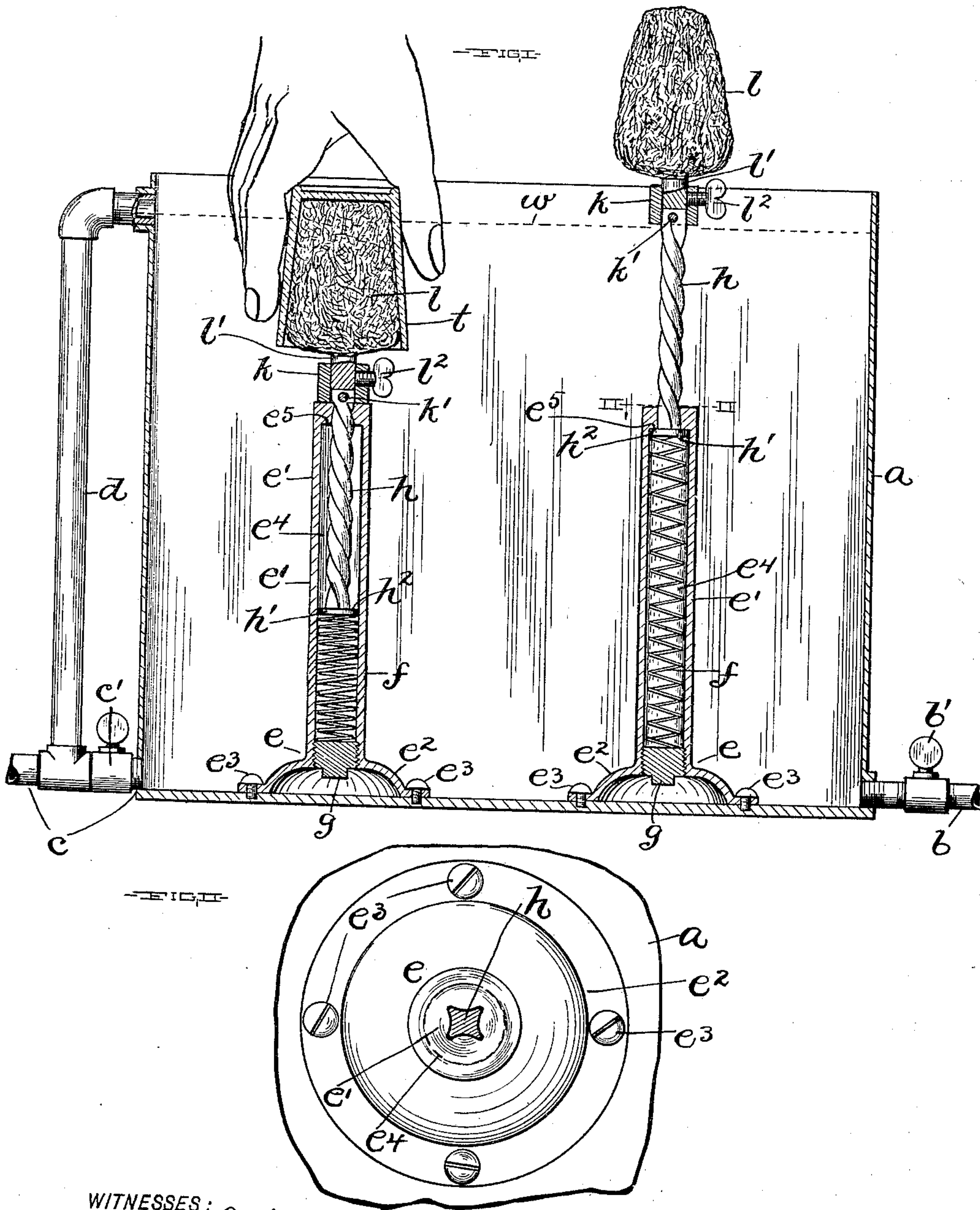
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O. P. MASON.
APPARATUS FOR CLEANING TUMBLERS.

(Application filed June 12, 1901.)

(No Model.)



WITNESSES:
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UNITED STATES PATENT OFFICE.

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APPARATUS FOR CLEANING TUMBLERS.

SPECIFICATION forming part of Letters Patent No. 686,984, dated November 19, 1901.

Application filed June 12, 1901. Serial No. 64,318. (No model.)

To all whom it may concern:

Be it known that I, ORLANDO P. MASON, a resident of Bellaire, in the county of Belmont and State of Ohio, have invented certain new and useful Improvements in Apparatus for Cleansing Tumblers, &c.; and I 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 pertains to make and use the same.

My invention relates to improvements in apparatus for cleansing the interior of tumblers, cups, and similar articles.

The object of this invention is to provide apparatus of the character indicated which is exceedingly simple and durable in construction, reliable in its operation, and not liable to get out of order.

With this object in view the invention consists in certain features of construction and combinations of parts hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure I is a side elevation, largely in section, of apparatus embodying my invention. Fig. II is a top plan in section on line II II, Fig. I, and shows the parts illustrated thereby on a larger scale than Fig. I.

Referring to the drawings, *a* designates a tank which is provided at one side and near the bottom with a valved water-supply pipe *b*, arranged to discharge into the tank. The tank *a* is also provided at the bottom with a valved drain-pipe *c* and at the top connects with an overflow-pipe *d*, discharging into the drain-pipe at the outer end of the valve-casing *c'* of the drain-pipe. Within the tank *a* are arranged a plurality of brush-bearing vertically-arranged cylindrical casings *e*. Each casing *e* comprises a vertically-arranged or upright tubular member *e'*, which terminates at its lower or inner end in a base *e²*, removably secured, by means of screws *e³*, to the bottom of the tank *a*. The said member *e'* contains a spiral spring *f*, which extends up and down or longitudinally of the said member *e'* and at the lower end of the said member *e* rests upon an externally-screw-threaded plug *g*, which engages correspond-

ing threads formed internally of the lower end of the member *e*. The spring *f* at its upper end bears upwardly against the lower end of a vertically-arranged solid spiral spindle *h*, which extends into the upper end of the member *e*. The chamber *e⁴* of the spring-containing casing *e* is cylindrical and uniform in size transversely from end to end, and the spindle *h* is provided at its inner end with a corresponding cylindrical head *h'*, snugly but slidably fitting the surrounding wall of the chamber *e⁴* and forming an outwardly-facing shoulder *h²*, which in the elevated and normal position of the spindle engages an inwardly-facing shoulder *e⁵*, formed internally of the said casing *e* a short distance below the upper extremity of the member *e'* of the said casing *e*. The spring *f* is normally under tension, as already indicated, acting upwardly upon the spindle, and obviously the aforesaid shoulders *h²* and *e⁵* constitute a stop for limiting the elevation of the spindle.

The tubular member *e'* extends a suitable distance above its shoulder *e⁵* and has its upper end, above the said shoulder, shaped to embrace and conform to and fit the spiral portion of the spindle, as shown more clearly in Fig. II, so that a reciprocation of the spindle through the said upper spindle-fitting end of the said member *e'* will result in the rotation of the spindle.

The spindle *h* is provided at its outer end with a vertically-arranged socket *k*, which has its inner end embracing the outer end of the spindle and rigidly secured to the latter by means of a pin *k'*. The socket *k* is engaged by the shank or stem *l'* of a vertically-arranged brush *l*, which stem or shank *l'* is rigidly but removably secured within the said socket *k* by means of a set-screw *l²*, which extends into engagement with the said shank or stem through a correspondingly-threaded lateral hole formed in the socket.

The tank *a* is of course preparatory to the operation of a brush *l*, supplied with water from the pipe *b* by opening the valve *b'* of the said pipe after closing the valve *c'* of the drain-pipe *c* if the said valve *c'* has not already been closed. The water-level within

the tank *a* is designated by the dotted line *w*, and the arrangement of parts is such that the brush-bearing spindles and spindle-supporting spring-containing casings are submerged within the water; but the brushes carried by the spindles are above the water-level. The tumbler or cup, which is to be cleansed internally, is placed upside down over the brush, and a suitable pressure upon the same will lower the spindle, which bears the brush adapted to operate upon the said cup or tumbler, against the action of the spring acting to retain the said spindle in its elevated position, and upon the removal of the pressure upon the tumbler or cup being cleansed the spring, which has been compressed during the descent of the spindle, will distend and return the spindle into its elevated and normal position.

Fig. 1 of the drawings shows a tank containing two brush-bearing spindles. The brush of one of the spindles is shown in its elevated and normal position ready to receive a tumbler or cup, whereas the other spindle is shown lowered by pressure exerted downwardly upon a tumbler *t*, placed over the brush of the said spindle.

It will be observed that my improved construction is exceedingly simple and comparatively inexpensive. The springs, which act to retain the brush-bearing spindles in their elevated and normal position, are efficiently supported or held in place within the spindle-supporting stand-forming casings *e*. The casings *e* can be readily removed from the tank for repairs or other purposes, and the springs *f* can be conveniently removed from the inclosing casing by unscrewing and withdrawing the plug *g* of the said casing. The formation of the spindle-rotating devices within the upper ends of casings *e*, which surround and support the springs, is especially meritorious on account of the simplicity, durability, and compactness possessed by such construction.

I would remark that the head *h'* of the spindle *h* is preferably an ordinary piston-head fitting the cylinder-forming tube *e'* internally, so as to prevent any water leaking into the cylinder at the spindle from passing the said head, and thereby excluding water from the spring within the said cylinder; but if the spring is made of material not affected by moisture the cylinder may be provided with perforations (not shown) to freely accommodate the passage of water there-through. It will be observed also that the outer end of the spindle forms the bottom of the chamber of the socket *k*, and the simplicity of this construction renders it meritorious.

What I claim is—

1. In cleansing apparatus of the character indicated, a brush-bearing spindle *h* capable of endwise reciprocation, and terminating, at

its inner end, with a head *h'* forming an outwardly-facing shoulder *h²*, means for effecting the rotation of the spindle during the reciprocation of the spindle, a spiral spring engaging the said head and arranged in line with and extending inwardly from the spindle, a casing inclosing the said spring and provided, near its upper extremity, with an inwardly-facing shoulder *e⁵* which coöperates with the aforesaid shoulder *h²* in limiting the endwise movement of the spindle by the spring.

2. In cleansing apparatus of the character indicated, a spiral spindle bearing a brush at its outer end and provided, at its inner end, with a head *h'* having the outwardly-facing shoulder *h²*, a casing *e* comprising a cylindrical hollow member *e'* provided near its outer end and internally, above the aforesaid shoulder, with an inwardly-facing shoulder *e⁵*, and embracing and conforming to and fitting the spiral portion of the spindle outwardly beyond the said shoulder *e⁵*, a spiral spring *f* contained within the aforesaid hollow member *e'* and having its outer end abutting against the inner end of the aforesaid head *h*, and an abutment for the inner end of the spring, substantially as shown for the purpose specified.

3. The combination, with a water-tank, a valved water-supply pipe arranged to discharge into the tank, a valved drain-pipe leading from the tank at the bottom of the tank, and an overflow-pipe leading from the upper portion of the tank to and connected with the drain-pipe at the outer end of the valve-casing of the drain-pipe, of an upright brush-bearing spiral spindle arranged within the tank and capable of endwise reciprocation, during the reciprocation of the spindle, a spiral spring acting outwardly against the inner end of the spindle, and a casing inclosing the said spring and supporting the spindle and provided with means for effecting the rotation of the spindle during the reciprocation of the spindle.

4. In cleansing apparatus of the character indicated, a brush-bearing spiral spindle capable of endwise reciprocation, and provided, at its inner end, with a piston-head, a spiral spring acting outwardly against the said head, and a cylinder-forming casing surrounding the head and the spring, means for supporting the casing, and means adapted to effect the rotation of the spindle during the reciprocation of the spindle, and formed within the outer end of the casing, substantially as and for the purpose set forth.

5. In cleansing apparatus of the character indicated, a brush-bearing spiral spindle capable of endwise reciprocation and provided, at its inner end, with a piston-head, a spiral spring acting outwardly against the said head, a cylinder-forming casing inclosing the aforesaid spring and surrounding and fitting the

aforesaid head, which casing has its inner
end provided with screw-threads, means for
supporting the casing at its inner end, a cor-
respondingly - threaded plug engaging the
5 aforesaid threads of the casing, and means
adapted to effect the rotation of the spindle
during the reciprocation of the spindle and
formed within the outer end of the casing,

substantially as shown, for the purpose speci-
fied.

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Signed by me at Bellaire, Ohio, this 8th day
of June, 1901.

ORLANDO P. MASON.

Witnesses:

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FRANK S. MASON.