(No Model.) 2 Sheets—Sheet 1.

F. O. FARWELL.

ELECTRIC LAMP HOLDER.

No. 524,707. Patented Aug. 21, 1894.

Fig. 2.

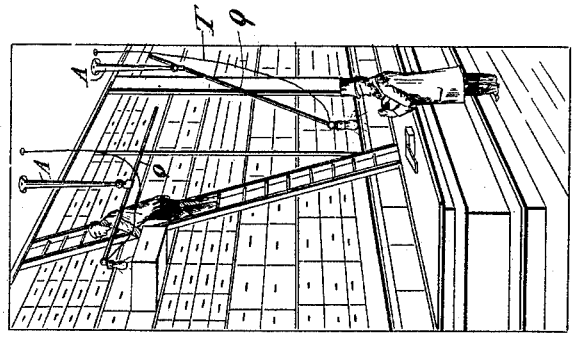
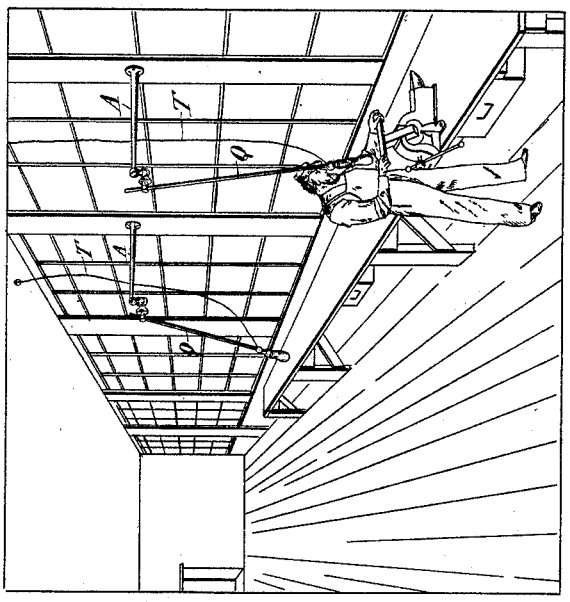


Fig. 1.



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H. G. Torbert

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Attorneys

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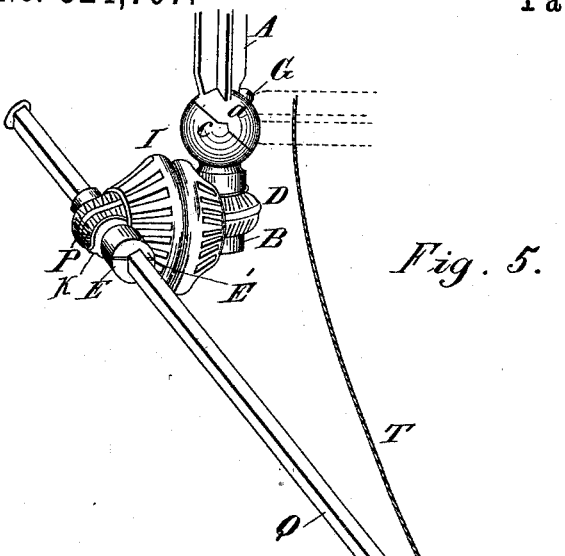

Fig. 5.

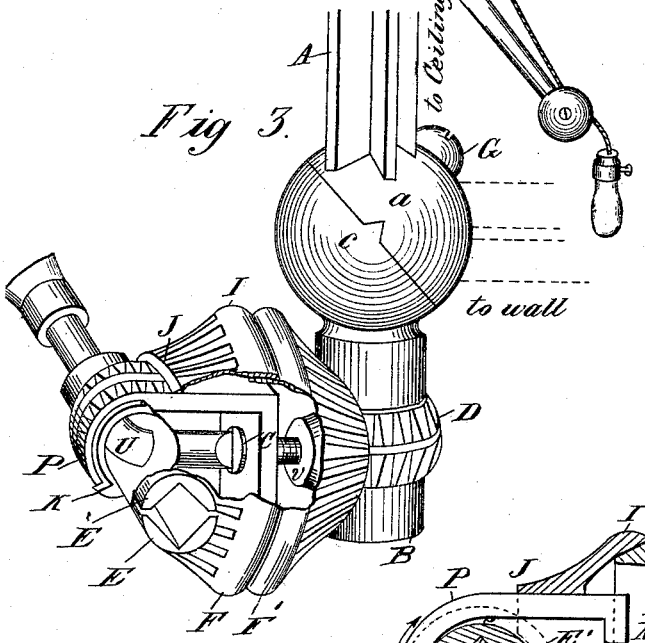

Fig 3.

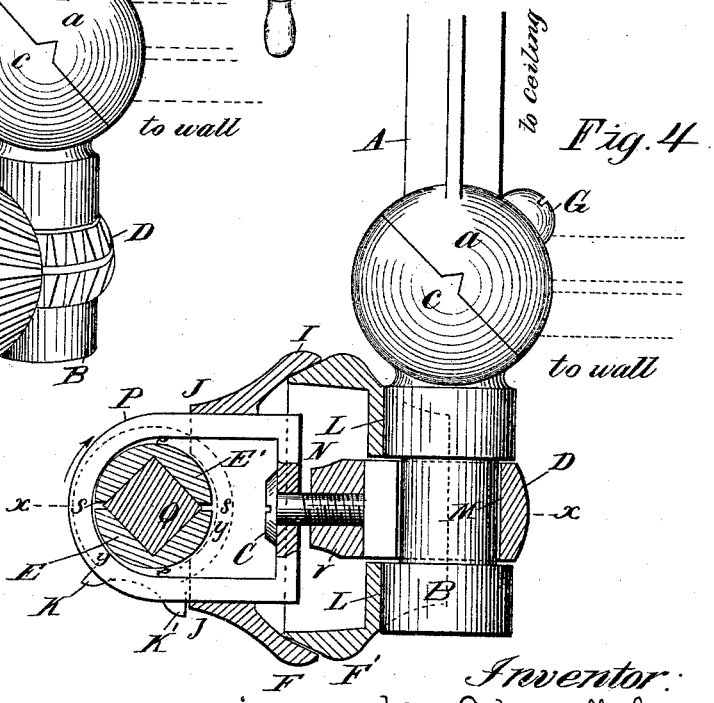

Fig. 4.

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UNITED STATES PATENT OFFICE.

FAY O. FARWELL, OF DUBUQUE, IOWA, ASSIGNOR OF ONE-HALF TO THE ADAMS COMPANY, OF SAME PLACE.

ELECTRIC-LAMP HOLDER.

SPECIFICATION forming part of Letters Patent No. 524,707, dated August 21, 1894.

Application filed March 6, 1894. Serial No. 502,586. (No model.)

To all whom it may concern:

Be it known that I, FAY O. FARWELL, a citizen of the United States, residing in the city and county of Dubuque and State of Iowa, have invented certain new and useful Improvements in Electric-Lamp Holders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of my invention is to provide a bracket or holder for electric lamps, whereby the light may be readily and easily adjusted to any convenient position at will and then retained in such position. This is accomplished by attaching the lamp to a universal joint, constructed in such a manner, that all of its movable parts will be loose while the lamp is adjusted to the desired position and then quickly tightened to hold the lamp in such position. In most of the joints now on the market, for this purpose the ball and socket joint is used and is arranged in such a manner, that its movements are more or less limited, especially when the lamp is used in inconvenient places, and besides there is a continuous, even and equal friction on the various parts of the ball and socket joint at all times.

In the joint constructed in accordance with my invention, there is a movement of parts about two axes set at an angle to each other, which permits of a universal movement, while all its parts are loose and free to act and by turning a rod, to which the lamp is attached and which passes through the parts of the joint, all parts of the joint, with the rod, are tightened, thereby securing the lamp in any desired position and then by reversing or rotating the rod in the opposite direction, all parts of the joint are loosened and the position of the lamp can be changed at will, while the parts of the joint are loose and free to act.

For the fuller details of my invention and the manner of constructing and operating the same, attention is called to the following specification and accompanying drawings, forming a part hereof, in which—

Figure 1. is a perspective of my holder in use, with the standard or bracket secured to the side wall. Fig. 2 is a perspective of the holder in use, with the bracket secured to the ceiling and the light raised to a considerable height. Fig. 3, is a perspective of my joint, in part section, showing also bent screw-driver in position for uniting the parts of the joint. Fig. 4, is an elevation of the joint in part section, showing the manner of connecting the parts, their relative position to each other and their working, and Fig. 5, is a perspective of the rod in position with cord and lamp attached.

Similar letters of reference, denote similar parts in all of the drawings.

A, represents the bracket, fastened to the wall or ceiling, to which is secured my universal joint, preferably by forming the lower part of the bracket *a*, at an angle or incline and corrugating the face of the same and by forming the upper part of the axis B, of the joint, to correspond with the face of the standard and uniting the two parts together by a screw G.

The vertical axis is recessed entirely around, near its lower end, at M, for the purposes presently to appear. A ring D, surrounds the axis B, upon one side of which ring D, is an enlargement into which the screw C, is tapped. To the ring D, is swiveled the yoke P, by the screw C. Through the yoke P, are passed the semi-circular, half sleeves E, E′, between which sleeves the rod Q, is inserted and held, to be used as the key for the locking of the parts of the joint hereinafter described. On the half sleeve E, are placed the lugs or stops K, K′. Between the sleeves E, E′, and the axis B, are set cups F, and F′, the cup F, being curved at its smaller end to conform to the shape of the half sleeve E, and E′, and the cup F′, curved out at its smaller end to conform to the contour of the axis B, and the cup F′ fits into the cup F, at its larger end in a wedge or taper shape as shown at I, the object of which will presently appear. These two cups F, and F′, may be united, forming one single ring upon the outer edges of which the axis B, and the half sleeve E′, are forced and are held and securely locked. One end of the rod Q, is preferably enlarged to afford a better grasp for the hand to operate the same and to this same enlarged end, the cord T, of the lamp is attached.

In uniting the parts of my joint together, the half sleeves E, and E′, are first inserted in the yoke P, and the screw C, is run through the base of the yoke P, and started into the ring D, the cup F, is then dropped over the ring D, and its smaller end being hollowed out, rests upon the sleeve E, and E′, and the cup F′ over the ring D, and the larger or taper end enters the cup F; then through the hole in the ring D, is passed the vertical axis B. The parts of the joint are now quite loosely united together and in order to more closely bring the parts together, I insert through the hole in the half-sleeves E, E′, a crooked screw-driver U, and tighten the screw C, until the ring D, is drawn into the recess M, sufficiently to hold the axis B, in place, but not enough to firmly tighten all of the parts of the joint.

The manner of operating my device is as follows: If the bracket be suspended from the ceiling, the axis B, is fastened to the standard A, as shown in Fig. 3, in full lines, and if fastened to the side wall, as shown in Fig. 3, in dotted lines. The rod Q, is passed through the opening between the half-sleeves E, E′, which enlarges the diameter of the sleeves in the direction of *e*, *e*, this causes the two half sleeves to take the form of a cam or ellipse. Now if the rod Q, be turned in the direction of the arrow, the greater diameter of the half-sleeves across from *e*, to *e*, will approach the line of strain *x*, *x*, which will cause a separating strain between the bearings Y, Y, formed by the yoke P, and cup F, and because of this separating strain, the ring D, will be tightened upon the axis B, at M, and the cup F′, forced against the axis B, at L, and the cup F, in turn, crowded upon the cup F′, at the tapering joint I, and the half-sleeves E, E′, will be closed upon the rod Q, and the half sleeve E′, forced against the cup F, thus securely locking the movable parts of the joint. It will be observed, that by this part rotation of the rod Q, all of the moving parts of the joint are securely clamped together and against the smaller ends of the two cups F, and F′, and the rod Q, is also clamped by the two half sleeves E, E′, holding the lamp attached to said rod in the desired position. When it is desired to change the position of the lamp, the rod is rotated in the opposite direction, which releases all parts of the joint and allows the rod to be slid along through between the half-sleeves and the different parts of the joint to rotate or move freely the one upon the other and allow the lamp to be swung in any position, while the parts of the joint are loose. The lugs K, K, will limit the movement of the half-sleeves, by coming in contact with the cup F, at J, J.

It will also be readily understood, that instead of the cups F, F′, as part of the locking device, there may be a single ring of the width of the two cups, against the opposite edges of which the axis B, and the half-sleeve E′, are forced, by the partial rotation of the rod Q, to constitute the locking of the joint.

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

An adjustable holder for lamps, having a universal joint, with one axis secured to the sustaining bracket, a yoke loosely attached to said axis, half sleeves within said axis, a rod to which the lamp is attached, inserted in said yoke, through said sleeves, for locking and unlocking said joint, half cups or rings between the yoke and axis, against which the movable parts of the joint are locked by said rod, whereby the rotation of the rod in one direction causes the movable parts of the joint to be loosened to allow the position of the lamp to be changed at will while said joint is loose and the rotation of said rod in the opposite direction tightens the joint and holds the lamp in the given position, as and for the purposes shown.

In testimony whereof I have hereunto affixed my signature in the presence of two witnesses.

FAY O. FARWELL.

Witnesses:
M. M. CADY,
HERBERT ADAMS.