

No. 833,751.

PATENTED OCT. 23, 1906.

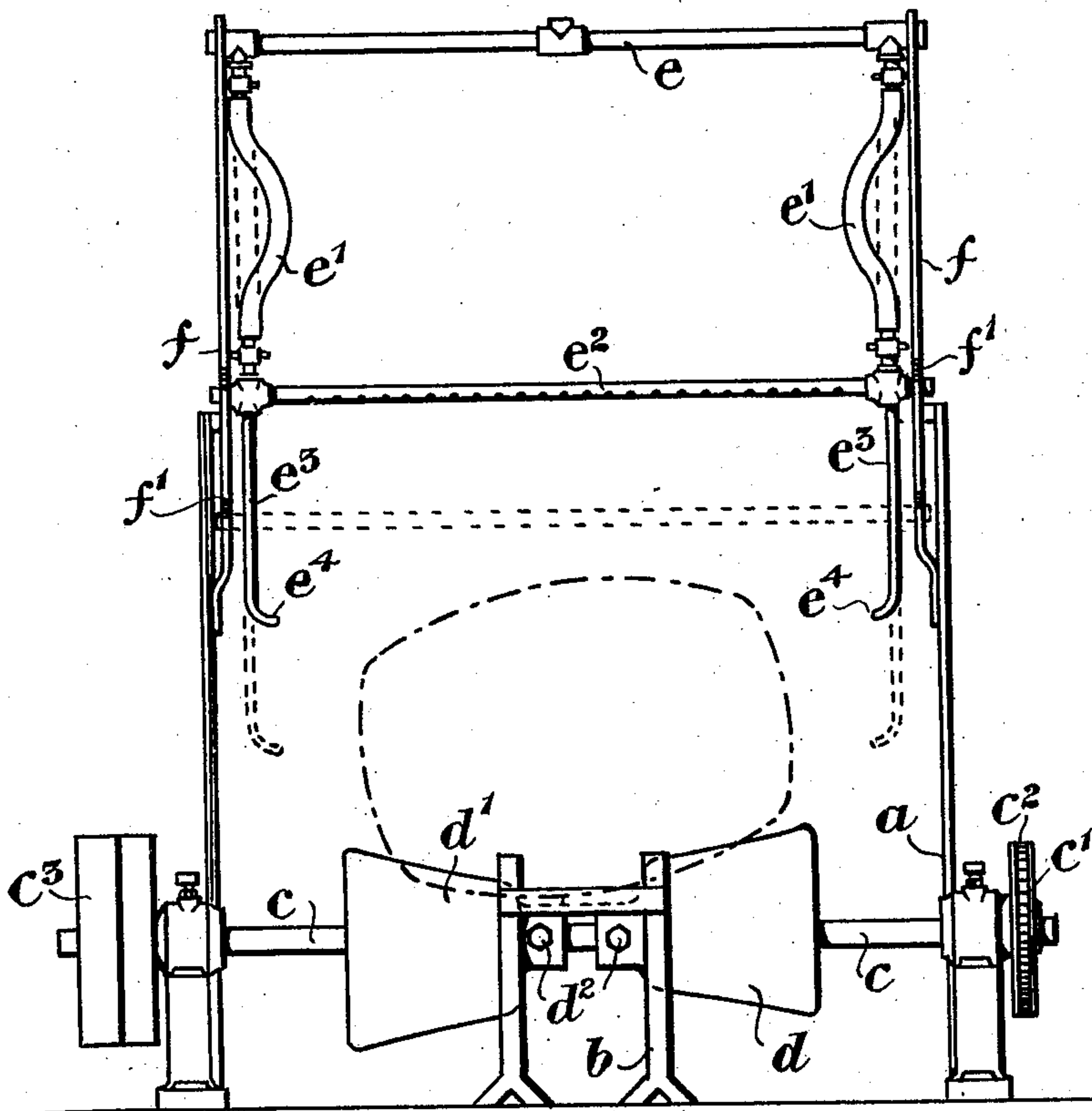
H. C. RUSSELL.

APPARATUS FOR WASHING AND CLEANSING LINED CASKS, BARRELS,
AND THE LIKE VESSELS.

APPLICATION FILED MAY 19, 1903.

3 SHEETS—SHEET 1.

Fig. 1.



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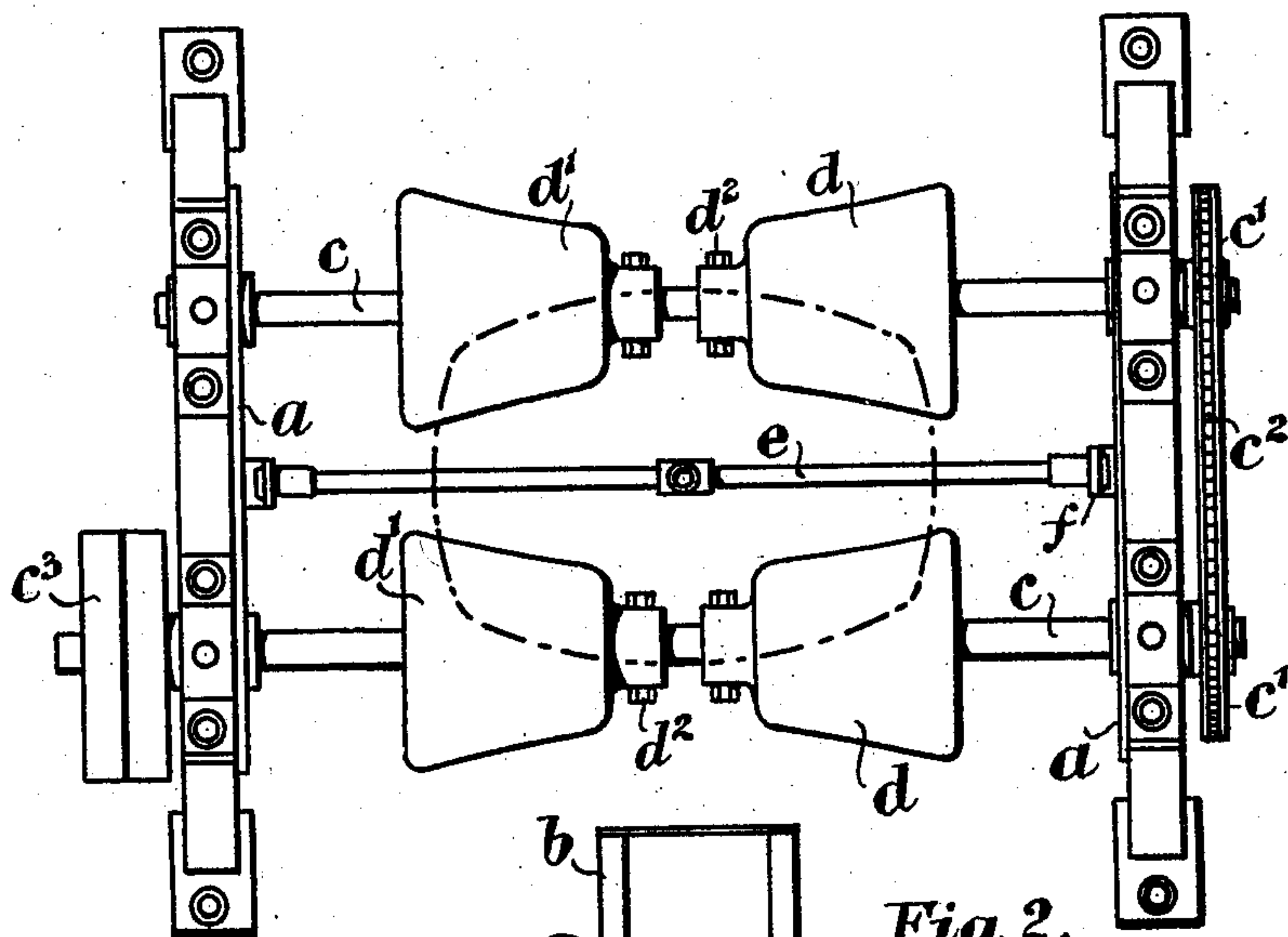
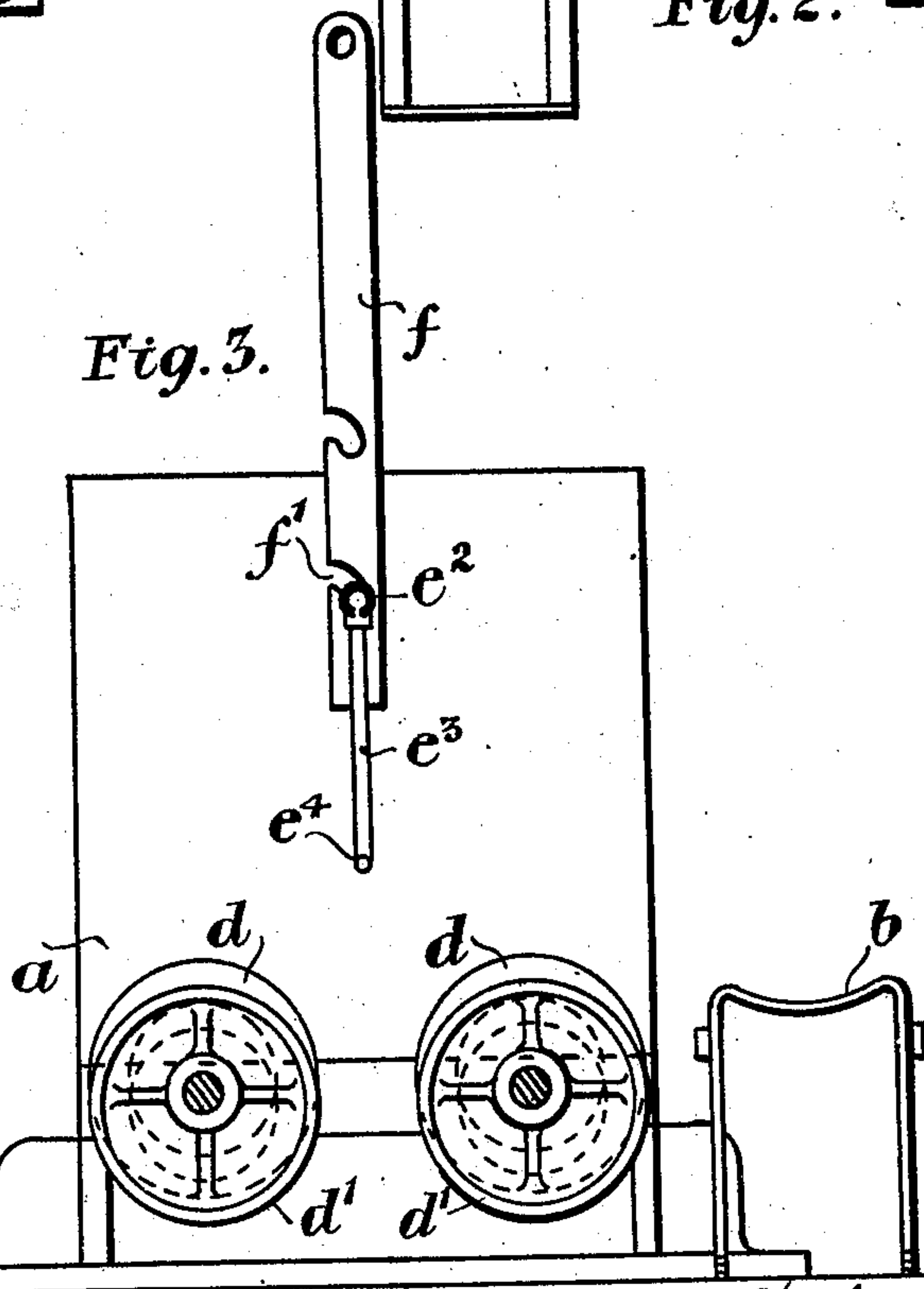


Fig. 2.

Fig. 3.



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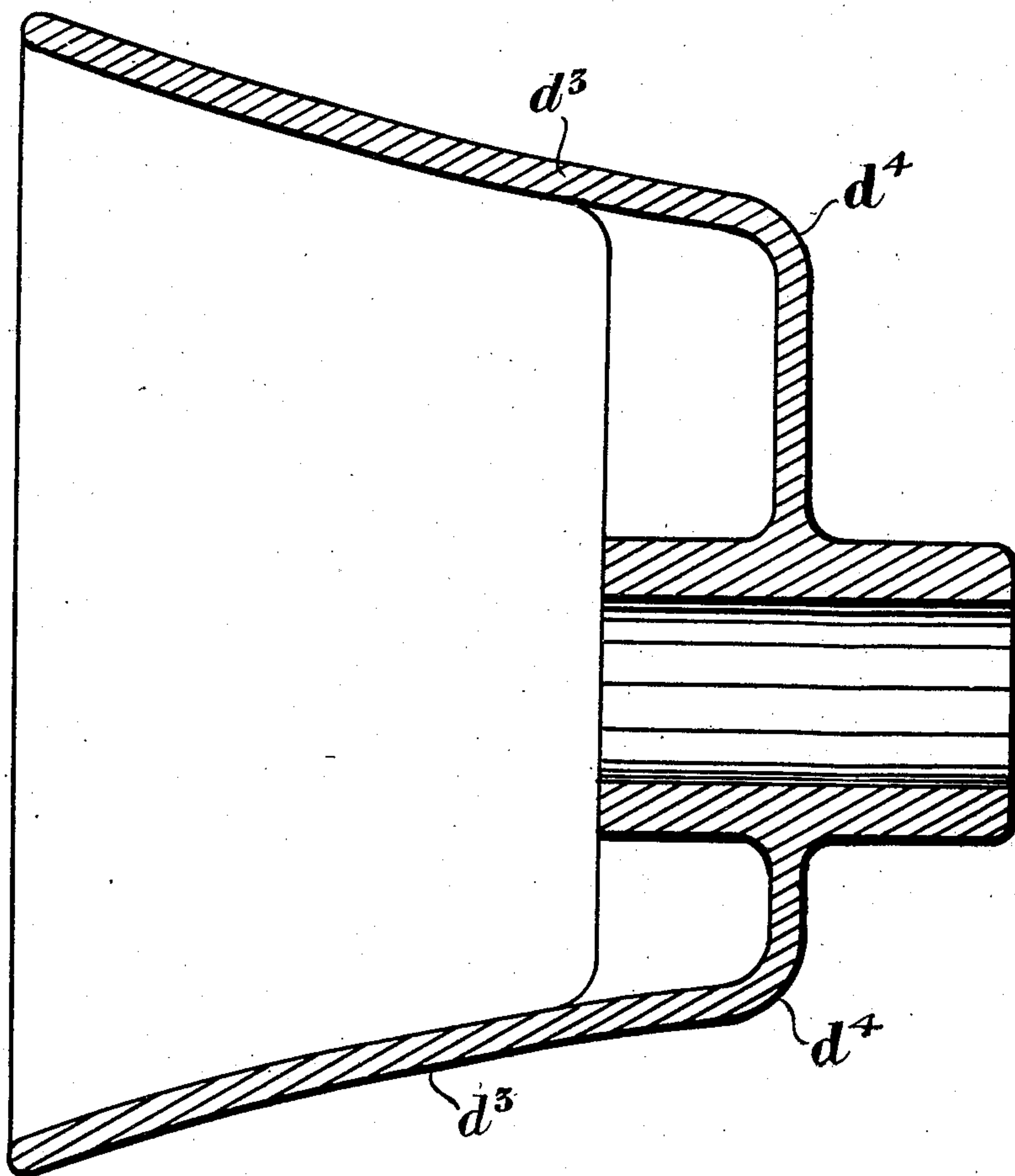
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3 SHEETS—SHEET 3.

Fig. 3^a



Witnesses
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UNITED STATES PATENT OFFICE.

HERBERT CHARLES RUSSELL, OF LONDON, ENGLAND.

APPARATUS FOR WASHING AND CLEANSING LINED CASKS, BARRELS, AND THE LIKE VESSELS.

No. 833,751.

Specification of Letters Patent.

Patented Oct. 23, 1906.

Application filed May 19, 1903. Serial No. 157,779.

To all whom it may concern:

Be it known that I, HERBERT CHARLES RUSSELL, engineer, a subject of the King of Great Britain, residing at 6 Duke street, Aldgate, in the city of London, England, have invented certain new and useful Improvements in Apparatus for Washing and Cleansing Lined Casks, Barrels, and the Like Vessels, of which the following is a specification.

10 In practice it has been found that casks, barrels, and the like vessels (hereinafter referred to as "casks") lined with paraffin-wax, pitch, or other air and water tight lining material or composition cannot be cleansed by the ordinary methods, as the hot water or steam usually employed for washing casks rapidly destroys the lining material. Cold water has been tried and found ineffective as a washing or scouring medium for lined casks. Moreover, it has a disadvantageous hardening effect on the wax or other lining material and in some cases fixes the hop bottom or other sediment in or to the wax or lining.

25 The object of this invention is to provide a method and means for washing lined casks without damaging the lining, while thoroughly removing at one operation all sedimentary matter, so that the inside of the cask is sweet and ready for use immediately after the washing.

30 According to this invention the lined casks are supplied with a measured quantity of water (so as to about half fill the cask under treatment) of a definite temperature below that of the melting-point of the lining, (preferably about 100° Fahrenheit,) and the spent hops or other sediment in the cask forms with this tepid water a thick sludgy mass or scouring medium. The cask is subjected to a simultaneous rotatory and rocking motion, so that the contained measured quantity of tepid scouring medium will be dashed against the ends of the cask and swilled around. At the same time the exterior of the cask is washed by jets of water or other suitable cleansing medium.

40 The apparatus employed for carrying out this invention comprises a rocking bed for imparting the required rotatory and rocking motion to the casks, perforated pipes and nozzles for supplying water to the exterior of the cask when on the rocking bed, vessels for containing measured quantities of water for cleansing various-sized casks, and a tank in which hot and cold water are thoroughly

mixed together and brought to the desired temperature. The rocking bed is so constructed and arranged that without alteration or adjustment it will accommodate 60 casks of any capacity (from four and one-half to seventy-two gallons) and of any ordinary bilge or curvature, and no brushes or other extraneous means are required to keep the casks in position on the bed during the rocking and rotating. Furthermore, the rocking movement will not tend to displace the cask-hoops.

In the accompanying drawings, Figure 1 is a front elevation of the cask-washing apparatus. Fig. 2 is a plan, and Fig. 3 is a sectional end elevation, of the same. Fig. 3^a is a longitudinal section of one of the four conoidal forms or frustums forming the rocking bed.

75 The same parts are lettered to correspond in all the figures of the drawings.

The cask-washing apparatus shown in Figs. 1 to 3 consists of a suitable frame *a*, with inclined gauntrees *b* for the casks and with two 80 parallel shafts *c*, mounted horizontally in suitable bearings in the frame *a* and geared together, so as to rotate in the same direction. In the drawings the shafts *c* are shown each provided with sprocket-wheel *c'*, which are 85 geared together by a chain *c²*, the power being derived from a driving-pulley *c³*, fast on one of the shafts. Each shaft *c* is fitted with any suitable number of pairs of conoidal forms or conoidal frustums or the like *d d'*, eccentrically mounted on the shafts and arranged so that the eccentricity of one member *d* of each pair is diametrically opposite to that of the other, *d'*, and the conoidal forms or conoidal frustums *d d'* are similarly mounted and arranged in corresponding positions on their respective shafts *c*, and so also are the forms or frustums *d' d'*. The conoidal forms or frustums *d d'* are fitted with set-screws *d²* or like means for securing them on their shafts *c*, 100 and a cask is laid with its chimes resting on four conoidal forms or conoidal frustums *d d'*—*i. e.*, on the conoidal surfaces of a pair on each shaft, as shown by the dotted lines in Fig. 2. The conoidal frustums *d d'* are of such size 105 and curvature and are so arranged on their shafts as to be capable of accommodating any ordinary cask. By reason of the eccentric mounting of the conoidal forms or conoidal frustums *d d'* the cask laid thereon 110 will when the shafts *c* are rotated dip downward at its front and rear ends alternately

and at the same time will be rotated by the friction of the conoidal forms or conoidal frustums $d d'$, the curved surfaces d^3 (see Fig. 3^a) of which prevent the cask from being
 5 thrown out of position off the rocking-bed, while the rounded ends or shoulder d^4 will prevent the cask from being jolted when tilted by the rotating conoidal forms or frustums.

Above the conoidal frustums $d d'$ is located
 10 a pipe e , supplied with water or other cleansing medium from a reservoir or other source of supply. To the pipe e is connected flexible hose or adjustable pipes e' , communicating with a horizontal pipe e^2 , perforated on its
 15 under side and fitted with end pipes e^3 , having jets or nozzles e^4 thereon for discharging the water or other cleansing medium onto the exterior of the cask-heads, the perforated pipe e^2 discharging onto the staves of the cask as it
 20 rotates and rocks on the eccentric conoidal forms or frustums $d d'$. Any suitable means for adjusting the perforated pipe e^2 according to the size of the cask under treatment may be adopted. In Figs. 1 and 3 notched racks
 25 f are shown affixed to the frame a , into one or other of the notches f' of which the perforated pipe e^2 is placed, so that the liquid issuing from the nozzles e^4 , fixed on or to the end pipes e^3 , will discharge directly upon the
 30 heads of the cask on the rocking bed.

After the cask has been sufficiently rocked and rotated it is rolled along the gauntree b to

a bed or rest, (not shown,) where the wash-water or other medium is drained off and, if desired, further cleansing medium sprayed or
 35 injected therein through the tap-hole, thereby discharging all sediment and other deleterious matter through the bung-hole of the cask.

A measured quantity of tepid water is admitted to each cask before it is placed on the rocking apparatus, so as to form, with the
 hop and yeast sediment remaining therein, a thick sludgy mass and scouring medium.

Having fully described my invention, what
 45 I claim, and desire to secure by Letters Patent, is—

An apparatus for rocking and rotating casks comprising four conoidal frustums, two parallel shafts upon which the said frus-
 50 tums are eccentrically mounted in pairs, the eccentricity of one member of each pair being diametrically opposite to that of the other member of the corresponding pair, and means for rotating the shafts and consequently the
 55 frustums in the same direction.

In testimony whereof I have hereunto set my hand, in presence of two subscribing witnesses, this 28th day of April, 1903.

HERBERT CHARLES RUSSELL.

Witnesses:

GEO. J. B. FRANKLIN,
 W. J. NORWOOD.