J. H. SEAMAN.

FRICTION-CLUTCHES FOR GAS CHANDELIERS.

No. 189,580. Patented April 17, 1877.

Fig. 1.

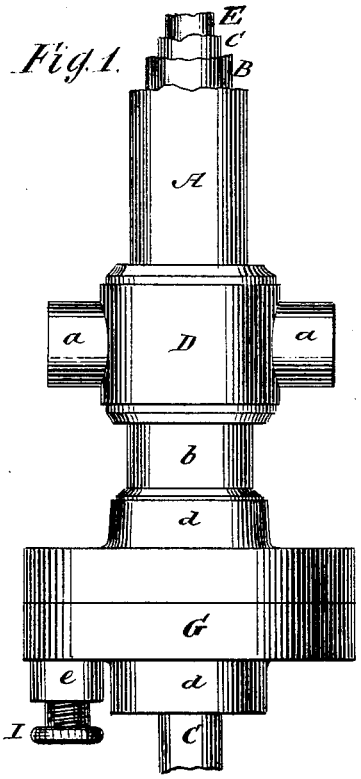


Fig. 3.

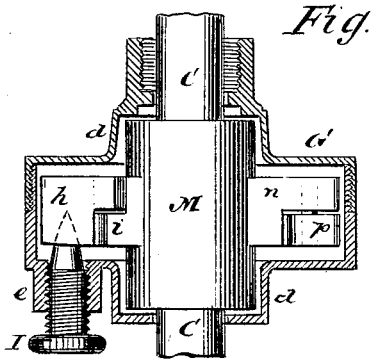


Fig. 4.

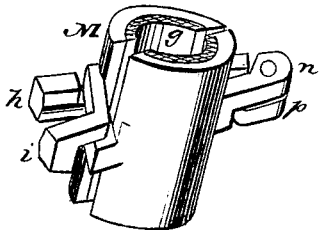


Fig. 5.

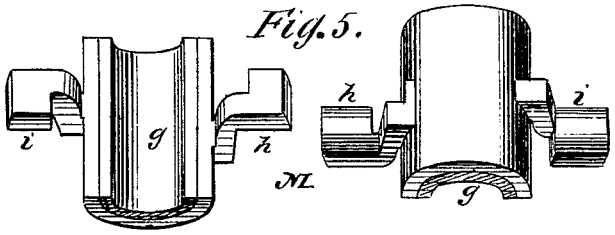


Fig. 2.

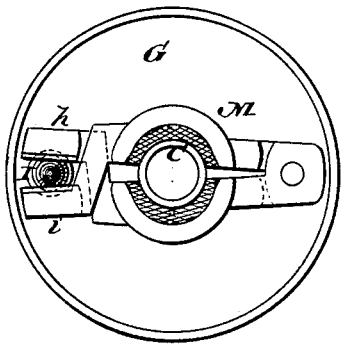
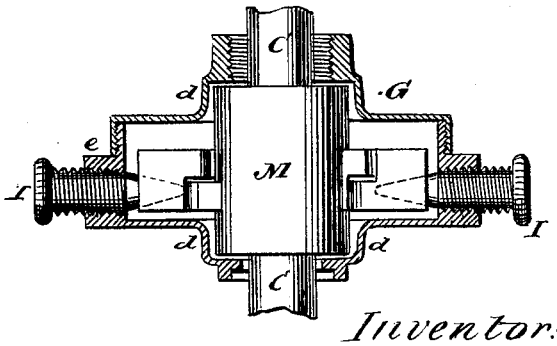


Fig. 6.



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IMPROVEMENT IN FRICTION-CLUTCHES FOR GAS-CHANDELIERS.

Specification forming part of Letters Patent No. **189,580**, dated April 17, 1877; application filed March 29, 1877.

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 a certain new and useful Improvement in Friction-Clutches for Drop or Extension Light Gas-Chandeliers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to accompanying drawing, which forms part of this specification.

My present improvement relates to an improved friction-clutch for sustaining the weight of the sliding tube and its attachments in a gas-chandelier; and the invention consists in the combination, with the sliding tube and stem, in a gasalier, of a short tubular device, split lengthwise, and provided on opposite sides of a split with lugs, so shaped as to interlock or engage with each other in a manner that, upon forcing the conical or tapering point of a screw or its equivalent between them, said clutch will the more tightly hug the sliding tube, which runs through it, thereby producing the desired amount of friction for sustaining the sliding tube and its attachments without creating any appreciable frictional resistance when pushing the sliding tube and its attachments upward, all of which will be hereinafter more fully set forth.

In the accompanying drawing, Figure 1 is a side elevation of a portion of a center-slide gas-chandelier having my present improvement applied thereto. Fig. 2 is a plan or top view of my friction-clutch, shown as resting in the lower portion of the inclosing-case, the upper portion of the case having been removed. Fig. 3 is a side view of my friction-clutch, when in its inclosing-case, the said case being shown in section. Fig. 4 is a perspective view of the clutch when removed from the inclosing-case. Fig. 5 illustrates a modification of the two parts of the friction-clutch, showing them without the hinge, but provided on opposite sides with similar jaws, and also showing an inside view of one-half and an inside view of the other half of said clutch; and Fig. 6 illustrates a modification of the invention, in which the regulating-screw enters between the ends of the jaws, instead of at the bottom of the same, as shown in Figs. 1 and 2.

I have shown my improvement applied to the style of gasalier known to the trade as a "center-slide" gasalier, A being an outer tube and B an inner tube, the latter being of less diameter than the former, thereby providing a gasway from the ceiling "stiff joint" or distributer to a main distributer, D, carrying the stationary or chandelier lights *a*. The above-described gasway, it will be observed, is distinct and independent from that which supplies the drop or extension lights. The gasway for the drop-light is composed of a small stationary tube, E, depending from the said stiff joint, and upon this tube there is fitted to move vertically up and down a sliding tube, C, which carries the drop or extension light. Any suitable packing-box, to make a gas tight joint between the tubes E and C, may be employed—for instance, at the upper end of the sliding tube C.

The above are the principal parts of an ordinary center-slide gas-chandelier. My invention is, however, applicable to an ordinary extension-gasalier, as, indeed, the one just described would be were the tube A and distributer D omitted from the construction.

G designates an inclosing-case, which, in the present instance, is secured to the lower side of the distributer D by a short tube, *b*, constituting a continuation of the main stem of the chandelier. The said case is of circular form, in the present instance, but may be of any other suitable form; and it is shown as made in two parts, screwed together, as will be understood by reference to Fig. 3. The said case is also shown as provided upon each side or face with a central hollow hub, *d*, as will be seen by reference to Figs. 1, 3, and 6, and also as provided with a screw-socket, *e*, (one or more—see Figs. 3 and 6,) for permitting a thumb-screw, I, (one or more,) being worked inward and outward through its walls for the desired distance. The duty to be performed by the said thumb-screw I will be presently explained.

M designates my improved friction-clutch, which is shown as made in two parts. The said parts, when put together as shown in Fig. 4, resemble a short tube, the inside surface of which is provided with any suitable frictional substance, *g*, leather being shown in

the drawing. The shape of the opening through the clutch M will depend upon the shape of the sliding tube which is to pass through it. If it be a square sliding tube, a square opening would be needed, and if it be a round sliding tube—such as shown in the drawing—a circular or round opening would be required.

Each part of the clutch is provided with hook-shaped lugs *h i*, such hooks being reversed or pointed in opposite directions upon the two parts, so that they will interlock with each other, as will be clearly understood by reference to the drawing, wherein, in Figs. 1, 2, 3, and 4, said hook-shaped lugs are shown as provided upon one side only of the clutch, whereas in Figs. 5 and 6 they are shown as provided on two opposite sides.

In Figs. 1, 2, 3, and 4, the clutch M is furnished, on the side opposite to that which carries the hook-lugs *h i*, with lugs *n p*, which are pivoted together, so as to constitute a hinge, which connects together the two parts of the clutch and allows said parts to open and close, as far as permitted, by the hook-lugs *h i*. In Figs. 5 and 6 the interlocking of the duplicate pair of hook-lugs *h i* will constitute all the hinge that is necessary, and, as the hook-lugs *h i* can be cast with the clutch, the expense of drilling the hole and applying the rivet, as shown in Fig. 4, may be avoided.

The thumb-screw I, before referred to, serves to regulate the frictional power of the clutch, by causing the two parts of said clutch to hug the sliding tube C more tightly or loosely. By reason of the crossing of the hook-lugs *h i* it is manifest that the point of an instrument inserted between their jaws or ends will cause the clutch to close together instead of open, and hence cause it to the more tightly hold the sliding tube C. The regulating-screw I accomplishes this desired result, and the entering end of said screw is made conical or tapering, so as to cause the clutch to close according to the distance said screw is inserted. In Figs. 1, 2, and 3, the regulating-screw is shown as entering at the bottom of the inclosing-case, and in Fig. 6, it is shown as entering at the sides of the inclosing-case. But in both cases it enters the jaws of the hook-lugs *h i*, and effects the same result. If it be desired, more than one regulating-screw, I, for equalizing the pressure, may be employed, as will appear obvious by reference to Fig. 6, where two regulating-screws are shown.

It is obvious that in operating the sliding tube C, if it be drawn downward, the jaws of the lugs *h i* are drawn farther upon the regulating-screw, and this decreases the diameter of the opening in the clutch, and causes the said clutch to increase its hold upon the sliding tube C, but when the sliding tube is pushed upward it, to a certain extent, raises the clutch and frees the jaws of the lugs *h i*, thereby enabling the sliding tube C to be pushed upward without any unnecessary frictional resistance.

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

1. The frictional clutch M, in combination with the sliding tube C of an extension-light gas-chandelier, substantially as and for the purposes herein specified.

2. The combination of a regulating device, I, with the lugs *h i*, and the clutch M, substantially as and for the purposes herein specified.

3. The combination, with the two parts of the clutch M, having the lugs *h i*, of the hinge *n p*, substantially as and for the purposes herein specified.

4. The combination, with the two parts of the clutch M, provided with lugs *h i*, of the frictional lining *g*, substantially as and for the purposes herein specified.

5. The combination, with the inclosing-case G, sliding tube C, clutch M, and regulating-point I, arranged and having a mode of operation substantially as shown in Figs. 3 or 6.

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