

No. 615,434.

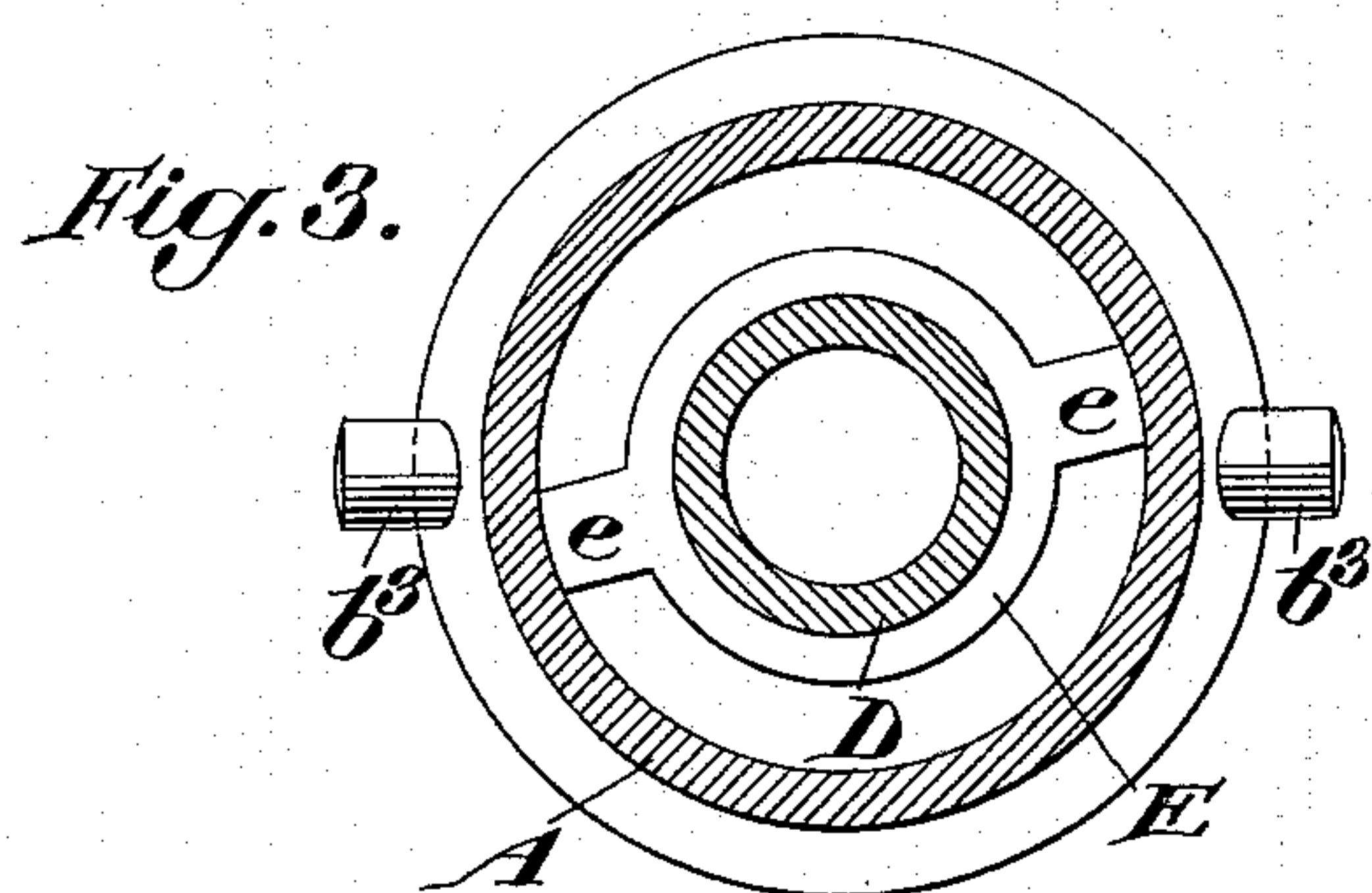
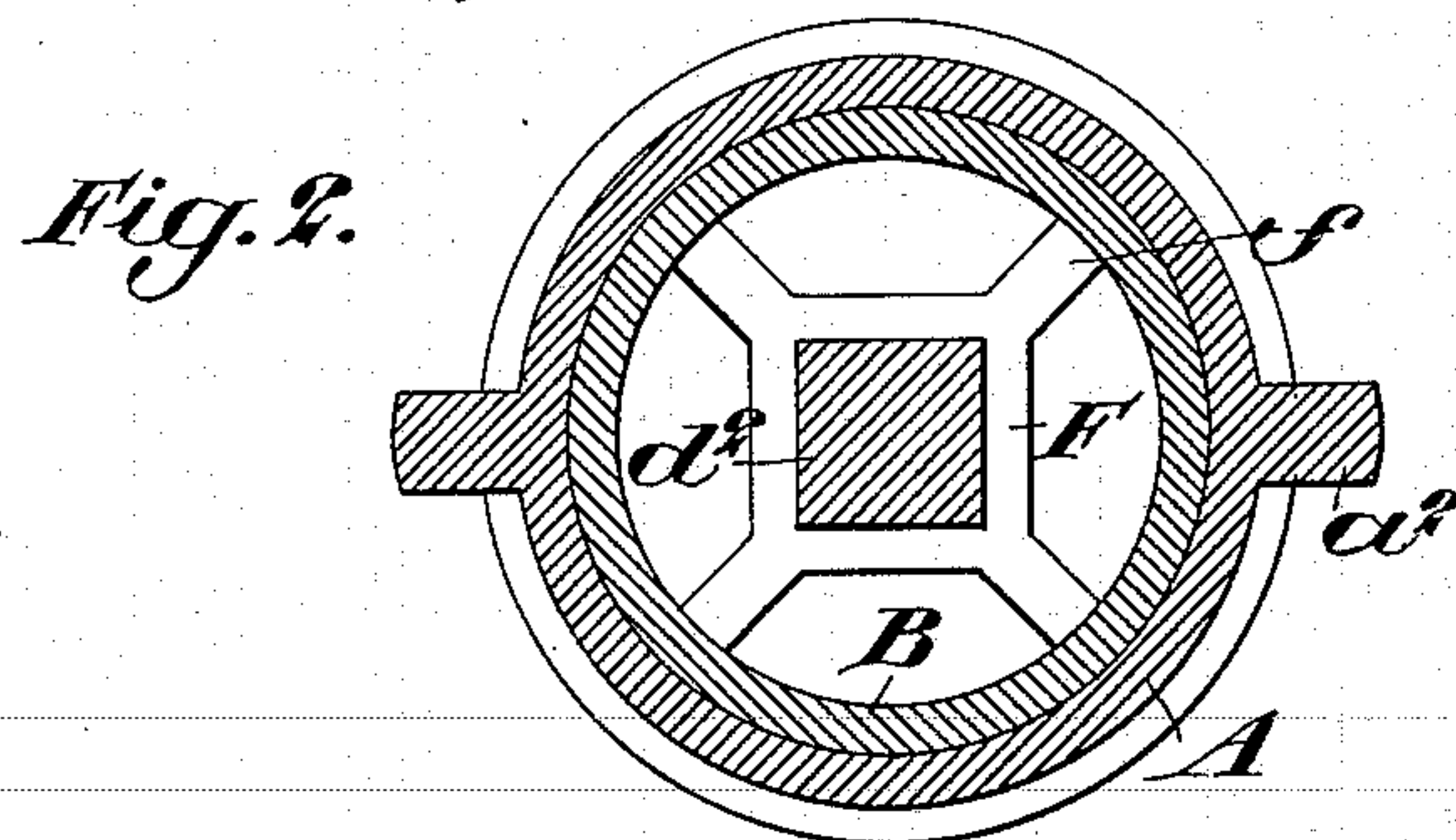
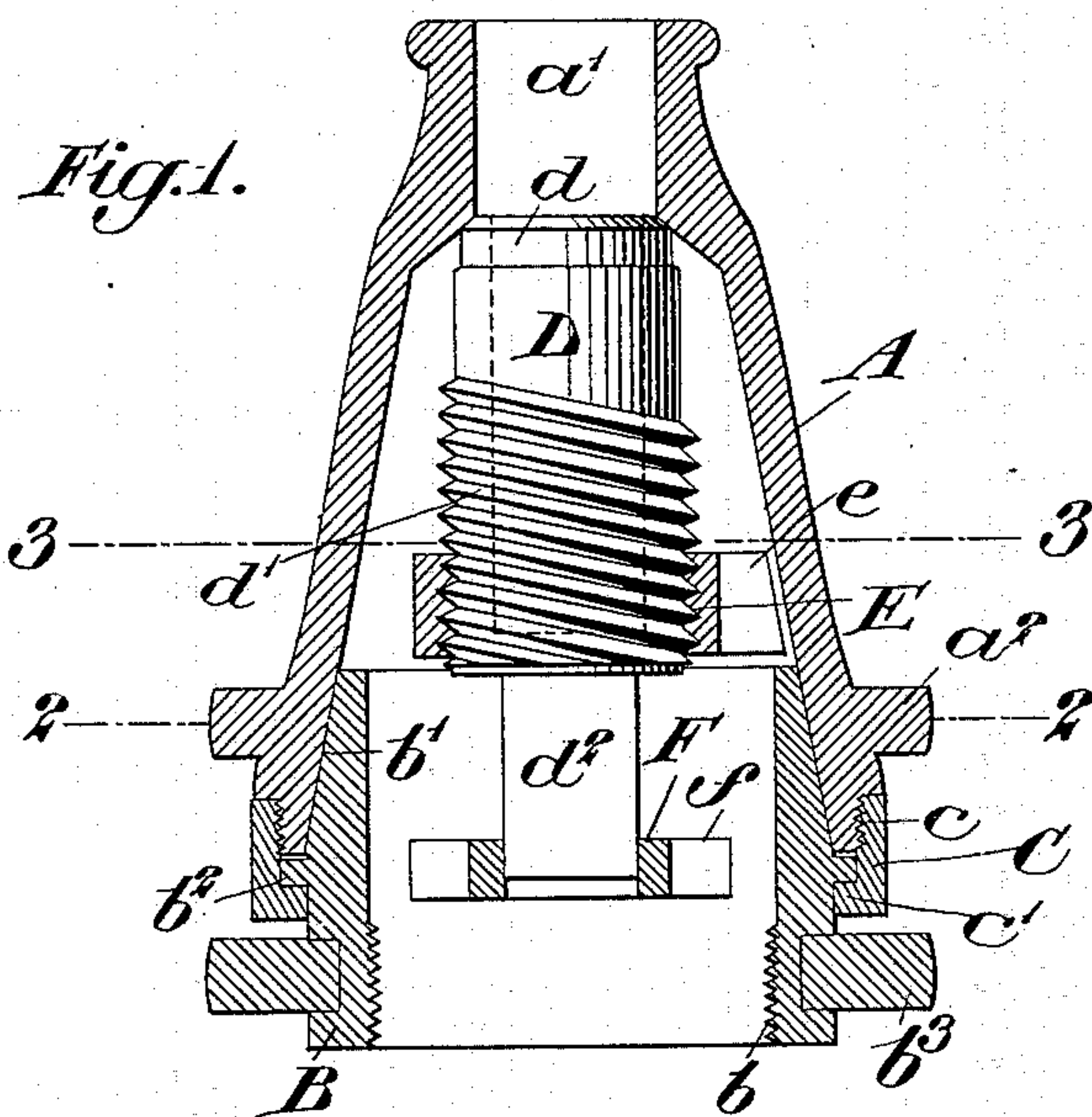
Patented Dec. 6, 1898.

W. F. CUNNINGHAM.

SHUT-OFF NOZZLE.

(Application filed July 16, 1897.)

(No Model.)



Witnesses:-

M. C. Fletcher.

George Barry Jr.

Inventor:

William F. Cunningham
by attorneys.

Thomas S. L. L.

UNITED STATES PATENT OFFICE.

WILLIAM F. CUNNINGHAM, OF NEW YORK, N. Y.

SHUT-OFF NOZZLE.

SPECIFICATION forming part of Letters Patent No. 615,434, dated December 6, 1898.

Application filed July 16, 1897. Serial No. 644,777. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. CUNNINGHAM, of New York, (Brooklyn,) in the county of Kings and State of New York, have invented a new and useful Improvement in Shut-Off Nozzles, of which the following is a specification.

This invention relates to an improvement in shut-off nozzles, with the object in view of providing a nozzle in which the rotary movements of the nozzle-tip serve to open and close the valve for controlling the escape of the water therethrough.

A further object is to provide a nozzle in which the valve may be rapidly and easily opened and closed and yet will remain in any desired position without a tendency to change under the pressure of the water escaping through the nozzle.

A practical embodiment of my invention is represented in the accompanying drawings, in which—

Figure 1 represents a vertical central section through the nozzle, the valve being represented as closed. Fig. 2 is a transverse section in the plane of the line 2 2 of Fig. 1, and Fig. 3 is a transverse section in the plane of the line 3 3 of Fig. 1.

The nozzle consists of a tapered tip-section A and a base-section B, upon which the tip-section is rotatably mounted.

The nozzle-tip A is provided with a suitable valve-seat a near its outlet-opening a' .

The base-section B of the nozzle is provided with a screw-threaded portion b , which is adapted to be engaged with the hose (not shown) for securing the nozzle thereon, and the said base-section is further provided with a tapered circumferential seat b' upon its exterior, around which the inner end of the tip A is fitted to rotate. The tip A is held snugly in rotary engagement with its base B by means of a sleeve-nut C, which has a screw-threaded engagement, as at c , with the inner end of the tip A, the said nut having an inwardly-extended flange c' , which is adapted to impinge against a circumferential flange b^2 upon the base B.

The two sections of the nozzle may be provided with suitable spanner-holes or pins. In the present instance pins a^2 b^3 are shown, the pins a^2 being utilized for rotating the tip A

upon its base and the pins b^3 being used for securing the base of the nozzle to the hose and removing it therefrom.

The valve is of the longitudinal sliding type and consists of a cylindrical head D, having a suitable seating-cap d , of disk form, which is adapted to engage the valve-seat a , an exterior screw-threaded portion d' , and an angular shank d^2 .

The screw-threaded portion of the valve D is engaged by a ring E within the nozzle-tip A, the said ring being provided with suitable branches e , extending to the inner wall of the tip, whereby water-exit openings are formed between the ring E and the inner wall of the tip. The ring E is thus mounted to rotate with the tip A. The angular shank d^2 of the valve is shown in the present instance as of squared form in cross-section, and the said shank has a longitudinal sliding movement in a suitable guide F of skeleton form, the arms f of which extend from the portion through which the shank d^2 slides to the interior wall of the base-section B of the nozzle. This guide F serves to prevent the turning of the valve D, so that when the tip A is rotated it will force the valve D longitudinally in one direction or the other to move the valve longitudinally toward and away from its seat. The screw-threads d' upon the valve-head are preferably of a very considerable pitch, so that a limited rotary movement of the tip A will move the valve longitudinally to a considerable extent for rapidly opening and closing the same.

In operation, supposing the valve to be closed and it be desired to open the same, the tip A is rotated upon its base B, the amount of the rotary movement of the tip determining the amount of opening of the valve D, and thereby the volume of water which will be permitted to escape through the opening a' in the tip.

It will be seen that a nozzle and valve as thus constructed may be very readily and easily used and that the pressure of water being equal upon all sides of the valve will permit the said valve to be opened or closed to any desired degree with ease and there held.

It is evident that slight changes might be resorted to in the construction and arrange-

ment of the several parts without departing from the spirit and scope of my invention. Hence I do not wish to limit myself strictly to the structure herein set forth; but

5 What I claim is—

1. A nozzle comprising a base having a guide therein of skeleton form spaced from its walls, a tip mounted to rotate on the base and having a ring therein spaced from its
10 walls and a valve located within the nozzle having a sliding engagement with the said guide and a screw-threaded engagement with the said ring whereby the rotary movements of the tip serve to slide the valve longitudi-
15 nally to open and close the same, substantially as set forth.

2. A nozzle comprising a base having a guide therein of skeleton form spaced from its walls, a tip mounted to rotate on the base and having a ring therein spaced from its
20 walls and a valve having a shank annular in cross-section sliding within said guide and a head having a screw-threaded engagement with the said ring whereby the rotary move-
25 ments of the tip serve to slide the valve longitudinally to open and close the same, substantially as set forth.

WILLIAM F. CUNNINGHAM.

Witnesses:

FREDK. HAYNES,

GEORGE BARRY, Jr.