(No Model.)

# D. N. HURLBUT.

## ELECTRIC LAMP FIXTURE.

No. 261,157. Patented July 18, 1882.

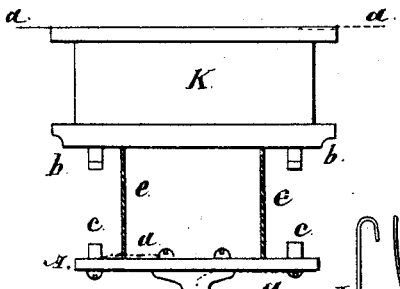
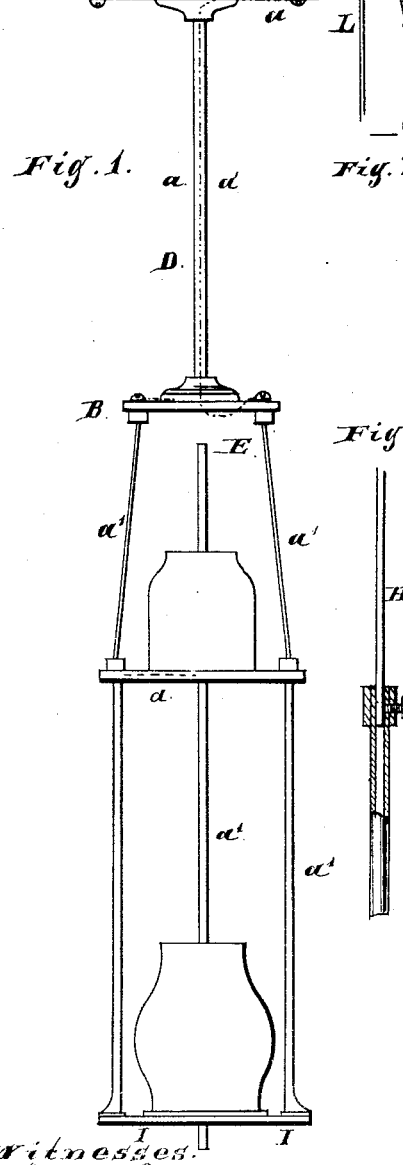



Fig. 1.



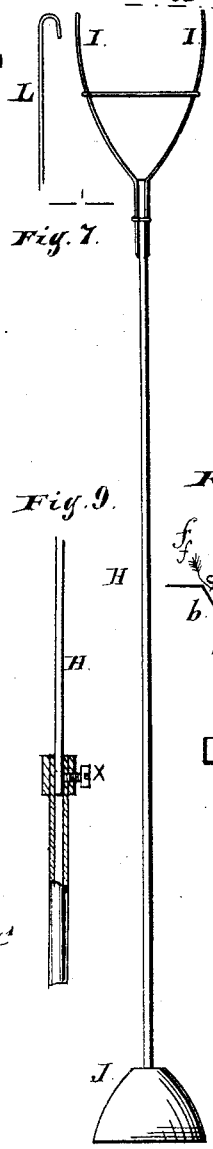




Fig. 7.

Fig. 2.

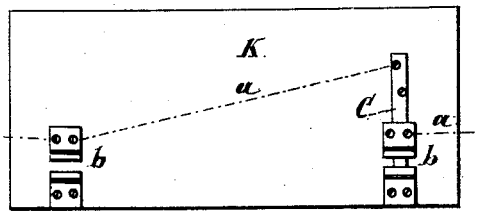



Fig. 8.

Fig. 3.

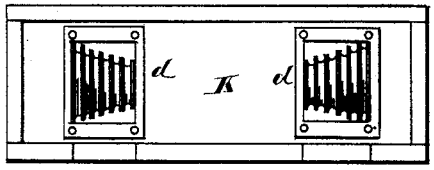



Fig. 9.




Fig. 4.

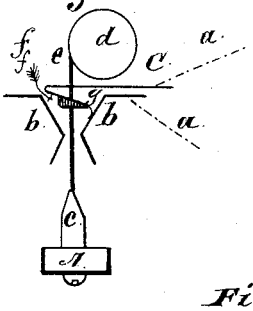



Fig. 5.

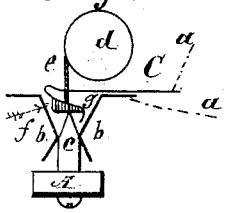
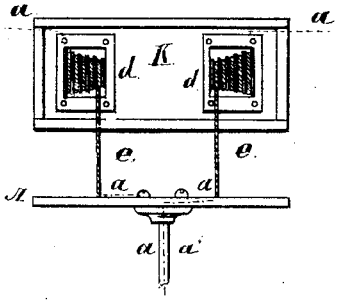



Fig. 6.




Inventor:

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Witnesses.
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# UNITED STATES PATENT OFFICE.

DANIEL N. HURLBUT, OF CHICAGO, ILLINOIS.

## ELECTRIC-LAMP FIXTURE.

SPECIFICATION forming part of Letters Patent No. 261,157, dated July 18, 1882.

Application filed June 15, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, DANIEL N. HURLBUT, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Electric-Lamp Fixture, of which the following is a specification.

My invention relates to improvements in hanging electric lamps and the arrangement of the electric circuit; and it consists in adopting and using a roller containing a coiled spring and conically shaped upon its outer surface for the purpose of compensating for the increase and decrease of power as the spring is wound or unwound in raising and lowering the lamp, the coiled spring affording the power to automatically raise the lamp and hold it in place, thus allowing the lamp to be raised and lowered at will for convenience in adjusting; and, second, in so arranging the electric circuit that the light will be either automatically extinguished when the lamp is lowered, or not, as may be desired. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a view of my fixture attached to an electric lamp. Fig. 2 is a view of the under side of the case containing the conical rollers. Fig. 3 is a vertical section of the case and conical rollers. Fig. 4 is a vertical section of the conical rollers, suspending-cords, and circuit-connections, with the electric circuit between the fixture and lamp broken and the light extinguished and the main line closed. Fig. 5 is a vertical section of the conical rollers, suspending-cords, and circuit-connections, with the electric circuit between the fixture and lamp closed and the main line opened to cause the current to flow through the lamp. Fig. 6 is a view of the case opened to exhibit the conical rollers and suspending-cords forming a part of the electric circuit. Fig. 7 is a view of a hook and weight used in handling the lamp and fixture.

Similar letters refer to similar parts throughout the several views.

The case K, Figs. 1, 2, 3 being different views, contains the conical rollers *d d*, around which the suspending-cords *e e* are wound. The cords *e e*, Fig. 1, are attached to the cross-arm A, and the cross-arm A is connected to and suspends the lamp E by means of the tube D. The tube D contains one conducting-wire, *a*, and is itself used as an electric conductor, *a'*, thus making a complete circuit.

Fig. 1 represents the cross-arm A, suspended below the case K by the cords *e e*, with the electric circuit broken at *b b c c* and the light extinguished. By raising the lamp E until contact is made at *b b c c*, Fig. 1, the electric circuit will be through the lamp E by means of the connecting-wire *a* and tube D *a'*, and the lamp lighted.

Fig. 4 is a vertical section of the contact-spring *b b*, contact-point *c*, main-line spring C, roller *d*, suspending-cord *e*, and cross-arm A, and represents the cross-arm A drawn downward to break the electric connection at *b b c c* and through the lamp, and with the main-line spring C in contact with the spring *b*, thus keeping the main line unbroken and allowing the other lamps in the line to burn, while my fixture and lamp themselves are out of the circuit and the light extinguished.

Fig. 5 is a vertical section of the contact-springs *b b*, contact-point *c*, main-line spring C, roller *d*, suspending-cord *e*, and cross-arm A, and represents the cross-arm A raised, so as to bring the point *c* between and in contact with the springs *b b*, where it is firmly pressed, making perfect electrical connection and causing the point *c* to press against the insulation *f* upon the spring C and raise it until it does not touch the spring *b*, thus opening the main line and allowing the electric current to flow through the lamp and cause it to light.

In Fig. 6 I represent the cross-arm A suspended by the cords *e e* and having the conducting-wires *a a* connected with the frame of the conical rollers *d d*, and utilizing the suspending-cords *e e* as electrical conductors, and otherwise conveying the current to the lamp by means of the wire *a* in the tube D and tube D *a'*, in the same manner as before described. When using the fixture as represented in Fig. 6, the light is not extinguished when the lamp is drawn downward.

Fig. 7 represents a rod, which may be so arranged that it can be lengthened or shortened. As shown in Fig. 9, the lower half of the rod H is hollow and the upper half is fitted to and slides inside of the same, and is fastened

at any desired length by means of the set-screw X. The rod is forked at its upper end, and having a hook, L, at the extremity of each prong and the weight J at its lower end sufficient to overcome the excess of power of the springs in the conical rollers *d d*, and is used to hook upon the lamp at I I when desired to draw the lamp downward. The weight J rests upon the floor when the lamp is drawn down and holds it in place during adjustment.

My fixture can be adapted to any of the arc-light lamps as now constructed without material change of the electrical conductors.

Fig. 8 is a view of the coiled spring contained in the conical rollers *d d*. The conical compensating spring-rollers used by me are an article of manufacture and commerce, and I do not claim the device to be new.

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

1. The case K, compensating spring-rollers *d d*, cords *e e*, cross-arm A, springs *b b*, points *c c*, spring C, insulation *f*, conductors *a a'*, and tube D, when connected with the electric lamp E, substantially as described, and for the purpose set forth.

2. The combination of the case K, conical compensating spring-rollers *d d*, cords *e e*, cross-arm A, spring *b b*, points *c c*, spring C, insulation *f*, conductors *a a a'*, and tube D with the lamp E, as described, and for the purpose set forth.

3. Automatic conical compensating spring-rollers and suspending-cords, or other equivalent device, combined with suitable stationary electrical contact-springs located at the point where the lamp is intended to be used, and corresponding electrical contact-surfaces upon the lamp, all constructed, arranged, and adapted to operate substantially as and for the purpose set forth.

DANIEL N. HURLBUT.

Witnesses:
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J. I. MACCONN.