

(No Model.)

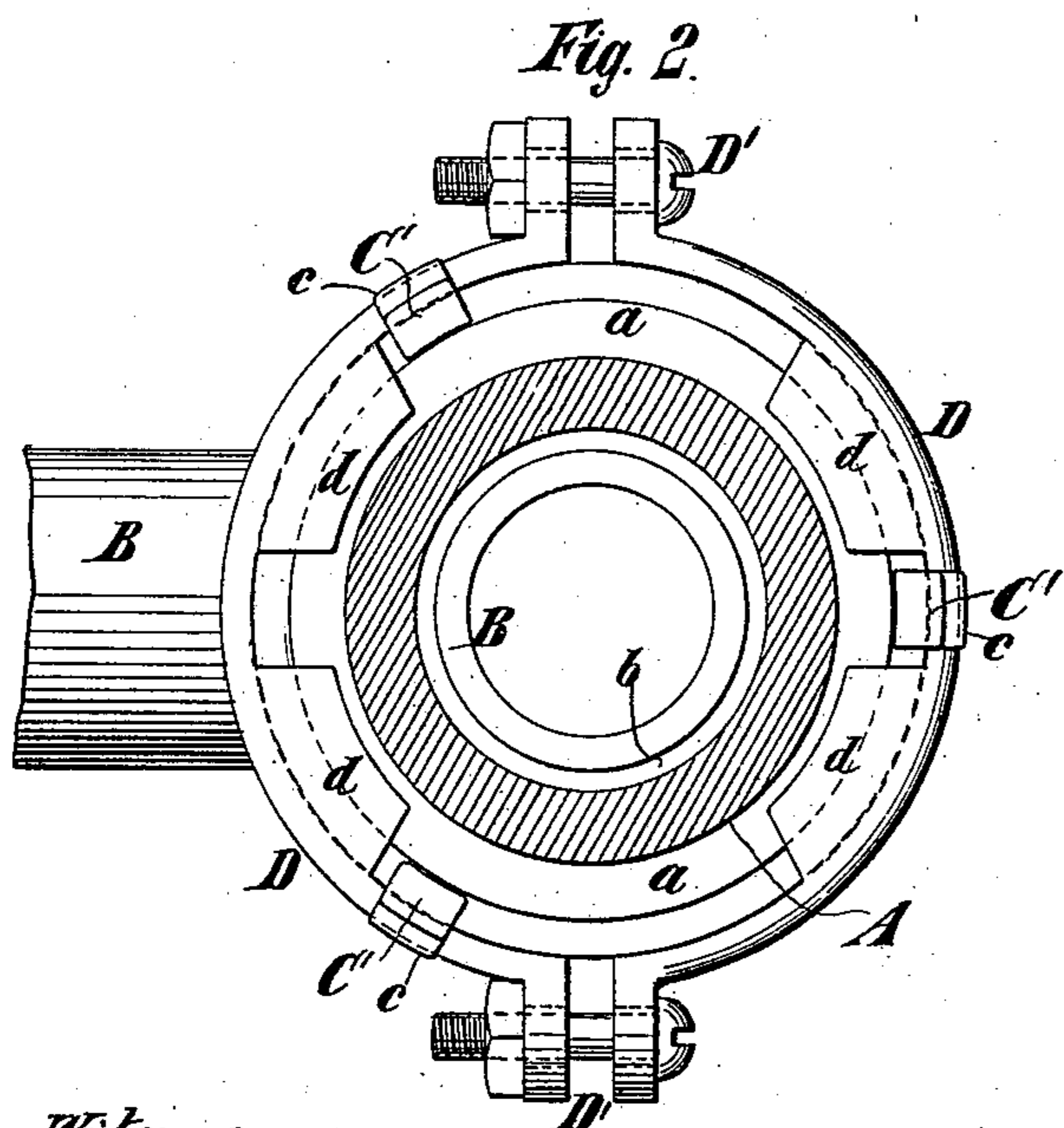
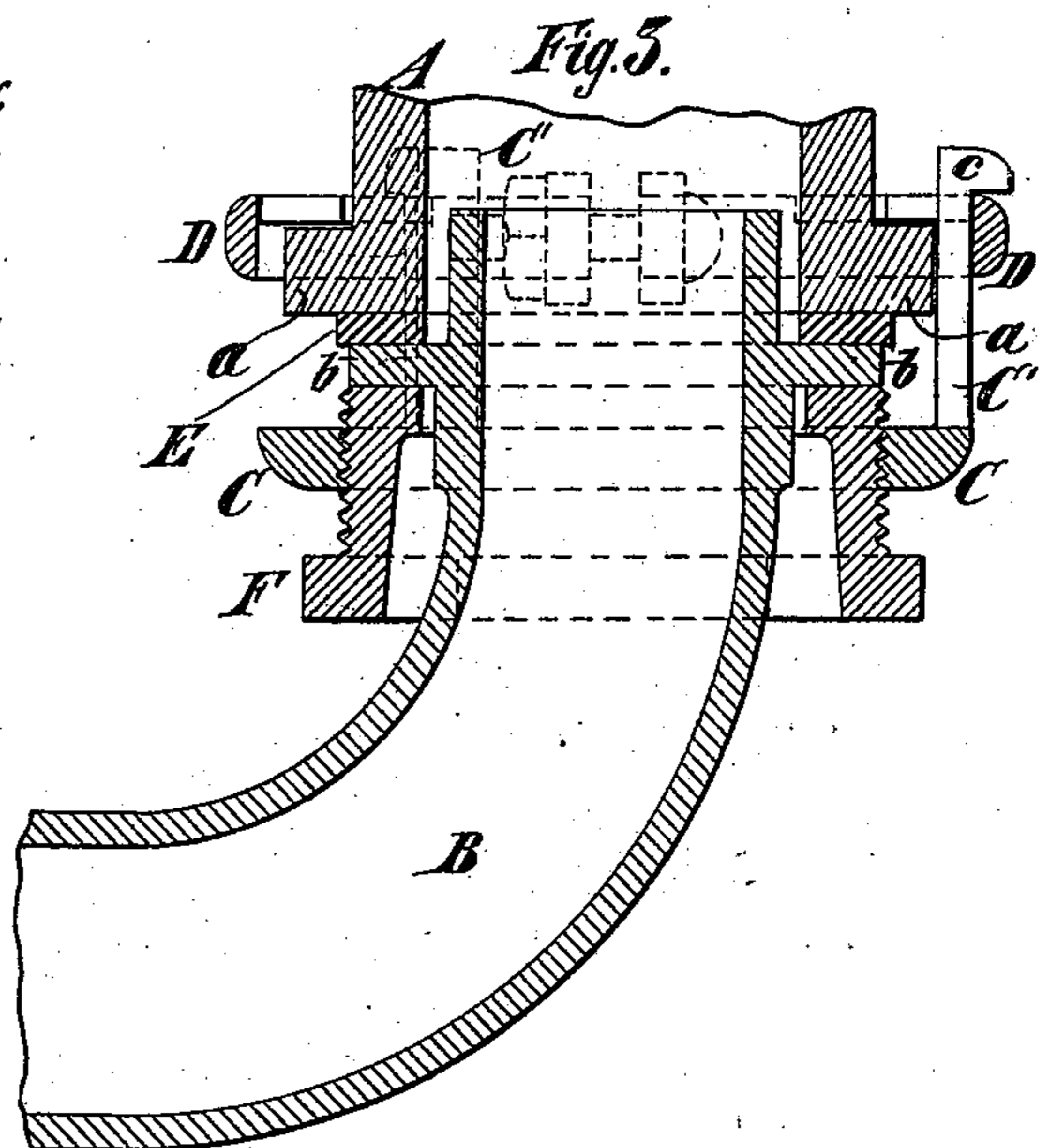
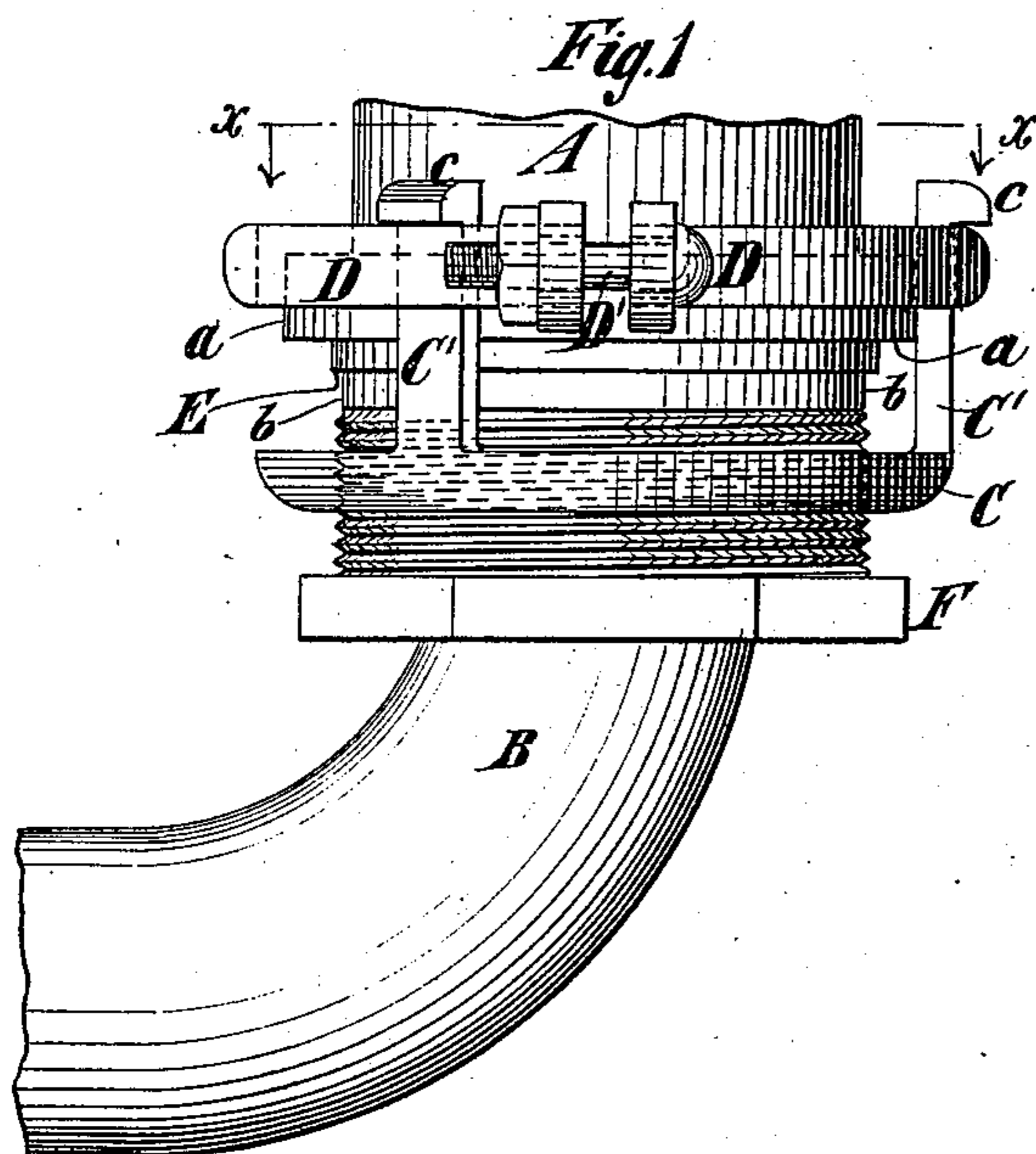
2 Sheets—Sheet 1.

C. HARRISON.

WATER CLOSET.

No. 293,734.

Patented Feb. 19, 1884.



Witnesses:
J. H. Kane
A. L. Brown.

Inventor:
Charles Harrison
By his atty.
Erwin H. Brown.

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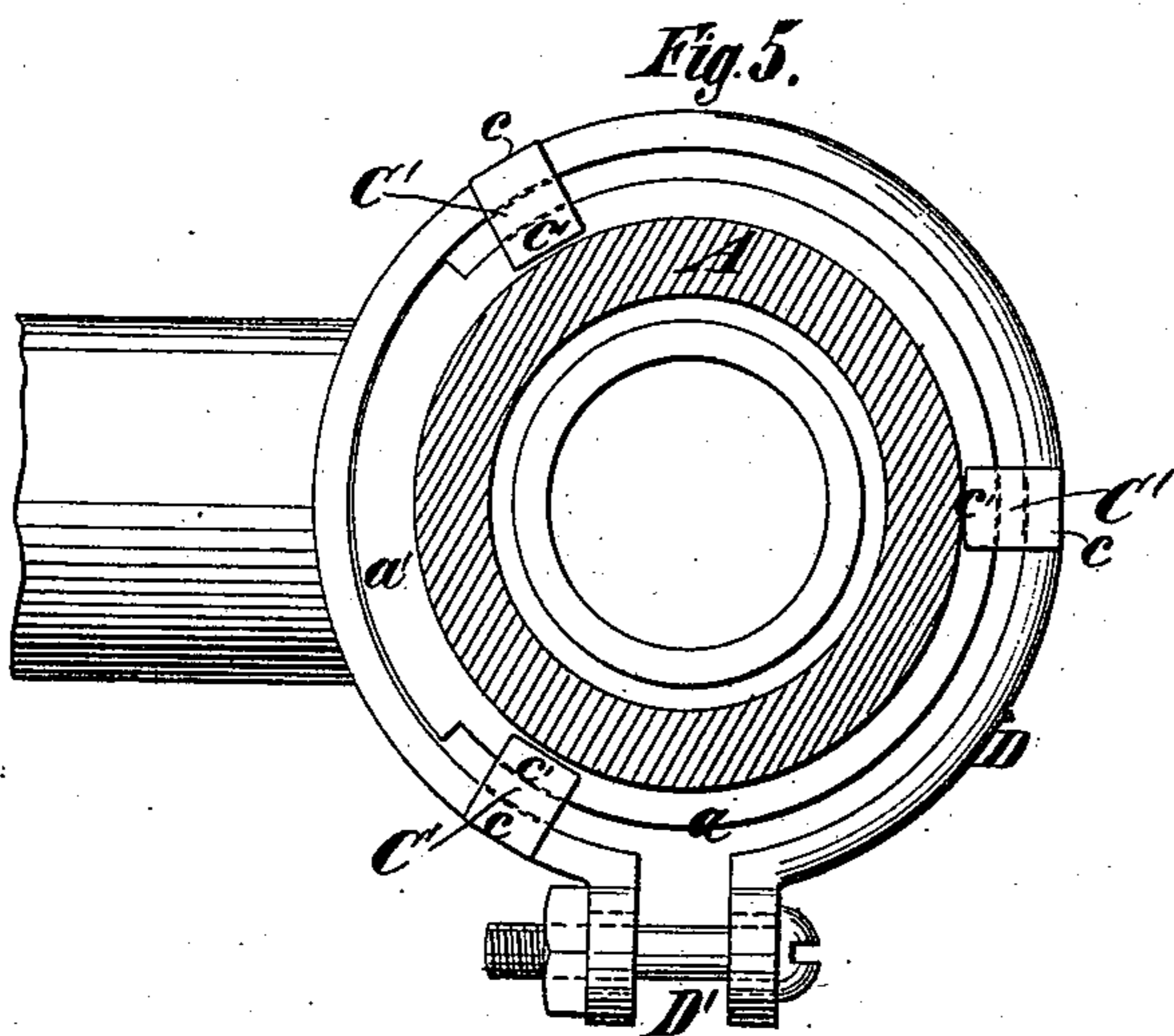
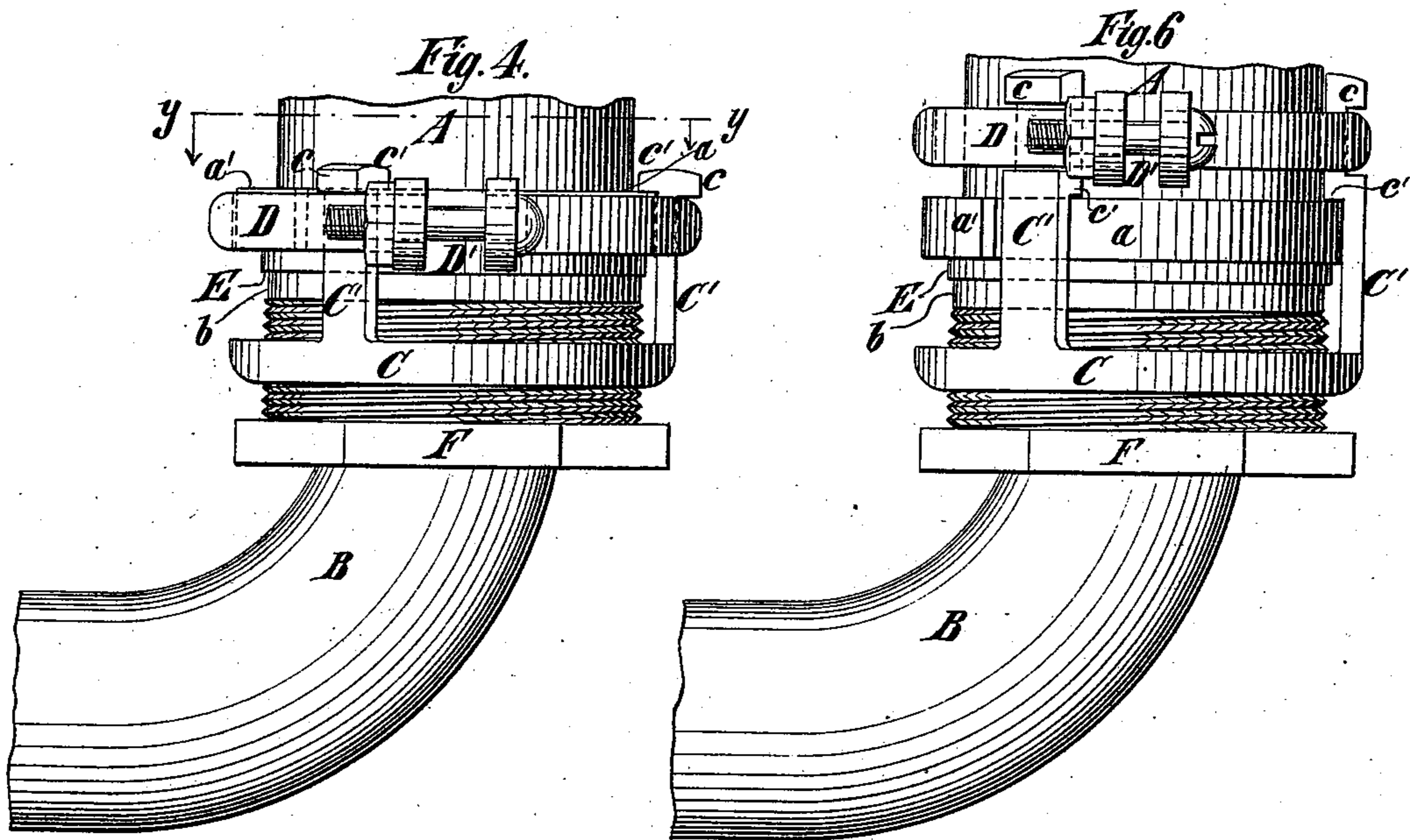
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Inventor:
Charles Harrison
By his Attorney
Edwin H. Brown

UNITED STATES PATENT OFFICE.

CHARLES HARRISON, OF NEW YORK, N. Y.

WATER-CLOSET.

SPECIFICATION forming part of Letters Patent No. 293,724, dated February 19, 1884.

Application filed September 1, 1883.. (No model.)

To all whom it may concern:

Be it known that I, CHARLES HARRISON, of New York, in the county and State of New York, have invented a certain new and useful Improvement in Water-Closets, of which the following is a specification.

The object of this improvement is to provide a simple and effective means whereby water-closet bowls or hoppers may be connected with the pipes that are used in conjunction with them.

The improvement is designed, principally, for use in connecting earthenware water-closet bowls or hoppers with metal pipes which supply water to them.

The improvement consists in the combination, with a nozzle or tubular portion of a water-closet bowl or hopper, having a flange at the outer end, and a pipe provided with a flange, of a coupling-ring having arms, a band embracing the arms of the said coupling-ring, and adapted to secure this coupling-ring to the nozzle or tubular portion of the water-closet bowl or hopper, another coupling-ring engaging with the flange of the pipe, and means whereby the coupling-rings may be united.

In the accompanying drawings, Figure 1 is a side view of a nozzle or tubular portion of a water-closet bowl or hopper, a pipe, and means embodying my improvement for connecting the two parts together. Fig. 2 is a view of the same, taken at the plane of the dotted line *x x*, Fig. 1, and looking in the direction indicated by the arrows at the ends of such line; and Fig. 3 is a longitudinal section of the same. Fig. 4 is a side view of a nozzle or tubular portion of a water-closet bowl or hopper, a pipe, and means of modified form embodying the improvement, and serving to connect the two parts together; and Fig. 5 is a view of the same, taken at the plane of the dotted line *y y*, Fig. 4, and looking in the direction indicated by the arrows at the ends of such line. Fig. 6 is a side view of a nozzle or tubular portion of a water-closet bowl or hopper, a pipe, and means of modified form embodying the improvement, and connecting the two parts together.

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

In Figs. 1, 2, and 3, A designates a nozzle or tubular portion forming part of a water-

closet bowl or hopper. It may be the nozzle or tubular portion which conveys the flushing-water into the bowl or hopper. At the outer end it is provided with a circumferential flange, *a*.

B designates a pipe, which may be made of metal, and is provided, at a short distance from the end, with a circumferential flange, *b*.

C designates a metal coupling-ring having arms *C'*, that extend past the flange *a* of the nozzle or tubular portion A of the bowl or hopper.

D designates a band composed of two sections of flexible or resilient metal, secured at the ends by screws or bolts *D'*. This band is passed around the arms *C'* of the coupling-ring C below shoulders *c*, with which they are provided externally. The band is provided at its inner circumference with lugs *d*, that extend over the inner side or back of the flange *a* of the nozzle or tubular portion of the water-closet bowl or hopper. By tightening the bolts *D'* the band D will be caused to hug the arms *C'* of the coupling-ring C, so that it will be unable to slip past the shoulders *c* of these arms. As the lugs *d* of the band extend over the back of the flange *a*, the coupling-ring C cannot be pulled off the nozzle or tubular portion A of the water-closet bowl or hopper.

The flange *b* of the pipe B has preferably interposed between it and the end of the nozzle or tubular portion A of the water-closet bowl or hopper a packing-ring, E, of india-rubber or other suitable material.

F is a metal coupling-ring, which is arranged in contact with the outer side of the flange *b* of the pipe B, and engages with the coupling-ring C. As here shown, the coupling-ring F is externally threaded and the coupling-ring C internally threaded, and the engagement of these coupling-rings is effected by these screw-threads. By turning the coupling-ring F the pipe B may be forced toward the outer end of the nozzle or tubular portion A of the water-closet bowl or hopper, so that the packing-ring E will be tightly clamped between them and a tight joint formed.

It will be observed that the flange *a* of the nozzle or tubular portion A of the water-closet bowl or hopper is continuous, and hence it is of great strength.

In the example of my improvement which I

have shown in Figs. 4 and 5, all the parts are the same in construction and operation, except in certain particulars, which I will now mention. The arms C' of the coupling-ring C have 5 shoulders c', that extend over the flange a of the nozzle or tubular portion A of the water-closet bowl or hopper, as well as shoulders c, against which the band D abuts. These arms must therefore be sprung apart to allow their 10 shoulders c' to pass the flange a, whenever the coupling-ring is to be attached to or detached from this flange; and hence they must be made of flexible or resilient metal. The band D is shown as made in one piece, bent into circular 15 form and fastened at the ends by a bolt, D'. It will be made of flexible or resilient metal, as in the case of the band first described. The band in this example of my improvement has no lugs; but it secures the coupling-ring C to 20 the flange a by forcing and holding the shoulders c' of the arms C' in engagement therewith. The flange a may be provided with an abutment, a', which will preclude the arms C' from turning around the flange, and will facilitate 25 the screwing of the coupling-rings together.

In the example of my improvement which is shown in Fig. 6, all the parts are constructed and operate as in Figs. 4 and 5, except that the 30 arms C' are bent inwardly to form shoulders c'; and hence the shoulders c do not necessarily project beyond the main portions of the arms. The band D will also have less projection in this particular example of my improvement.

This improvement may be used to connect 35 any pipe to a water-closet bowl or hopper, although it is especially designed to connect a water-supply pipe. It will be available in connecting a vent-pipe.

What I claim as my invention, and desire to 40 secure by Letters Patent, is—

1. The combination, with a nozzle or tubular portion of a water-closet bowl or hopper, having a flange at the outer end, and a pipe 45 provided with a flange, of a coupling-ring having arms, a band embracing the arms of the said coupling-ring, and adapted to secure this coupling-ring to the nozzle or tubular portion of the water-closet bowl or hopper, another 50 coupling-ring engaging with the flange of the pipe, and means whereby the coupling-rings may be united, substantially as specified.

2. The combination, with a nozzle or tubular portion of a water-closet bowl or hopper, having a flange at the outer end, and a pipe 55 provided with a flange, of a coupling-ring having externally-shouldered arms, a band embracing the arms, abutting against the shoulders thereof, and provided with lugs that lap over the back of the flange of the nozzle or tubular 60 portion of the water-closet bowl or hopper, another coupling-ring engaging with the flange of the pipe, and means whereby the coupling-rings may be united, substantially as specified.

CHAS. HARRISON.

Witnesses:

T. J. KEANE,
A. L. BROWN.