

No. 711,244.

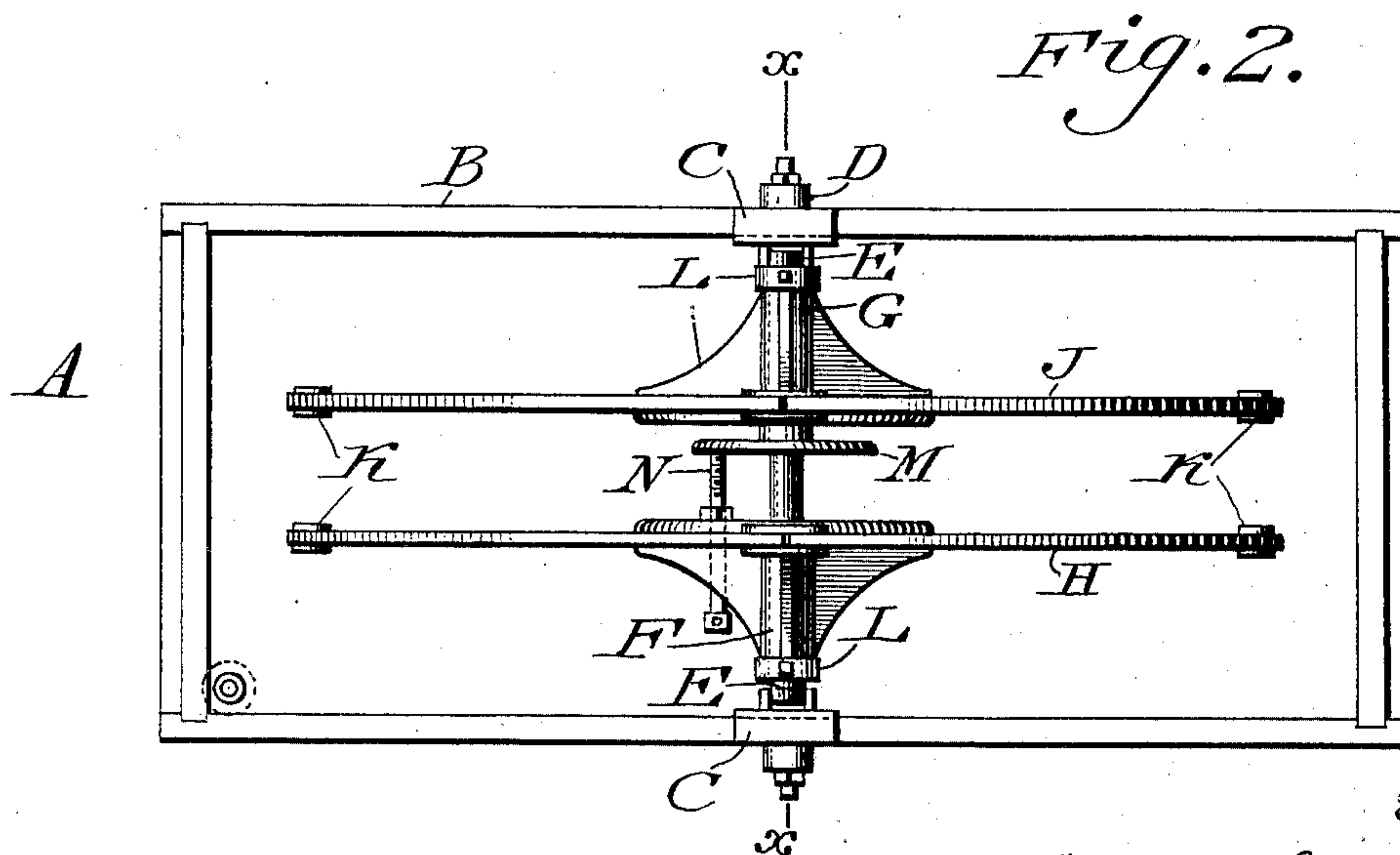
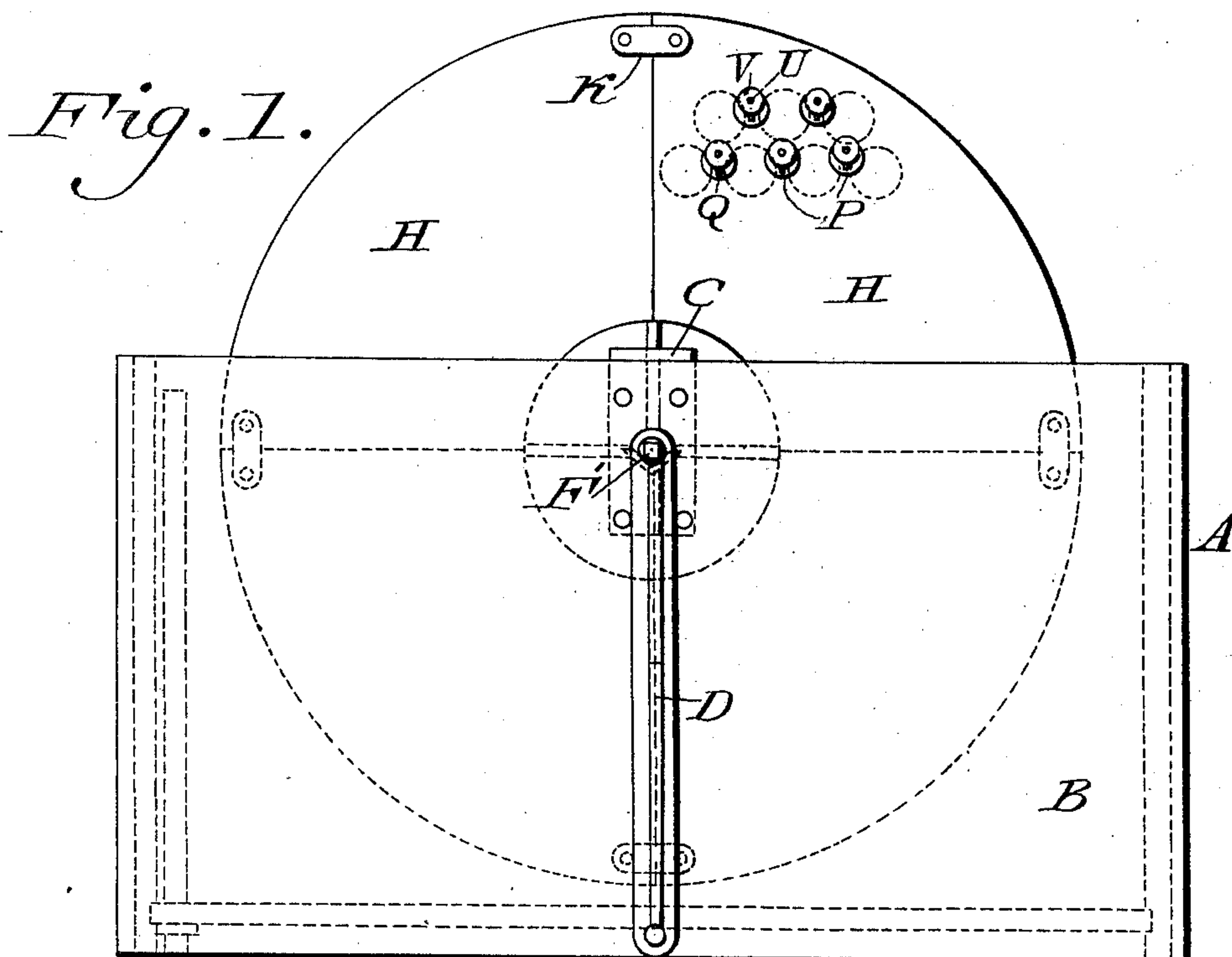
Patented Oct. 14, 1902.

W. J. CUNNINGHAM.
BOTTLE WASHING MACHINE.

(Application filed Nov. 25, 1901.)

(No Model.)

2 Sheets—Sheet 1.



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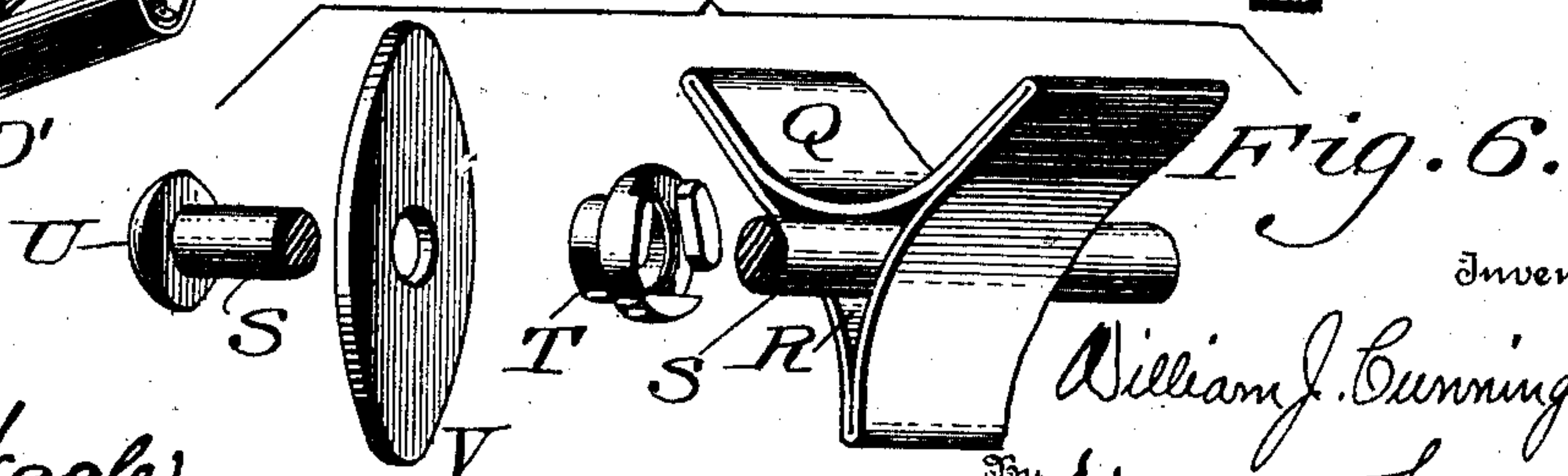
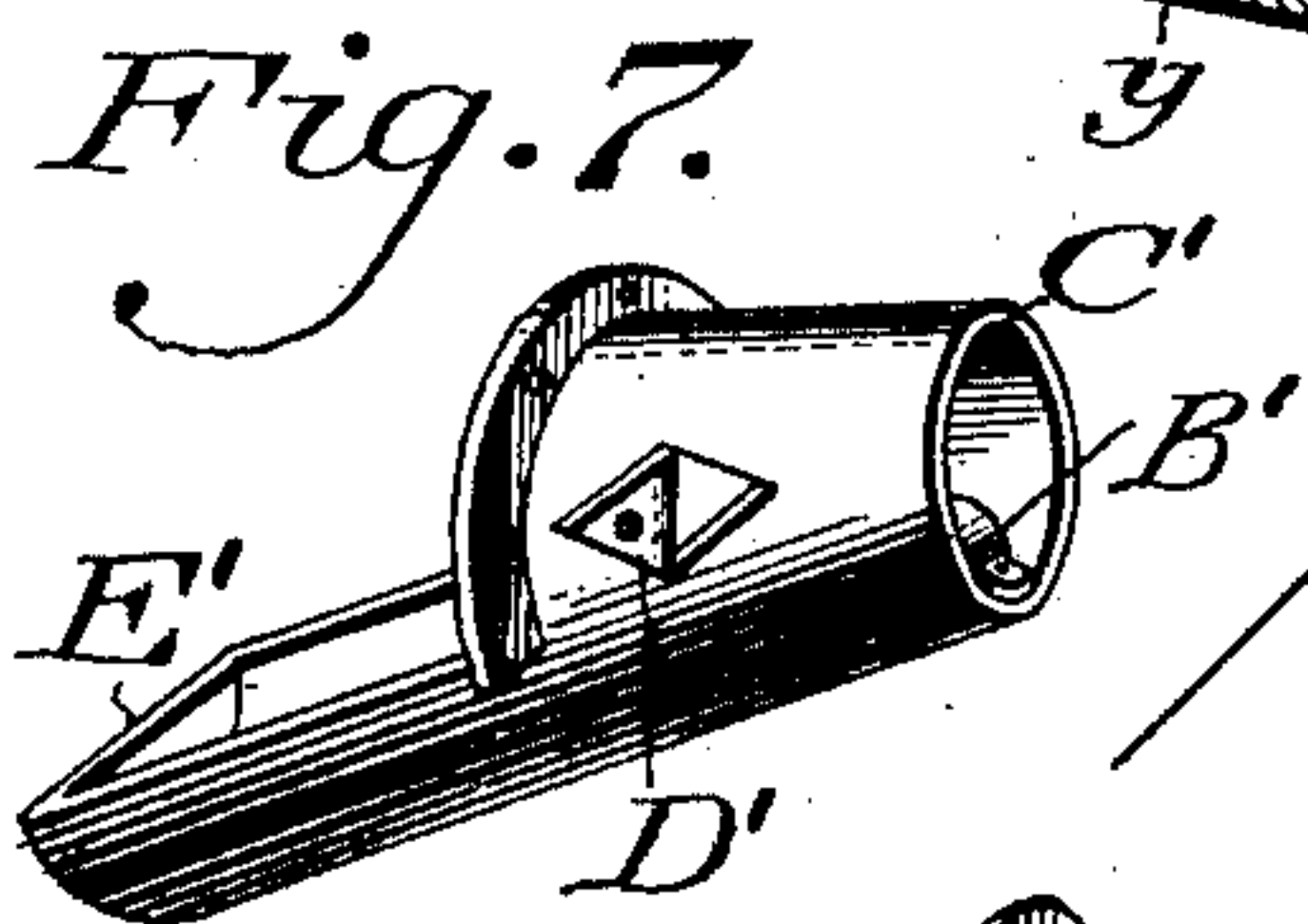
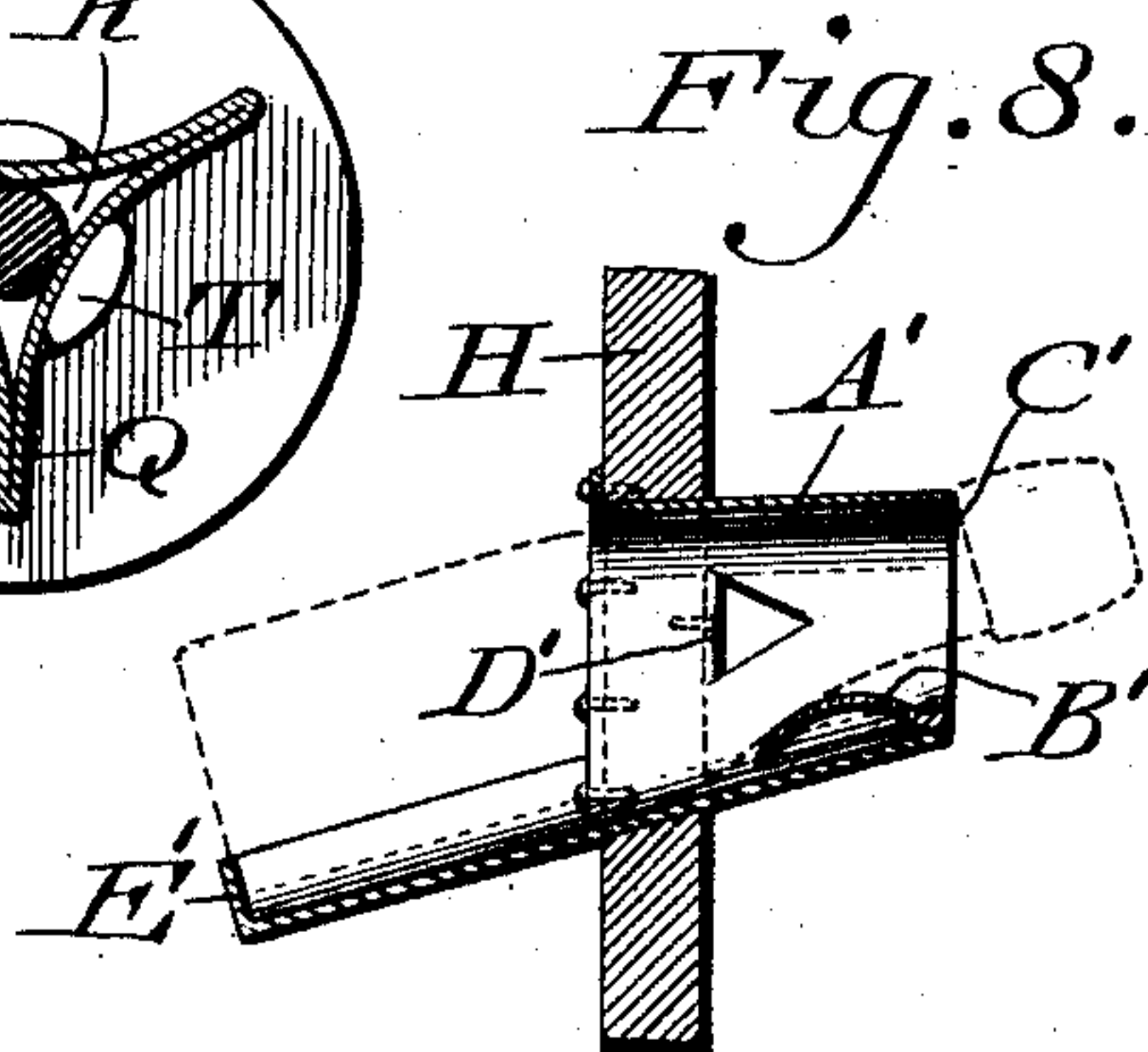
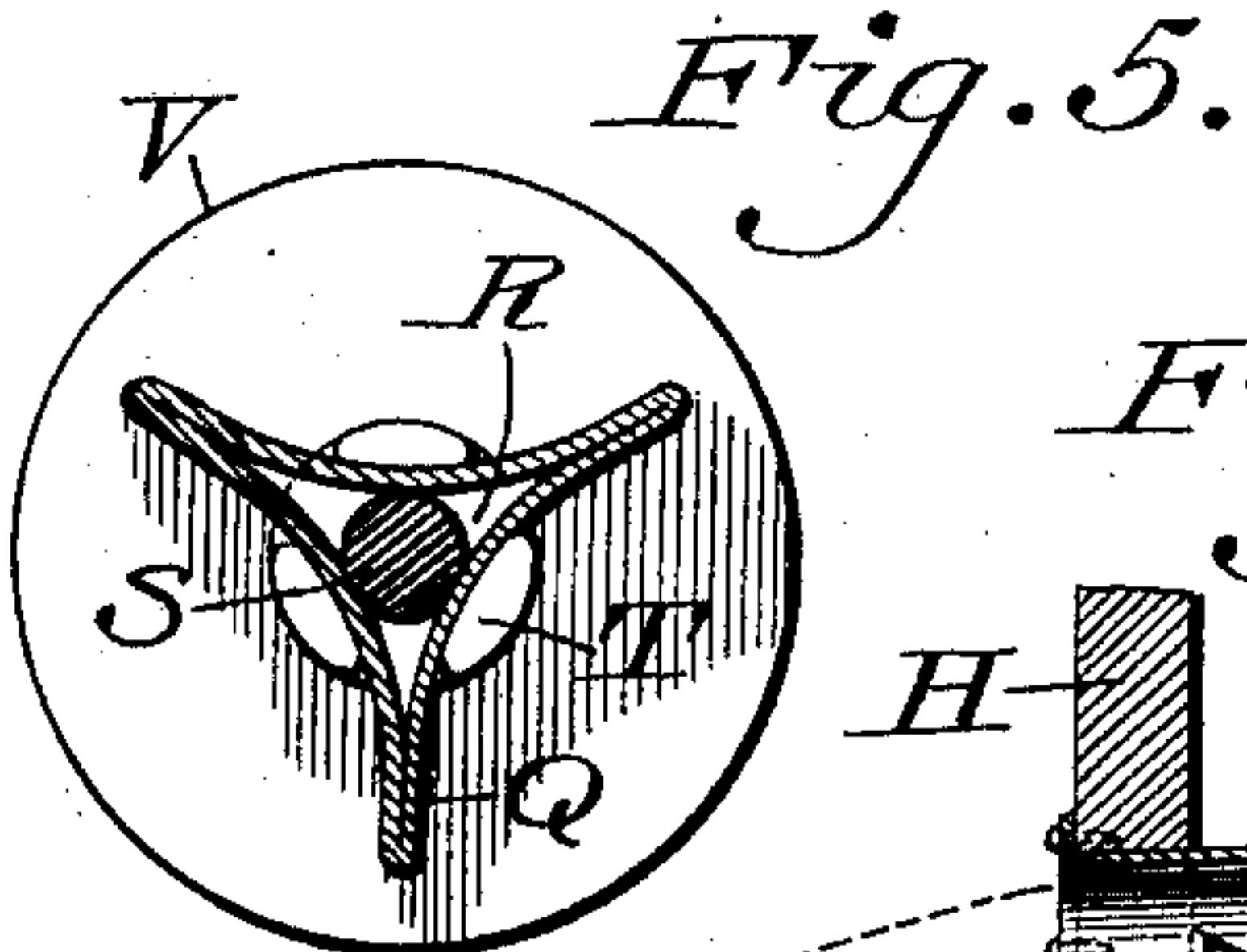
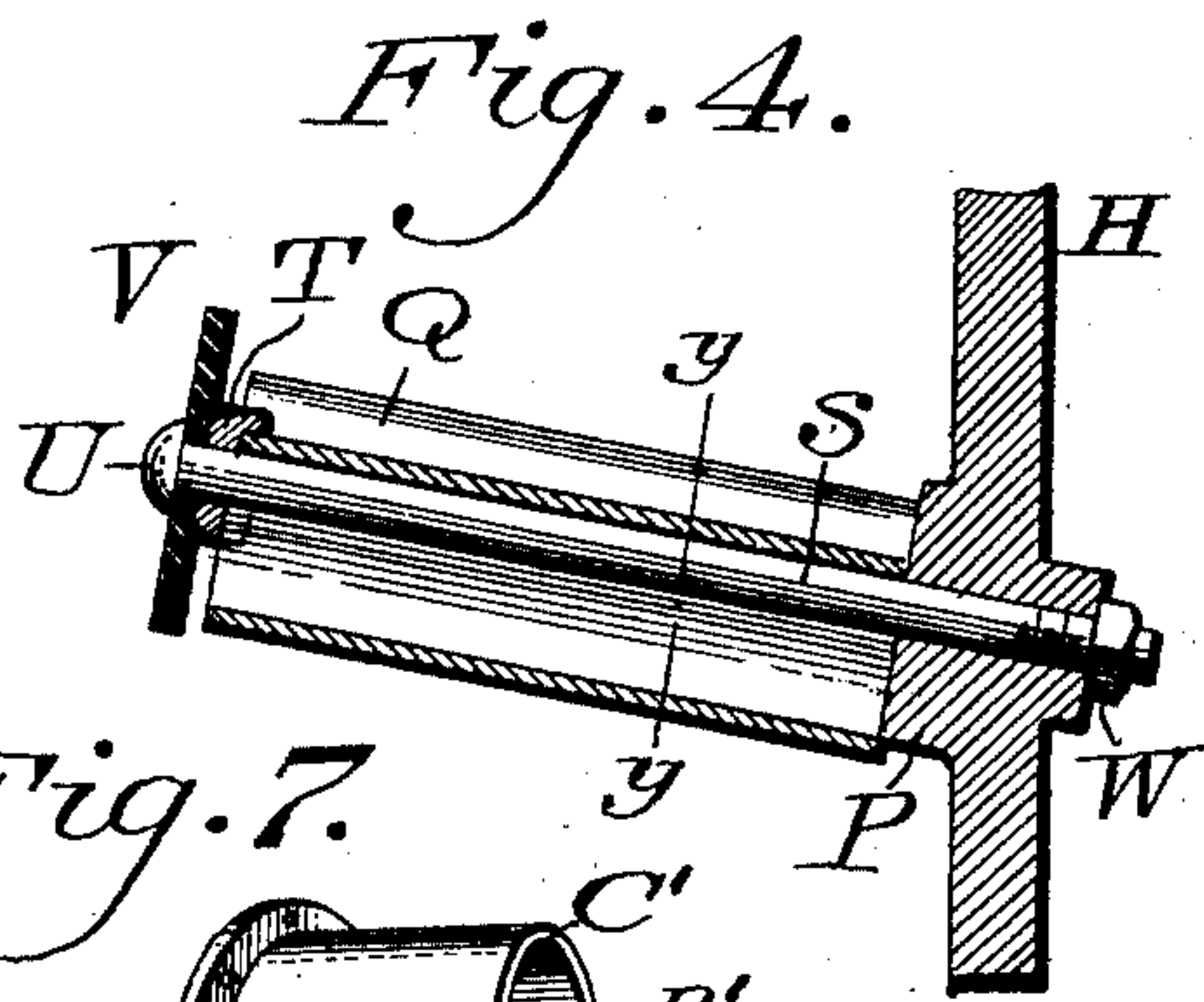
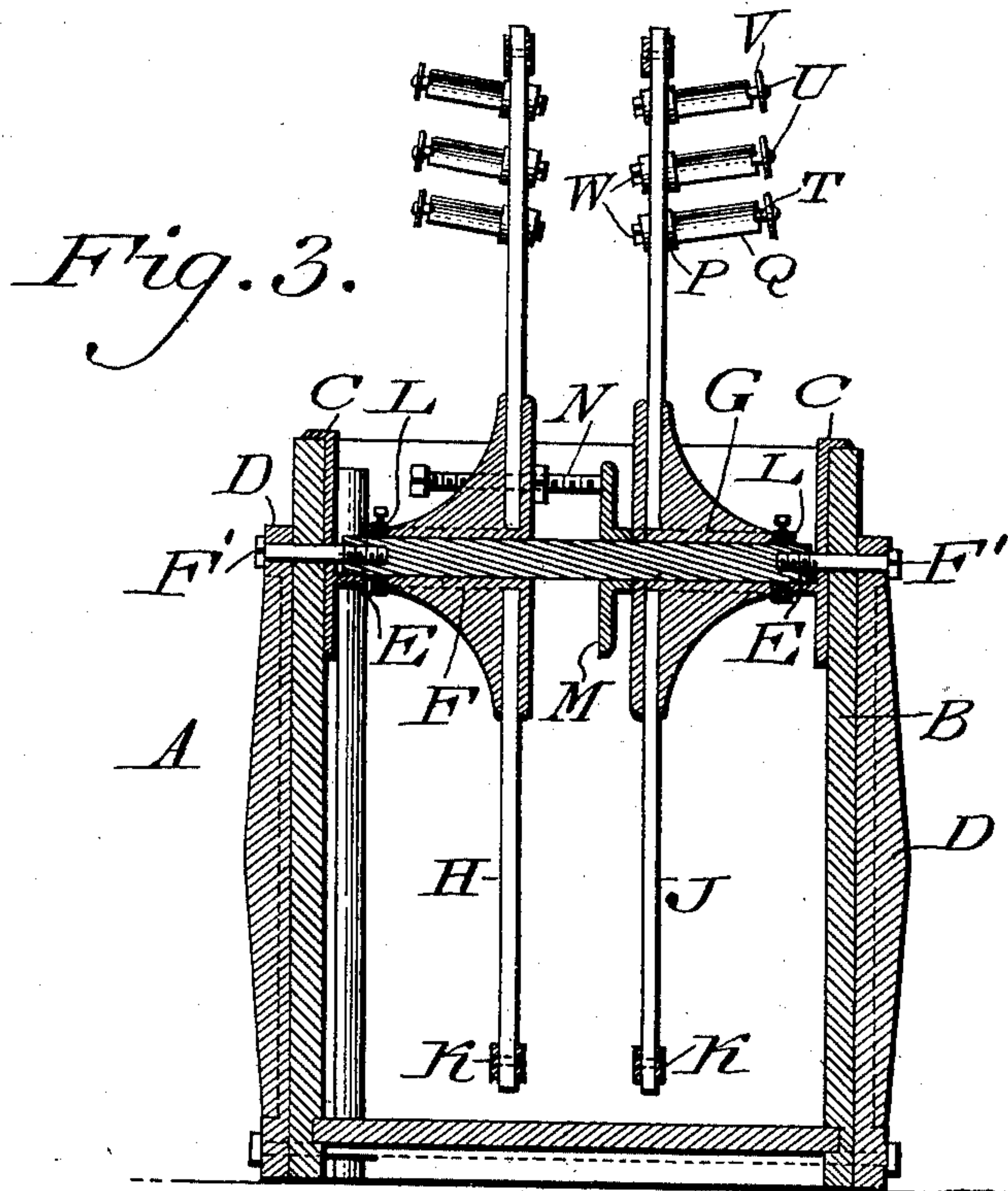
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2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

WILLIAM J. CUNNINGHAM, OF PHILADELPHIA, PENNSYLVANIA.

BOTTLE-WASHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 711,244, dated October 14, 1902.

Application filed November 25, 1901. Serial No. 83,542. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. CUNNINGHAM, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Bottle-Washing Machines, of which the following is a specification.

My invention consists of an improvement in bottle-washing machines having wheels or disks suitably mounted to revolve and means thereon for attaching bottle-holders thereto at an angle.

It further consists of novel means for attaching said holders to said wheels.

It further consists in providing a plurality of wheels with means for adjusting the same with respect to each other.

It further consists of novel details of construction, all as will be herein set forth.

Figure 1 represents a side elevation of a bottle-washing machine embodying my invention. Fig. 2 represents a plan view thereof. Fig. 3 represents a sectional view on line *x x*, Fig. 2. Fig. 4 represents a sectional view showing the manner of attaching a bottle-holder to the wheel. Fig. 5 represents a sectional view on line *y y*, Fig. 4. Fig. 6 represents a perspective view of a portion of a holder and parts thereof in detached position. Fig. 7 represents a perspective view of a bottle-holder employed. Fig. 8 represents a sectional view of said holder, showing the same in position.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings, A designates a bottle-washer consisting of the tank B, having suitable journals C attached thereto and being provided with a suitable stay or brace D on the exterior thereof for preventing buckling of the tank.

E designates a shaft mounted in said journals C, upon which are the sleeves F and G, to which are attached the wheels H and J, which are preferably formed of metal and in sections, both secured together by straps K, said wheels having collars L for locking the same in position, and between said wheels is an idler M, against which bears a screw N, which holds the wheels in position with respect to each other and permits adjustment thereof.

P designates lugs or projections having inclined faces, which are secured to or form part of the wheels and appear at certain places thereof against which the inclined faces of the ends of the bottle-holder are adapted to bear. The said bottle-holder consists of the body portions Q, which are preferably formed of a single piece of metal bent to present three concave faces having the passage or opening R therebetween, through which is adapted to pass a bolt or pin S, which has thereon the recessed nut or clamp T, between which and the head U of the pin S is a washer V, the recesses of said clamp being adapted to engage with the walls of the body portion Q, whereby when the bolt S is passed through the opening in the wheel and the nut W connected therewith the parts are locked in position and the holder securely fastened to the wheel.

If desired, I may form openings in the wheels and insert therein the thimble A', which is provided with the spring B' on the interior surface, whereby when a bottle is inserted therein the edge C' of the neck strikes the edge of the thimble A' and is held in that position by pressure upon the spring B', it being noted that said thimble is secured to the wheels by the cut-out ears D'. If desired, I may provide a shoulder E', against which the bottom of the bottle rests in order to assist in holding the bottle therein.

F' designates bolts which pass through the stay D, the tank, and engage with the shaft E, which supports the wheels for holding the parts in proper operative position.

The operation will be readily seen. The tank B is filled with suitable cleansing material and the bottles placed between the holders and are held therein, and the revolving will cause the bottles to be immersed in the liquid and thoroughly cleansed.

It will be evident that various changes may be made by those skilled in the art which will come within the scope of my invention, and I do not, therefore, desire to be limited in every instance to the exact construction herein shown and described.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a bottle-washing machine, a tank, a

plurality of wheels suitably mounted therein adapted to rotate independently of each other and means for adjusting said wheels with respect to each other.

5 2. In a bottle-washing machine, a tank, a plurality of wheels suitably mounted therein, an idler bearing against one of said wheels and a set-screw bearing against said idler for adjusting said wheels.

10 3. In a bottle-washing machine, a holder for said bottles consisting of a body portion, an opening therethrough, a bolt passing through said opening, means for securing said bolt to the wheels and a clamp on said bolt adapted
15 to engage with the walls of said body portion to hold the same in position.

4. In a bottle-washing machine, a tank, a wheel suitably mounted therein, lugs or projections on said wheels having inclined faces
20 and a bottle-holder adapted to bear against said inclined faces and locked to said wheels.

5. In a bottle-washing machine, a holder for said bottle formed of a body portion, an opening therethrough, a headed bolt passing
25 through said opening and a recessed clamp

on said bolt adapted to engage with the walls of said body portion.

6. In a bottle-washing machine, a tank, journals suitably mounted therewith, a shaft mounted in said journals, a wheel mounted
30 on said shaft and adjustable thereon, a stay-piece on said tank and a bolt adapted to lock said stay, tank and shaft with respect to each other.

7. In a bottle-washing machine, a tank, a plurality of wheels suitably mounted therein, and means on each of said wheels for holding
35 bottles, the means on each wheel being adapted to act independent of the means of the other wheel.

8. In a bottle-washing machine, a wheel, a holder for bottles consisting of a body portion, a bolt adapted to be secured to the wheel and locking said holder thereto, a clamp on
40 said bolt engaging with said body portion to hold the same and a washer on said bolt. 45

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