No. 659,702. Patented Oct. 16, 1900.

T. SMITH.

MEANS FOR SUSPENDING INCANDESCENT ELECTRIC LIGHTS.

(Application filed Feb. 26, 1900.)

(No Model.)

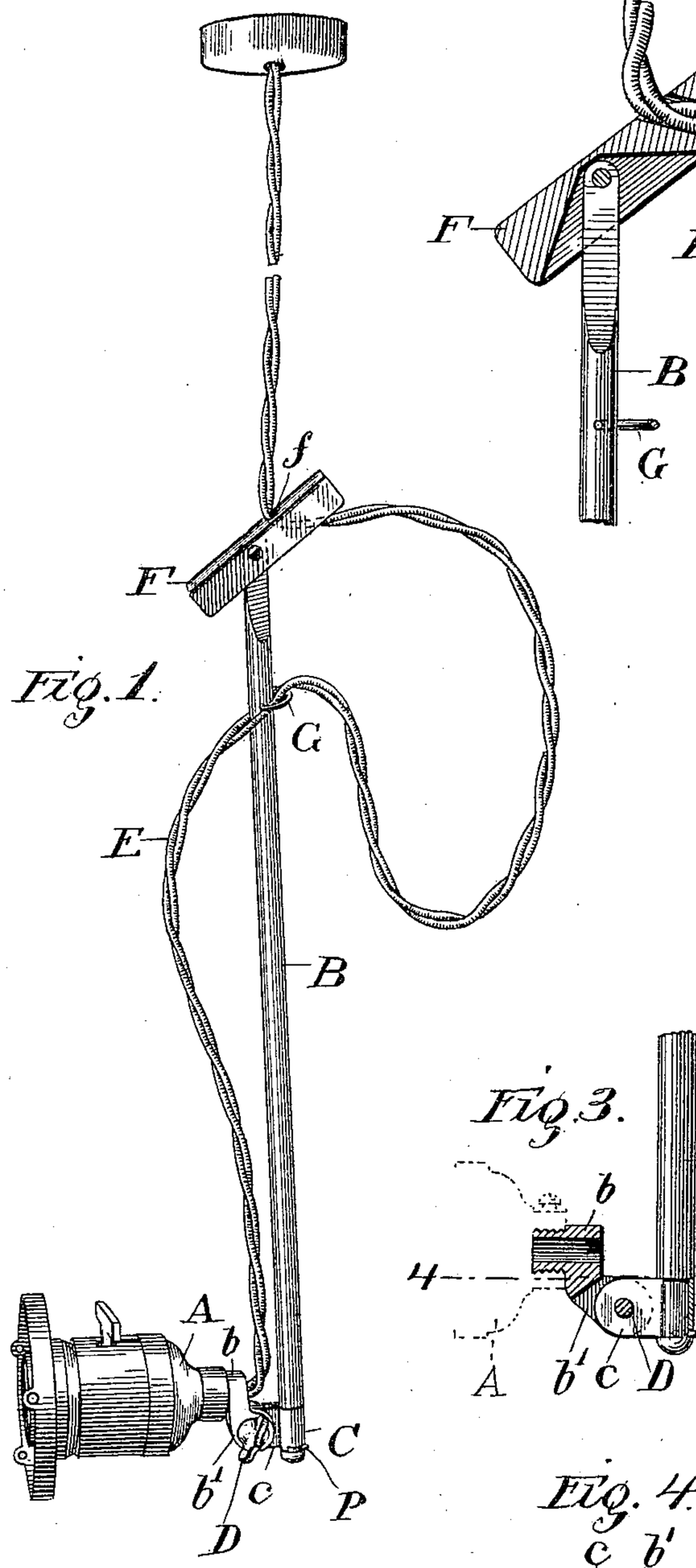

Fig. 1.

Fig. 2.

Fig. 3.

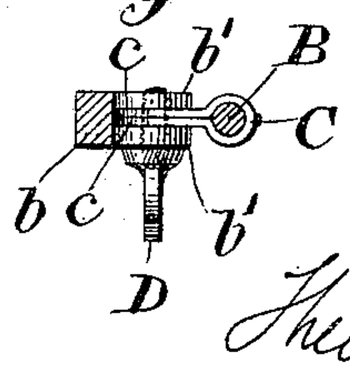

Fig. 4.

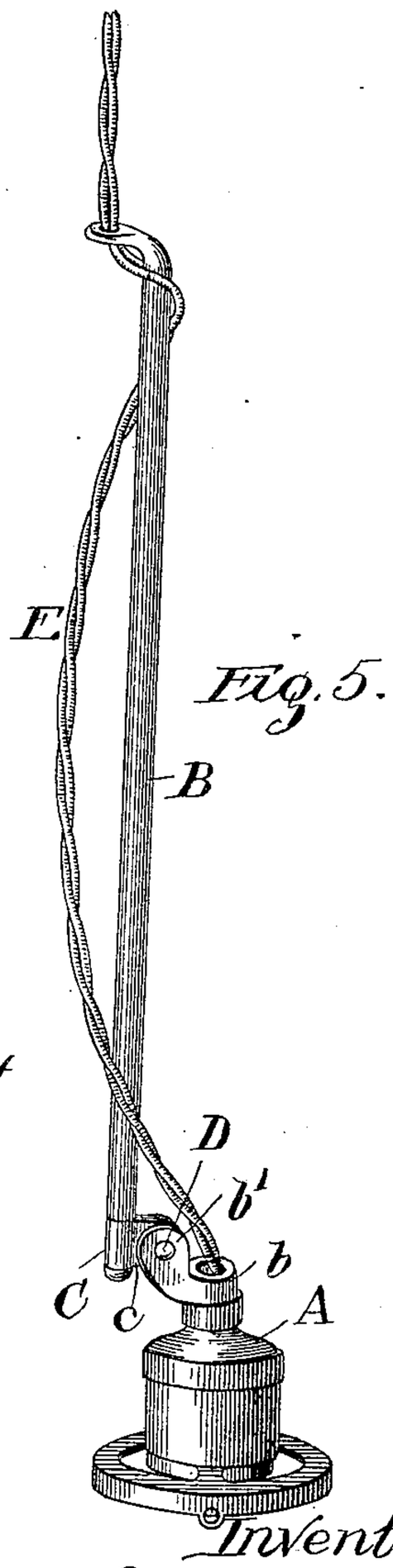

Fig. 5.

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UNITED STATES PATENT OFFICE.

THEODORE SMITH, OF GEORGETOWN, ILLINOIS.

MEANS FOR SUSPENDING INCANDESCENT ELECTRIC LIGHTS.

SPECIFICATION forming part of Letters Patent No. 659,702, dated October 16, 1900.

Application filed February 26, 1900. Serial No. 6,452. (No model.)

To all whom it may concern:

Be it known that I, THEODORE SMITH, a citizen of the United States of America, residing at Georgetown, in the county of Vermilion and State of Illinois, have invented certain new and useful Improvements in Means for Suspending Incandescent Electric Lights, of which the following is a specification.

My invention relates to improvements in means for suspending incandescent electric lights, the purpose of the invention being to provide a device whereby an incandescent lamp suspended from a ceiling or other support by means of the usual conducting-cord may be adjusted horizontally or vertically, or both, so as to project its light in any desired direction.

The invention is fully described and explained in this specification and shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a mechanism embodying my invention, means being provided for raising and lowering the lamp as well as to give it the horizontal and vertical angular adjustment hereinbefore referred to. Fig. 2 is a longitudinal central vertical section of the gripping-block by means of which the lamp-support is secured at any desired height upon the cord. Fig. 3 is a central vertical section showing details of the joint for the angular adjustment of the lamp-socket. Fig. 4 is a transverse section through the line 4 4 of Fig. 3, the view being downward; and Fig. 5 is a perspective view of a modified device not provided with any means for raising and lowering the lamp with reference to the cord.

In all of the forms illustrated the lamp-socket A is secured by means of a universal joint to the lower end of a rod B, which is approximately vertical when in use. The details of the universal joint may evidently be greatly varied, but one practical form is illustrated in Figs. 3, 4, and 5. In the mechanism so shown the neck *b* of the lamp-socket is provided with ears *b' b'*, separated by suitable space and including between them the ears *c c* of a clasp C, encircling the lower end of the rod B and turning freely thereon. A set-screw D passes through the ears *b' b' c c* and is adapted to secure the necessary clamping friction to permit vertical angular adjustment of the lamp and socket and at the same time to hold it securely in any given position of adjustment. The clasp C may fit closely upon the lower end of the rod B, but should preferably turn freely upon it in order that the lamp may conveniently be adjusted horizontally. It is evident that if the rod B be suspended the lamp may be adjusted in such a way as to point in any desired direction, and if the lamp is provided with a suitable reflector the light may be correspondingly directed as may be desired.

The lamp is provided with the usual conducting-cord E, made up of two suitable insulated intertwisted wires, the lower ends of which are connected with the lamp in the ordinary manner. The upper end of the rod B is likewise connected with the cord, and the cord thus supports and suspends the rod B and the lamp attached to its lower end. The connection of the upper end of the rod with the conducting-cord may be effected in many ways, two of which are illustrated in the drawings, and especially in Figs. 1, 2, and 5. In the form shown in Fig. 5 the upper end of the rod is passed between the two strands of the cord, and the body of the cord is then passed through an opening in the flattened upper end of the rod, and this connection not only gives the rod a secure support from the cord, but likewise maintains a suitable amount of slack in the cord between the upper end of the rod and the point of attachment of the wires to the lamp. This slack is desirable for the reason that it obviates any tendency of the torsional strength of the cord to vary the horizontal position of the lamp with reference to the rod. In other words, the slack cord offers no resistance to the horizontal adjustment of the lamp and has no tendency to swing it horizontally from any position to which it has been adjusted.

The construction shown in Fig. 5 evidently provides no means for the bodily upward or downward movement of the rod and lamp upon the cord or with reference to it; but the cord above the rod may evidently be practically lengthened or shortened by looping it in any of the well-known or evident ways. The form illustrated in Figs. 1 and 2, however, comprises not only the rod, but a very simple means for adjusting the rod vertically

upon the cord. In the device thus illustrated F is a block pivoted to the flattened upper end of the rod B and free to swing through a considerable vertical angle upon its pivot. The free end of the block is formed with an oblique opening *f*, preferably in the same vertical plane as the slot which receives the upper end of the rod B, and the cord E passes through this oblique opening. It is evident that when the block has been adjusted to any desired position upon the cord and the rod B, with the lamp at its lower end, hangs freely, so that its weight is upon the block, the oblique opening through which the cord passes bends the cord at quite a sharp angle, and I have found in practice that the block thus constructed forms a perfectly-secure connection sufficient to support the rod and lamp at any desired height and to prevent slipping of the block upon the cord. In the use of the form thus illustrated or of any form in which the rod is provided at its upper end with a clamp or clasp adapted to be adjusted upon the cord it is desirable to maintain a certain amount of slack in the cord between the upper and lower ends of the rod. This might be done by simply forming a knot in the cord immediately below the block F, the length of the cord between the knot and the lamp being sufficient to insure the necessary slack; but I prefer to provide slack in the manner shown in the drawings—namely, by passing the rod between the strands of the cord at a suitable distance from the lower end thereof and then passing the cord through an eye G, attached to the rod near its upper end.

It is evident that the lamp may swing horizontally to any desired angular extent about the lower end of the rod B or may be limited as to the extent of its horizontal swing, if this seems desirable. For the purpose of so limiting it the lower end of the rod may be provided with a horizontal projecting pin P, and the lower end of the clasp C may be formed with a slot, the angular extent of which will determine the limit of swing of the lamp.

As I have said before, the details of construction of this device may evidently be greatly varied, and I desire, therefore, not to limit the invention to the specific details shown and described herein or in any way, except by the definition appearing in the following claims.

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

1. In an incandescent-lamp support, the combination with a rigid member provided with means of attachment to and support by a flexible cord, of a lamp-socket connected with said rigid member by means permitting horizontal angular adjustment of the socket with reference to said rigid member.

2. In an incandescent-lamp support, the combination with a rigid member provided with means of attachment to and support by a flexible cord, of a lamp-socket connected with said rigid member by means permitting both horizontal and vertical angular adjustment of the socket with reference to said rigid member.

3. In an incandescent-lamp support, the combination with a rod provided at its upper end with means for attachment to and support by a flexible conducting-cord, of a lamp-socket connected with the lower end of said rod by means permitting vertical and horizontal adjustment of the socket with reference to said rod.

4. In an incandescent-lamp support, the combination with a rod, of a lamp-socket connected with the lower end of the rod by means permitting vertical and horizontal angular adjustment of the socket with reference to the rod, the upper end of the rod being provided with means for attaching it to and supporting it by a flexible conducting-cord, the lower end of which is connected with the lamp-socket, whereby slack is provided in the cord, between its point of attachment to the socket and its point of attachment to the rod.

5. In an incandescent-lamp support, the combination with a rod and a lamp-socket connected with the lower end thereof by means of a universal joint permitting vertical and horizontal angular adjustment of the socket, of a block pivoted to the upper end of the rod and formed with an oblique opening adapted to permit the passage through it of the usual conducting and supporting cord, whereby, when the rod and lamp hang freely, the block bends the conducting-cord in a short curve and thereby prevents the slipping of the block upon the cord.

6. The combination with a suspended flexible conducting-cord, of a rod passed between the strands of the cord and having its upper end connected with the cord, and a lamp-socket connected with the lower end of the rod by means of a universal joint, whereby it has vertical and horizontal angular adjustment with reference thereto, the lower end of the cord being connected with the lamp-socket in the usual manner and the cord being slack between said socket and the upper end of the rod.

In witness whereof I have hereunto set my hand, at Chicago, in the county of Cook and State of Illinois, this 20th day of February, A. D. 1900.

THEODORE SMITH.

Witnesses:
CHAS O. SHERVEY,
S. BLISS.