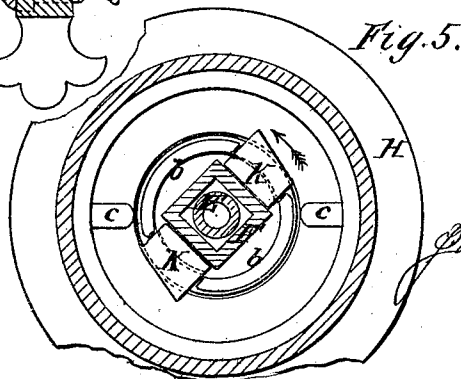
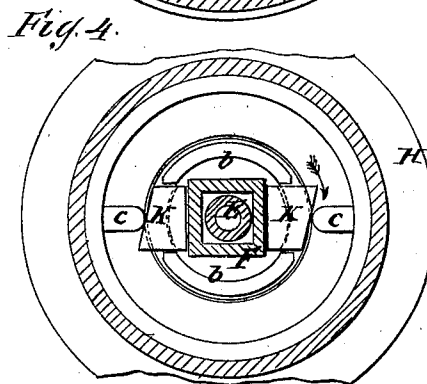
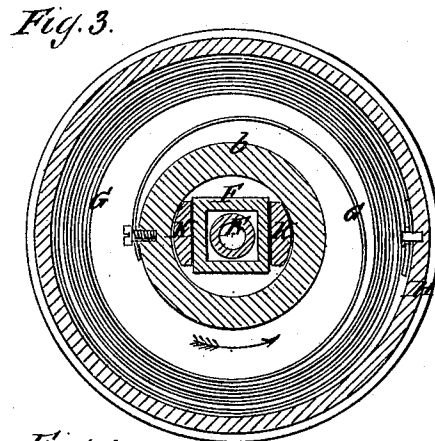
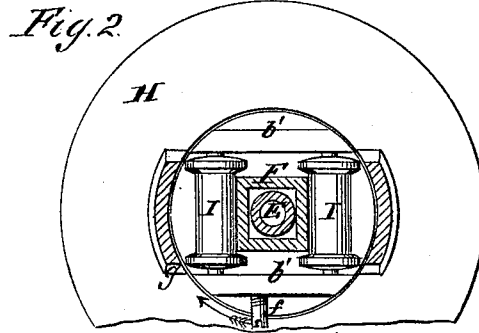
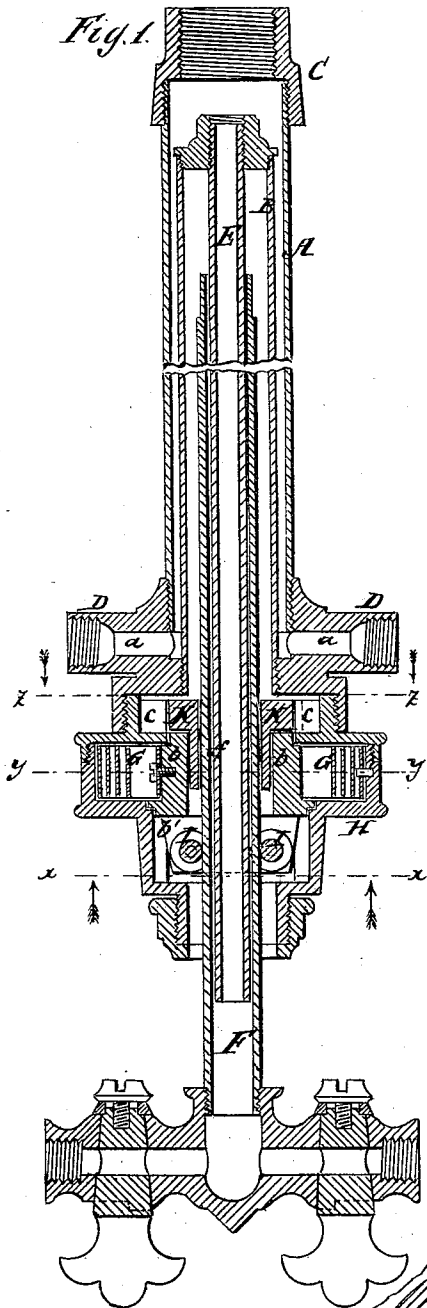


J. H. SEAMAN.

EXTENSION, OR DROP-LIGHT GASALIERS.

No. 178,336.

Patented June 6, 1876.



Witnesses:  
A. J. DeLacy  
J. H. Seaman

Inventor:  
John H. Seaman.

# UNITED STATES PATENT OFFICE.

JOHN H. SEAMAN, OF BROOKLYN, NEW YORK.

## IMPROVEMENT IN EXTENSION OR DROP-LIGHT GASALIERS.

Specification forming part of Letters Patent No. 178,336, dated June 6, 1876; application filed January 31, 1876.

*To all whom it may concern:*

Be it known that I, JOHN H. SEAMAN, of the city of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Extension or 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, which forms a part of this specification:

My present invention consists in the combination, with the sliding tube which carries the drop or extension-light burners in a gas-alier, of one or more frictional rollers, so arranged that they act independently of the sustaining mechanism, whatever it may be, and serve to reduce the unnecessary and undesirable friction usually occurring after such gasalier has been in use for a little while, and they also serve to steady the said sliding tube when moved up and down.

The invention also consists in a combination of friction clutches and stops with a convolute spring acting on a revolving tube, and upon the drop or extension tube, whereby I produce a frictional sustaining mechanism, of a new and improved construction and operation, for holding the sliding tube at the desired point, and one which is reliable and durable, and not liable to get out of order.

In the accompanying drawing, Figure 1 is a vertical longitudinal central section through so much of the gasalier as is necessary to illustrate my invention as applied thereto. Fig. 2 is a cross-section on the plane of the line *x x*, Fig. 1, showing the application of friction-reducing rollers to the drop-tube. Fig. 3 is a transverse section, taken on the line *y y*, Fig. 1, showing the convolute spring. Fig. 4 is also a transverse section, taken on the plane of the line *z z*, Fig. 1, showing the friction-clutches engaged in holding the drop-tube stationary, and Fig. 5 is a section similar to the one last referred to, except that the drop-tube is shown as turned for a part of a revolution to the right, and the frictional devices disengaged, so as to permit the drop-tube being freely slid up and down.

A and B designate, respectively, an outer and an inner tube, of such diameter, respect-

ively, as to leave between them an annular space or independent gasway for conveying gas from the stiff joint or ceiling distributor, C, to a distributor, D, for supplying stationary branch lights through ducts *a*, in a well-known manner. E designates a stationary supply-pipe through which to feed the sliding drop-light tube F. The former tube is pendent and stationary within the tube B, and the latter tube is provided with a packing-box at its upper end to prevent leakage of gas on its way through this independent central gasway E F to the drop-light burners.

The above-described parts are of the usual construction.

G designates a convolute spring contained within an inclosing-case, H, to the inside of which case the said spring is attached at one of its ends, the other end being attached to a short revolving tube, *b*, which has its bearings in the case H, and through which the drop-light tube F passes, the aperture through the tube *b* and the external shape of the drop-light tube being such, relatively to each other, that one cannot turn or be turned irrespective of the other; hence, by turning the drop-light tube toward the right it will serve to wind the spring, and so soon as said tube F is released, the spring will act to turn said tube F back to its normal position.

The last above-described mechanism is fully shown, and its operation described, in United States Letters Patent No. 197,697, granted to me September 14, 1875.

I will now proceed to describe my present improvements, one of which relates to a friction-sustaining mechanism of a different construction and operation from that described in the said patent—another of which improvements I use in combination with a sliding drop-light tube to reduce friction. I have shown it applied to the gasalier illustrated in the drawing, though it is applicable to other "center-slide" gasaliers now in the market.

The lower end of the tube *b* is shown as provided with two opposite lugs, *b'*, into which are journaled two friction guide-rollers, I. These rollers operate upon opposite flat sides of the drop light tube F, and not only from the box or nut which serves to prevent a torsional movement of the said tube without the

requisite winding or unwinding of the spring within the case H, but they also serve to greatly reduce the friction consequent upon the sliding up and down of the drop-light tube.

I will here state that in a great many of the center-slide gasaliers now in the market, the drop-light tube, after a little use, sticks, as it were, and often requires considerable extra force to move it up and down, and this, I know, is due to the friction caused by its bearing against the immovable surfaces required to steady it as it emerges from the stem of the gasalier or its connections. It will therefore be seen that two or more friction guide-rollers of the character I have shown may be affixed to many other gasalier in the market, in such manner that the sliding tube may bear against such rollers, and hence a great deal of friction be thereby avoided.

K K are two friction keys or clutches, which are connected to the revolving tube B, so as to revolve back and forth therewith. They are shown as let into recesses formed on opposite sides of the upper rim of the said revolving tube B, so as to present a bearing or friction surface against opposite sides of the sliding tube F. The upper ends or heads of the said clutches are provided each with a beveled outer edge, which is thrown into or out of contact with stops *c c*, as will be understood by reference to Figs. 4 and 5 of the drawing. The force with which the clutches are caused to bear against the sliding tube F can be regulated by the winding of the convolute spring G, and the said frictional holding-power need only be sufficient to sustain the weight of the drop-light tube and its attachments.

To free the sliding tube F from the frictional action on the clutches K K, the said tube must be turned by the hand—say, a part of a revolution—toward the right, as that is the direction in which the spring G is wound. This act, as is obvious, revolves the tube B, which carries the said clutches away from contact with the stops *c c*, as shown in Fig. 5, and thus they cease to act upon the sliding tube, and the latter may be readily moved up or down, and when it is in the desired position the removal of the hand will permit the spring to act, and revolve the tube *b* back to its normal position, and apply the friction-clutches for

holding the drop-light tube F, as shown in Figs. 1, 3, and 4.

In order to prevent the drop-light tube being revolved unnecessarily far by the hand, I have shown a pin, *f*, (see Fig. 2,) projecting from the lower end of the revolving tube *b*, so that about a quarter of a revolution of the latter will bring said pin in contact with some stationary part of the gasalier, as shown at *g* in Fig. 2.

I will here remark that, in the example of my invention shown in the drawing, it will appear obvious by reference to Fig. 5 that the stop-pin *f* need not be employed, as the drop-tube cannot be turned more than half a revolution, inasmuch as the deepest or rear part of the heads of the clutches would strike against the stops *c c*, and thus prevent the drop-tube being revolved unnecessarily far.

Although I have shown two clutches, K K, in the drawing, I will remark that I do not limit myself to this number, as one or more may be employed, as may be found expedient; and I will further remark that, although I have shown and described my present improvements as applied to a gasalier of the class termed center-slide gasaliers, I wish it to be understood that they are equally as applicable to extension-gasaliers having no stationary lights.

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

1. The combination, in a gasalier, of the anti-friction rollers I I, with the sliding tube F, when the latter derives its sustaining power from a convolute spring, G, substantially as herein specified.

2. The combination of the dogs or clutches K with the revolving tube *b*, stops *c c*, spring G, and drop-light tube F, substantially as herein specified.

3. The combination of the following elements in an extension-light gasalier: The tube B, supply-tube E, drop-light tube F, spring G, spring-case H, revolving tube *b*, clutches or dogs K, and stops *c c*, substantially as shown and described.

JOHN H. SEAMAN.

Witnesses:

A. J. DE LACY,  
T. J. KEANE.