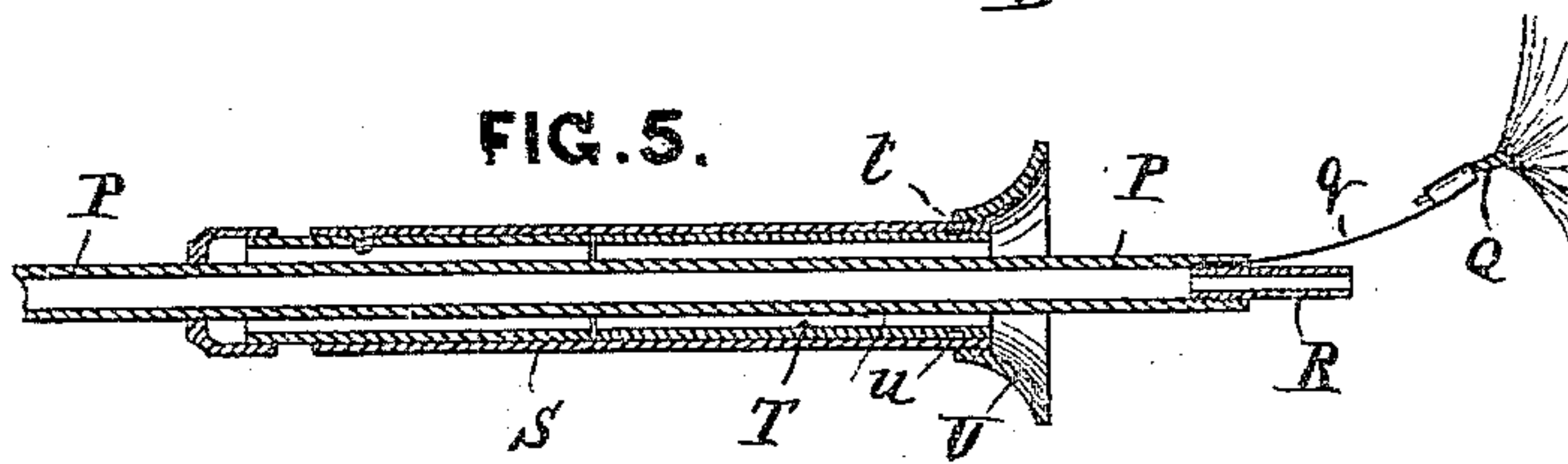
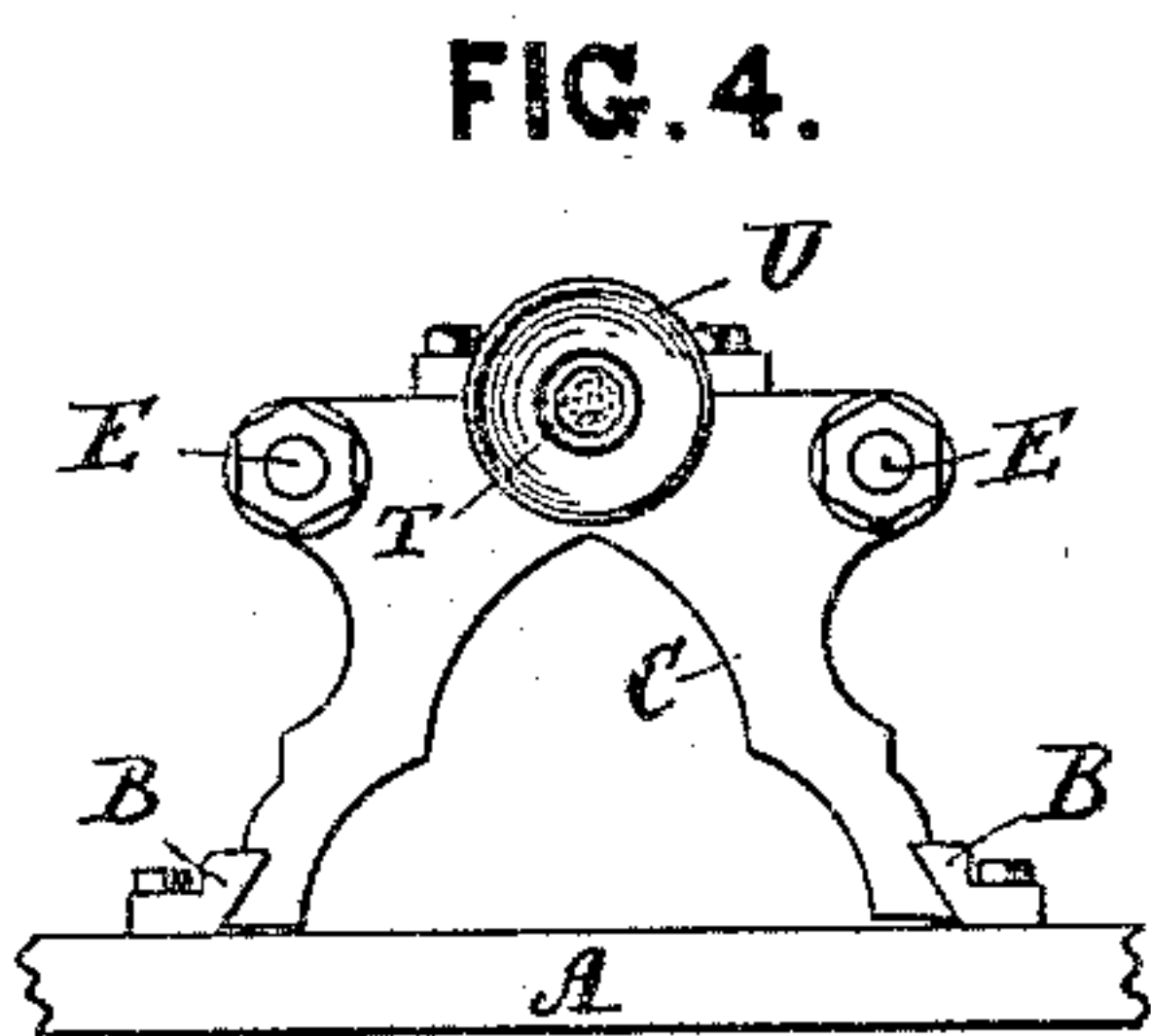
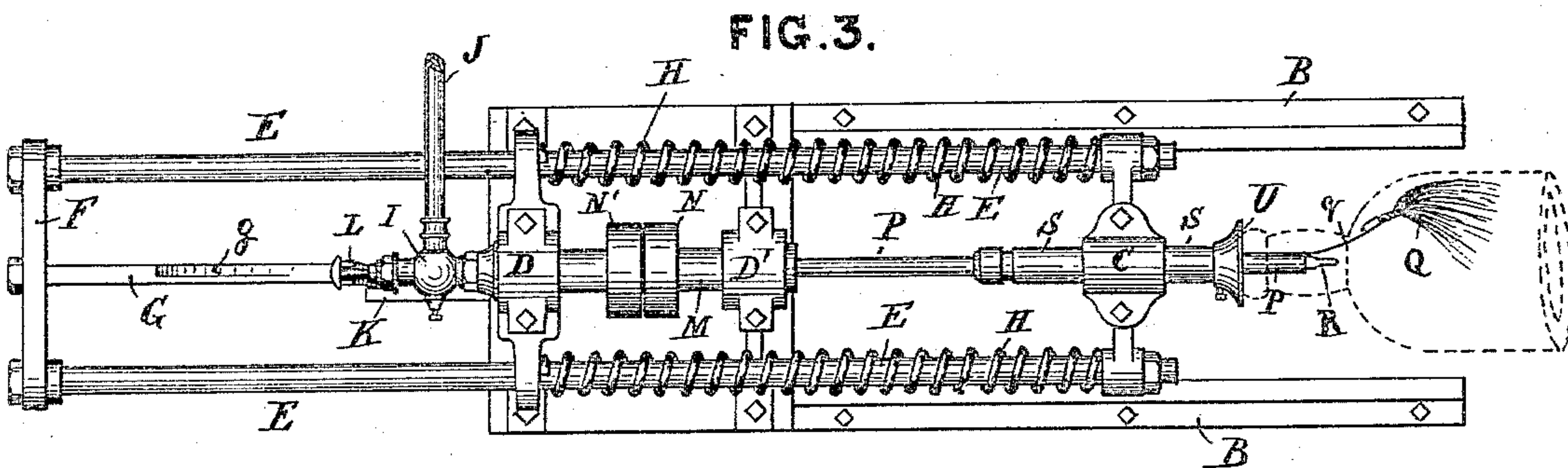
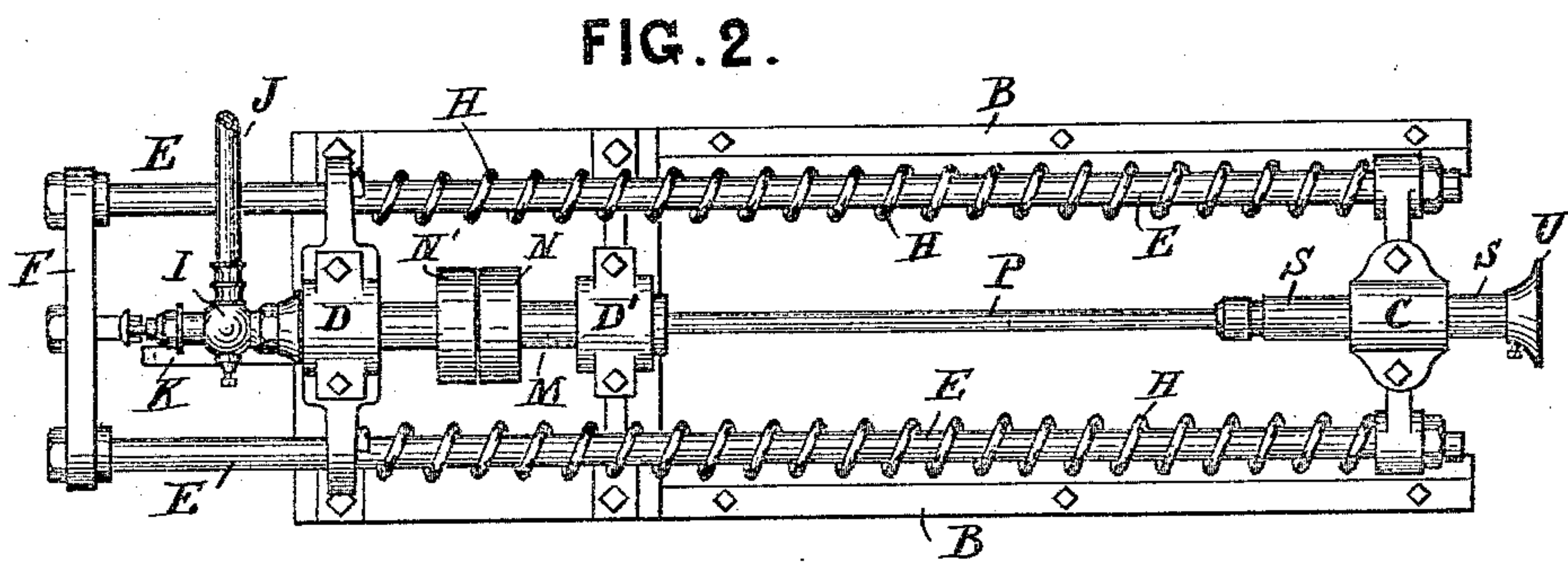
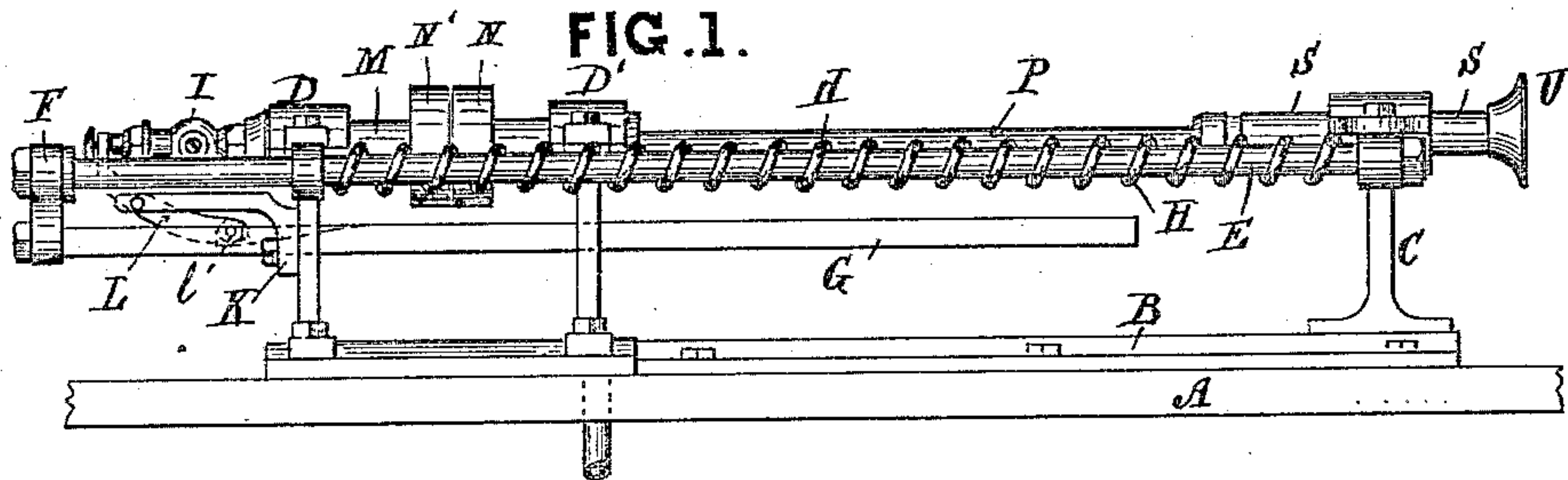


(No Model.)

F. J. SNYDER.  
BOTTLE WASHING MACHINE.

No. 339,338.

Patented Apr. 6, 1886.



Witnesses.

E. Blanka

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# UNITED STATES PATENT OFFICE.

FRANK J. SNYDER, OF BOSTON, MASSACHUSETTS.

## BOTTLE-WASHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 339,338, dated April 6, 1886.

Application filed July 16, 1884. Serial No. 137,891. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK J. SNYDER, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Bottle-Washing Machines, of which the following is a specification.

My invention consists in certain details and combination of devices, as hereinafter fully described, and as set forth in the claims.

Referring to the accompanying drawings, Figure 1 represents a side view of a machine embodying my improvements. Fig. 2 is a plan or top view of the same. Fig. 3 is a similar view showing the sliding frame pushed back. Fig. 4 is a front view of the machine. Fig. 5 is a vertical longitudinal section through the hollow rotating tube, sliding tube, and mouth-piece, on an enlarged scale.

A is a base piece or support, upon which is mounted a stationary frame, D D'.

B B are rails, of the shape in cross-section shown in Fig. 4, and are secured to the base A in front of the stationary frame D D', and serve to guide and hold the sliding frame. Upon the rails B B is mounted a sliding frame, C, to which are secured rods E E, which pass through ears on the standard D, and are secured at their rear ends to a cross-head, F. Surrounding the rods E E, between the standard D and the sliding frame C, are spiral springs H H, which serve to keep the sliding frame C pressed forward when not in operation.

M is a hollow shaft mounted in the standards D D', and carrying the fast and loose pulleys N N'. To the standard D is secured a self-closing valve, I, that admits water from the supply-pipe J to the hollow shaft M, when the sliding frame C with the rod P is pushed back, the valve I being opened by means of a lever, L, pivoted to a bracket, K, which passes through the hollow shaft M. The upper end of the lever L is constructed with a fork, that embraces the stem of the valve, and on the lower end of the said lever is a roller, l, which, when the sliding frame C is pushed back, will ride up the cam-shaped recess g onto the top of the cam-bar G, and throw the furcated end of lever L, which embraces the stem of the valve I, outward, thus causing the valve I to

open. The end of the cam-bar G is secured to the cross-head F, by which means the lower end of lever L is raised. When the pressure is removed from the sliding frame C, the springs H press it forward, and the roller l falls into a recess, g, in the cam-bar G, and allows the valve I to close.

P is a hollow rotating rod or tube passing through the hollow shaft M, and provided at its outer end with a brush, Q, secured thereto by means of a tubular set-screw, R, the brush Q being attached to the end of a flat spring, q, the opposite end of which is placed in a recess in the hollow rod P and held firmly in place by the set-screw R. On the sliding frame C is a sleeve, S, through which the rod P passes. The said sleeve is composed of an outer and an inner tube, the inner tube being divided in the center of its length, and the rear portion being secured to the outer tube. The forward portion, T, is free to revolve within the outer tube, and is held in position by means of a pin, t, that fits into the groove u. The inner face of the tube T is designed to be of polygonal form in cross-section, so that when the brush is within the same it will press against the tube and cause it to revolve, thus preventing the brush from wearing out by undue friction.

U is a mouth-piece, against which the mouth of the bottle is placed, and when pushed so as to force the sleeve S, which is rigidly secured to the frame C, toward the rear, serves to guide the brush into the bottle.

The operation is as follows: When a bottle is to be washed, it is placed with its mouth against and into the mouth-piece U. The bottle and mouth-piece U are then forced inward, causing the brush to enter the same, where it is rapidly rotated. At the same time and by the same movement the valve I is opened, and water is forced through the hollow shaft M and the hollow rod or pipe P into the bottle, thereby thoroughly cleansing the same, the whole operation occupying but a moment of time. When the bottle is washed, it is withdrawn, and the sleeve S closes over the brush by the action of the spiral springs H H against the frame C, and at the same time the valve I automatically closes and shuts off the supply of water.

What I claim as my invention is—



1. In a bottle-washing machine, the combination of the guiding and supporting rails B B, the sliding frame C, the rods E E, surrounded by the spiral springs H H, cross-head  
5 F, and stationary frames D D', as and for the purpose set forth.

2. The combination, with the rotating shaft M and valve I, of the lever L, pivoted to the bracket K on the standard D, and the cam-  
10 bar G, provided with the recess g, substantially as and for the purpose set forth.

3. The combination of the sliding frame C, supported upon the rails B B, the rods E E,

and surrounding springs H H, the frame D D', hollow shaft M, tube P, provided with the  
15 brush Q, sleeve S, cam-bar G, lever L, and the valve I, all arranged and operating substantially as shown and described.

In testimony whereof I have signed my name to this specification in the presence of two sub-  
20 scribing witnesses.

FRANK J. SNYDER.

Witnesses:

J. H. ADAMS,  
E. PLANTA.