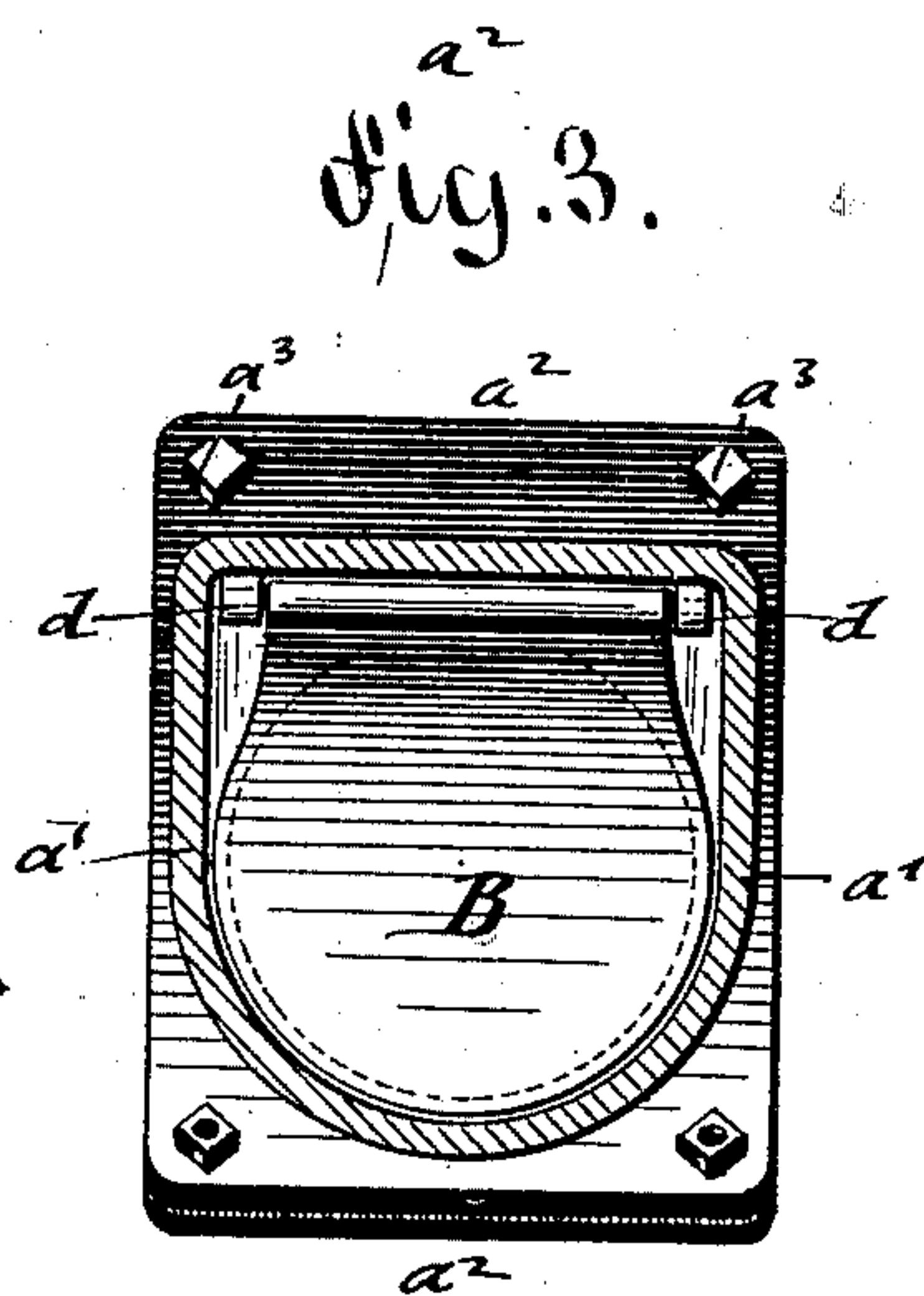
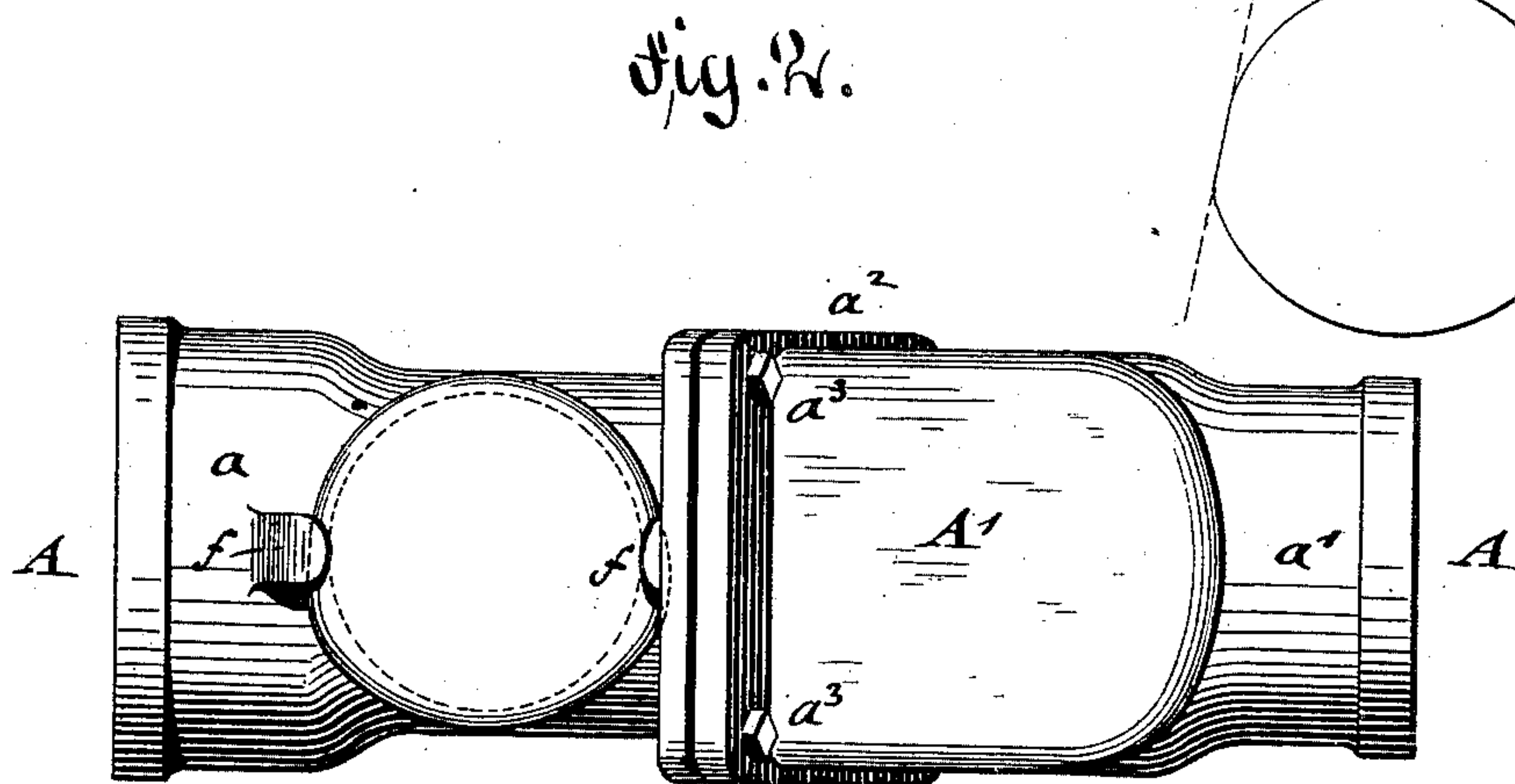
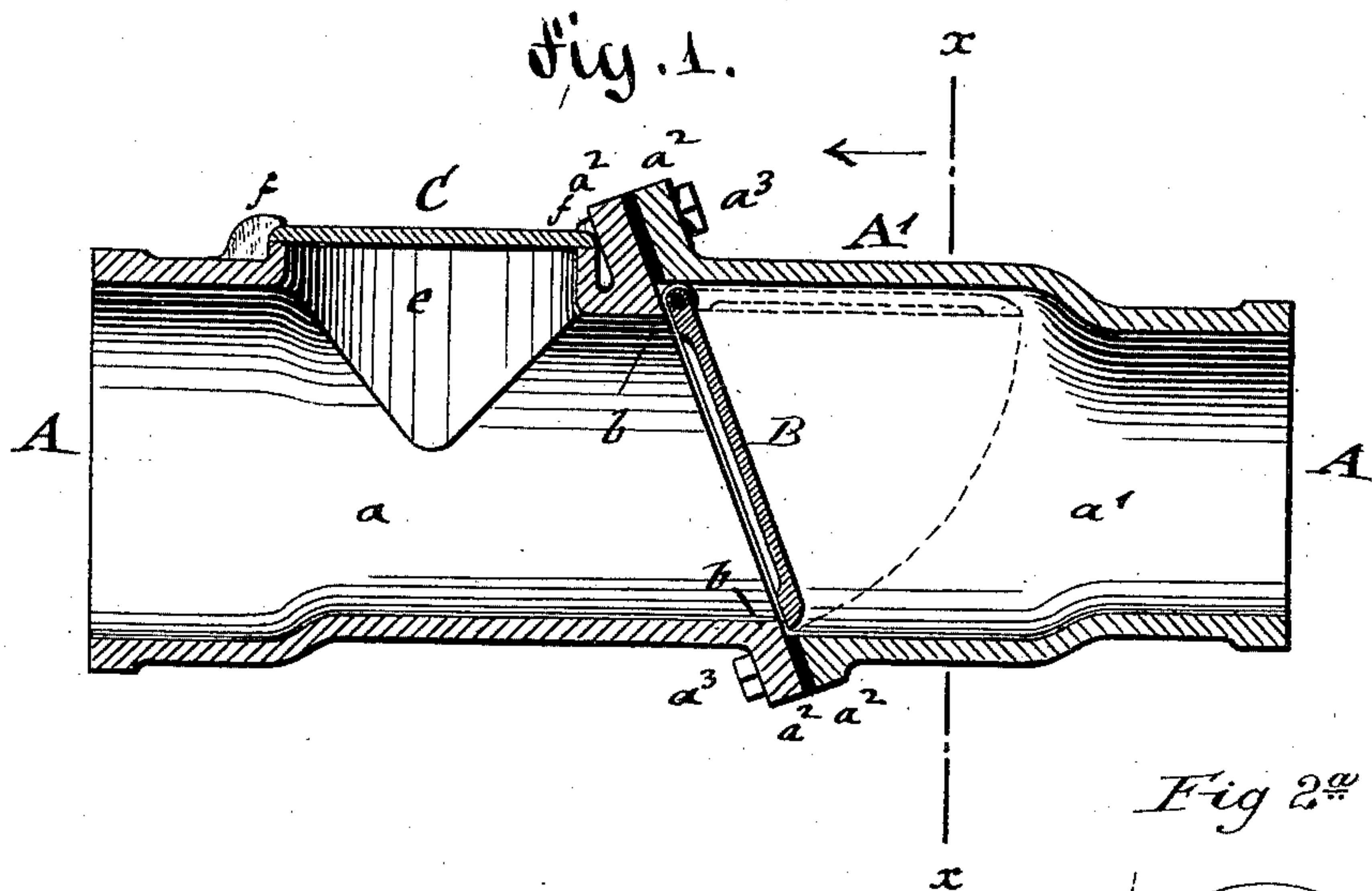


(No Model.)

P. F. LENHART.
SEWER VALVE.

No. 378,600.

Patented Feb. 28, 1888.



WITNESSES:

J. N. Rosenbaum.
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UNITED STATES PATENT OFFICE.

PHILIP F. LENHART, OF BROOKLYN, NEW YORK.

SEWER-VALVE.

SPECIFICATION forming part of Letters Patent No. 378,600, dated February 28, 1888.

Application filed June 10, 1887. Serial No. 240,866. (No model.)

To all whom it may concern:

Be it known that I, PHILIP F. LENHART, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Sewer - Valves, of which the following is a specification.

This invention relates to an improved sewer-valve of that class which is used for automatically shutting off backwater in sewers which are located below the level of rivers or tide-water, said valve opening readily to interior pressure, but closing tightly against exterior pressure and the passage of sewer-gas, the valve being arranged to open entirely, so as not to interfere with the outflow, while being readily accessible for cleaning and repairs; and the invention consists of a sewer-valve that is located in a valve-casing composed of two flanged sections which are united at an angle of inclination by screw-bolts, one section being somewhat narrower than the other section, so as to form a seat for the valve. The valve is hinged to ears at the upper part of the seat and adapted to open entirely into an enlarged or box-shaped part at the upper part of the section in front of the valve. A hand-hole is arranged back of the valve, said hand-hole being closed by a cover having inclined side portions that are engaged by tapering lugs integral with the section of the casing back of the valve.

In the accompanying drawings, Figure 1 represents a vertical transverse section of my improved sewer-valve. Fig. 2 is a plan of the same. Fig. 2^a is a top view of the detachable hand-hole cover, showing its straight converging side portions; and Fig. 3 is a vertical transverse section on line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the casing of a sewer-valve, B, which casing is inserted in the usual manner into sewers exposed to overflow by backwater from rivers or tide-water. The valve-casing A is made of two parts or sections, *a a'*—an inner section back of the valve B and an outer section in front of the valve B. The sections *a a'* are united at a suitable angle of inclination to the longitudinal axis of the sewer-pipe by means of flanges *a²*, an interposed packing, and screw-bolts *a³*. The inner section, *a*, of the casing is made of

a somewhat smaller diameter at the adjoining part of the outer section, *a'*, so as to form a valve-seat, *b*, the face of which is ground off, so as to be closed by the tight fitting of the valve B, that is hinged by a pintle at its upper end to ears *d* above the valve-seat of the inner section, *a*, as shown in Figs. 1 and 3. The ears *d d* are arranged at the upper part of the section *a*, so as to permit the entire opening of the valve B into an enlarged or box-shaped portion, A', at the upper part of the outer section, *a'*. By this arrangement the valve when in open position cannot obstruct the outflow of the drainage in the sewer, while it prevents the flow of backwater, as the latter presses the valve tightly against its seat and thereby shuts off the sewer. As the valve swings entirely out of the way of the outflow, no collection of sediment is formed by the valve and its pivots which would choke up the valve and prevent the proper closing of the same against the backflow. The inner section, *a*, is provided at its upper part, back of the flanged joint of the two sections *a a'*, with a hand-hole, *e*, which is closed by a cover, C, said cover being made in round shape, but with straight and slightly tapering or converging portions at diametrically-opposite sides, as shown in Fig. 2, which straight portions are retained by lugs *f*, that are cast integral with the inner section and provided with converging faces, so that when the cover C is driven home into the lugs *f* it closes tightly the hand-hole *e*, while it is readily opened by a few blows on the opposite end of the cover, by which the same is readily released from the lugs *f*.

The hand-hole *e* gives convenient access to the valve whenever it should be necessary to clean the valve-seat of the same for the proper working of the valve and the tight closing of the same. In case it is necessary to replace the valve the connecting screw-bolts of the section A' are withdrawn and the outer section, *a'*, lifted and removed, so that full access is given to the valve for removing and replacing the same in case it should be necessary.

By the arrangement described a reliably working valve for sewers located below the level of tide-water is obtained, which valve discharges freely the drainage and closes tightly against backwater and sewer-gases.

I am aware that hand-holes located back of a hinged valve in backwater-sewers have been used heretofore, and I do not claim this feature, broadly.

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

The combination of a valve-casing composed of two sections coupled together at a suitable inclination to the axis of the casing, a valve
10 hinged to the upper part of the inner section, a hand-hole at the upper part of the inner section back of the valve, tapering guide-lugs

at both sides of the hand-hole, and a detachable cover having straight converging side portions retained by said lugs, substantially 15 as set forth.

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

PHILIP F. LENHART.

Witnesses:

PAUL GOEPEL,
CARL KARP.