

H. IDEN.  
Drop-Light.

No. 210,781.

Patented Dec. 10, 1878.

Fig. 1.

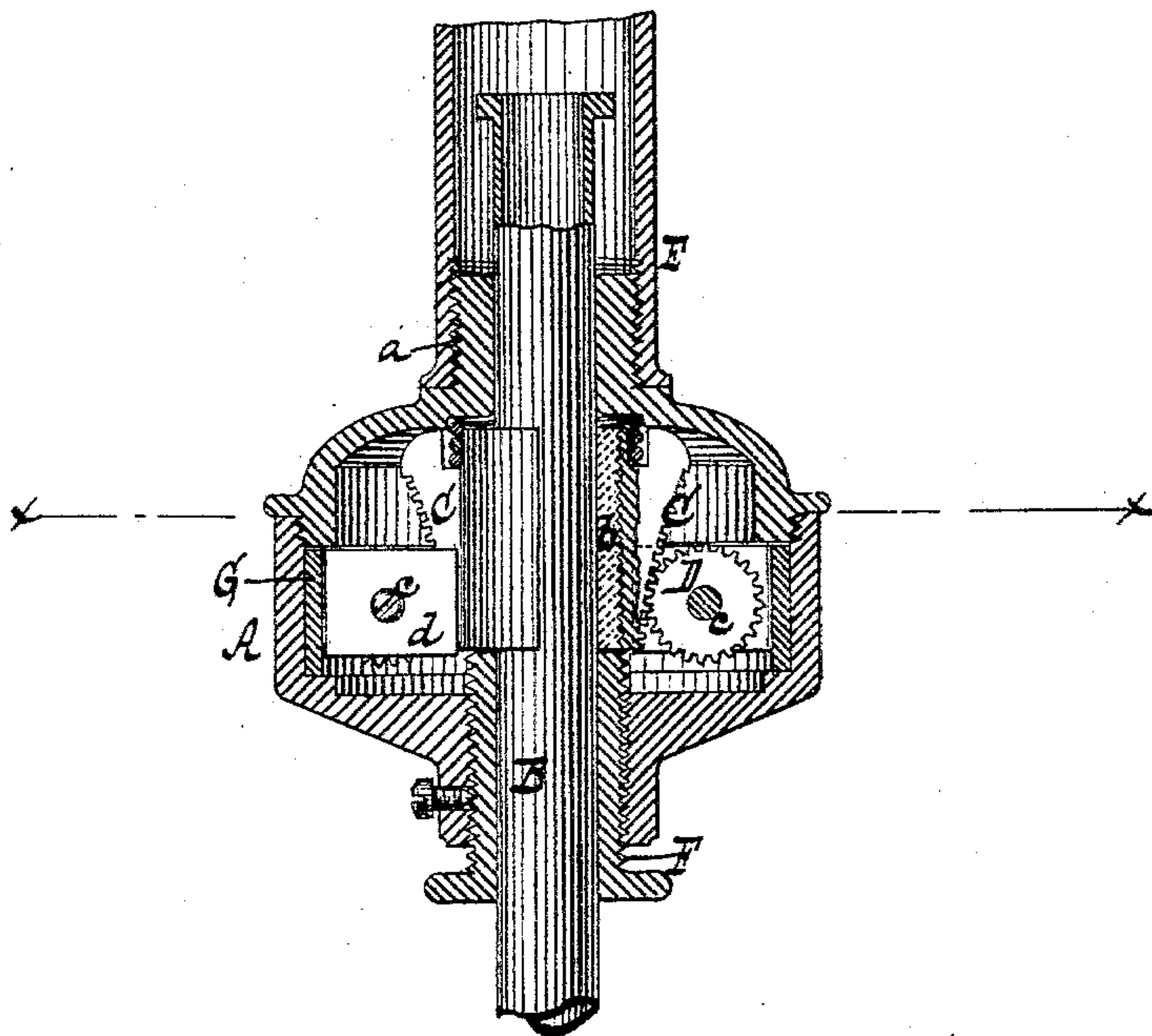
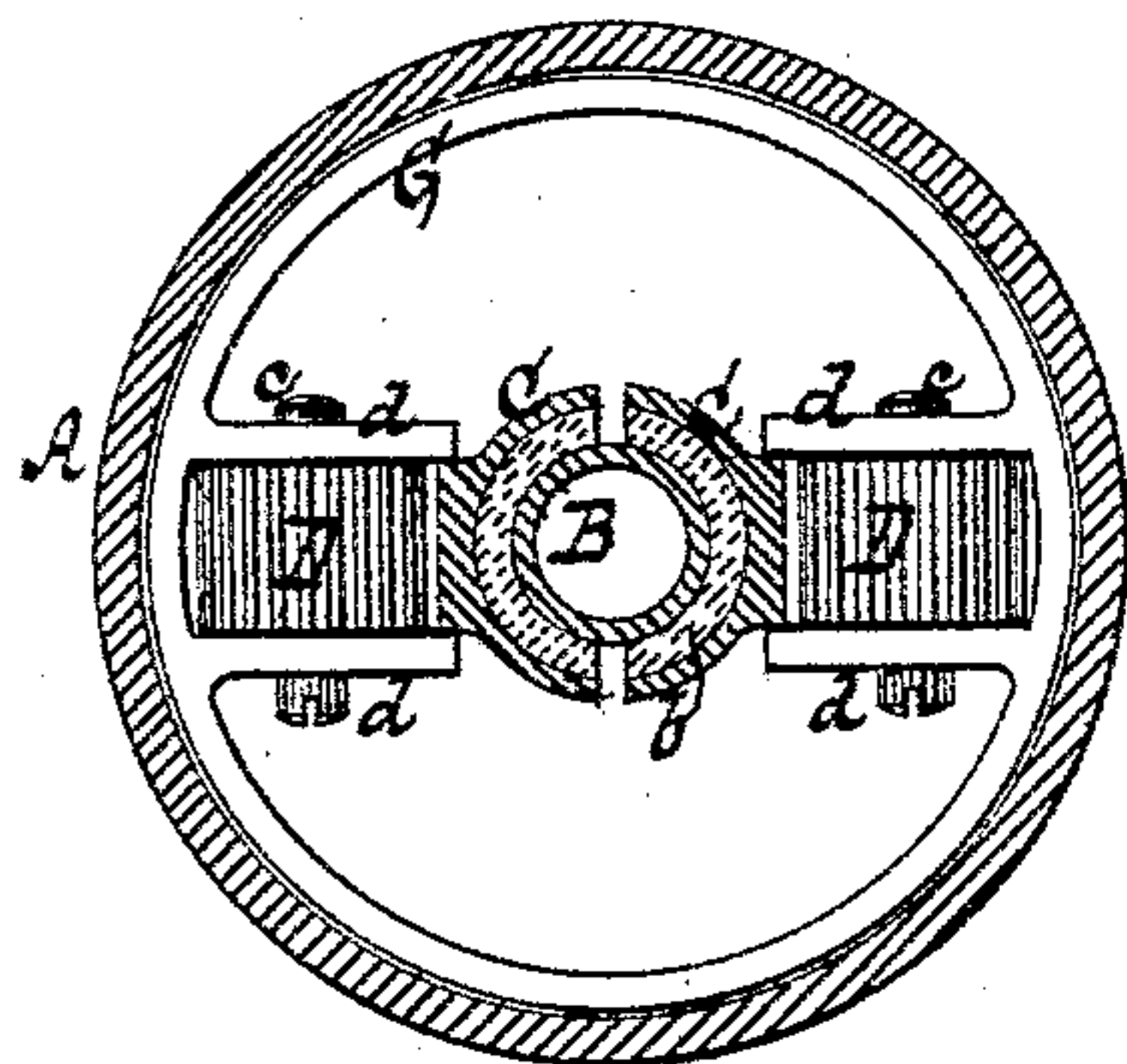


Fig. 2.



Witnesses.

Otto Shufeland  
J. H. Miller

Inventor  
Henry Iden

by  
Van Santvoord & Hauff  
his attorneys



# UNITED STATES PATENT OFFICE.

HENRY IDEN, OF NEW YORK, N. Y.

## IMPROVEMENT IN DROP-LIGHTS.

Specification forming part of Letters Patent No. **210,781**, dated December 10, 1878; application filed November 22, 1878.

*To all whom it may concern:*

Be it known that I, HENRY IDEN, of the city, county, and State of New York, have invented a new and useful Improvement in Friction-Clutches for Drop-Lights; which improvement is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a vertical central section of a clutch containing my invention. Fig. 2 is a horizontal section thereof in the line *x*, Fig. 1.

Similar letters indicate corresponding parts.

My invention relates to that class of clutches consisting of loose or movable clamps, which are arranged in a shell fastened to the main gas-tube, and hug or embrace the drop-tube or slide, so as to interrupt the downward movement of this tube.

In the old clutches of this character the clamps bear on or against the inner surface of the shell, and are liable to become clogged by any dirt that may find its way into the shell, and liable to adhere to their bearing-surface in case any gas is admitted to and condenses within the shell.

The object of my invention is to so construct the clutch that it is not affected by dirt or by the products of condensation of gas; and it consists in the combination, with the drop-light tube, of two clamps constructed to embrace said tube, and having their exterior surfaces provided with downward and inward incline planes, and two rotating disks or wheels journaled opposite to said incline faces, and bearing thereon, in order to force said clamps against the drop-tube, as will be more fully hereinafter set forth.

In the drawing, the letter A designates the shell of my clutch. B is the drop-tube passing through the shell. C are clamps hugging the drop-tube, and D are disks or wheels adapted to rotate, and engaging with the clamps.

The shell A is made in two parts or sections, which are united by suitable means, and the upper one of which is provided with a central screw-nipple, *a*, whereby the shell is adapted to be attached to the main gas-pipe E of a drop-light. Through the bottom of the shell A extends a tubular screw, F, which surrounds the drop-tube B, and constitutes a means for regulating the force or power with which the clamps C hug the drop-

tube. Between each of the clamps C and the drop-tube is interposed a layer, *b*, of felt or similar material, to protect the surface of the drop-tube against abrasion, and facilitate its movement.

The disks or wheels D are mounted on arbors *c*, which are so arranged that the disks or wheels are adjacent to the clamps C, and engage therewith.

The clamps C C are wedge-shaped, or rather they have their exterior surfaces constructed with downward and inward incline planes, which are provided with a series of teeth, which engage with the teeth formed on the periphery of the rotating disks or wheels.

The arbors *c* have their bearings in lugs *d*, projecting inward from a ring, G, which is fitted in the shell A.

The effect of the disks or wheels D is to hold the clamps C in contact with the drop-tube B, when the latter is at rest, with sufficient force to retain this tube in any position to which it may be adjusted, while they allow of the displacement of the clamps, in the upward movement of the drop-tube, to facilitate this movement; and at the same time the parts are not affected or liable to get out of order in case any dirt gets into the shell A, or any gas condenses therein.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the drop-tube of a drop-light with two inclined clamps constructed to embrace the drop-tube, and having their outer surfaces inclined downwardly and inwardly, and two rotating disks or wheels journaled opposite to the inclined faces of the clamps, and bearing on the same, substantially as and for the purpose described.

2. In a drop-light, the combination, with two clamps, C C, constructed to embrace the drop-tube, and provided with inclined outer surfaces having a series of teeth, of two rotating toothed wheels, D D, meshing with the teeth on the clamps, substantially as and for the purpose described.

In testimony that I claim the foregoing I hereunto set my hand and seal this 29th day of October, 1878.

HENRY IDEN. [L. S.]

Witnesses:

W. HAUFF,

CHAS. WAHLERS.