

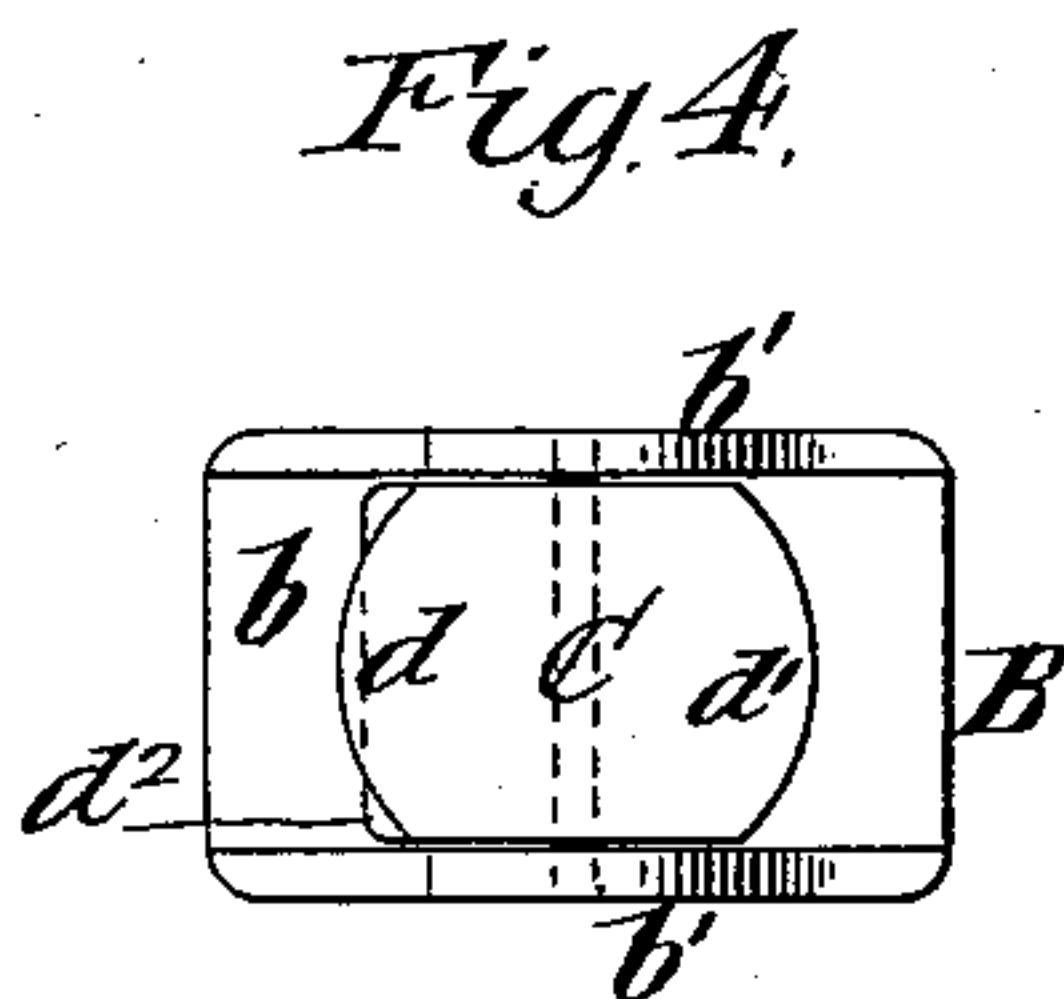
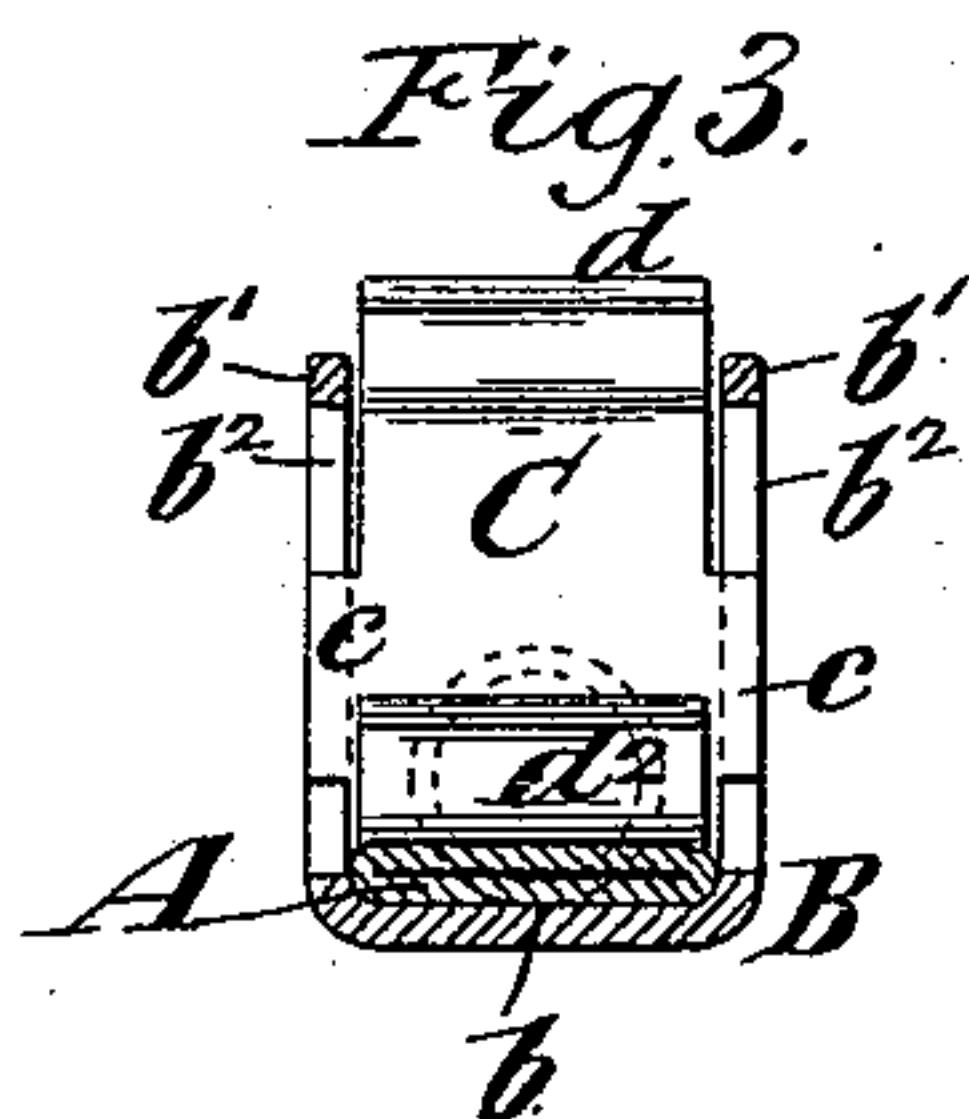
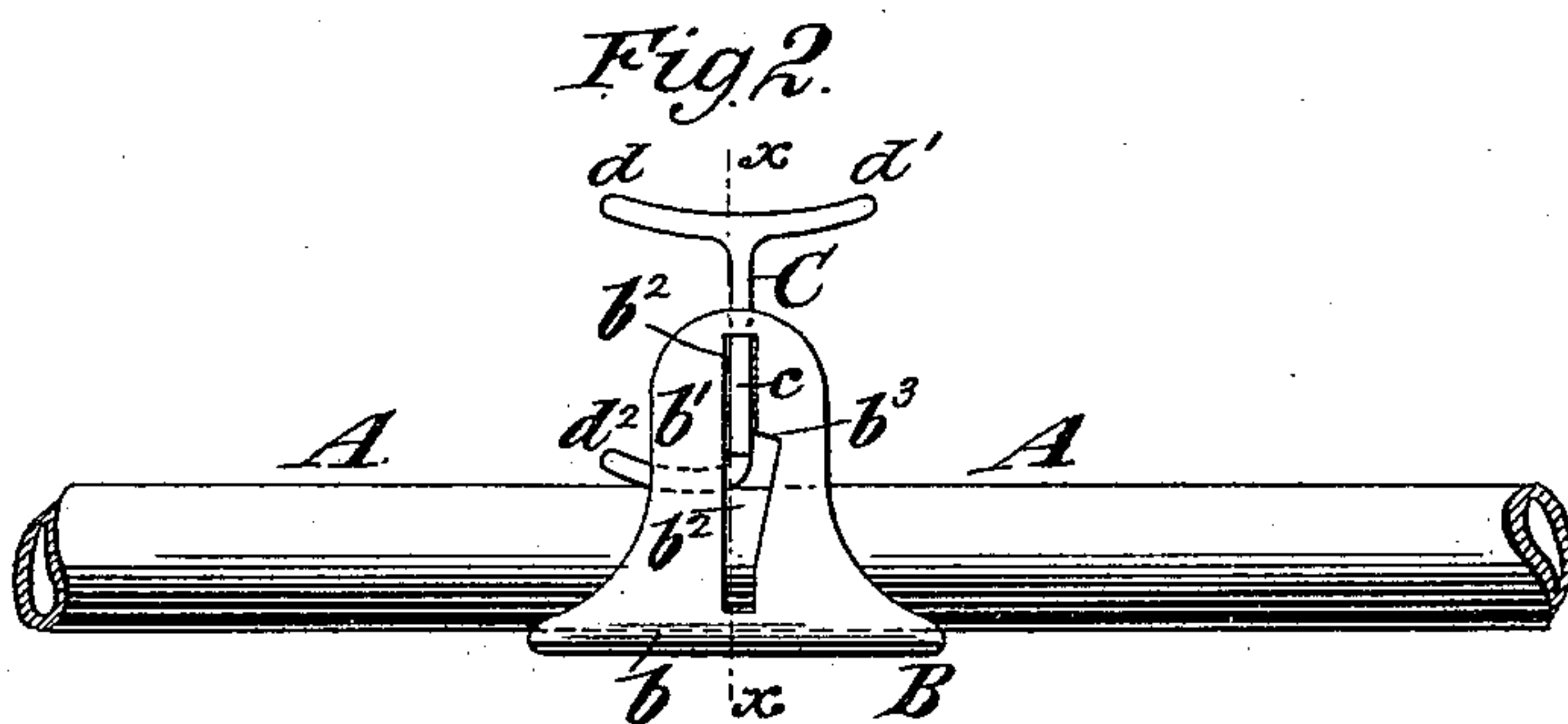
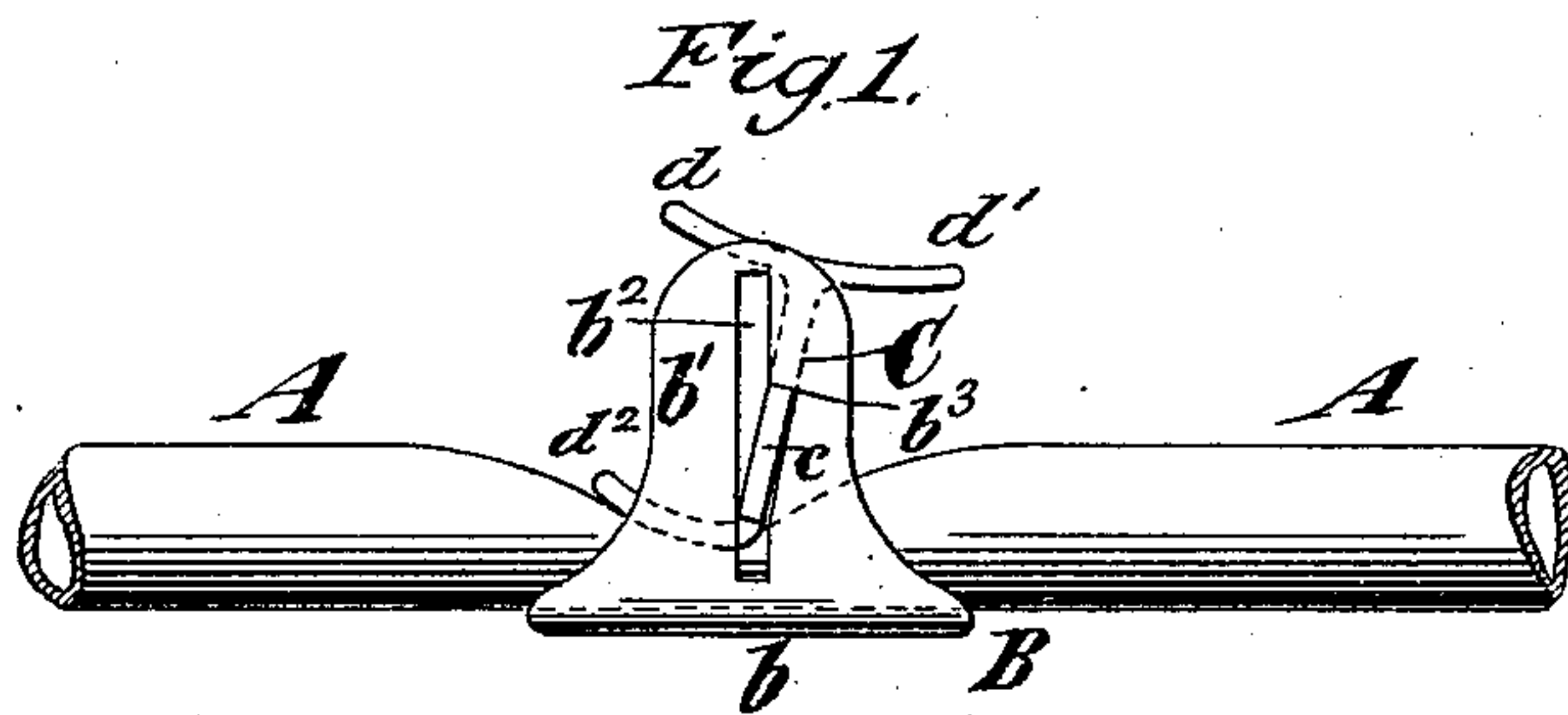
(No Model.)

R. PARKER.

STOP COCK FOR FLEXIBLE TUBES.

No. 355,467.

Patented Jan. 4, 1887.



Witnesses.

Emil Hertel.

O. Sundgren

Inventor.

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by his attys  
Brown & Hall

# UNITED STATES PATENT OFFICE.

RUSSELL PARKER, OF BROOKLYN, NEW YORK, ASSIGNOR TO PARKER,  
STEARNS & SUTTON, OF SAME PLACE.

## STOP-COCK FOR FLEXIBLE TUBES.

SPECIFICATION forming part of Letters Patent No. 355,467, dated January 4, 1887.

Application filed September 20, 1886. Serial No. 214,075. (No model.)

*To all whom it may concern:*

Be it known that I, RUSSELL PARKER, of the city of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Stop-Cocks for Flexible Tubes, of which the following is a specification.

My invention relates to devices which are adapted to receive through them rubber or other flexible tubes, and which comprise each a movable member, whereby the tube may be compressed so as to entirely close the passage through it. Because of their function, such devices are commonly called "stop-cocks," although they control the flow of fluid through the tube solely by pressing or collapsing the tube so as to entirely close the passage. Such devices are employed for controlling the flow of fluid from bag syringes or douches, and they may be employed for various other purposes.

One form of stop-cock which has been employed for the purpose above described comprises a frame which forms a seat for the flexible tube, a presser or compressing plate pivoted in the frame at the opposite side of the tube from the seat, and a lever which is pivoted in the frame and capable of being swung upon its pivots, so as to force the presser downward against the tube, and so collapse or press the tube as to close the passage through it.

My improved stop-cock comprises a frame, which is adapted to receive a flexible tube through it and to form a seat for the tube, and which has parallel side portions or cheeks slotted to form a guide in which a sliding follower is movable toward and from the seat in order to press or release the tube. The guide in which the follower is fitted is notched at one side, so that the follower by engaging the notches may be locked in position to hold the tube compressed. The follower may have at its outer end finger-pieces extending laterally in opposite directions, and by pressure applied to one of these finger-pieces the follower may be pushed inward against the tube, and at the same time tilted so as to cause it to engage the shoulders of the guide, while by pressure upon the other of the finger-pieces the follower will be tilted to release it from said shoulders. The follower also may have at its inner end a laterally-extending foot which bears upon the tube,

and on which the tube reacts to tilt the follower into its locking position when it is pushed inward.

The invention consists in novel combinations of parts, which are hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figures 1 and 2 are side elevations of a device embodying my invention applied to a tube, Fig. 1 showing the device as adjusted to close the passage through the tube, and Fig. 2 showing the device as adjusted to open the passage through the tube or in its inoperative position. Fig. 3 is a sectional view upon the plane of the dotted line  $xx$ , Fig. 2, save that the follower is not shown in section, but in elevation; and Fig. 4 represents a plan of the device.

Similar letters of reference designate corresponding parts in all the figures.

A designates a piece of flexible or collapsible tube, such as is usually made of india-rubber and employed for syringes and other purposes.

My improved stop-cock consists, essentially, of a frame, B, and a follower, C, both of which parts may be made of plate metal. The frame B comprises a portion,  $b$ , on which the tube rests directly, and which constitutes a seat for the tube, and parallel side portions or cheeks,  $b'$ , between which the follower C is adapted to move. The follower C is movable between the cheeks or side pieces,  $b'$ , in a direction toward and from the seat  $b$ , and it is guided in its movements by the frame B. In this example of my invention the follower C is provided with tongues  $c$ , as shown in Fig. 3, which extend in opposite directions, and which enter and slide within slots  $b^2$ , formed in the side pieces or cheeks,  $b'$ . Throughout the upper portion of their length the slots  $b^2$  are of sufficient width to permit the tongues  $c$  of the follower C to slide freely within them, and in one wall of the slots  $b^2$  are formed notches or shoulders  $b^3$ , and below the notches or shoulders  $b^3$  the slots  $b^2$  are widened, as shown in Figs. 1 and 2, so as to provide for the tilting or swinging of the follower C, in order to move the tongues  $c$  into and out of engagement with the notches or shoulders  $b^3$ .

I have here represented the follower C as provided at its outer or upper end with finger-



pieces  $d$   $d'$ , which extend laterally from it in opposite directions, and on which the finger may be applied with sufficient pressure to operate the follower. I have also shown the follower as provided at the inner end, or that end which bears upon the tube A, with a foot,  $d^2$ , which extends laterally from it in one direction only, and through which the follower acts upon the tube when forced inward by the pressure of the finger. If the follower is to be forced inward to close the passage through the tube A, the finger is applied to the flange or piece  $d'$ , and the follower pressed in until the upper extremities of the tongues pass the shoulders  $b^3$ , whereupon the follower will be tilted into the position shown in Fig. 1, and by engaging with the shoulders  $b^3$  will be locked in the position to hold the tube compressed or collapsed, and to maintain the passage through the tube entirely closed. Inasmuch as the foot extends in one direction only from the follower, the tube by its resilience reacts upon the foot as the follower is pushed inward, and has a tendency to tilt the follower into the locked position as soon as the upper extremities of the tongues  $c$  pass the shoulders  $d^3$ . When it is desired to release the tube to permit the flow of fluid through it, pressure may be applied to the finger-piece  $d$ , thereby tilting the follower C, so as to carry its tongues  $c$  out of engagement with the shoulders  $b^3$ , and the follower will then be thrown outward by the resilience of the tube, leaving the passage of the tube fully open.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with the frame B, composed of a tube-seat,  $b$ , and parallel cheeks or side portions,  $b'$ , extending at right angles therefrom and provided with slots  $b^2$ , having in one side wall shoulders  $b^3$ , of a follower, C, movable between the cheeks or side portions,  $b'$ , toward and from the seat  $b$ , and having laterally-projecting ears or lugs  $c$ , which fit said slots, and by engagement with the shoulders lock the follower to hold the tube in a compressed state, substantially as herein described.

2. The combination, with a frame forming a seat for a flexible tube and constructed with a guide having shoulders in one side extending transversely to the seat, of a movable follower fitted to the guide and having a laterally-extending foot for bearing upon the tube, and through which the tube acts to tilt the follower into engagement with the shoulders of the guide, substantially as herein described.

3. The combination, with the frame B, forming a tube-seat, and constructed with the guides and shoulders  $b^2$   $b^3$ , of the follower C, having the laterally-extending finger-pieces  $d$   $d'$ , and the foot  $d^2$ , extending laterally in one direction only, substantially as herein described.

RUSSELL PARKER.

Witnesses:

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HENRY J. MCBRIDE.