

Nov. 20, 1945.

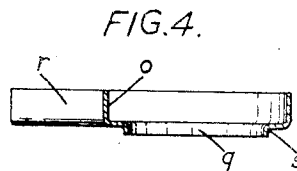
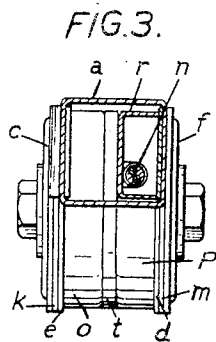
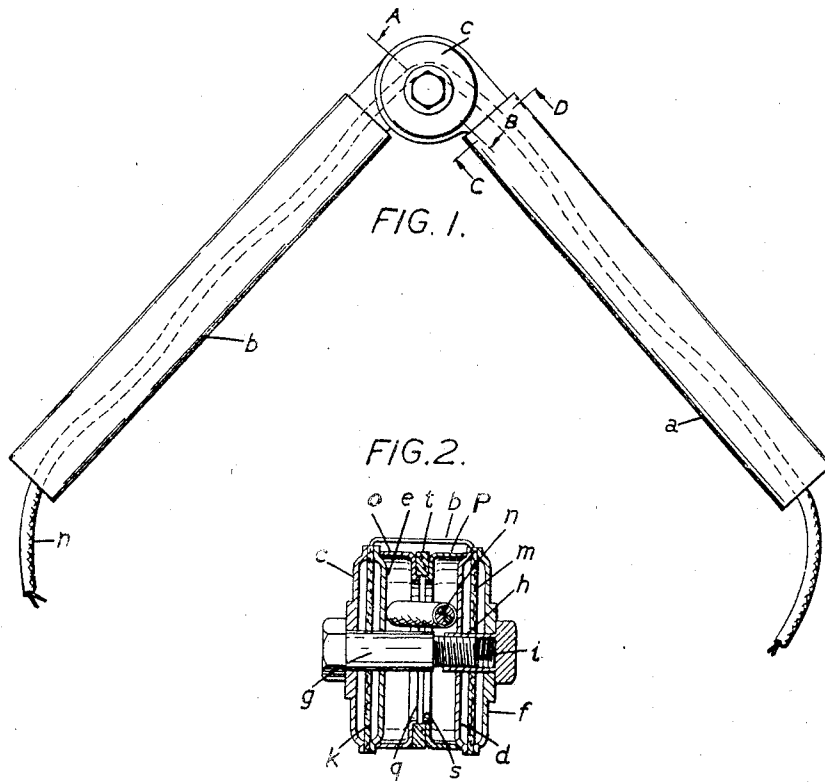
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2,389,340

ADJUSTABLE HOLDER FOR ELECTRIC LAMPS AND THE LIKE PURPOSES

Filed June 19, 1944

2 Sheets-Sheet 1



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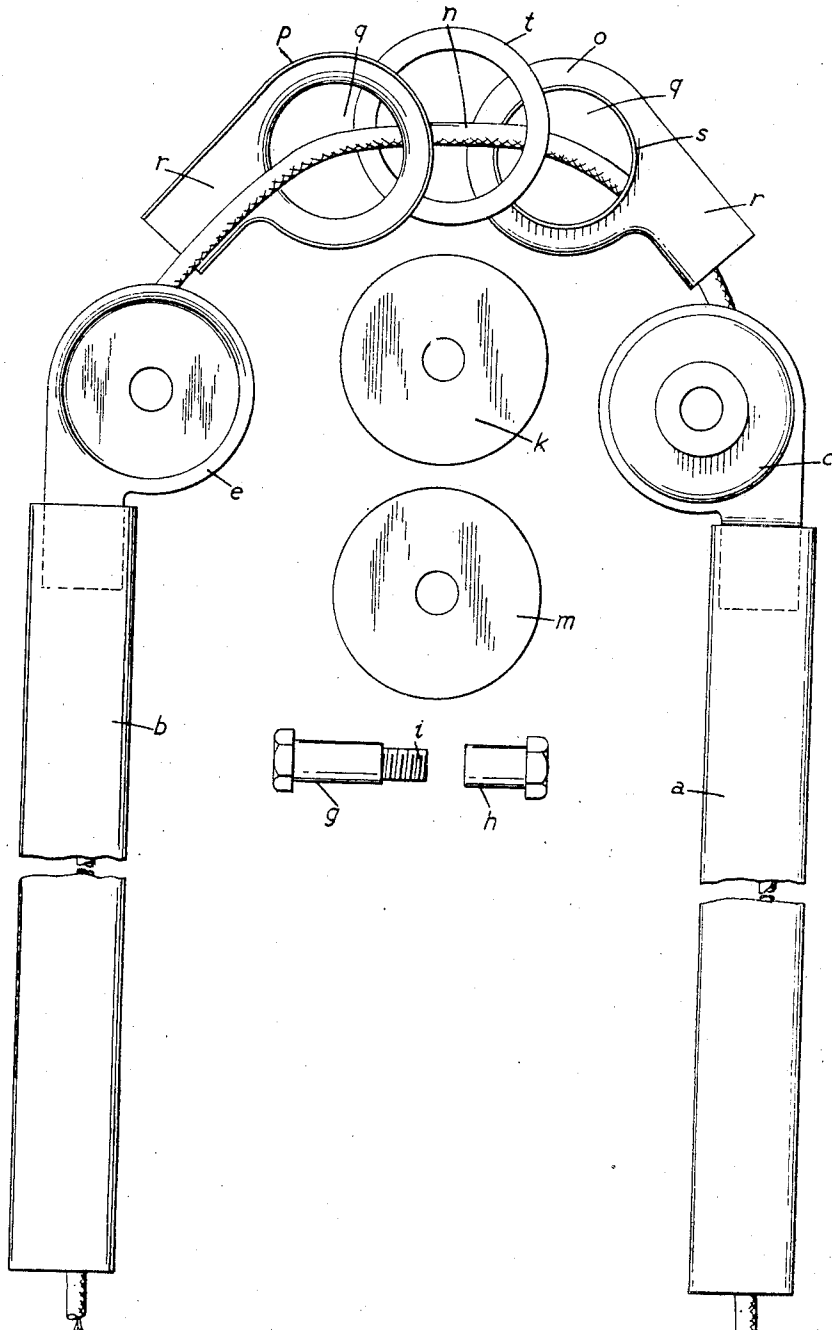
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2 Sheets-Sheet 2

FIG. 5.



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UNITED STATES PATENT OFFICE

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ADJUSTABLE HOLDER FOR ELECTRIC LAMPS AND THE LIKE PURPOSES

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Application June 19, 1944, Serial No. 541,035
In Great Britain June 17, 1943

1 Claim. (Cl. 287—86)

This invention relates to adjustable holders or supports for electric lamps and the like purposes which may be readily attached to or supported on, or by, a desk, wall, ceiling, machine or other fixture and are so constructed that the lamp may be directed to throw a beam of light in any desired direction.

The invention has particular reference to the type of adjustable holder or support which comprises two or more tubular arms hinged together, one end of the holder being attached to or upon the fixture and the electric conductor passing from this end through the arms to the other end where the connection is made to the lamp.

The main object of the present invention is to provide an improved hinge joint between the tubular arms of adjustable holders of the kind referred to above, the constituent parts of which are so constructed as to considerably facilitate their assemblage. Further objects are to provide guides for the passage of the conductor from one tubular arm to the other adjacent arm to which it is hinged of such a nature as to prevent damage to the wires when the hinge is closed and also to so improve the bearing surfaces of the hinge joint that an efficient grip is obtained while permitting necessary adjustment due to wear and avoiding metallic frictional contact surfaces which are liable to cause the joint to work loose should it become lubricated by any cutting oils, water or other liquid used in the machine or fixture on which the lamp is mounted.

A hinge joint between the tubular arms of adjustable holders for electric lamps, through which the electric conductor is passed, according to this invention comprises apertured lugs provided at the ends of the two arms and overlapping to hinge the arms together by a hinge bolt passing through the apertures in the lugs and through apertures in friction washers of compressible material interposed between the lugs, and through two annular members constituting spacer pieces and acting as guides for the electric conductor in its passage from one tubular arm to the other and engaging with the tubular arm to rotate therewith on a friction washer interposed between the two annular members and furnishing a frictional bearing surface without metallic contact, in addition to those afforded by the overlapping lugs and their interposed friction washers.

But in order that the invention may be clearly understood and readily carried into practice reference is now made to the accompanying drawings in which similar reference characters re-

late to like parts throughout the several figures, and in which—

Figure 1 shows an adjustable holder constructed according to the invention,

Figure 2 is a cross section on the line A—B Figure 1 and

Figure 3 is a similar view on the line C—D Figure 1.

Figure 4 is a view in elevation and part section of one of the annular spacer pieces and guides for the electric conductor.

Figure 5 is an exploded view of the holder.

Referring to the drawings and particularly to Figure 5 thereof which clearly shows the parts employed to constitute the improved hinge joint, it will be seen that the tubular arms represented by the reference characters *a* and *b*, are of square cross section and are each provided with a pair of apertured circular and dished lugs *c*, *d* and *e*, *f* at one end, the lugs *c* and *f* being slightly offset from the surfaces of the arms *a* and *b* to which they are respectively attached. In bringing the two arms *a* and *b* together to form the hinge joint, lug *c* of arm *a* overlaps lug *e* of arm *b*, and lug *f* of arm *b* overlaps lug *d* of arm *a* but to avoid frictional contact of metallic surfaces friction washers *k* of compressible material are inserted between lugs *c* and *e* and similar washers are inserted between lugs *f* and *d*.

To guide the electric conductor *n* through the joint in its passage from arm *a* to arm *b* the two annular members *o* and *p* are formed with their apertures *q* of comparatively large diameter and with channel guides *r* and also on their reverse faces with circular lips *s* to locate the friction washer *t*. In the assembled joint the annular members *o* and *p* are superposed and the channel guides *r* engage in the ends of the arms *a* and *b* but the compressible friction washer *t* encircles the lips *s* and is of sufficient thickness to prevent contact of the metallic surfaces.

The hinge bolt is conveniently formed in two parts, *g*, *h*, the tubular part *h* being threaded internally to engage the screw-threaded shank *i* of the part *g*.

In assembling the joint the electric conductor *n* is threaded through arm *a* along channel guide *r* and through aperture *q* of guide member *o*, washer *t*, aperture *q* and along channel guide *r* of guide member *p* to and through arm *b*. The guide members *o* and *p* are then superposed with the interposed washer *t* encircling the lips *s* and the guides *r* disposed in opposite directions. The lugged ends of the arms *a* and *b* are then brought together with lug *c* of arm *a* over-

lapping lug *e* of arm *b* and lug *f* of arm *b* overlapping lug *d* of arm *a* and the guide members *o*, *p*, with the interposed washer *t*, inserted between the pairs of overlapping lugs and the channel parts *r* engaged in the ends of the arms *a* and *b*. The washers *k* and *m* are then inserted between lugs *c* and *e* and lugs *f* and *d* and finally the parts *g* and *h* of the hinge bolt are threaded through the central apertures in the overlapping lugs and interposed washers and through the associated conductor guide members and interposed washer and screwed together to the required extent to ensure sufficient frictional contact between the bearing surfaces to hold the arms *a* and *b* in their relative positions.

The annular members *o* and *p* not only act as spacer pieces and provide convenient guides for the electric conductor *n* in its passage from the arm *a* to the arm *b* but also due to the comparatively large diameter of the apertures *q* therein they obviate damage to the wires of the conductors when the hinge is closed. The movement of these members moreover on the friction washer *t* furnishes a frictional bearing surface without metallic contact, in addition to those afforded by the overlapping lugs and the friction washers *k* and *m*.

The invention may be used with advantage not only for holding or supporting electric lamps but also for supporting a mirror or even a camera and in fact for any purpose in which a self-supporting adjustable apparatus is required for the support of an object to be moved into and held in any desired position.

What I claim is:

10 A hinge joint between the tubular arms of adjustable holders for electric lamps and the like, comprising lugs at the ends of the arms and formed with apertures and overlapping, friction washers of compressible material interposed between the lugs, annular members constituting
15 spacers and acting as guides for the electric conductor in its passage from one tubular arm to the other and engaging with the arms to rotate therewith, a bolt passing through the apertures in the lugs and through apertures formed in the friction washers and through the spacers, and a
20 friction washer interposed between the annular members and providing a frictional bearing surface without metallic contact and in addition to that afforded by the overlapping lugs and the
25 interposed friction washers.

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