

F. W. & G. L. REED.  
CLEANSING MACHINE.  
APPLICATION FILED JAN. 20, 1908.

927,165.

Patented July 6, 1909.  
2 SHEETS—SHEET 1.

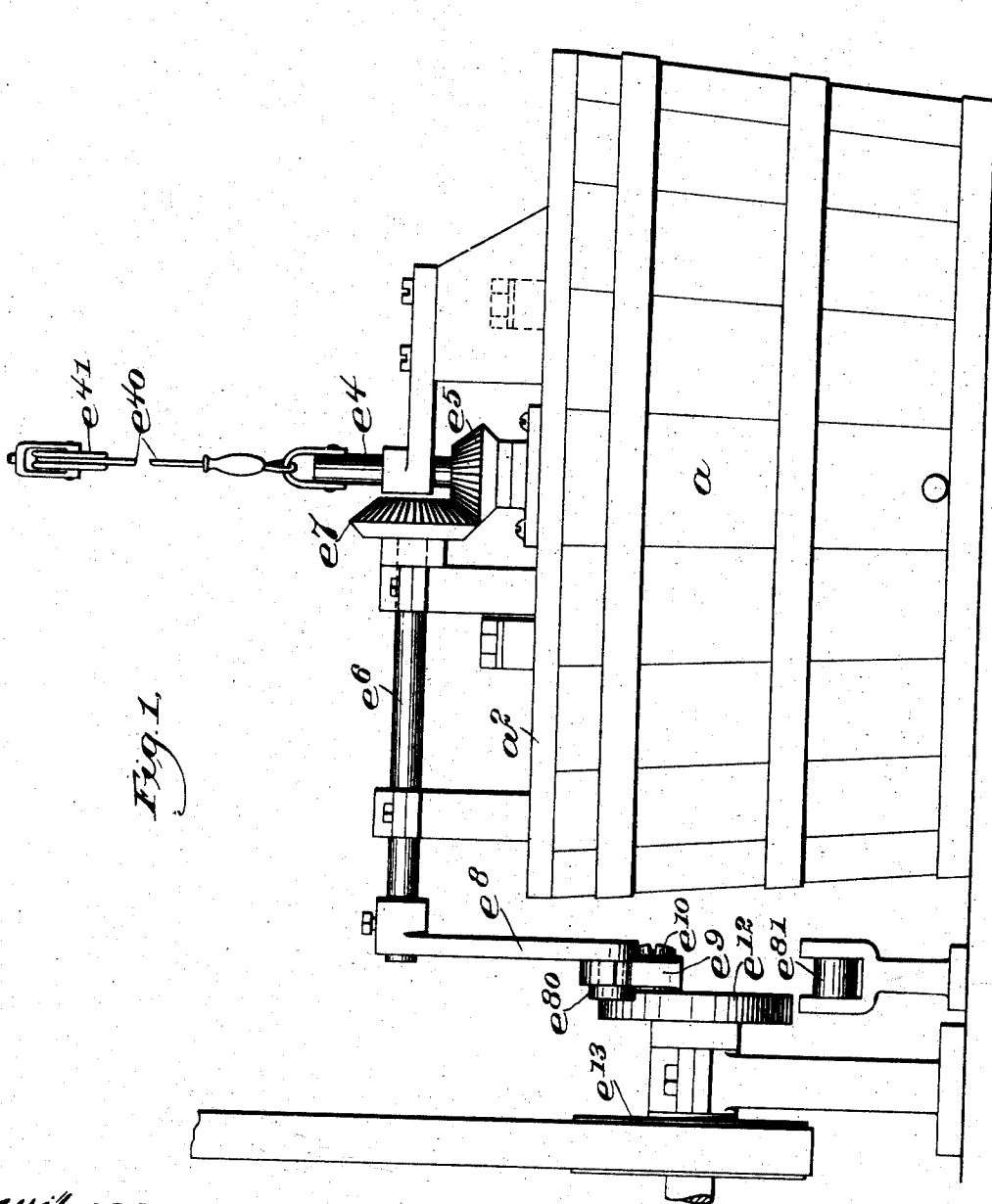


Fig. 1.

Witnesses:  
Jas. J. Maloney  
J. J. Maloney

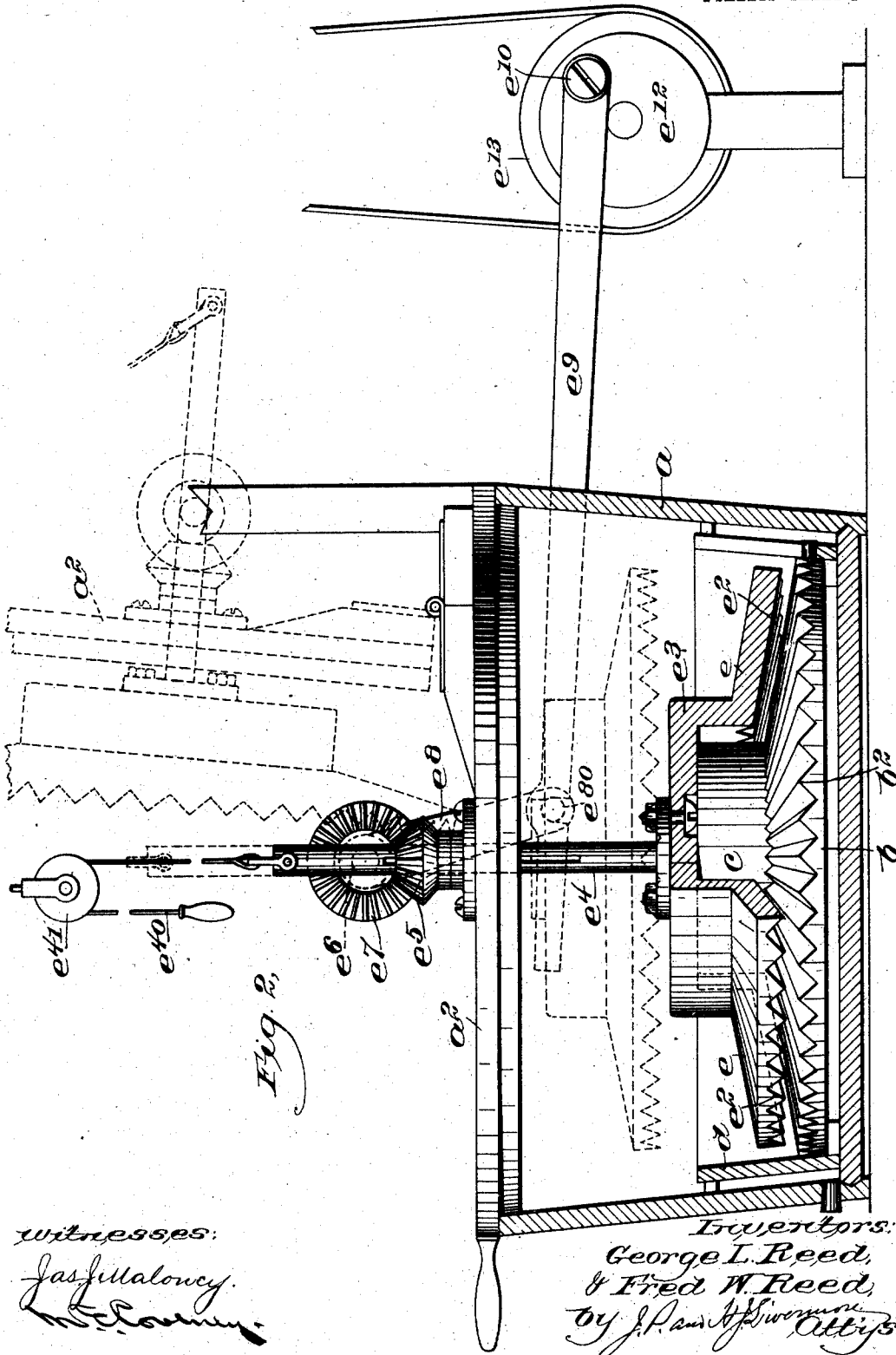
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witnesses:  
Jas. H. Maloney.  
J. P. Smith.

Inventors:  
George L. Reed,  
& Fred W. Reed,  
by J. P. Smith, Attorney.

# UNITED STATES PATENT OFFICE.

FRED W. REED AND GEORGE L. REED, OF BOSTON, MASSACHUSETTS.

## CLEANSING-MACHINE.

No. 927,165.

Specification of Letters Patent.

Patented July 6, 1909.

Application filed January 20, 1908. Serial No. 411,845.

*To all whom it may concern:*

Be it known that we, FRED W. REED and GEORGE L. REED, of Boston, Suffolk county, Massachusetts, have invented an Improvement in Cleansing-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

The present invention relates to a cleansing machine and is embodied in an apparatus especially designed for cleansing a number of small articles such, for example, as kid gloves, the purpose of the invention being to design the apparatus so that a quantity of the small articles can be operated upon at once, and each receive substantially the same treatment and be uniformly rubbed without danger of being caught and torn.

The apparatus embodying the invention comprises in part a receptacle to contain the cleansing fluid, the said receptacle having rubbing devices to act upon the article therein, and a further feature of the invention consists in arranging the receptacle so that the rubbing devices can be readily separated and the receptacle opened for the insertion or removal of the articles.

In accordance with the invention, the rubbing devices, at least one of which is movable with relation to the other, are so arranged as to be separated by a substantially uniform annular space, so that none of the articles which are operated upon can be pushed into a compact mass and caught between the operating devices and torn or otherwise injured.

The invention is shown as embodied in a circular receptacle, such as an ordinary tub, provided at the bottom with an abraded surface preferably having radial V-shaped projections like those of an ordinary scrubbing board, there being a vertical, cylindrical projection in the middle of the tub which preferably affords a support for a movable, cooperating, abraded scrubbing surface which lies over the one above described. The space between the side of the tub and this cylindrical projection is substantially uniform, the two scrubbing surfaces being vertically separated from each other so as to afford a space for the articles which are being operated upon. In the construction shown, the upper member is given an oscillating movement so that the articles contained in the space between the two rubbing surfaces are subjected to a

scrubbing action which is uniformly distributed throughout the mass, for the reason that the space is substantially uniform in width and depth, so that there is no tendency for the articles to accumulate in any one place. In order that the parts may be easily separated for filling and emptying the tub, the upper member is provided with a bearing in the cover of the tub in which bearing it is vertically movable, so that it can be lifted free from the cylindrical projection upon which it bears, after which the cover of the tub, which is preferably hinged, can be opened, the upper member being carried with the said cover. It is desirable, moreover, to provide the tub near the bottom with an inner wall which closely surrounds the scrubbing members, thus closing in the annular space between the two members without making the upper member of so large a diameter that it cannot be freely removed when the tub is opened.

Figure 1 is a front elevation of an apparatus embodying the invention; Fig. 2 is a vertical section of the same at a plane at right angles to Fig. 1.

The receptacle *a* is herein shown as in the form of an ordinary tub provided at the bottom with a stationary scrubbing surface *b* which is shown as provided with radial V-shaped ribs *b*<sup>2</sup> which extend toward the walls of the tub from a vertical, cylindrical core *c* between which and the wall of the tub an annular space is afforded in which the articles are operated upon. The stationary scrubbing member *b* is preferably made separate from the body of the tub and provided with a supplemental wall *d* which projects only part way up the main wall of the receptacle; the purpose of which construction will be hereinafter described. Cooperating with the stationary scrubbing surface *b* is a movable scrubbing surface *e* provided with ribs *e*<sup>2</sup> similar to the ribs *b*<sup>2</sup>, the two scrubbing members being separated from each other so as to form a substantially uniform annular space between them. In the construction shown, the member *e* has a crown portion *e*<sup>3</sup> which fits over and bears upon the top of the cylindrical core *c* and supports the movable scrubbing surface above the stationary scrubbing surface and is provided with an upwardly projecting shaft *e*<sup>4</sup> which has a splined connection with the gear *e*<sup>5</sup> bearing upon the cover *a*<sup>2</sup> of the receptacle *a*.

In order to reciprocate the member *e*, an

oscillating shaft  $e^6$  is mounted in bearings on the cover at the top, the said shaft having a bevel gear  $e^7$  in mesh with the gear  $e^5$ , and a crank arm  $e^8$  connected through a rod  $e^9$  with a wrist pin  $e^{10}$  on a continuously rotating disk  $e^{12}$ . The rotation of the disk  $e^{12}$ , therefore, rocks the arm  $e^8$  and oscillates the member  $e$  within the tub so as to rub the articles contained in the space between the two members  $b$  and  $e$ , the core  $c$  and the wall  $d$ . In order that the cover may be readily opened, the arm  $e^9$  is hung upon a projection  $e^{80}$  from the arm  $e^8$ , so that it can be lifted out of engagement therewith and dropped upon a supporting pulley  $e^{81}$ , thus disconnecting the apparatus from the driving pulley  $e^{13}$  without stopping the operation of the latter. In order to disengage the member  $e$  from the core  $c$  upon which it bears, the shaft  $e^4$  is arranged to be lifted by means of a rope  $e^{40}$  passing over a pulley  $e^{41}$ , the lifted position being shown in dotted lines, Fig. 2. The cover  $a^2$  can then be lifted, as shown in dotted lines, Fig. 2, for filling or emptying the tub. The inner wall  $d$  which has been previously described, closes in the space around the member  $e$ , so that the said member can be sufficiently small in diameter with relation to the diameter of the tub  $a$  to be clear of the walls thereof when the cover is lifted.

#### Claims.

1. In a cleansing apparatus, the combination with a receptacle circular in cross-section, of a stationary rubbing surface located in the bottom of said receptacle, a stationary vertical cylindrical core concentric with said receptacle and extending upwardly at the center of said stationary rubbing surface, and a movable rubbing surface having a crown fitted upon and bearing on the top of said cylindrical core and supporting said movable rubbing surface above the stationary rubbing surface, whereby an annular space is afforded between said rubbing surfaces.

2. The combination with a receptacle, of an inner wall terminating below the top of the main wall of the receptacle, a stationary cylindrical vertical core extending upwardly at the center of the receptacle, a stationary rubbing surface having upwardly extending radial projections surrounding said core at its bottom and extending to said inner wall, and a movable rubbing member having a closed crown fitted and resting upon the top of said core and supporting said movable rubbing member above the stationary rubbing surface, and a rubbing surface upon the under side of said movable rubbing member surrounding said crown, whereby an annular space with rubbing surfaces above and below is provided between said core and inner wall for the reception of the articles to be cleansed.

3. In a cleansing machine, the combination with a receptacle provided with a stationary rubbing surface at its bottom, a stationary core projecting upwardly at the center of said rubbing surface, a movable rubbing member having a crown fitted and resting upon the top of said core and supporting said rubbing member above the stationary rubbing surface, and a rubbing surface on the under side of said movable rubbing member surrounding said crown, a cover for the receptacle having a hinge connection, driving gears mounted on said cover, and a shaft secured to and projecting from the crown of the movable rubbing member and having a splined connection with one of said driving gears, substantially as and for the purpose described.

In testimony whereof, we have signed our names to this specification in the presence of two subscribing witnesses.

FRED W. REED.  
GEORGE L. REED.

Witnesses:

JAS. J. MALONEY,  
CHARLES O. HOPKINS, Jr.