

No. 661,805.

Patented Nov. 13, 1900.

G. VON LANGEN.  
BOTTLE WASHING MACHINE.

(Application filed July 21, 1900.)

(No Model.)

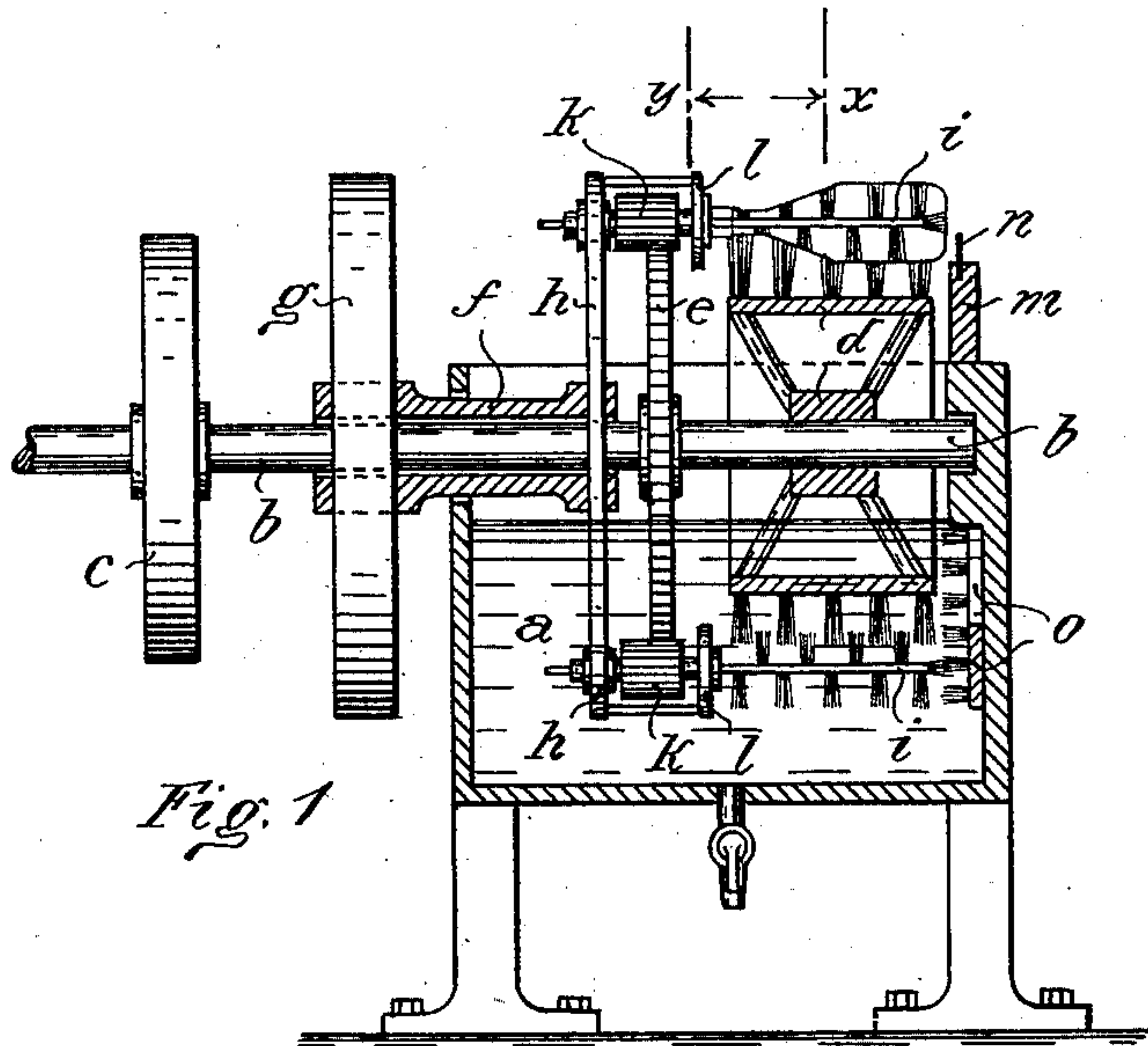


Fig. 1

Fig. 2

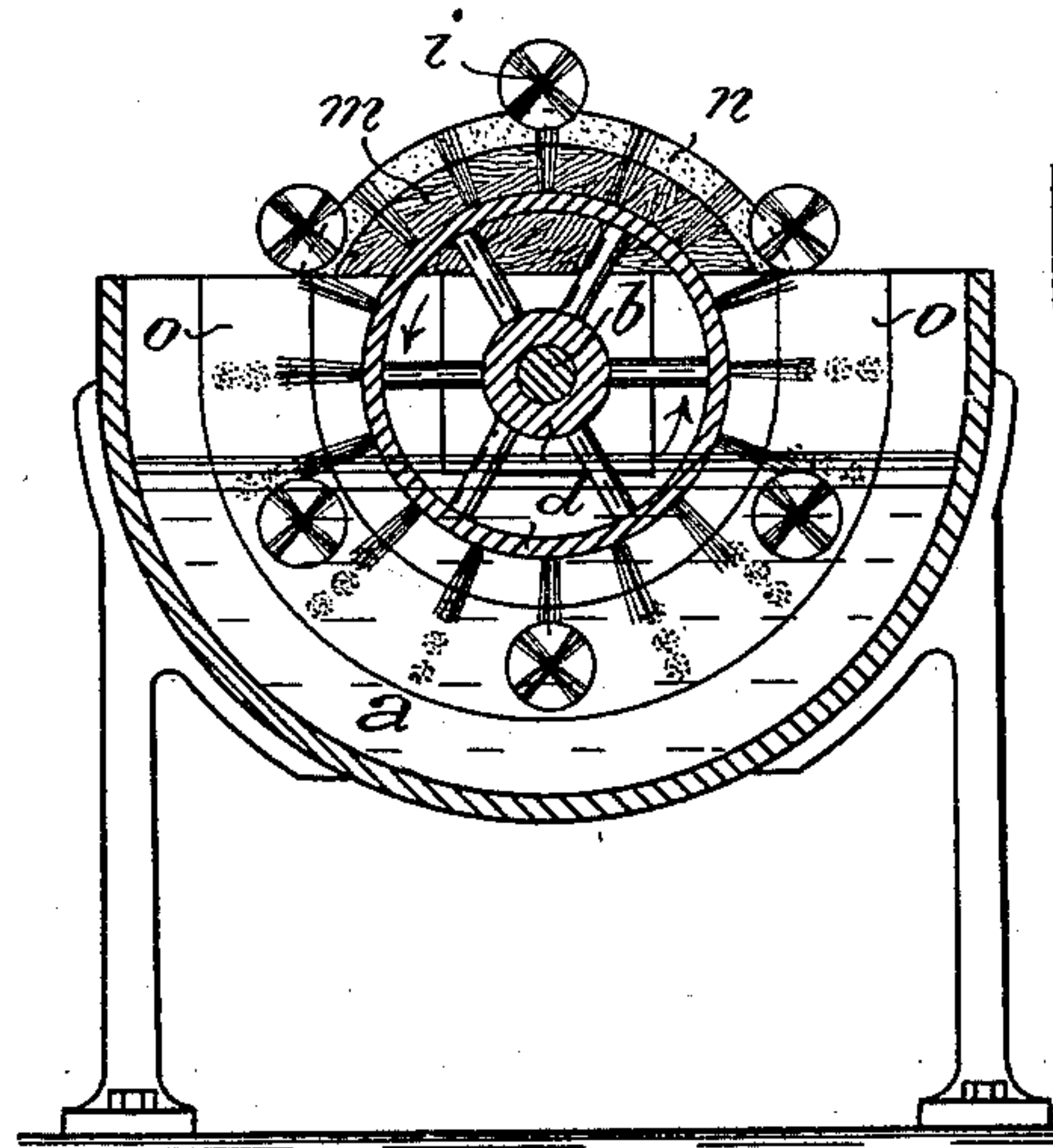
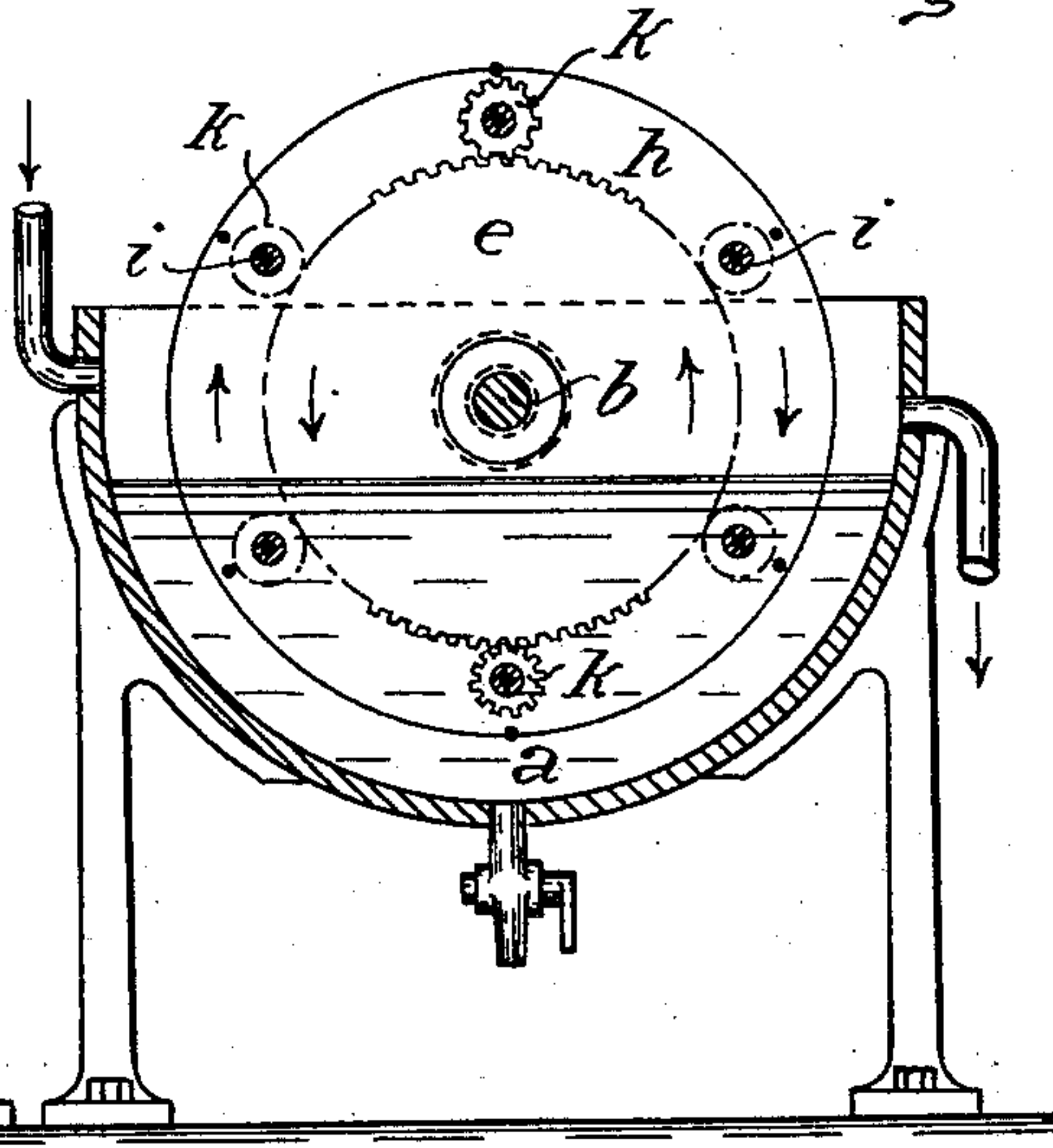


Fig. 3



Witnesses:

J. W. McMahon.  
L. M. Shireman.

Günther von Langen  
by B. Singer  
Inventor,  
Att'y.



# UNITED STATES PATENT OFFICE.

GÜNTHER VON LANGEN, OF FÜRSTENBRUNN, GERMANY, ASSIGNOR TO  
THE FILTER UND BRAUTECHNISCHE MASCHINEN FABRIK ACTIEN-  
GESELLSCHAFT, VORMALS L. A. ENZINGER, VORMALS SELLENSCHIEDT,  
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## BOTTLE-WASHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 661,805, dated November 13, 1900.

Application filed July 21, 1900. Serial No. 24,382. (No model.)

*To all whom it may concern:*

Be it known that I, GÜNTHER VON LANGEN, a subject of the King of Prussia, German Emperor, residing at Fürstenbrunn, near Westend, near Berlin, in the Kingdom of Prussia, German Empire, have invented certain new and useful Improvements in Bottle-Washing Machines, of which the following is a specification.

10 This invention relates to bottle-cleansing machines in which a very thorough interior and exterior cleaning of the bottles is obtained by means of the arrangement hereinafter described.

15 In order to make my invention more clear, I refer to the accompanying drawings, in which similar letters denote similar parts throughout the several views, and in which—

20 Figure 1 is a vertical longitudinal section through the machine. Fig. 2 is a vertical cross-section in line *x x* of Fig. 1, and Fig. 3 is a similar section in line *y y* of same figure.

The shaft *b* is supported in or by the semicircular casing *a* and is provided with a pulley *c*, a brush-roller *d*, a cog-wheel *e*, and a sleeve *f*, the latter carrying another pulley *g* and a disk *h* and being rotatably and longitudinally displaceable upon the shaft *b*. The disk *h* has around its circumference spindles *i*, provided with brushes, as well as with pinions, taking into the cog-wheel *e*. The disk *h* is further furnished with a number of bolts holding a ring *l*, the latter serving for supporting the bottles to be washed. The upper bottles are prevented against gliding off the spindles *i* by a rubber piece *n*, embedded into a wooden plate *m*, and the lower bottles are held back by a brush *o*, serving at the same time for cleaning the bottom of the bottles.

40 The operation of the machine is as follows: The brush-roller *d* is rotated by the shaft *b* and the pulley *c*, as is also the cog-wheel *e*, which rotates the pinions *k* and the brush-spindles *i*. The disk *h* is rotated by the sleeve *f* and the pulley *g*, but the direction of the rotation is opposite to that of the cog-wheel *e*.

The bottles supported by the ring *l* are thus carried around and through the washing-water contained in the vessel *a*, and they are at the same time powerfully acted upon by the brushes of roller *d*, spindles *i*, and at *o*, thus being thoroughly cleansed in a very short time. The washed bottles may be taken off the upper spindles and replaced by dirty ones without stopping the machine, so that work may continually proceed. The sleeve *f* may be displaced along the shaft *b*, and the long pinions *k* are thereby displaced upon the cog-wheel *e* without being disengaged therefrom, so that bottles of different sizes may be put upon the spindles *i*.

Having now described my invention, what I desire to secure by Letters Patent of the United States is—

1. In a bottle-washing machine the combination of a central rotary brush *d*, a disk *h* adapted to rotate reversely to said brush, a shaft supporting said central brush, a sleeve mounted on said shaft and carrying said disk, rotary brush-carrying spindles carried by said disk, and means for rotating the central brush and the spindles independently upon their individual axes while said spindles are concurrently carried around the axis of the central brush.

2. In a bottle-washing machine, the combination of a central rotary brush *d* and its shaft, a disk *h* adapted to rotate reversely to said brush, a sleeve carrying said disk and concentric with and rotatable and longitudinally displaceable upon the shaft of said central brush, a spur-gear fixed upon said shaft adjacent to said disk, a series of brush-carrying spindles carried by said disk and provided with elongated pinions engaging with said spur-gear, and means for driving the central brush-shaft and the sleeve in opposite directions.

3. The combination of the semicircular casing or trough *a*, the shaft *b*, the brush-roller *d*, the cog-wheel *e*, the sleeve *f* with its disk *h*, the spindles *i* with their brushes and elongated pinions, the fixed brush *o*, and means



for driving the shaft and sleeve in directions opposite each other.

4. The combination of the semicircular casing or trough *a*, the shaft *b*, the brush-roller  
5 *d*, the cog-wheel *e*, the sleeve *f* with its disk  
*h*, the spindles *i* with their brushes and elongated pinions, the supporting-ring *l*, the rubber guard *n*, the fixed brush *o*, and means

upon said shaft and sleeve whereby they may be concurrently driven in opposite directions. 10

In witness whereof I have hereunto set my hand in presence of two witnesses.

GÜNTHER VON LANGEN.

Witnesses:

WOLDEMAR HAUPT,  
HENRY HASPER.