(No Model.)

A. VON SCHADE.

BOTTLE WASHER.

No. 377,875. Patented Feb. 14, 1888.

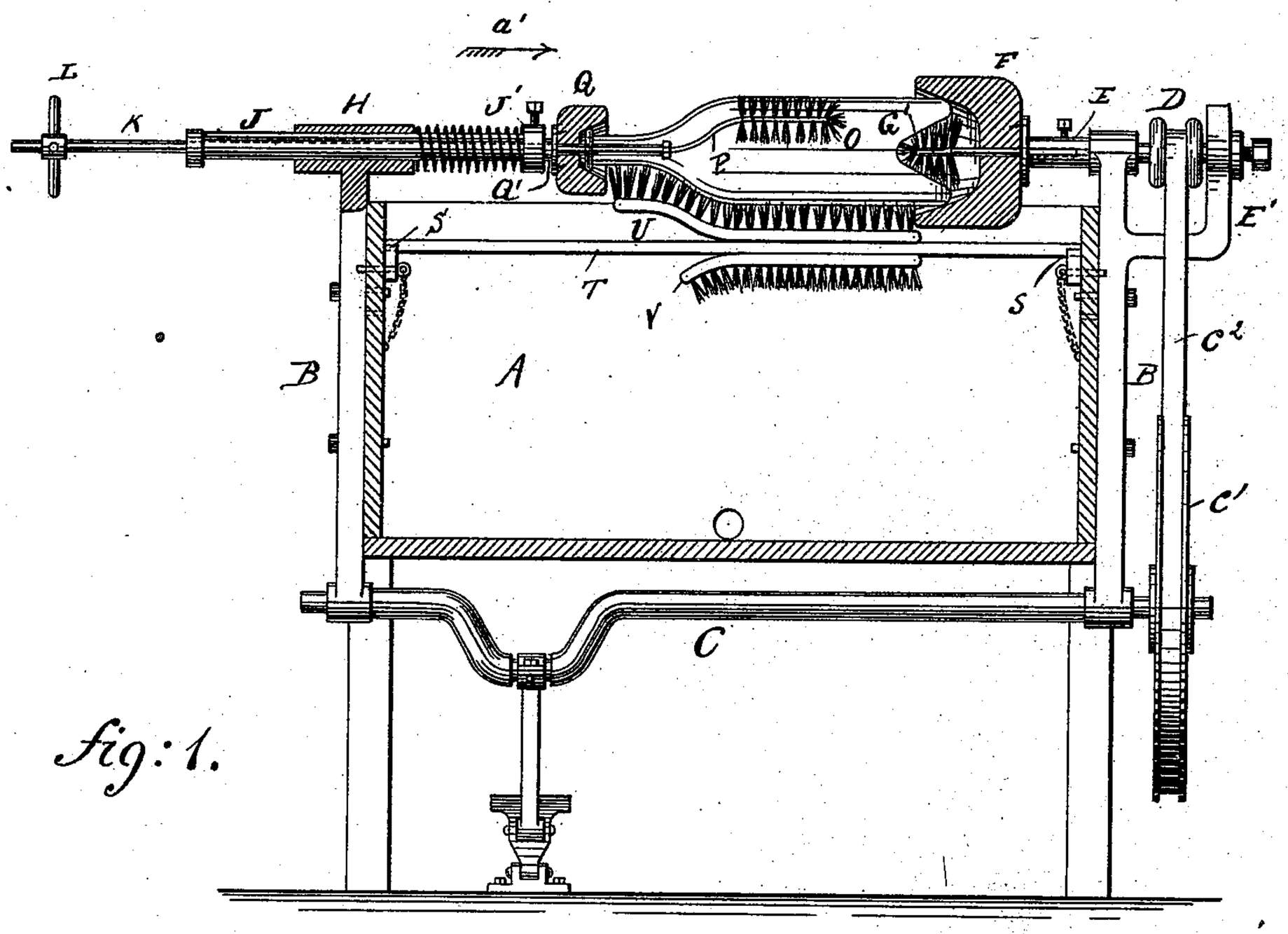

Fig: 1.

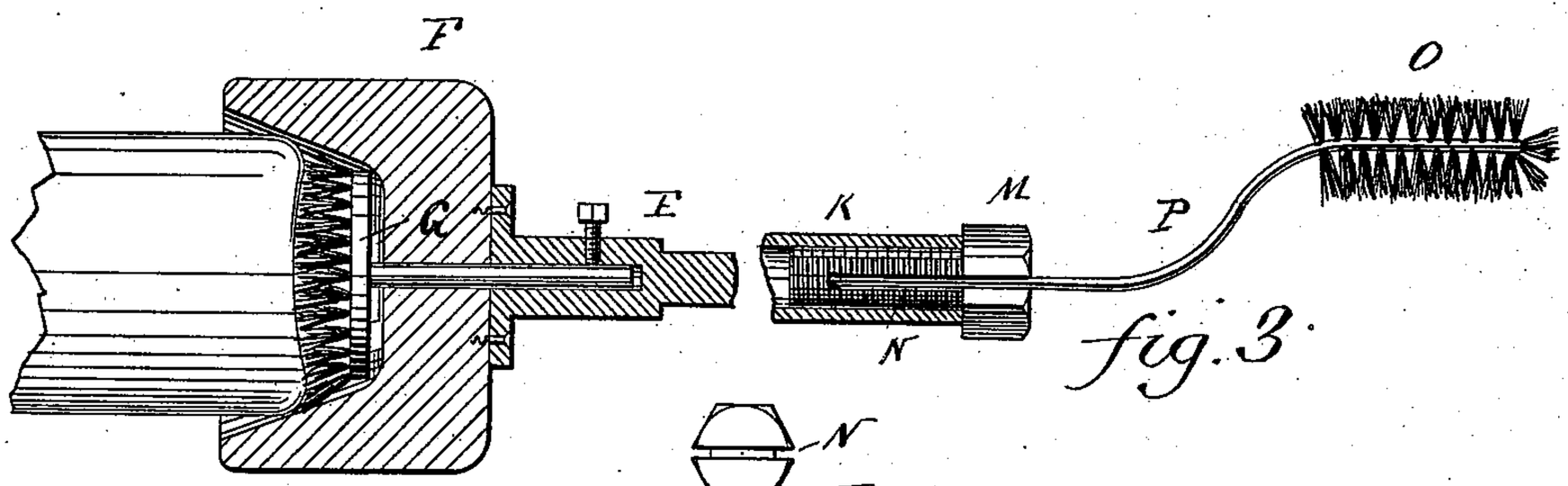

Fig: 3.

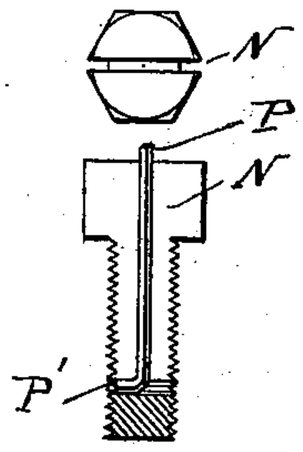

Fig: 2.

Fig: 4.

WITNESSES:
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ADOLPH VON SCHADE, OF NEWPORT, RHODE ISLAND.

BOTTLE-WASHER.

SPECIFICATION forming part of Letters Patent No. 377,875, dated February 14, 1888.

Application filed May 5, 1887. Serial No. 237,180. (No model.)

To all whom it may concern:

Be it known that I, ADOLPH VON SCHADE, of Newport, in the county of Newport, State of Rhode Island, have invented certain new and useful Improvements in Bottle-Washers, of which the following is a specification.

The object of my invention is to provide a new and improved bottle-washer of such construction as to adapt it to wash the bottles on the inside and outside at the same time, and which machine can be adjusted to wash bottles of different sizes.

The invention consists in the combination, with a short shaft carrying a brush and a recessed block for the base end of the bottle, of a sliding tube in line with said short shaft, a sliding rod in the tube, and a brush on one end of the sliding rod.

The invention also consists in the construction and combination of parts and details, as will be fully described and set forth hereinafter, and then pointed out in the claims.

In the accompanying drawings, Figure 1 is a longitudinal sectional view of my improved bottle-washer. Fig. 2 is an enlarged detail sectional view of the holder and brush for the base end of the bottle. Fig. 3 is a detail sectional view of the device for holding the brush for cleaning the interior of the bottle. Fig. 4 is a detail end and longitudinal sectional view of the screw for holding the brush shown in Fig. 3.

Similar letters of reference indicate corresponding parts.

On the outer surfaces of the side walls of the trough A the two uprights B are secured, their ends projecting beyond the top and bottom edges of the sides of the trough, and in the lower ends of said uprights B the main driving-shaft C is journaled, which is connected with a foot-lever and carries a pulley, C′, on one end, over which pulley a belt, C^2, is passed, which is also passed over the small pulley D on the short shaft E, journaled in the upper end of one of the uprights B and in the arm E′ of said upright.

A recessed block, F, of wood, hard rubber, or analogous material, is secured on the inner end of the shaft E, and in its recess I place a flat brush, G, as shown in Fig. 2, or a tapered brush, G′, as shown in Fig. 1, is placed, the brush being secured on the end of a rod passed through an aperture in the block and into an aperture in the shaft, and held in place by a suitable binding-screw, as shown in Fig. 2, said brush serving to clean the butt or base end of the bottle on the outside.

A sleeve, H, is provided on the upper end of one of the uprights B, and through the same the tube J is mounted to slide longitudinally, but by means of a spline or analogous device is prevented from rotating in said sleeve. A spiral spring, I, surrounds the tube J between the adjustable collar J′ on the end of the tube and one end of the sleeve H, and serves to press the said tube in the direction of the arrow *a′*. A tubular rod, K, is passed freely and longitudinally through the tube J, and is provided on its outer end with a cross-piece or handle, L, and into the inner end of said tube a screw, M, is screwed, which is slitted longitudinally, as shown at N in Figs. 3 and 4.

A brush, O, is formed on one end of a curved spring-wire, P, the opposite end of which is bent rectangularly, as at P′. A recessed block, Q, of wood or hard rubber, has a neck or collar, Q′, mounted to turn on the end of the tube J, and through said block the rod K passes.

On vertically-adjustable rails or cleats S, held by suitable devices on the inner surfaces of the sides of the trough, a cross-piece, T, rests, upon the opposite sides of which the brushes U and V, of different shapes, are secured, said brushes being used to clean the outside of bottles of different shapes.

It is evident that the machine can be operated by foot or steam or other motive power. The tension of the spring I can be adjusted by means of the adjustable collar J′. The bent inner end, P′, of the brush-wire P prevents the wire from turning in the split nut.

The operation is as follows: The cross-bar T, carrying the brushes U V, is adjusted higher or lower, according to the diameter of the bottle to be cleaned, and with the brush U or V at the top, according to the shape of the bottle. The rod K is drawn in the inverse direction of the arrow *a′* for the purpose of moving the block Q, spring-wire P, and brush O sufficiently from the block F to permit of inserting the bottle between the blocks F and Q. The butt or base end of the bottle is placed against the block F, which revolves

with great rapidity, and thus the brush G or G′ cleans said base or butt end of the bottle. The end of the brush O is then guided into the neck of the bottle and the handle K released, so as to permit the spring I to press the block Q against the head of the bottle, whereby sufficient longitudinal pressure is exerted to press the base end of the bottle against the block F with such force as to cause the bottle to be revolved by the block F. The block Q revolves with the bottle, but the tube J remains stationary. During the time that the bottle is being revolved the brush P can be moved longitudinally in the bottle from the outside by means of the rod K and handle L. The bottle is thus cleaned on the inside and outside and base at the same time. No water is conducted into the bottle during the time that it is being rotated, as the bottles are to be half or quarter full of water when placed in the machine.

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

1. In a bottle-washing machine, the combination, with a short shaft and means for revolving said shaft and a recessed block on one end of the shaft, of a tube mounted to slide longitudinally and in line with said short shaft, a recessed block mounted loosely on said tube, a spring acting on said tube, and a rod passed through the tube and carrying a brush on its end, substantially as set forth.

2. In a machine for cleaning bottles, the combination, with a short shaft and mechanism for rotating the same, of a block on one end of said shaft, a brush held in a recess of the block, and mechanism for pressing the butt or base end of the bottle against said block, substantially as shown and described.

3. In a machine for cleaning bottles, the combination, with a shaft, and a block on one end of the same for receiving the base or butt end of the bottle, of the fixed sleeve H, the sliding tube J, the recessed block Q, mounted to rotate on the tube J, the sliding rod K, passed through the tube J, and the brush-wire P, held on one end of said rod K, substantially as shown and described.

4. In a bottle-washer, the combination, with a tube, of a longitudinally-split bolt screwed into one end of the same, a spring-wire having one end bent rectangular and held within the split bolt, and a brush on the outer end of said wire, substantially as herein shown and described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

ADOLPH VON SCHADE.

Witnesses:
CHARLES H. LANGLEY,
HENRY F. ROONEY.