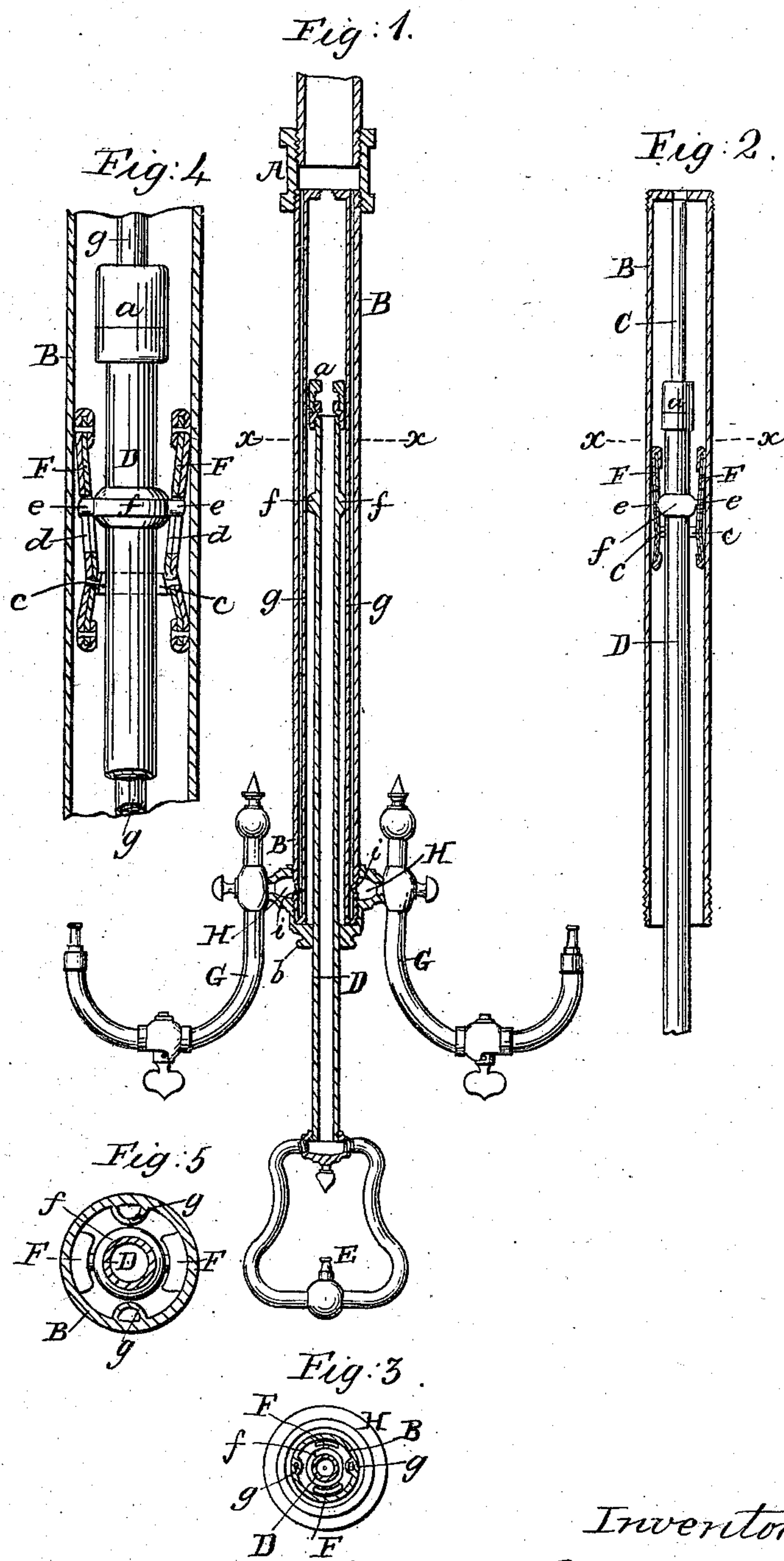


C. DEAVS.
Drop Light.

No. 105,435.

Patented July 19, 1870.



Witnesses
Fred. Haynes
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UNITED STATES PATENT OFFICE.

CHARLES DEAVS, OF NEW YORK, N. Y., ASSIGNOR TO THE ARCHER AND PANCOAST MANUFACTURING COMPANY, OF SAME PLACE.

IMPROVEMENT IN DROP-LIGHT GASALIERS.

Specification forming part of Letters Patent No. **105,435**, dated July 19, 1870.

To all whom it may concern:

Be it known that I, CHARLES DEAVS, of the city, county, and State of New York, have invented certain new and useful Improvements in Drop-Light Gasaliers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing.

One part of this invention has for its object to dispense with the counter-balance, and other complicated substitutes therefor, commonly employed with the drop-light attachments of gasaliers; and to this end it consists in a novel system of friction-pads between the drop-tube and the surrounding tube, whereby the weight of the drop-light is sustained, but provision is made for the easy movement of the drop-tube in an upward direction.

Another part of the invention has for its object to provide for the supply of gas to the stationary branch lights of a drop-light gasalier by a connection of the branches with the lower part of the outer tube, within which the drop-tube works, without allowing the gas to come in contact with the exterior of the drop-tube; and to this end it consists in a novel system of ducts within the said outer tube, communicating with the branches at the lower part of the latter tube.

Figure 1 in the drawing is a vertical section of a drop-light gasalier constructed according to the invention. Fig. 2 is a vertical section of the outer tube and friction-pads and elevator of the drop-tube at right angles to Fig. 1. Fig. 3 is a horizontal section in the plane indicated by the line *x x* in Figs. 1 and 2. Fig. 4 exhibits a vertical section of the friction-pads and a portion of the outer tube, and an outside view of a portion of a drop-tube, on a larger scale than Figs. 1, 2, and 3. Fig. 5 is a transverse section of the outer tube on the same scale as Fig. 4.

Similar letters of reference indicate corresponding parts in the several figures.

A is the socket or coupling by which the gasalier is attached to the end of the pipe which projects from the ceiling. B is the main or outer tube of the gasalier, screwed into the socket A and closed at its upper end. C is a small inner tube, screwed into the center of the upper closed end of the tube B, and open

at both ends. D is the drop-tube, to the lower end of which the drop-light E is attached, working between the tubes B and C, and having a stuffing-box, *a*, at its upper end fitting to the inner tube C, to prevent the escape of gas from between them.

The lower end of the tube B is fitted with a guide, *b*, to center and steady the drop-tube.

F F are the friction-pads, consisting of two small levers, preferably elastic faced externally with leather or other soft material, and arranged on opposite sides of the drop-tube within the tube B. These pads are connected near their lower ends by a spring, *c*, which presses them lightly out against the interior of the tube B; and above this spring they are slotted vertically, as shown at *d d* in Fig. 4, for the reception of the pins *e e* on a collar, *f*, which is fast upon the drop-tube, the said pins attaching the pads to the drop-tube, but allowing the latter a limited movement independently of the pads.

The slotted portions of the pads are so inclined toward each other in a downward direction that the collar *f* on the drop-tube may, in descending between them, force them apart by a wedge-like action; and the effect of this is that the weight of the drop-tube and drop-light has the effect of pressing the pads against the interior of the tube B with sufficient force to produce friction enough on the latter tube to hold the drop-tube and drop-light at any desired height at which they may be placed, yet not sufficient friction to prevent the drop-tube from being pulled down without the application of any great force when it is desired to lower the light.

When it is desired to raise the drop-light, and force is applied in an upward direction for that purpose, the collar *f*, moving upward between the inclined portions of the pads to where the space between them is wider, liberates the pads from its pressure, and the friction of the pads on the interior of the tube B is so much reduced that the force required to raise the drop-light is but little more than what is necessary to overcome its weight.

In the operation of the drop-light the spring *c* serves to keep the two pads together, and produce sufficient friction between them and the tube B to prevent them from slipping

down until the pins *e e* have moved down their slots *d d* and the collar *f* has pressed them out. Without this spring the pads would be liable to slip downward without sustaining the weight of the drop-light.

g g are the ducts provided within the tube *B* for conveying the gas to the branches *G G* of the gas-alier, which are attached to a distributor, *H*, surrounding the lower part of the said tube. This distributor consists simply of a hollow band, which receives the gas from the said ducts. The ducts, of which there may be one or more, may be formed by soldering semi-tubular strips of metal to the interior of the tube, or by grooving the exterior and soldering a covering-strip over the groove. One or more of said ducts may be provided. It is not necessary that their number should be the same as that of the branches *G G*. The said ducts are open at their upper ends to the socket *A*, and they communicate with the distributor by means of holes *i i* near their lower ends, the lower ends being closed to prevent the escape of gas into the tube *B* and coming in contact with the exterior of the drop-tube.

The distributor *H* might be dispensed with when the number of ducts *g g* corresponds with the number of branches, as in that case each duct may communicate directly with one of the branches.

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

1. The combination, with the drop-tube *D* and outer tube, *B*, of friction-pads *F*, which are so attached as to provide for an independent movement of the drop-tube, substantially as herein described, whereby the said pads are caused to have their friction relieved when the drop-tube is pushed upward.

2. The combination of the collar *f*, or projection on the drop-tube, and the inclined surfaces of the friction-pads, substantially as herein described, whereby the weight of the drop-tube is caused to produce a wedge-like action on the said pads.

3. The spring *c*, connecting the friction-pads, substantially as and for the purpose herein described.

4. In combination with the branches connected with the lower part of the tube *B*, the ducts *g g*, arranged within or upon the sides of the said tube, substantially as and for the purpose herein described.

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Witnesses:

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