

No. 620,516.

Patented Feb. 28, 1899.

E. S. ULLMANN.
LIGHTING DEVICE FOR GAS BURNERS.

(Application filed Feb. 19, 1898.)

(No Model.)

Fig: 1.

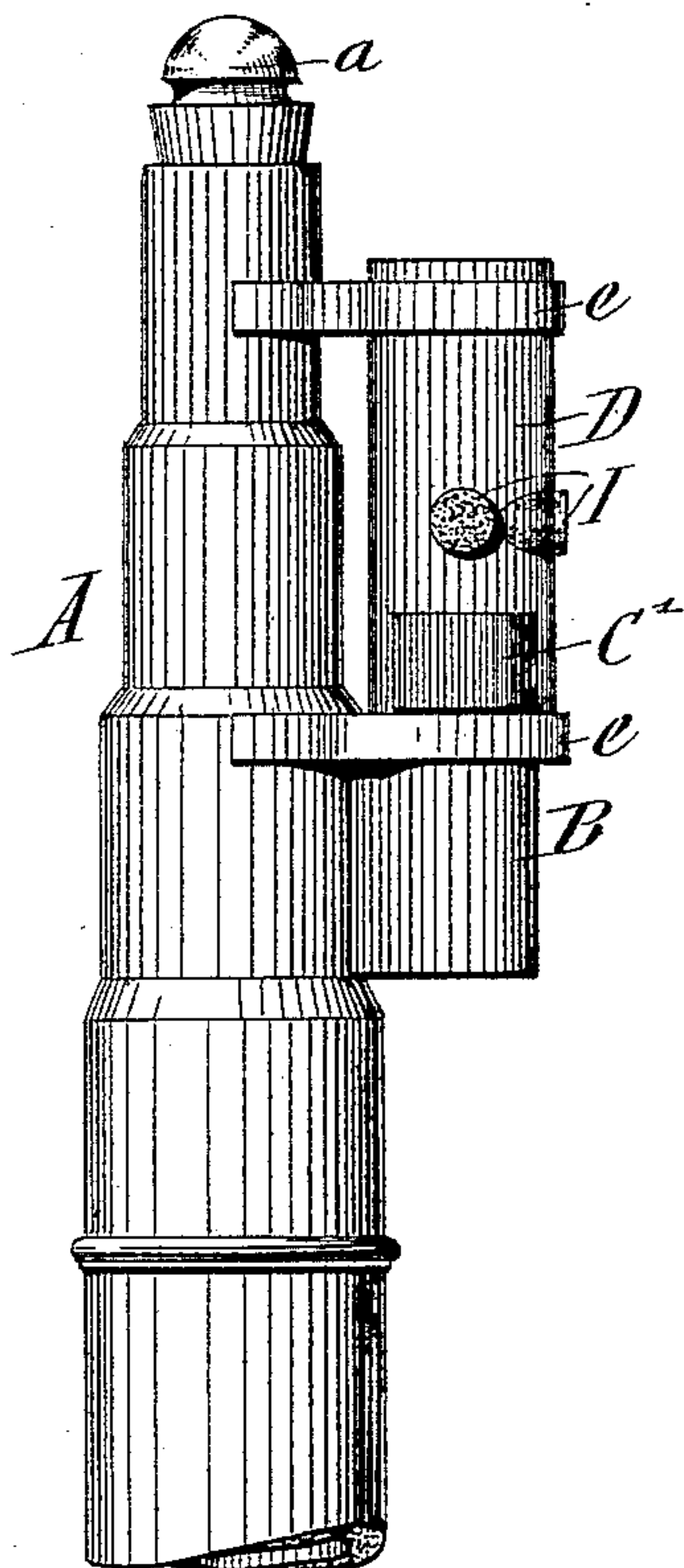


Fig: 2.

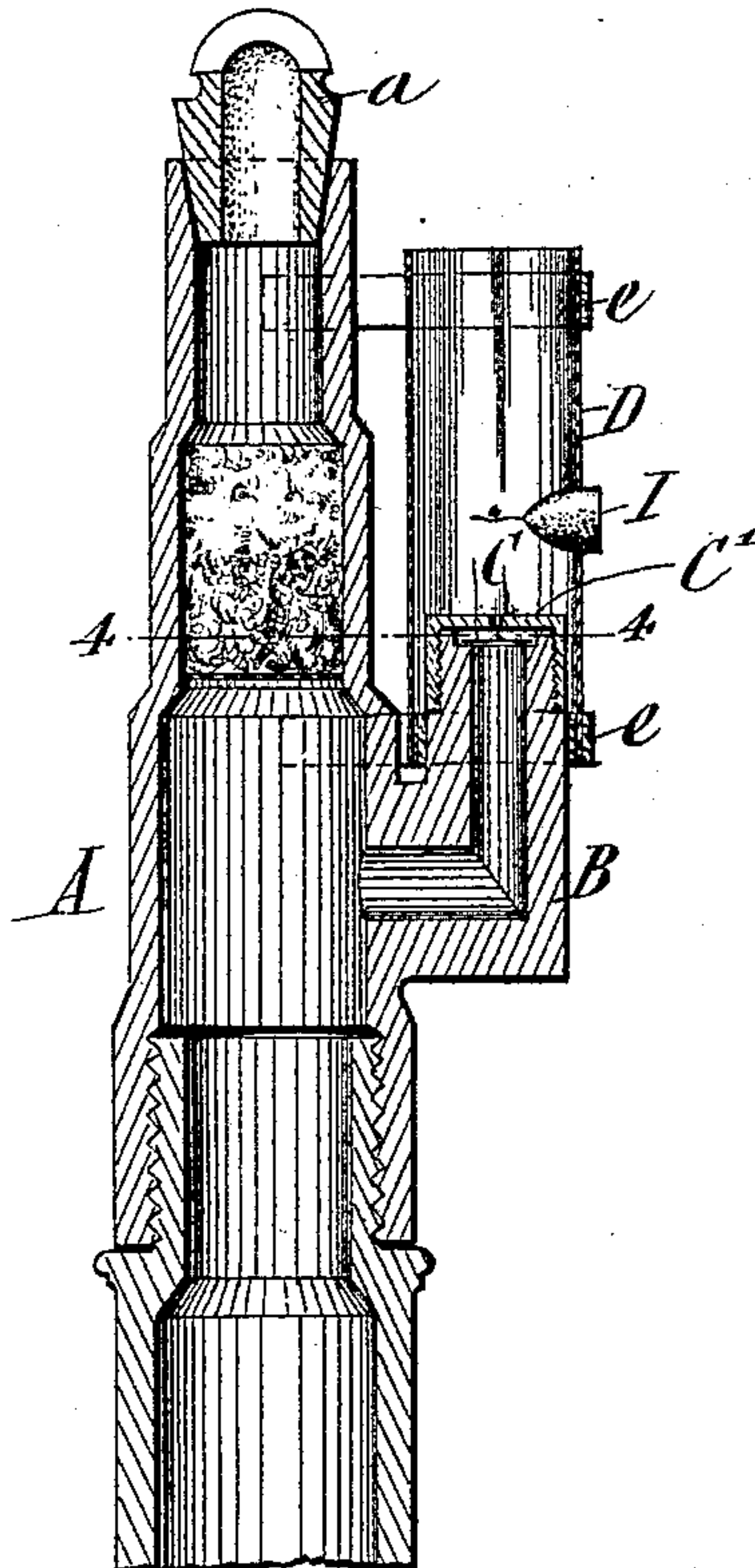


Fig: 3.

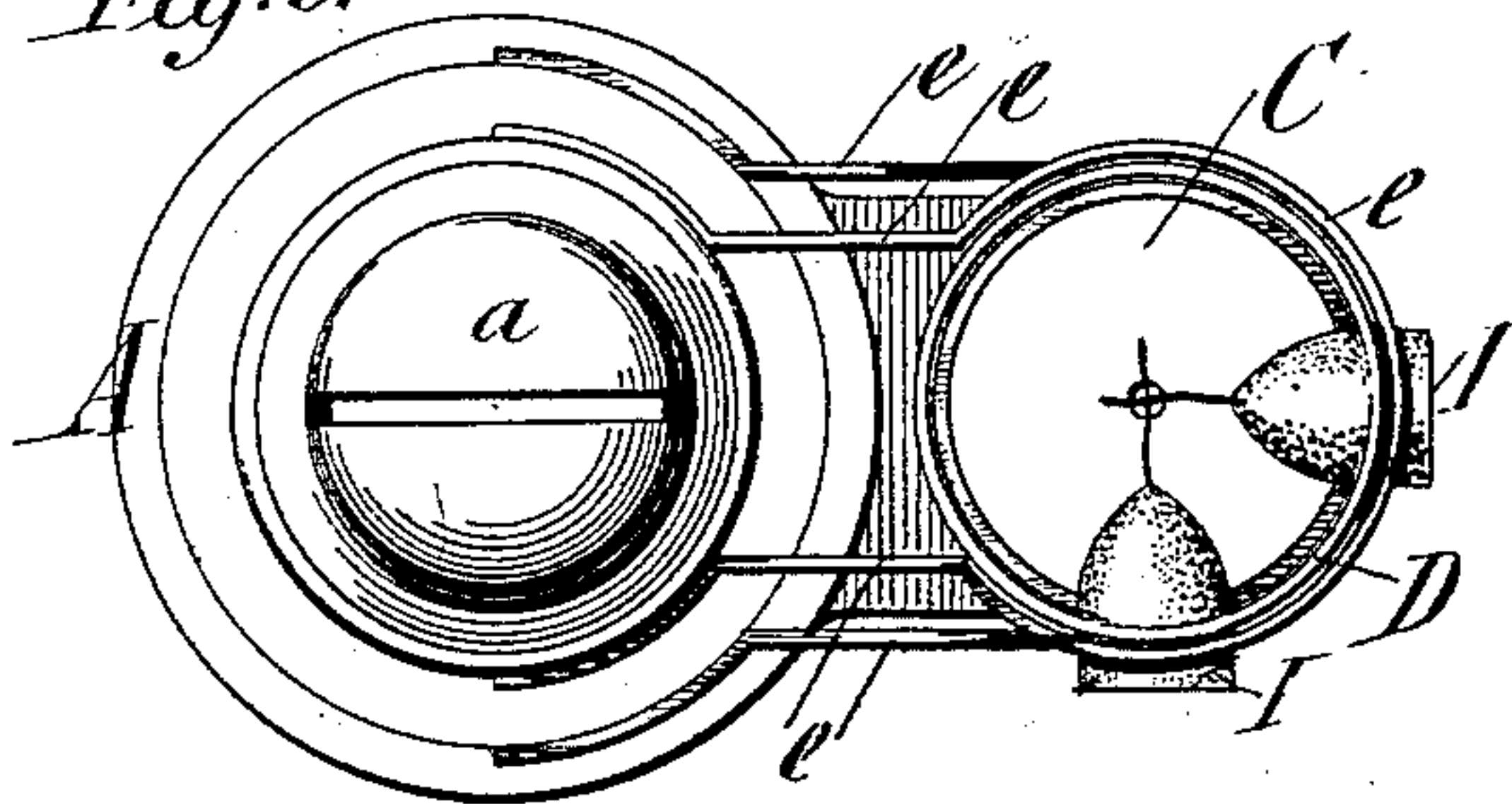


Fig: 4.

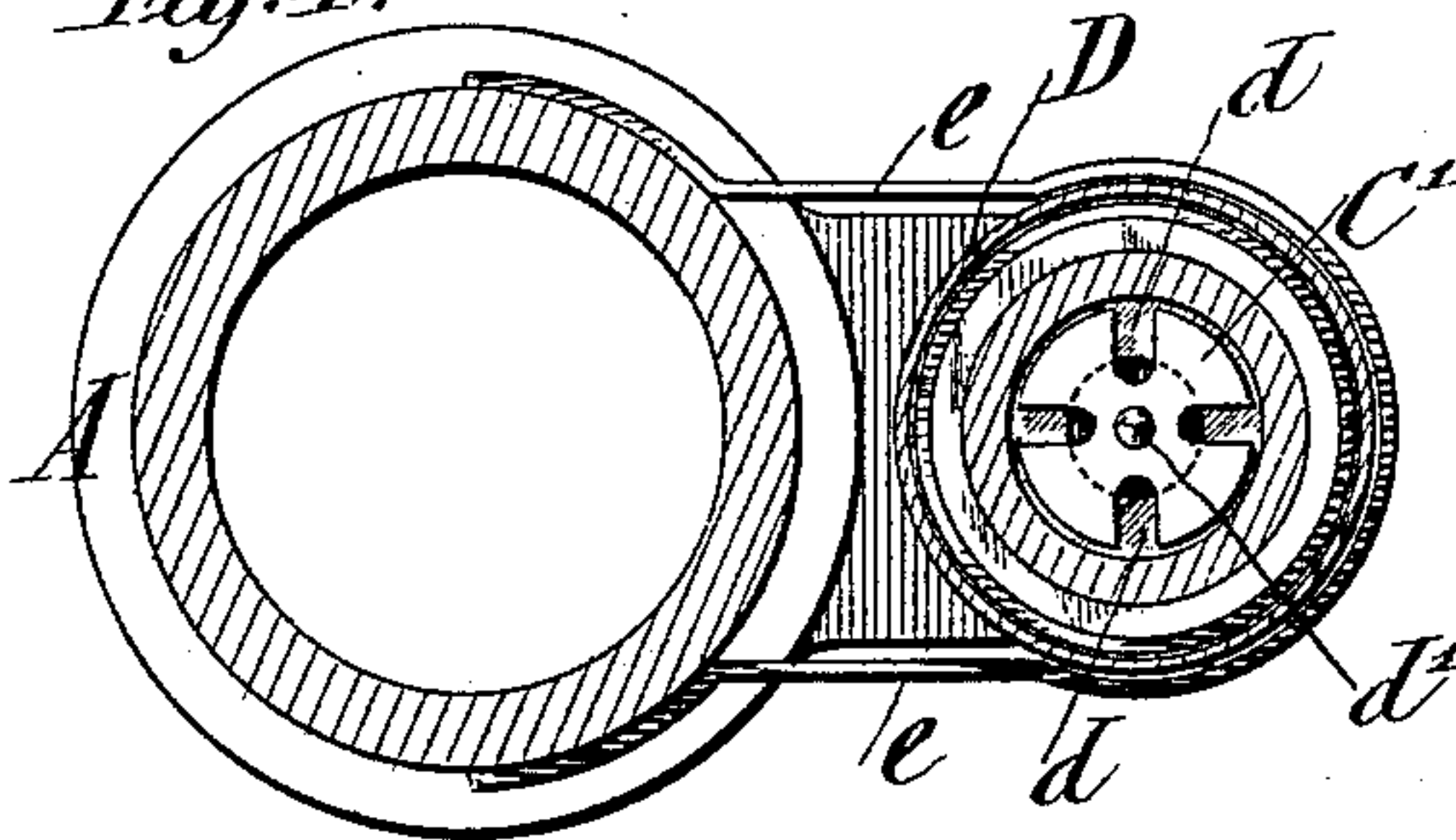
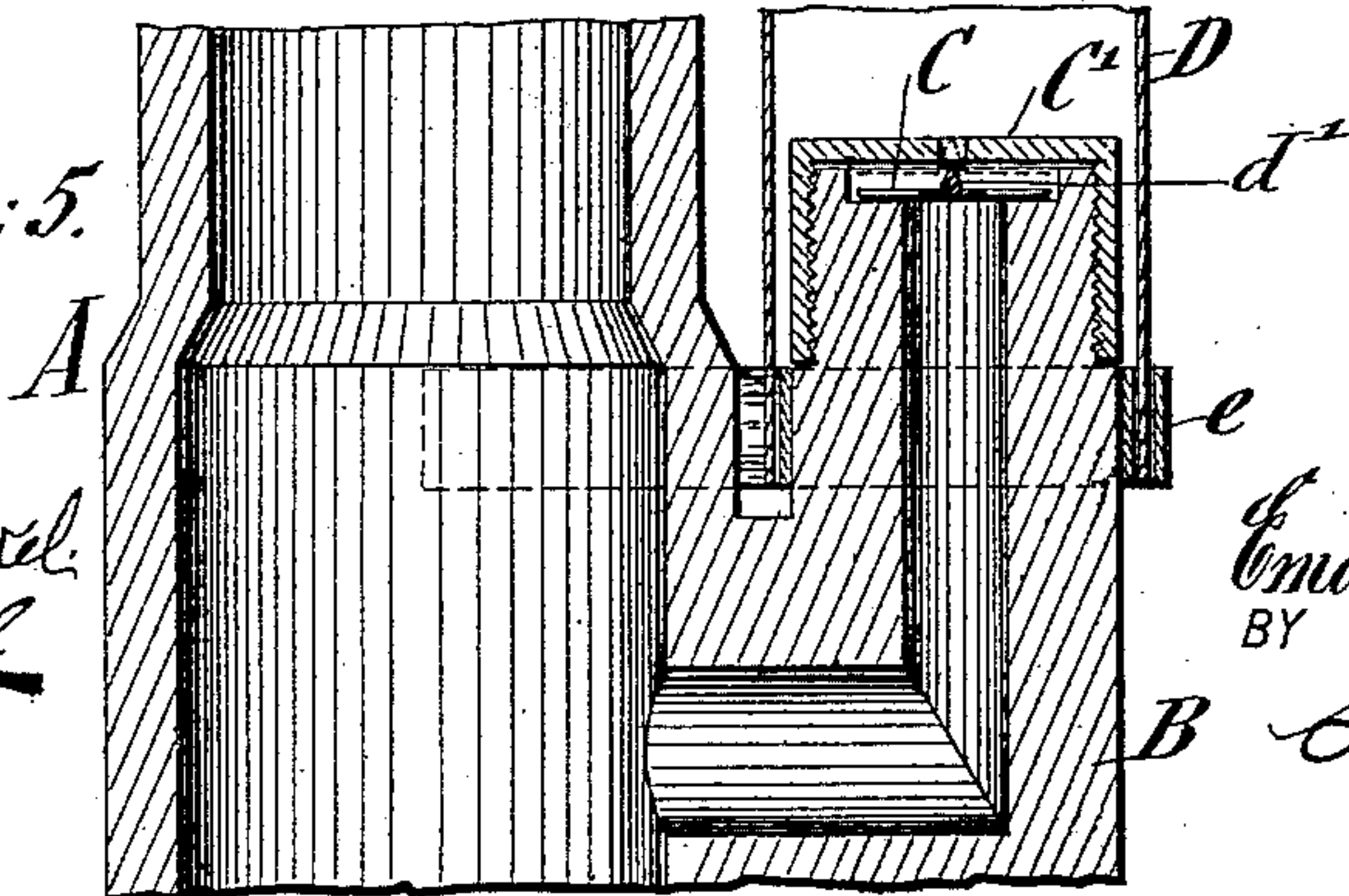


Fig: 5.



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UNITED STATES PATENT OFFICE.

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LIGHTING DEVICE FOR GAS-BURNERS.

SPECIFICATION forming part of Letters Patent No. 620,516, dated February 28, 1899.

Application filed February 19, 1898. Serial No. 670,888. (No model.)

To all whom it may concern:

Be it known that I, EMANUEL S. ULLMANN, a citizen of the United States, residing at New York, in the borough of Manhattan and State of New York, have invented certain new and useful Improvements in Lighting Devices for Gas-Burners, of which the following is a specification.

This invention relates to an improved lighting device for gas-burners by which the burner is lighted on opening the stop-cock in a reliable manner without the use of mechanical or electrical appliances by the employment of suitable igniters, which are brought to incandescence by contact with escaping illuminating-gas; and the invention consists of a lighting device for gas-burners which is arranged alongside of the burner-tube somewhat below the burner-tip, said lighting device consisting of a by-pass tube, a valve controlling the passage through said by-pass tube, a holder above said valve, and igniters supported by said holder, said igniters having the property of becoming incandescent by contact with escaping gas, so as to produce the lighting of the gas-burner.

The invention consists, further, of certain details of construction, which will be fully described hereinafter and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a side elevation of my improved lighting device for gas-burners. Fig. 2 is a vertical central section of the same. Fig. 3 is a plan view of Fig. 1. Fig. 4 is a horizontal section, enlarged, on line 4 4 of Fig. 1; and Fig. 5 is a central section of Fig. 4.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents a burner-tube, and *a* the tip of the same. Alongside of the burner-tube is arranged an angular by-pass tube B, which connects with the interior of the gas-tube A, said by-pass tube being preferably cast integrally with the gas-tube A or screwed into the same or attached in any other approved manner thereto. The by-pass tube B is provided at its upper end with a circular recess *b*, in which is seated a disk-shaped valve C, which is preferably made of aluminium or other light material

and provided with radial recesses *d*, and at its center with a conical upwardly-extending button *d'*, that serves to close the central openings of a cap C', which is screwed to the upper end of the by-pass tube B. The upper end of the by-pass tube is surrounded by a holder D, of cylindrical or other shape, which is supported in keepers *e*, that are soldered at their ends to the gas-tube A, as shown in Figs. 1 and 2. The holder is preferably made of mica or other transparent material and is provided with holes located at any suitable relative position toward each other in the holder, said holes serving the purpose of admitting the igniters I, which are each formed of a porous body which is impregnated with finely-divided metallic platinum and palladium, which carry thin terminal wires of platinum or palladium, said impregnated porous bodies having the property of being changed into a red heat when placed in contact with escaping gas and to raise thereby the thin platinum wires to incandescence.

In place of the disk-shaped valve, which is opened or closed by the gas-pressure in turning on the gas-cock, any other equivalent valve construction may be used by which the same result is obtained, such as flap-valves, balanced valves, ball-valves, &c.

My improved lighting device for gas-burners is operated as follows: When the gas-cock is opened, the gas passes to the burner and also through the by-pass B, passing through the recesses *d* of the valve C, so as to impinge on the igniters I and bring them thereby to a red heat and the platinum wires to incandescence. As soon as the full pressure of the gas is put on by entirely opening the stop-cock the same will interrupt the supply of gas to the igniters by lifting the light-valve C and closing by its conical button *d'* the central opening of the cap C'. The gas escaping before the closing of the valve is ignited by the incandescent platinum wires and produces a flash which extends through the holder, the latter acting in the nature of a chimney or conduit to the gas escaping through the burner-tip, so as to light the burner. While the stop-cock is entirely open and the gas is escaping at full pressure, the valve is kept by the pressure of the gas in

raised position, and hence no gas can escape through the by-pass, so that the igniters are not thereby subjected to contact with escaping gas while the burner is lighted. When
 5 the gas is turned off, the light is extinguished and the valve C returned into its normal position, as shown in Fig. 2. When the burner is again lighted, the stop-cock is slowly turned on, so that some of the gas escaping through
 10 the by-pass brings the terminal wires of the igniters to incandescence and produces a flash which is communicated to the gas escaping from the burner-tip, so as to light the burner almost simultaneously. By the full opening
 15 of the stop-cock the valve shuts off the supply of gas through the by-pass tube.

The igniters being used only for igniting the gas from the burner and not needed while the gas is burning retain their property of
 20 ignition for a considerable length of time and can be readily replaced by new ones when the property of ignition is spent. The holder is preferably made of transparent material, so that the glowing of the igniters may be ob-
 25 served and the operation of slowly opening the stop-cock may be repeated in case the burner should not be lighted at the first turning of the stop-cock.

The lighting device forms a comparatively
 30 cheap and efficient attachment for gas-burners and permits the lighting of the burner at any time and without the use of expensive mechanical or electrical lighting appliances.

Having thus described my invention, what
 35 I claim is—

1. The combination of a gas-tube, a by-pass having a valve-orifice, a valve provided with a conical projection or button for closing the
 40 said orifice, a holder into which the valved end of the by-pass extends, and an igniter having

the property of being rendered incandescent by the gas escaping through said orifice, whereby the gas-burner is lighted, substantially as set forth.

2. The combination of a gas-tube, a by-pass 45 tube branching out from one side of said gas-tube, a valve of disk shape arranged and confined in its movement at the upper end of the by-pass tube, a cap extending over the valve-chamber and provided with a valve-orifice, 50 said valve being provided with a conical button adapted to close said orifice, a holder supported on said by-pass tube, and an igniter having the property of being rendered incandescent by the gas escaping through said ori- 55 fice, whereby the gas-burner is lighted, substantially as set forth.

3. The combination, of a gas-tube, a by-pass tube extending alongside of the same, a holder on said by-pass tube, a valve supported at 60 the upper end of the by-pass and provided with a conical button at its upper part, a screw-cap having a central opening and placed over said valve, said valve being closed by the pressure of the gas when the stop-cock is 65 fully opened, and igniters supported in said holder and provided with platinum terminals, said igniters having the property of being brought to a red heat by the contact of escaping gas, so as to produce the lighting of 70 the gas when the gas-supply pipe is fully opened, substantially as set forth.

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

EMANUEL S. ULLMANN.

Witnesses:

PAUL GOEPEL,
 GEO. W. JAEKEL.