

(No Model.)

2 Sheets—Sheet 1.

F. STOTZ & A. HEUSCH.

BOTTLE WASHING MACHINE.

No. 354,492.

Patented Dec. 14, 1886.

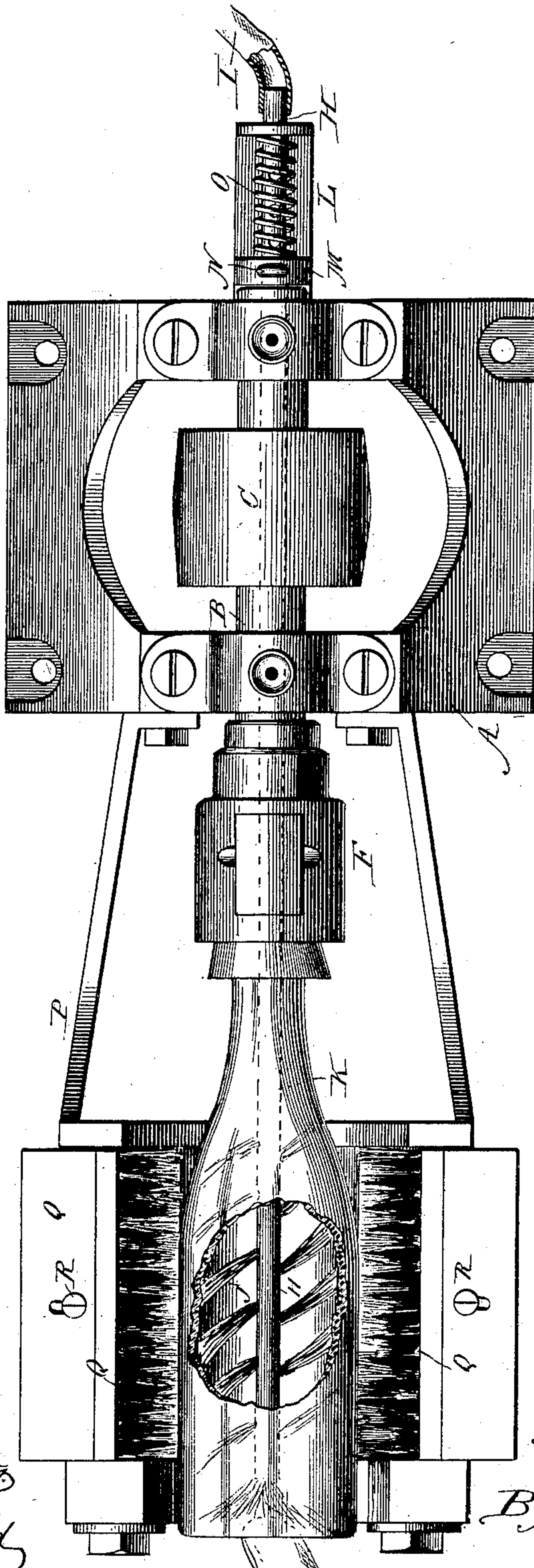


Fig. 1.

Witnesses.
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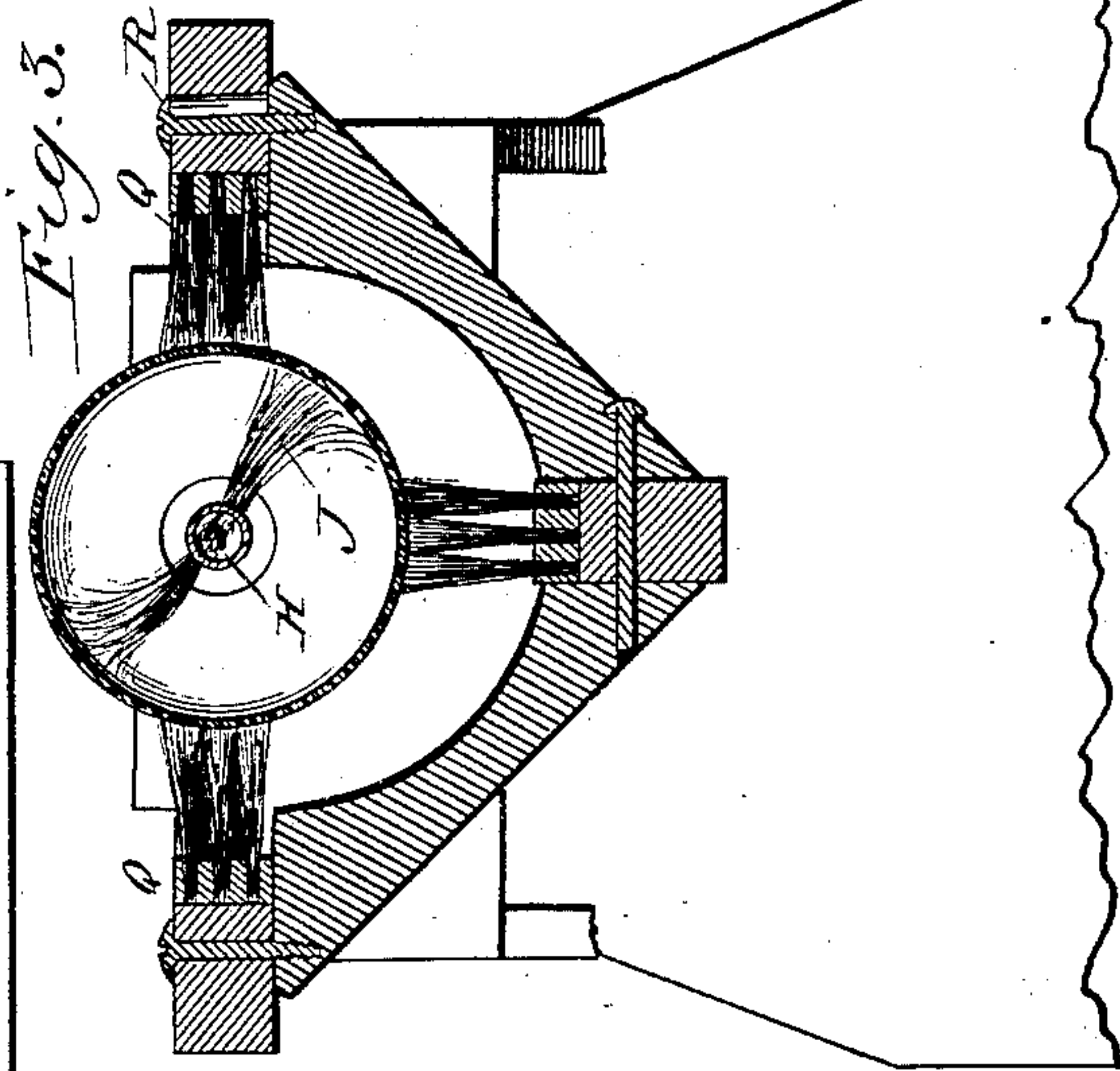
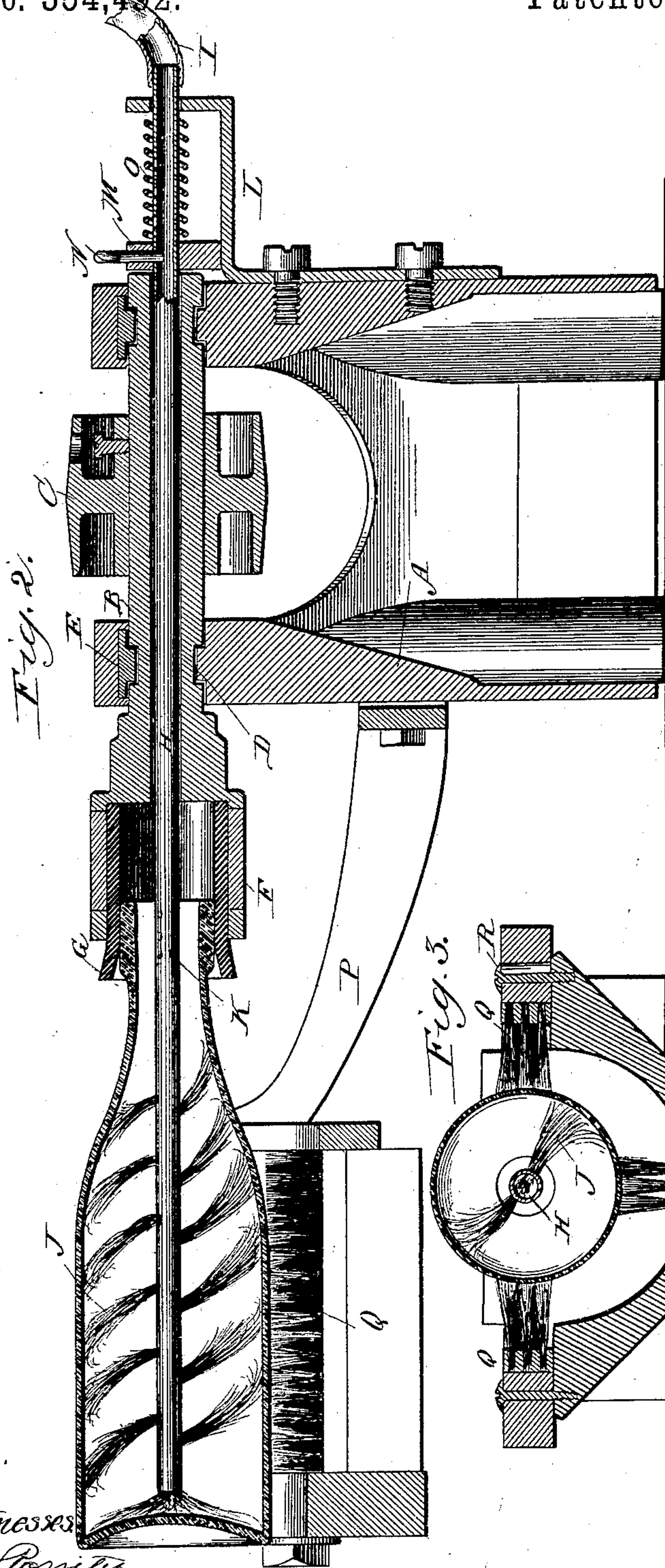
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2 Sheets—Sheet 2.

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BOTTLE WASHING MACHINE.

No. 354,492.

Patented Dec. 14, 1886.



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UNITED STATES PATENT OFFICE.

FREDERICK STOTZ AND ANTON HEUSCH, OF CHICAGO, ILLINOIS.

BOTTLE-WASHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 354,492, dated December 14, 1886.

Application filed December 5, 1885. Serial No. 184,772. (No model.)

To all whom it may concern:

Be it known that we, FREDERICK STOTZ and ANTON HEUSCH, subjects of the Emperor of Germany, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Bottle-Washing Machines, of which the following is a specification, reference had therein to the accompanying drawings.

10 This invention relates to bottle-washing machines; and it has for its object to create a machine of this class which shall possess superior advantages in point of simplicity, durability, and general efficiency.

15 With these ends in view the invention consists in the improved construction, arrangement, and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

20 In the accompanying drawings, Figure 1 is a plan view of the device; Fig. 2, a longitudinal section thereof, and Fig. 3, a cross-section.

Like letters refer to like parts in each view.

A denotes a suitably-constructed frame, 25 which is provided with boxes or bearings for a longitudinal tubular shaft, B, having mounted thereon a pulley, C, to which motion may be communicated by means of a suitable belt from motive power of any description. The 30 tubular shaft B is provided on its journals with annular grooves D D, that register with flanges E E, formed in the respective bearings, in order to prevent displacement of the shaft longitudinally. At the front end of the shaft B 35 is formed a socket, F, in which is placed a sleeve or lining, G, of india-rubber or other suitable elastic material, which said sleeve is made to project slightly beyond the edge of the said socket. This socket and sleeve should 40 be of sufficient size to admit the mouth of an ordinary-sized bottle, which by simply forcing it into the socket will be held or retained in place with sufficient security and in such a manner as to admit of its being easily removed after the operation of washing or cleaning has been performed.

45 H designates a tube journaled within the longitudinal shaft B. The rear end of this tube is connected by means of a hose or flexible tube, I, with a suitable water-supply. The

front end of the tube H is equipped with a series of brushes, J J, which are preferably arranged diagonally with relation to the shaft, as will be clearly seen in the several figures of the drawings hereto annexed. The tube H 55 is also provided at such points as will bring them within the bottle with a series of perforations, K K, through which the water supplied at the rear end of the shaft may escape into the bottle which is being operated upon. 60

Extending rearwardly from the frame A, at the upper end of the same, is a bracket, L, the outer end of which has a bearing for the rear end of the tube H. The latter is provided with a collar or flange, M, which may be held 65 in place by means of a set-screw or key, N. Upon the end of the tube, between the collar and the outer end of the bracket L, is coiled a spring, O, which serves, by pressure against the collar M, to force the tube H in a forward 70 direction. This collar M has a flat bottom face sliding upon the bracket L and holding such tube H from turning.

The front side of the frame A is provided with forwardly-extending arms or brackets P, 75 to the front ends of which a series of brushes, Q Q, are suitably attached, preferably in such a manner as to be adjustable by means of set-screws R R, working in suitable slots in the bodies of the said brushes. Two of the lat- 80 ter should be arranged with their bristles facing in an inward direction toward each other, and the third should be arranged between and below the two former and facing upwardly. I would have it understood that a greater or 85 less number of brushes may be employed when so desired, also, their relative arrangement may be altered or modified to suit circumstances.

From the foregoing description, taken in con- 90 nection with the drawings hereto annexed, the operation and advantages of this invention will be readily understood by those skilled in the art to which it appertains.

The bottle to be operated upon is placed in 95 position by simply passing its mouth over the brush and into the socket F at the front end of the tubular shaft B, which may be done by pressure of a finger against the bottom of the bottle, as will be seen in Fig. 1 of the draw- 100

ings. The bottle being thus held, will be caused to revolve or rotate rapidly with the shaft B, to which motion is communicated in the manner above described. By pressing or forcing the bottle against the outer or front end of the shaft H the brushes at the outer end of the latter will be forced against the bottom of the bottle with a yielding or flexible pressure, which is supplied by the spring O at the rear end of the shaft. A constant supply of water is also kept up, thus causing the bottle, by its rotary motion around the stationary brush, to be rapidly and thoroughly cleaned. The outside of the bottle is at the same time thoroughly and effectively scrubbed by means of the outer brushes, Q Q.

The diagonal arrangement of the brushes upon the tubular shaft H has been found particularly effective for the purpose of cleaning the inside of the bottle, inasmuch as the ends of the brushes thus arranged will more certainly come in contact with all parts of the glass than by any other arrangement known to us.

We would have it understood that in the manufacture of this machine we do not desire to restrict ourselves to the exact construction and arrangement of parts herein described, but reserve the right to all such changes and modifications as may be resorted to without departing from the spirit of our invention. Thus it may be particularly stated that in the construction of the machine we prefer to arrange a series of the devices upon a single frame, it being obvious that a single operator may without difficulty attend to several of the washing devices.

Having thus described our invention, we claim and desire to secure by Letters Patent of the United States—

1. In a machine for washing bottles, the combination of a tubular shaft having at its front end a recess or socket adapted to receive the

mouth of the bottle to be operated upon, with an interior tube journaled in the said tubular shaft, adapted to extend through the front end of the latter into the bottle to be operated upon, and provided at its front end with diagonally-arranged bristles, substantially as and for the purpose set forth.

2. In a machine for washing bottles, the combination, with a tubular shaft having at points midway of its ends a socket adapted to receive the mouth of the bottle to be operated upon, of an interior tube journaled in the said tubular shaft and having a series of diagonally-arranged brushes and a series of perforations at points midway of its end, and having its rear end connected with a water-supply, and a spring arranged to force the said brush-tube automatically in a forward direction, substantially as and for the purpose set forth.

3. In a machine for washing bottles, the combination of a rotary tubular shaft having at its front end a socket adapted to receive the mouth of the bottle to be operated upon, with an interiorly arranged tube provided at its front end with a series of brushes and series of perforations, and having its rear end connected with a water-supply, a spring arranged to force the said brush-tube automatically in a forward direction, and arms or brackets extending forwardly from the frame and carrying a series of brushes against the outer wall of the bottle that is being operated upon, all arranged and operating substantially in the manner and for the purpose herein set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

FREDERICK STOTZ.
ANTON HEUSCH.

Witnesses:

RICHARD REINBOLD,
HARRIS W. HUEHL.