

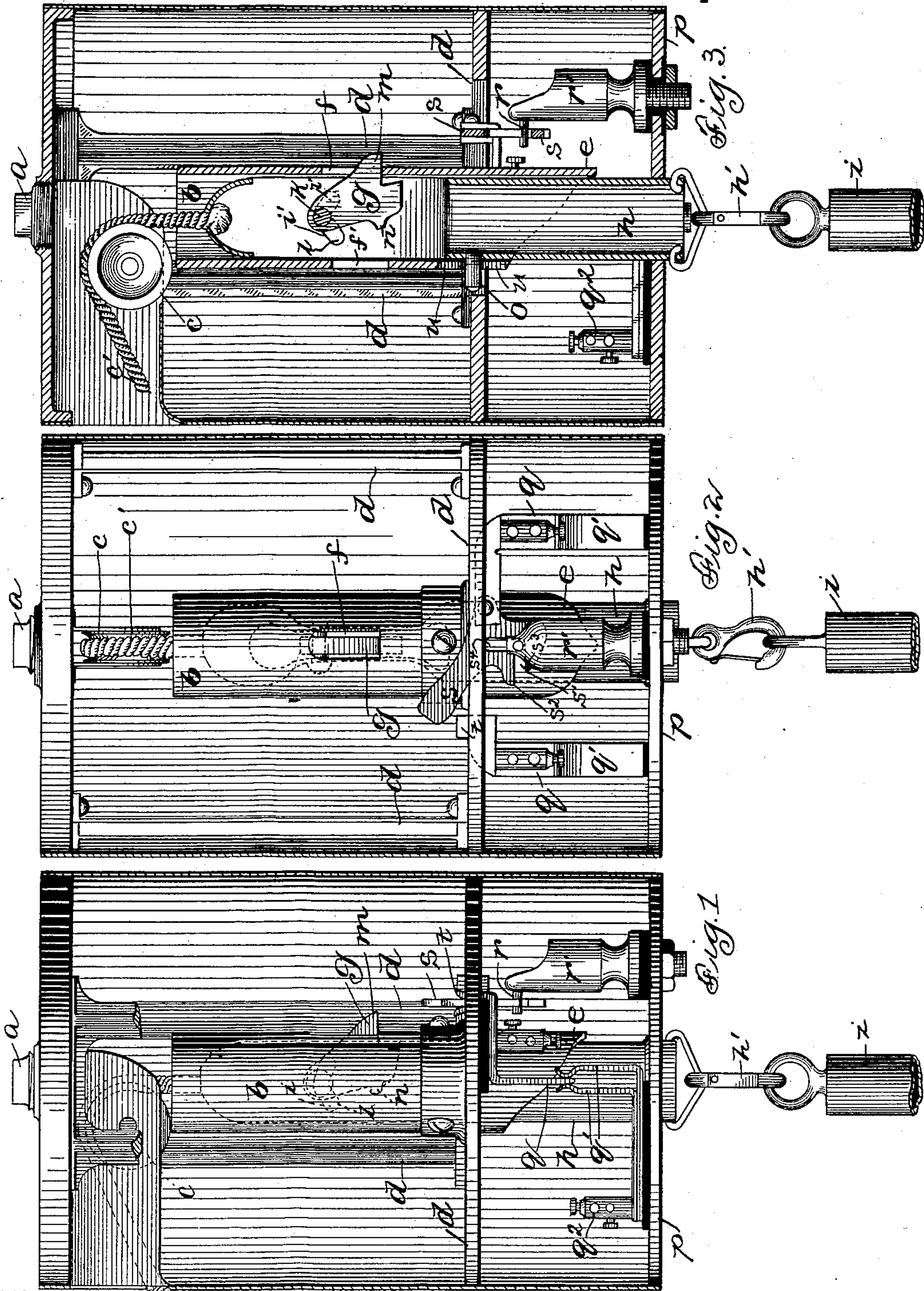
(No Model.)

3 Sheets—Sheet 1.

L. A. SCOVIL.
HANGER FOR ARC LAMPS.

No. 558,989.

Patented Apr. 28, 1896.



Witnesses:

George L. Cragg.
George M. Mahon.

Inventor:

Lyman A. Scovil.

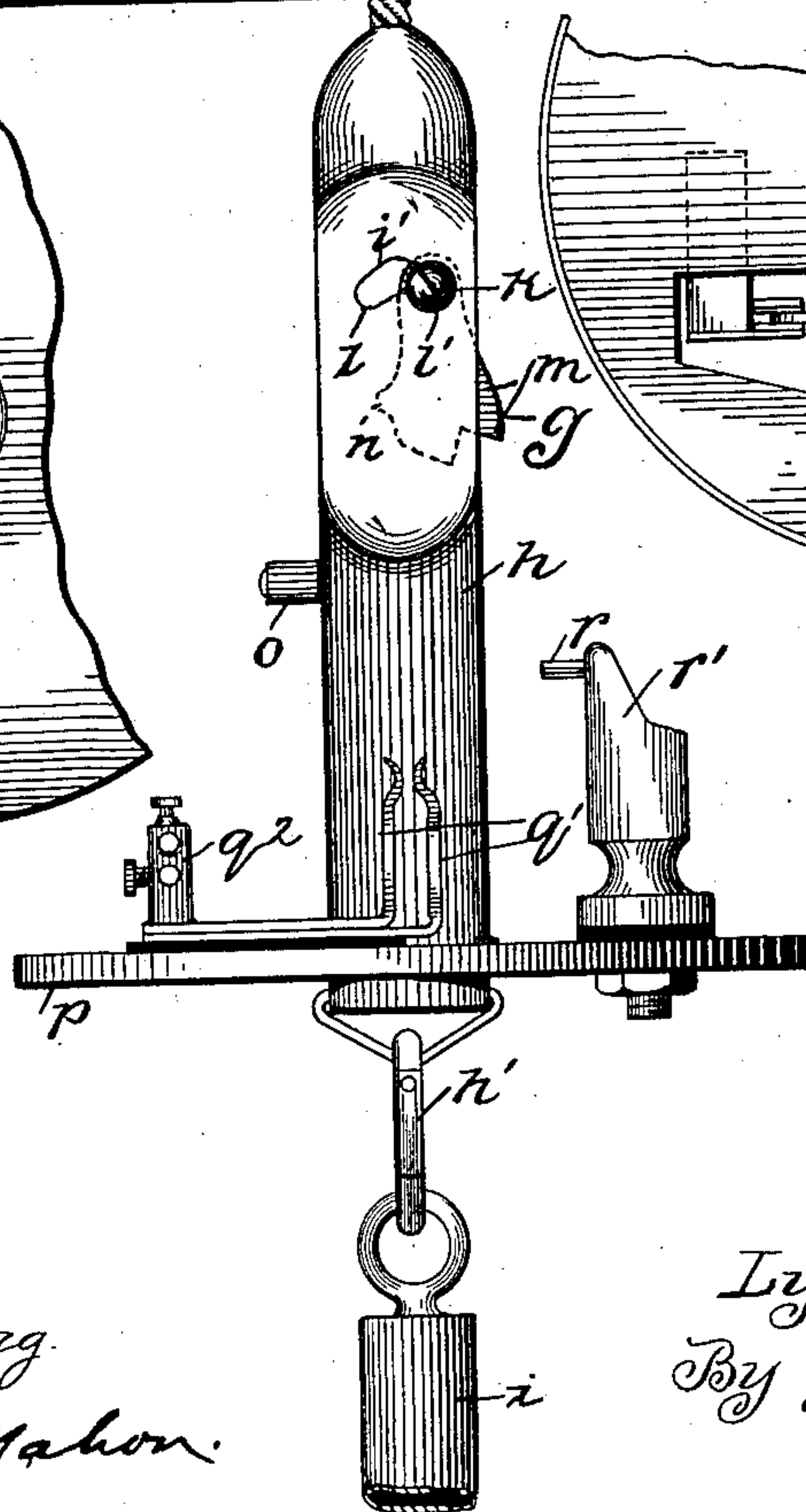
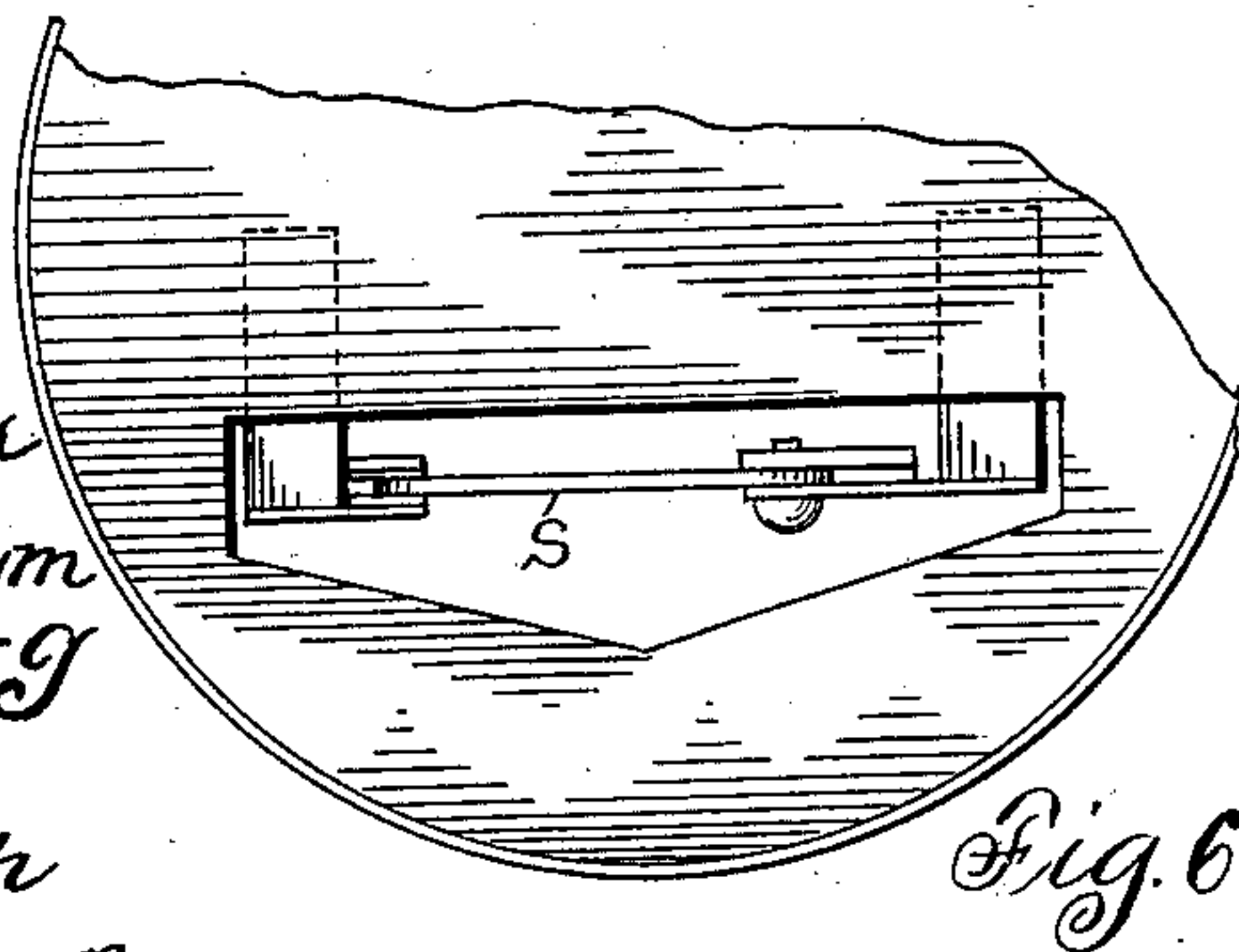
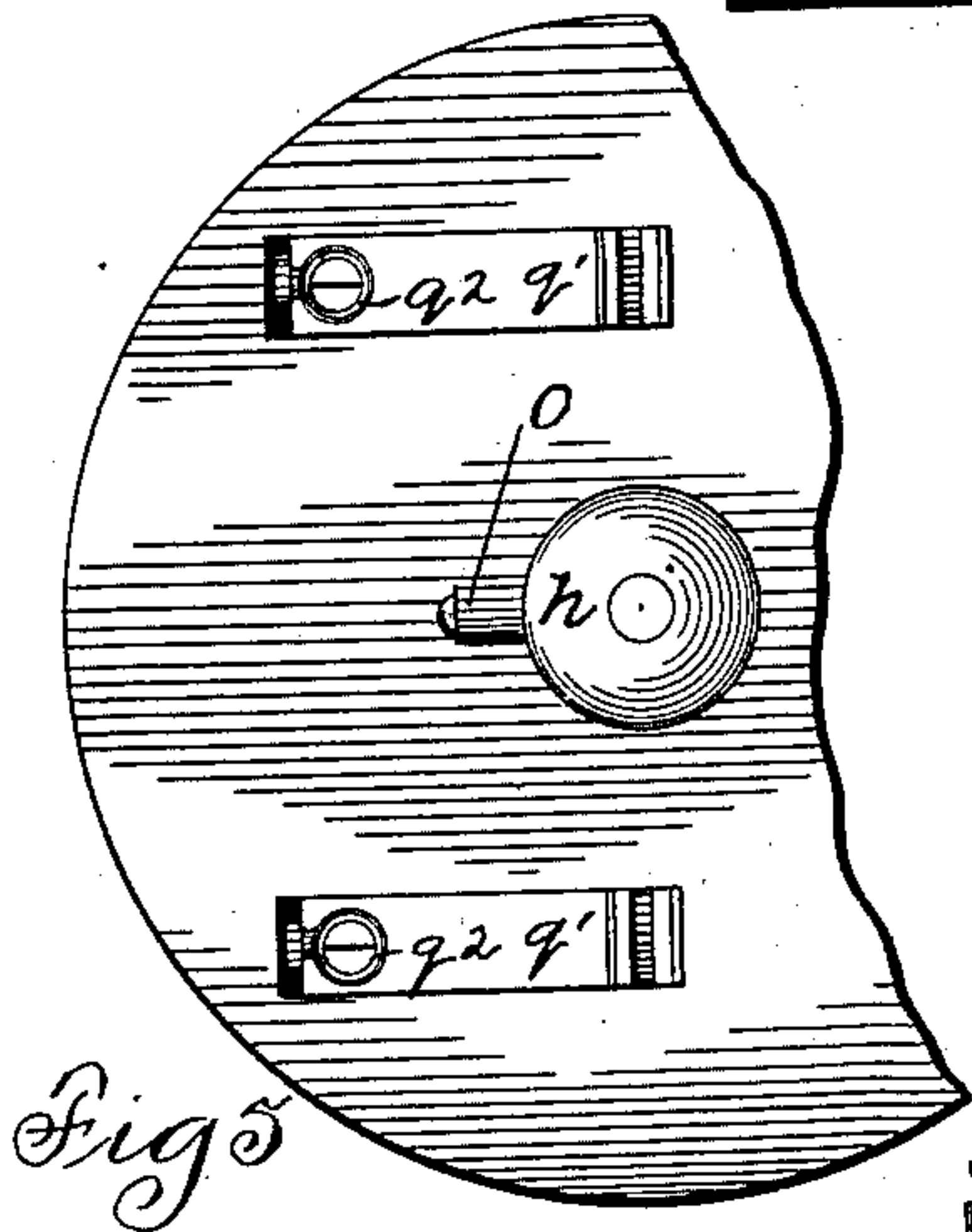
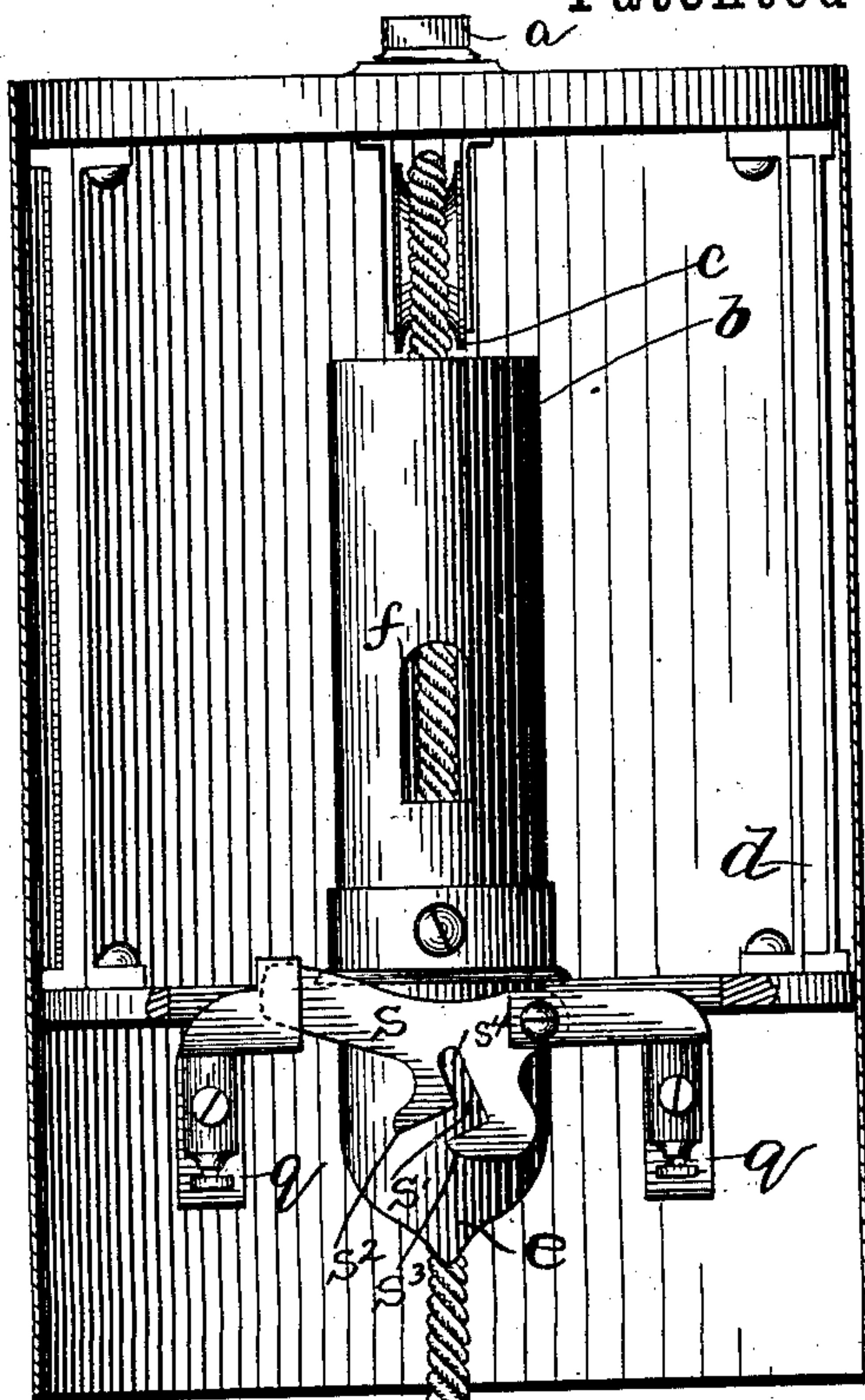
By Barton Brown
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Fig. 4.



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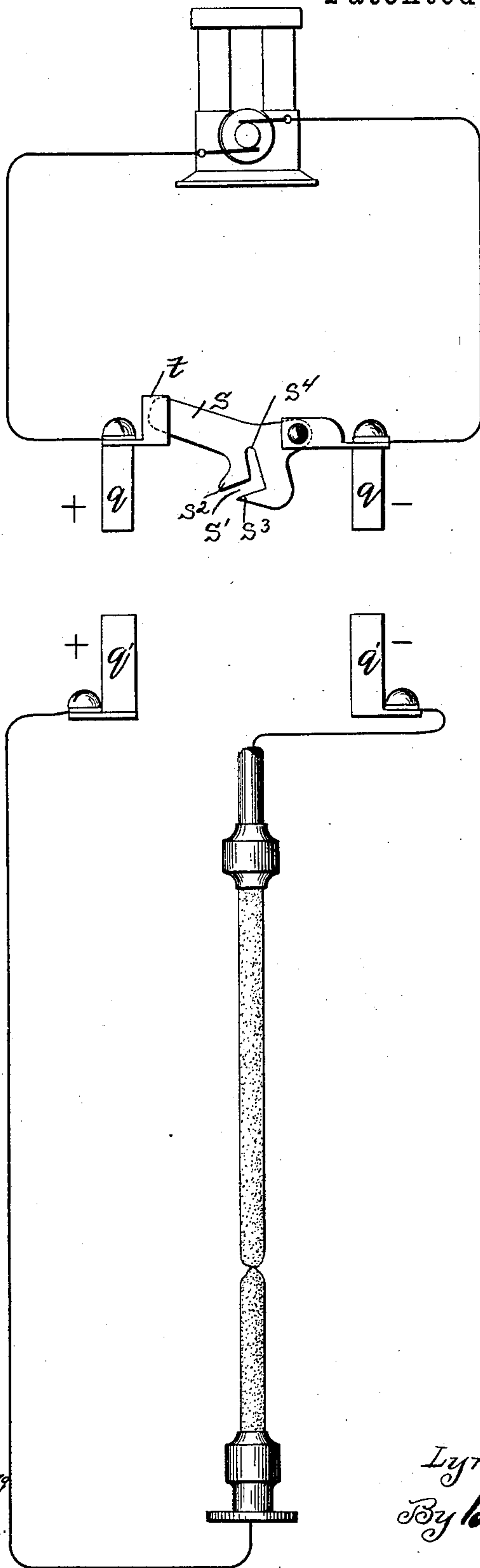
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Fig. 7



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UNITED STATES PATENT OFFICE.

LYMAN A. SCOVIL, OF CHICAGO, ILLINOIS.

HANGER FOR ARC-LAMPS.

SPECIFICATION forming part of Letters Patent No. 558,989, dated April 28, 1896.

Application filed March 28, 1893. Serial No. 467,978. (No model.)

To all whom it may concern:

Be it known that I, LYMAN A. SCOVIL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Hangers for Arc-Lamps, (Case No. 1,) of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to hangers for electric lamps; and its objects are to provide a hanger by means of which the lamp may be raised and held at any desired position and lowered when desired; to provide a hanger which will support the weight of the lamp independently of the rope by which the lamp is raised and lowered; to provide a hanger which will automatically cut the lamp out of circuit when it is lowered and automatically cut the lamp into circuit again when it is raised to its normal position, and which will at the same time invariably bring the lamp into circuit in the right direction—that is, with its terminals connected in the right polarity.

My invention consists in the novel features and combinations hereinafter described, and will be more readily understood by reference to the accompanying drawings, in which—

Figure 1 shows the hanger of my invention in elevation with the cover in section. Fig. 2 is a view at right angles to that of Fig. 1. Fig. 3 is a sectional view of a hanger shown in Fig. 1. Fig. 4 is an elevation of my hanger, showing the lower part dropped away from the position thereof shown in Figs. 1, 2, and 3. Fig. 5 is a plan view of the contact device mounted upon the base-plate of the movable portion of the hanger. Fig. 6 is a top view of the short-circuiting switch of the hanger. Fig. 7 is a diagram showing the circuit through the hanger.

Similar letters of reference are used throughout the different views to indicate similar parts.

Any suitable method of suspension may be employed with my hanger. I have shown simply a post *a*, to which may be attached a hook or a ring. The cylinder *b* is preferably arranged centrally under the means of suspension, and a pulley or roller *c* is so mounted upon a frame that its periphery will be ap-

proximately over the center of the cylinder *b*. The cylinder *b* is rigidly supported upon the frame *d* of the hanger and terminates at its lower extremity in the pen-shaped end *e*. In the side of the cylinder *b* is the slot *f*, in which the dog *g* is adapted to engage to support the lamp, as will be more fully described hereinafter.

Attached to the rope *c'*, which passes over the pulley *c*, is the bar or tube *h*, to the lower end of which, by the clasp and hook *h'* or in any other well-known way, is suspended the lamp, the top of which, *i*, I have shown in detail in Figs. 1, 2, 3, and 4. The lamp is preferably insulated from the hanger. The tube *h* is adapted to telescope within the tube *b*, and it carries, by means of angular slots in its sides, the dog *g*, which is supported in the angular slot *i'* by the pin *k*.

The tube *h* is slotted vertically on diametrically-opposite lines from a point near its upper extremity to a point near its middle to allow the dog *g* to have full access to the slots *f f'* in cylinder *b*. The tube is preferably flattened where this slot is cut for convenience in mounting the dog *g*.

The dog *g* when the tube *h* is raised is supported at the extremity of the angular slot, which I have designated by the letter *l*. When the part *h*, supporting the lamp, is to be lowered, it is first raised slightly, in which upward movement the dog *g* is shifted to such a position as to be free from the slot *f* in the tube *b* on its downward movement. When the dog *g* is in this position—that is, suspended in the extremity *l* of the slot *i'*—the point *n* projects slightly beyond the tube *h* through a slot *f'* in the cylinder *b*, and upon tube *h* being lowered the pin *k*, supporting the dog *g*, is, by means of the contact of said point *n* with the lower side of slot *f'*, driven to the extremity *l'* of the slot *i'*, in which position the point *n* tends to protrude through the slot *f*, and thus to engage therewith and support the lamp.

The pin *o* upon the tube *h* is brought to bear upon the inclined end of the tube *b* when the tube *h* is raised, and thus serves to guide the tube *h* and the base *p*, to which said tube *h* is rigidly attached. The downwardly-projecting contact-points *q q* are thus brought into engagement with the contact-jaws *q'*, and

the pin r upon the post r' is guided into engagement with the short-circuiting switch s . The post r' is preferably insulated from the base p , as are also the binding-posts q^2 q^2 , to which the terminals of the lamp are adapted to be connected, and which are connected to the contact-jaws q' .

In the switch s is the rectangular slot s' , with which the pin r is adapted to engage. The point s^2 projects beyond the point s^3 , so that when the lower part of the hanger is drawn up the pin r enters the slot and striking the part s^2 raises the switch, as is shown in Fig. 2. When the lower part of the hanger is dropped, the pin r brings down the switch-lever s into contact with the contact-jaw t , thus cutting the lamp out of circuit. It will be observed that the construction of my device is such that when the base of the hanger is lowered, thus lowering the lamp for trimming or other attention, the short-circuiting switch s is invariably closed, and it is closed before the contact-jaw q' leaves the contact-point q , thus avoiding any sparking; also, when the lamp is raised the contacts cutting the lamp into circuit are closed before the switch s is opened.

The portion s^4 of the slot in the switch-lever is provided to permit the raising of the movable part of the hanger to disengage the dog g . The slot u is carried in the cylinder b above the point where the pin o normally stops for the same purpose.

In the foregoing description of my device its operation may now be understood. Normally the hanger is in the position shown in Figs. 1, 2, and 3, and a cover incloses the entire apparatus. When the lamp, which is attached to the tube h , is desired to be lowered, the rope c' is first pulled up, thus bringing the weight of the lamp off from the dog g , which has been resting upon the lower edge of the slot f of the tube h , and the pin k of the dog g drops into the arm l of the slot i' , thus being carried out of range of the slot f , so that the lower part of the hanger, upon the slackening of the rope, will be dropped, thus breaking the contacts q and closing the switch s . As the point n protrudes through the slot f' in the cylinder b the lower edge of this slot strikes the point and throws the dog into the position shown in Fig. 4, when the pin k is resting in the arm l' of the slot and the dog is ready to engage again in slot f on being raised. The weight of the lamp is now upon the rope c' , and it may be lowered to any desired position. When it is desired again to raise the lamp to its normal position of support upon the dog g , the rope c' is pulled up over the pulley c , thus raising the lower part of the hanger and the lamp until the semicircular or cone-shaped end of the tube h guides the tube h into the cylinder b . Further drawing up of the rope brings the pin o in contact with the inclined end of the cylinder b , and as the pin o slides along the edge it swings the base p to such a position that

the contacts q q' will engage, and the pin r will enter the slot s' of the switch-lever s and raise the lever, thus opening the short-circuiting switch. The slot b in the side of the cylinder b affords a passage to the pin o for a short distance therein. Enough motion in an upward direction to the supporting-tube h should be allowed, when it is in its normal position, to free it from engagement with the slot f .

It is obvious that instead of arranging the cam-shaped end of the cylinder h as shown, I may reverse it and put the guiding-cam upon the supporting-tube h , with a pin upon the interior of the cylinder b to engage therewith. Many other changes in details of construction will readily suggest themselves, and I do not wish to be limited to the precise construction shown and described herein.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a hanger for an electric lamp, the combination with a guide, held in a fixed position, of a tube which is adapted to support the lamp adapted to enter said guide, a dog upon said tube adapted to engage with said guide and to support said tube, and means for automatically connecting the lamp into circuit in a predetermined direction, substantially as described.

2. In a hanger for electric lamps, the combination with the cylinder b , of the slot f , the tube h having a conical end adapted to enter said cylinder, the dog g adapted to engage with said slot f and be supported upon the lower edge thereof, the pin o upon said tube h , an inclined end upon said cylinder b with which said pin o is adapted to come in contact, the slot u in said cylinder b , short-circuiting switch s provided with a rectangular slot s' , the pin r adapted to engage with said short-circuiting switch s , contact-points q q' adapted to engage with contact-jaws q' q' , and a rope c' attached to said tube h and passing over the pulley c , whereby the lamp may be raised and lowered, and when raised held suspended independent of the rope, substantially as described.

3. In a hanger for electric lamps, the combination with a lamp adapted to be raised and lowered and provided with contact-points, of a hanger-board provided with contact-points, a switch adapted to short-circuit and then cut out the lamp when lowered, and to cut in and then open the short circuit when the lamp is raised, a suspending-rod carrying a laterally-extending lug provided on said lamp, a sleeve provided upon the hanger-board, the lower end thereof being provided with a longitudinal slot and inclined surfaces leading thereto to guide said lug, substantially as described.

4. In a hanger for electric lamps, the combination with a lamp adapted to be raised and lowered and provided with a suspending-rod carrying a laterally-extending lug, of a hanger board provided with a sleeve within which

said rod is adapted to pass, the lower end of said sleeve being provided with a longitudinal slot and inclined surfaces leading thereto to guide said lug, substantially as described.

5 5. In a hanger for electric lamps, the combination with a lamp provided with a suspending-rod carrying a laterally-extending lug, of a hanger-board provided with a sleeve within which said rod is adapted to pass, the
10 lower end of said sleeve being provided with a longitudinal slot and inclined surfaces leading thereto to guide said lug, contact-points provided upon said hanger-board, and contact-points provided upon said lamp adapted
15 to engage respectively with a definite one of

said lamp contact-points, substantially as described.

6. In a hanger for electric lamps, the combination with a sleeve, of a rod adapted to enter said sleeve, a lug or tongue being provided upon one of said parts while a longitudinal slot with inclined surfaces leading thereto is provided upon the other of said parts; substantially as described.

In witness whereof I hereunto subscribe my name this 24th day of March, A. D. 1893.

LYMAN A. SCOVIL.

Witnesses:

GEORGE L. CRAGG,

CHARLES A. BROWN.