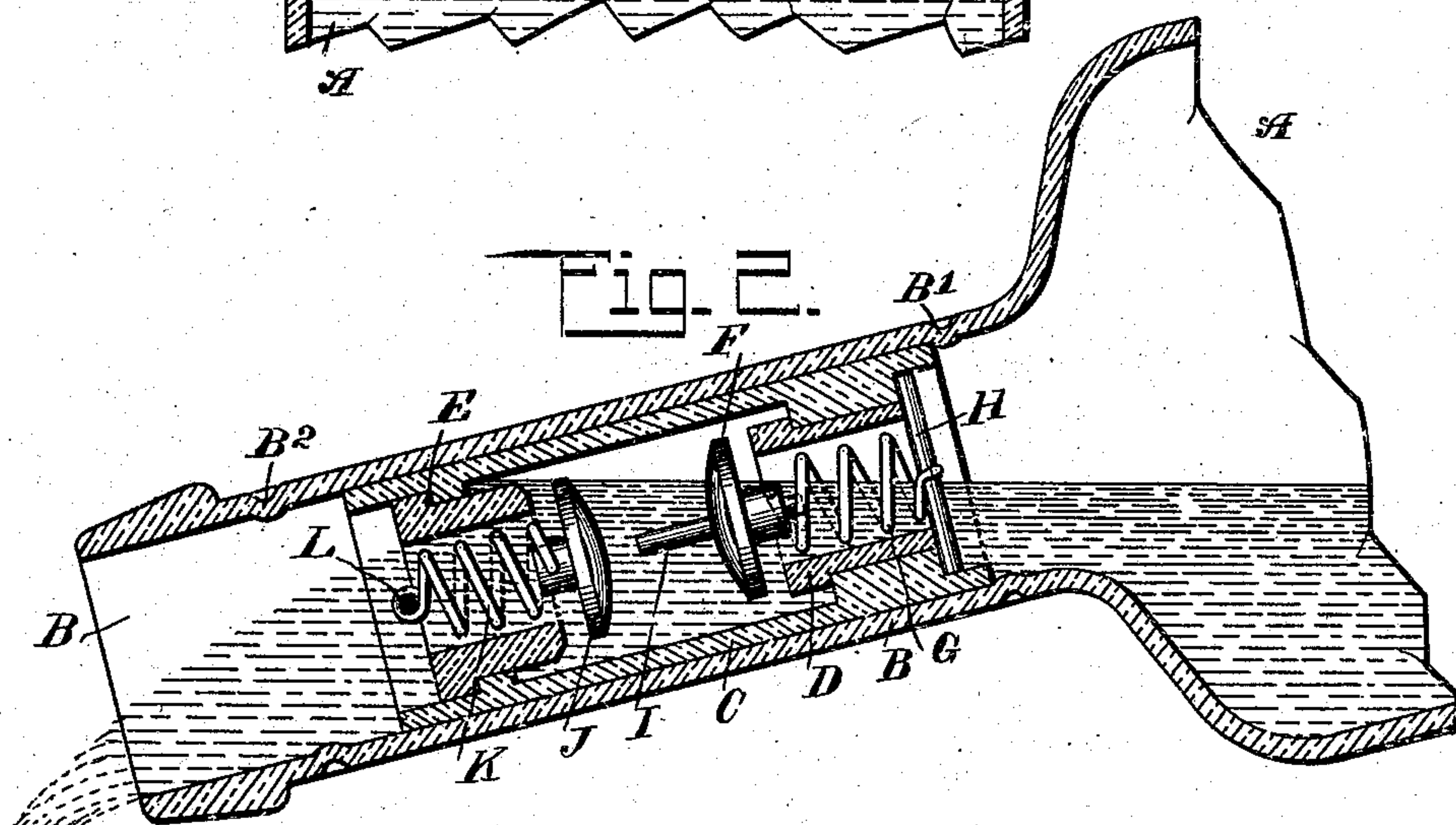
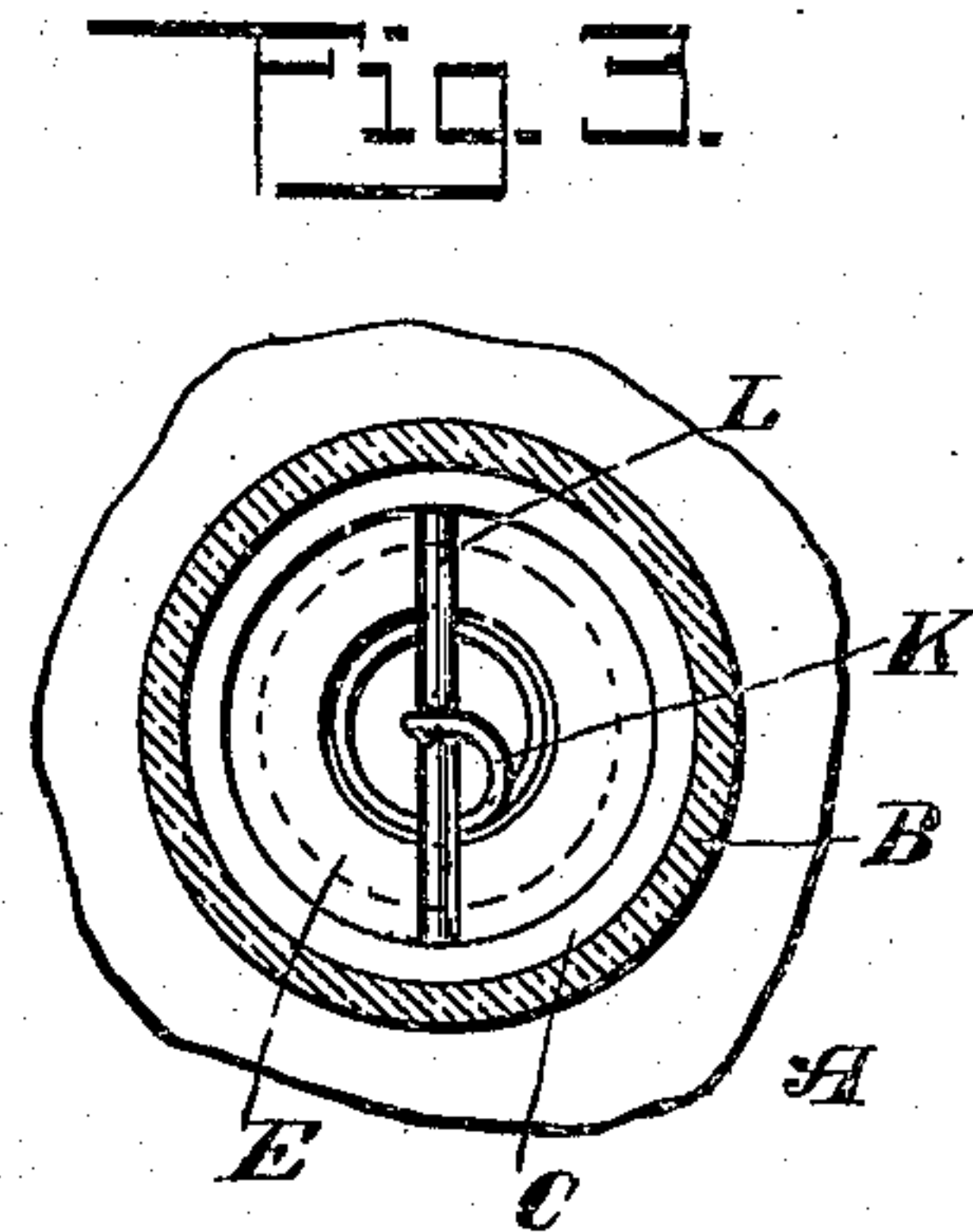
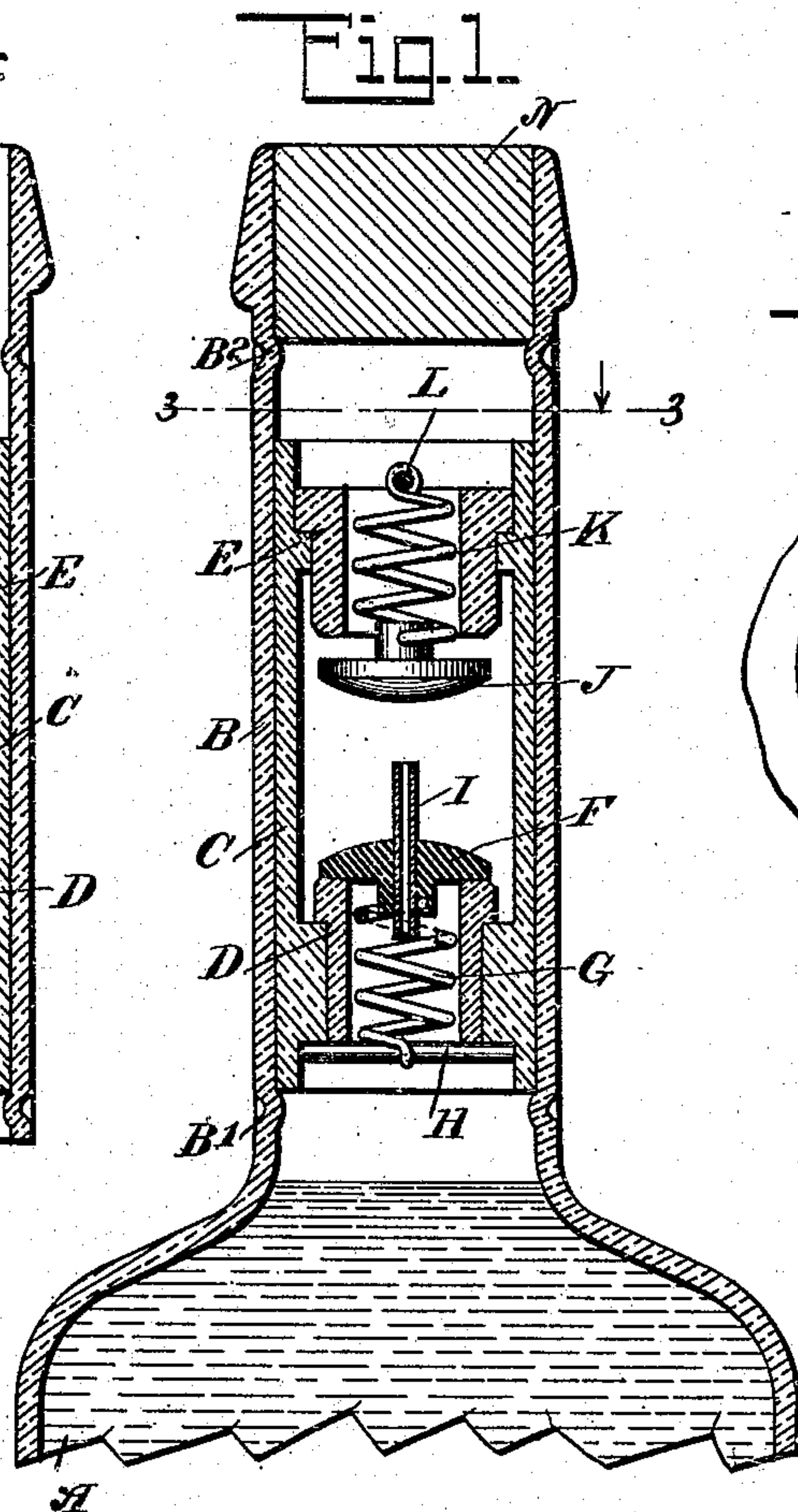
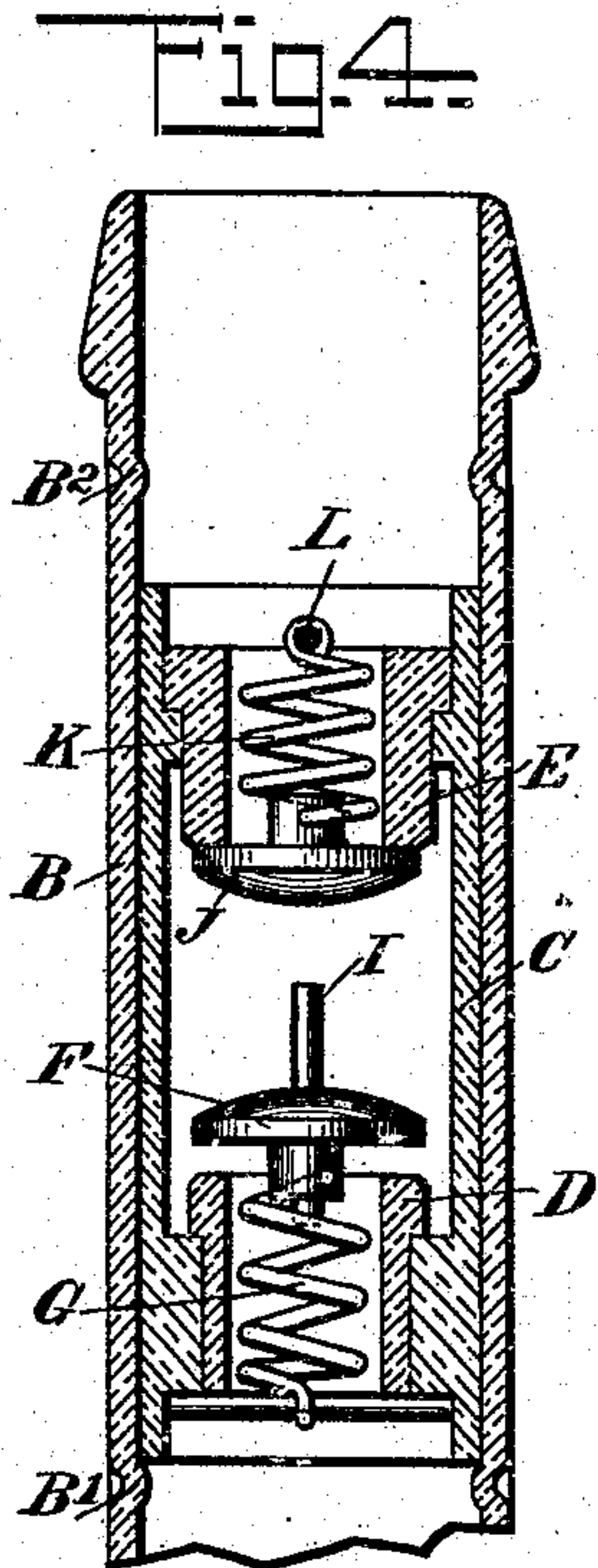


J. S. BROMHEAD.
NON-REFILLABLE BOTTLE.
APPLICATION FILED MAY 18, 1909.

936,860.

Patented Oct. 12, 1909.



WITNESSES

L. Almqvist
Rev. G. H. Foster

INVENTOR

John S. Bromhead

BY *Mumma & Co.*

ATTORNEYS

UNITED STATES PATENT OFFICE.

JOHN S. BROMHEAD, OF NEW YORK, N. Y.

NON-REFILLABLE BOTTLE.

936,860.

Specification of Letters Patent.

Patented Oct. 12, 1909.

Application filed May 18, 1909. Serial No. 496,714.

To all whom it may concern:

Be it known that I, JOHN S. BROMHEAD, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Non-Refillable Bottle, of which the following is a full, clear, and exact description.

The invention relates to non-refillable bottles, such as shown and described in the Letters Patent of the United States, No. 691,108, granted to me on January 14, 1902.

The object of the invention is to provide a new and improved non-refillable bottle, arranged to insure a steady flow of the liquid from the bottle when tilting the same, and to prevent refilling of the bottle by unauthorized persons after the bottle is once emptied of its original contents.

For the purpose mentioned, use is made of a lower and an upper valve seat in the neck of the bottle and two valves, of which one is spring-pressed and normally closes the top of the lower valve seat, while the other valve is spring-suspended below the bottom of the upper valve seat, so that this valve closes on a suction action in an outward direction in the neck of the bottle.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a sectional side elevation of the improvement; Fig. 2 is a like view of the same, showing the bottle tilted for emptying the contents thereof; Fig. 3 is a sectional plan view of the same on the line 3—3 of Fig. 1; and Fig. 4 is a sectional side elevation of the improvement showing the valves in position in case suction is applied to the outer end of the neck of the bottle.

The bottle A is provided in its neck B with a glass tube C, carrying two valve seats D and E, of which the lower valve seat D is adapted to be closed on top by a valve F, held to its seat by a spring G, extending through the valve seat D, to connect with a cross bar H, held on the under side of the valve seat D. A vent pipe I extends centrally through the valve F, and when the bottle is gradually tilted the liquid contained in the bottle A can pass into the valve seat D, against the valve F, to open the same against the tension of the spring G, as will

be readily understood by reference to Fig. 2. When the bottle A is returned to upright position, as shown in Fig. 1, then the valve F immediately returns to its seat D by the action of the spring G.

Below the upper valve seat E is suspended a valve J by a spring K, extending upward through the valve seat E, and connected with a cross bar L, held on top of the seat E. The valve J is normally open to allow the contents of the bottle to pass out of the same, as indicated in Fig. 2, and after the usual stopper N has been removed from the outer end of the neck B of the bottle. Now in case an unauthorized person inserts a wire or the like, with a view to hold the valve F off its seat for refilling the bottle, the valve J will deflect the wire to one side, so as to prevent the wire from engaging the valve F to unseat the same. In case an unauthorized person tries to refill the bottle by first producing a vacuum therein by suction on the outer end of the neck of the bottle, then the valve J will immediately close, as shown in Fig. 4, so that the air cannot be exhausted from the interior of the bottle.

The tube C as well as the valve seats D and E are preferably made of glass, and the tube C is snugly fitted in the neck B, and, if desired, fastened therein by fusing the tube C in position in the neck B. The lower end of the tube C rests, however, against an annular shoulder B', formed in the neck of the bottle, and a similar annular shoulder B² is arranged in the neck of the bottle near the top thereof, to prevent the tube C from coming out and to form a stop for the cork N.

From the foregoing it will be seen that by the arrangement described a steady flow of liquid from the bottle is insured, as air can readily pass into the bottle by way of the vent pipe I, and refilling of the bottle is prevented by unauthorized persons, by the use of the suspended valve J, as previously explained.

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

1. A non-refillable bottle, having a neck provided with seats one above the other, a spring-pressed valve normally seated on top of the lower valve seat, and adapted to be opened by the liquid when the bottle is tilted, and a spring-suspended valve normally suspended by its spring below the under side of the upper valve seat, to hold the

valve open for the passage of liquid from the bottle, the said valve being adapted to close on the under side of the upper valve seat on producing an outward suction in the neck of the bottle.

2. A non-refillable bottle, having a neck provided with seats one located above the other, spring-pressed valves, one for normally closing the lower valve seat at the top and the other valve being normally in open position and suspended by its spring below the bottom of the top valve seat.

3. A non-refillable bottle, having a neck provided with seats one above the other, a spring-pressed valve normally seated on top of the lower valve seat, a spring-suspended valve normally suspended by its spring below the under side of the upper valve seat and adapted to close on the under side of the upper valve seat on producing an outward suction in the neck of the bottle, and a vent pipe in the lower valve.

4. A non-refillable bottle, having a neck provided with a tube, carrying a lower and an upper valve seat, a spring-pressed valve normally closing the lower valve seat, a vent

pipe on the said valve, and a spring-suspended valve normally suspended below the under side of the upper valve seat and adapted to close the latter on an outward suction action in the neck of the bottle.

5. A non-refillable bottle having a neck provided with a tube, two valve seats carried by the tube and located one directly above the other, a spring pressed valve normally seated on top of the lower valve seat and adapted to be opened against the tension of its spring by the liquid when the bottle is tilted, a cross bar held on top of the upper valve seat, a spring connected with the cross bar and extending through the valve seat, and a valve suspended by said spring below the upper valve seat, the valve being held normally open by the spring for the passage of the contents of the bottle.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN S. BROMHEAD.

Witnesses:

THEO. G. HOSTER,

PHILIP D. ROLLHAUS.