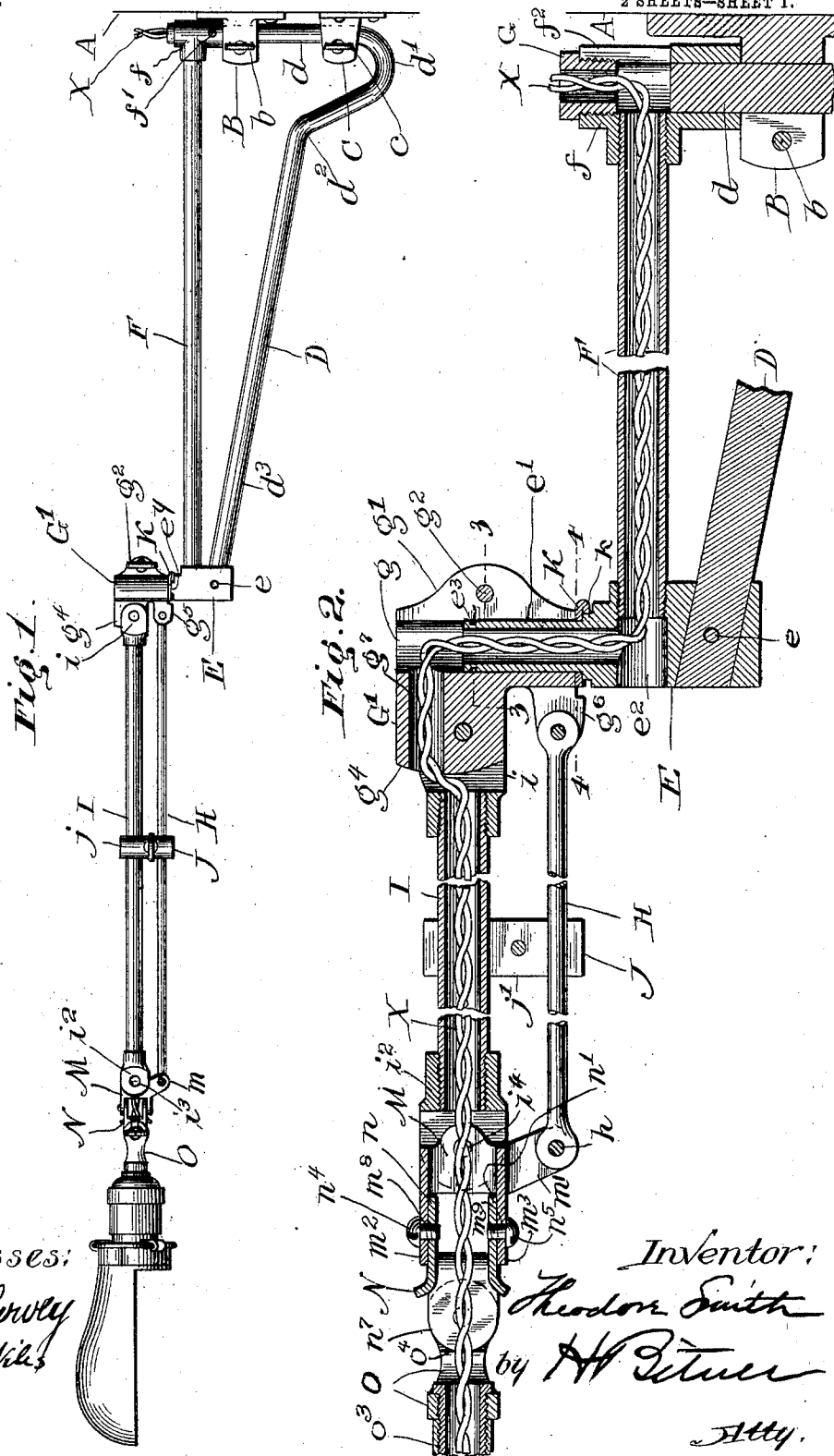


T. SMITH.
BRACKET FOR ELECTRIC LIGHTS.

APPLICATION FILED DEC. 22, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses:
Chas. O. Shewley
Russell Wiles

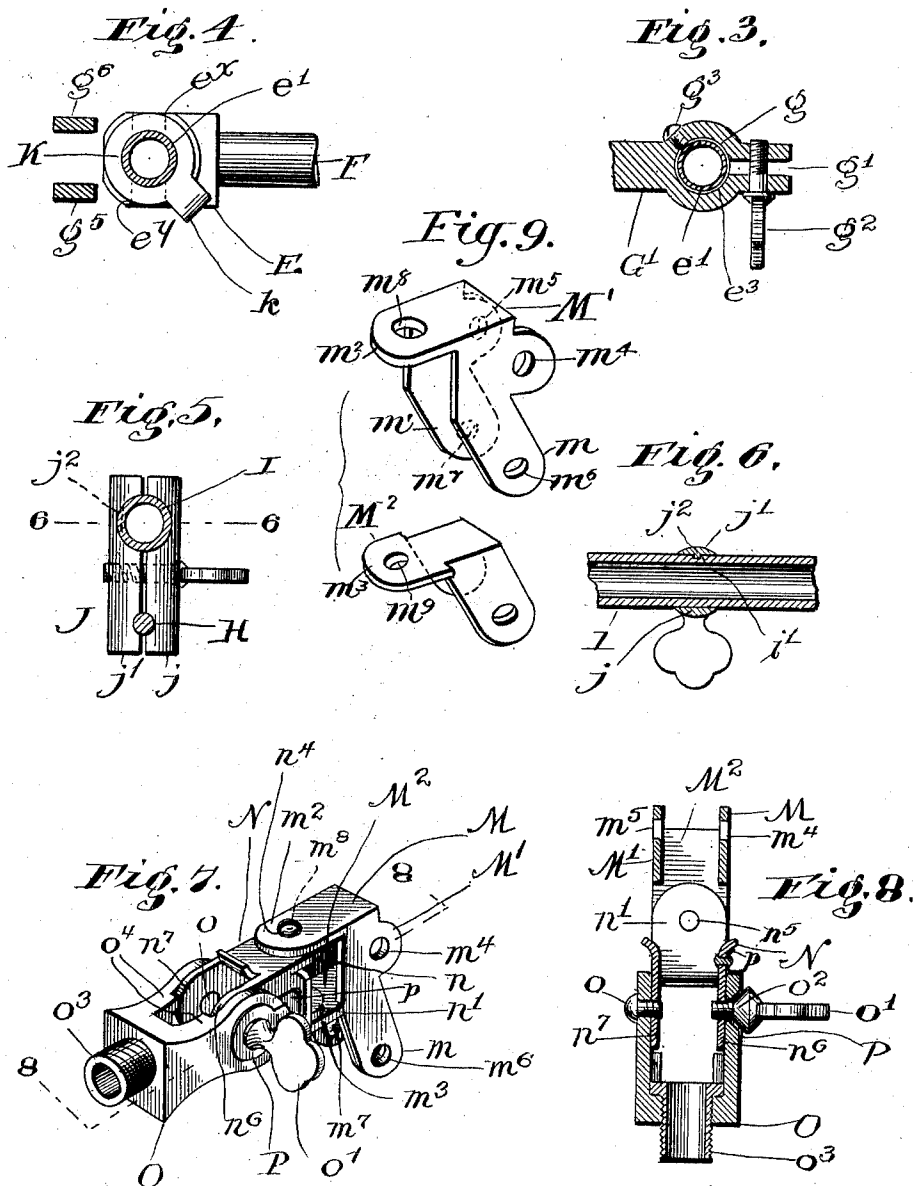
Inventor:
Theodor Smith
by H. V. Peters
Atty.

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Atty.

UNITED STATES PATENT OFFICE.

THEODORE SMITH, OF CHICAGO, ILLINOIS.

BRACKET FOR ELECTRIC LIGHTS.

SPECIFICATION forming part of Letters Patent No. 759,926, dated May 17, 1904.

Original application filed July 27, 1903, Serial No. 167,084. Divided and this application filed December 22, 1903. Serial No. 186,226. (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 Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Brackets for Electric Lights, of which the following is a specification.

My invention relates to certain improvements in brackets for electric lights, the object of which is to provide a bracket affording a universal adjustment of the position of the light with respect to its point of support, said bracket to contain an electric cord inclosing the same without endangering it in the movements of the joints of the bracket.

The invention consists in various features of novelty, which will appear in the detail description and which will be pointed out more definitely in the claims.

In the drawings, Figure 1 is a side elevation of the bracket shown as secured to a wall and carrying a lamp, socket, and shade. Fig. 2 is a longitudinal median section of the bracket, showing portions broken away to reduce the length of the figure. Fig. 3 is a horizontal section looking downward upon the plane 3 3 of Fig. 2 and disclosing the means for preventing the separation of the two members jointed together at that point. Fig. 4 is a horizontal section looking downward upon the plane 4 4 of the same figure and disclosing the means for preventing the continued rotation of one member upon the other which would be liable to break the cord. Fig. 5 is a detail end elevation of a clamp which bears upon the two parallel arms of the bracket. Fig. 6 is a horizontal section through said clamp looking down upon the plane 6 6 of Fig. 5. Fig. 7 is a perspective view of the universal joint between the free end of the bracket and the lamp-socket. Fig. 8 is a section in the line 8 8 of Fig. 7, and Fig. 9 is a perspective view of the two parts of the hollow knuckle at the end of the bracket.

Referring to the drawings, A represents the wall, upon which is secured two vertically-perforated clamps B C, provided with set-screws *b c*. In these clamps is secured a ver-

tical portion *d* of the curved lower member D of the first section of the bracket, the main portion of said member being shown as curved upward abruptly near said clamps at *d'* and then curved reversely at *d''*, thereafter gradually approaching the upper member, as at *d'''*, and being secured against rotation in a block E by means of a pin *e*. The upper member F of the first section of the bracket is shown as tubular and is also secured in the block E. Adjacent to the wall it is connected to the lower member D by means of a T-coupling *f*, fastened to the member D by a set-screw *f'*. The side of this T-coupling opposite the member F is slit at *f''*, (see Fig. 2,) so that the electric cord X may be inserted in line with the tubular member F. A perforated bushing G is threaded in the top of the T-coupling, and after the insertion of the cord in the bracket this bushing is slipped over the cord and screwed into the coupling, so as to complete the tubular form of the coupling. The block E is provided with a vertical tubular post *e'*, (see Fig. 2,) upon which the second section of the bracket is pivoted, and it should be noticed that the construction of the first as described gives it great rigidity. The lower member D securely prevents the joint from sagging, and by reason of its rigid connection with the block E and its vertical integral portion *d* it offers great resistance to twisting or springing of the joint when the second joint is arranged at right angles thereto. This first section is readily assembled with the wall-clamps B C by loosening the set-screw *f'* and separating the two members at this point sufficiently to permit the clamps to be slipped upon the vertical portion of the lower member. The block E is provided with an opening *e''* in line with the tubular member *f*, so that the cord may be slipped directly through said tubular member and extend from this opening before turning it upward through the post *e'*.

A pivotal connection upon a vertical axis between the first and second joints of the bracket is provided by placing upon the post *e'* a coupling or clamp G', perforated at *g* to receive the post and slit upon one side *g'* and pro-

vided with a clamping-screw g^2 , by means of which it may be tightened upon said post. A circumferential groove e^3 upon the post and a screw g^3 , (see Fig. 3,) working in said groove, prevents the lifting of the clamp from the post when otherwise loose and free to rotate thereon.

Upon the side of the clamp G' opposite the clamping-screw is a lug g^4 , and a short distance beneath it are two ears $g^5 g^6$, one of which is in view in Fig. 1, the other in Fig. 2, and a small portion of each in Fig. 4. Between these ears is pivoted one end of a rod H and upon the lug g^4 is pivoted one end of a tube I, by means of a forked end piece i , which embraces the lug. Said lug g^4 is perforated at g^7 to receive the cord X, and it should be noticed that the slit in the clamp G' is directly opposite this perforation, so that in threading the cord in the bracket access to the perforation is afforded in a direct line. The tube I and the rod H are arranged in parallel positions and both are embraced by a clamp J, consisting of two portions $j j'$, (see Fig. 5,) of which the part j' is preferably provided with a biting-rib j^2 . (Seen in dotted lines in Fig. 5 and shown in full lines in Fig. 6.) A notch i' is preferably provided in the tube I to receive the rib j^2 and prevent longitudinal movement of the clamp upon the tube. The friction of the parts is relied upon to prevent the longitudinal movement of the rod H through the clamp. By adjusting the clamping-screw the desired amount of resistance to such motion can be obtained, which should be just sufficient to support the load placed upon the bracket securely, so that by the application of slight force this arm of the bracket may be moved up or down.

The upper face of the block E is provided with two shoulders $e^x e^y$, and between said block and the clamp G' is placed a washer K, having a tongue k projecting radially and extending downward between the shoulders $e^x e^y$. Shoulders are also provided upon the ears $g^5 g^6$ of the clamp G' , extending downward sufficiently to engage with said tongue of the washer, but not quite reaching the shoulders upon the block E. Said shoulders upon the block E act as stops to limit the rotary movement of the washer with respect to the block, and the tongue of the washer serves as a stop which engages with the shoulders upon the ears $g^5 g^6$ to limit the rotation of the clamp with respect to the washer. All of said shoulders, as well as the tongue of the washer, are so proportioned as to permit the parallel arms I H to be swung around into the plane of the members F D, so as to give the parallel members a movement throughout a complete circle upon the first section of the bracket. This could not be accomplished with stops or shoulders merely upon the two portions of the joint. The material necessary to form the shoulders would necessarily reduce the extent of such

movement. As before stated, the washer forms a stop for one part of the joint and has a movement upon the other part of the joint sufficient to compensate for the necessary material of the stop.

The outer ends of the tube H and rod I are both pivoted to a hollow knuckle M, (see Fig. 7,) provided with two downwardly-projecting legs $m m'$, two horizontally-projecting ears $m^2 m^3$ opposite perforations $m^4 m^5$ in the central portion of the knuckle, similar perforations $m^6 m^7$ in the ends of the legs, and similar perforations $m^8 m^9$ in the ears. The tube I has a forked end piece i^2 , which is pivoted to the knuckle by means of two screws $i^3 i^4$. The end of the rod H is pivoted to the knuckle by means of a screw h , and the knuckle itself is preferably made of two parts $M' M^2$, as shown in Fig. 7, the part M^2 comprising the ear m^3 and the inner portions of the legs $m m'$ and being held in place by the pivotal connections with the other members. A second hollow knuckle N has two ears $n n'$, pivoted between the ears $m^2 m^3$ by means of screws $n^4 n^5$. It also has two ears $n^6 n^7$, extending in the opposite direction and arranged in planes at right angles to the ears $n n'$, and a socket-holder O is pivoted to said ears by means of screws $o o'$, the latter being provided with a coned head o^2 to serve as a clamping-screw to clamp the socket-holder against vertical oscillation. A washer P is interposed between the head of the screw o' and the socket-holder O, the head of the screw being constructed with a conical portion adapted to enter a corresponding depression in the side of the socket-holder, and the washer is provided with a downwardly-turned end piece p , which overhangs the end of the knuckle and is riveted in place on one of the ears of the hollow knuckle N, as seen in Fig. 8. This washer is preferably made in the first instance of soft brass and is not coned down at its center, the depression of the central portion thereof being effected by screwing up the screw o' . It is to be noted that the screw o' is screwed at its end into a portion of the knuckle N and that it is also in contact at its head with the washer P, which is not movable with respect to the knuckle. The screw therefore as the clamp-holder is moved about on its pivots is never compelled to slide on any surface, the clamping of the knuckle and socket-holder being effected merely by pressure of the washer against the socket-holder. In other constructions where a screw is used for the purpose of clamping two pivoted parts it is usual for the screw to be in contact at some point or other with both parts, so that as they are swung one upon the other there is considerable possibility of the screw being loosened. With this improved washer construction, the screw being mounted entirely in one part, no such accidental loosening can take place.

The socket-holder is provided with an ordinary hollow post ϕ^3 to support the lamp-socket and receive the electric cord.

It should be noticed that the knuckle N has a limited swing upon the knuckle M and that the socket-holder O has shoulders ϕ^4 , which limits its swing upon the knuckle N. The motion allowed to these knuckles is ample for the movement required for this joint, but it is not sufficient to permit of the straining of the wire or the breaking of the insulation.

Throughout the extent of the bracket the cord is guarded at every point against undue flexure and consequent wearing away in the use of the bracket. The middle joint, for instance, where the clamp G' of the second section turns upon the post ϕ of the first section, is offset to a sufficient extent to give the vertical portion of the cord the necessary length to avoid too sharp a twist as the two sections swing one upon the other.

In this application I have claimed only those parts of my improved bracket which relate to the cord-supporting device therein, the general bracket construction being claimed in an application pending in the Patent Office filed July 27, 1903, and allotted Serial No. 167,084. This application, with respect to most of its claims, is a division of that application. The structure herein shown, however, differs from that in the application referred to in two features: first, in the fact that the knuckle N is in this device made of sheet metal, while in the device of the application referred to it is shown as cast, and in the further feature that the washer P herein shown and described is not shown in the original application. All other parts, however, of this device are fully and completely described and illustrated in the original application.

I recognize the fact that great variation in construction is possible and that the different portions of the bracket herein described are capable of use with other members differing widely from those of the complete structure herein described. I do not limit myself, therefore, to the specific construction shown nor to the combinations of one part with another, except as the same are essential to the inventions set forth in the following claims.

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

1. In an electric bracket, the combination with a tubular member arranged to receive an electric cord, of an end piece for said tubular member having a bore transverse to that of the tubular member; an opening opposite the end of the tubular member extended to the end of the transverse bore, and a bushing secured to the end piece at the end of the transverse bore and completing the circle thereof at said opening.

2. In an electric-light bracket, the combination with two cord-receiving tubular portions at right angles to each other, and rela-

tively immovable with respect to each other in any angular extent, of a connecting-block secured upon both of said tubular portions, having an opening completely through it, in line with one of said tubular portions to facilitate the threading of the cord.

3. In a joint for an electric-light bracket, the combination with the supporting-post ϕ , of the clamp, G', having a slit and a clamping-screw upon one side, a longitudinal bore receiving the post and extending entirely through the coupling, a transverse bore, g^1 , and a tubular member pivoted to said clamp, substantially in line with the bore, g^1 .

4. In an electric-light bracket, the combination with a suitable support therefor, of a bracket-section comprising the tube, I, having forked end pieces, the rod, H, parallel with said tube, means for clamping the rod and the tube against relative longitudinal movement, and connecting-pieces for said rod and said tube pivoted at opposite ends thereto and perforated in line with the tube.

5. In an electric-light bracket, a section adjacent to the light comprising a tube, a rod approximately parallel therewith and in the same vertical plane, connecting-pieces pivoted to said tube and said rod at the opposite ends thereof and perforated in line with said tube, means for clamping said tube and said rod against relative longitudinal movement, a hollow knuckle pivoted to the end piece adjacent to the lamp upon a vertical axis, a hollow socket-holder pivoted to said knuckle by means of a horizontal pivot, and means for clamping the socket-holder and the knuckle against relative angular movement.

6. In a section for electric-light brackets, the combination with a parallel rod and tube, I, H, of a connecting-piece comprising an outer member, M', and an inner member, M², the member, M', being pivoted to the tube, both members having downwardly-projecting legs pivoted to the rod, and each member having an ear, the two ears being parallel and opposite and affording means for pivoting a supporting device, the two members being held together by their pivotal connections with the rod and supporting device.

7. In a device of the class described, the combination with a suitable supporting hollow knuckle, of a second hollow knuckle pivoted to said first knuckle, and a hollow socket-holder pivoted to said second knuckle, the pivotal lines of the first knuckle and the socket-holder upon the second knuckle being at right angles to each other.

8. In a device of the class described, the combination with a suitable supporting-knuckle having projecting ears, of a second knuckle having ears at its opposite ends, the ears at the opposite ends thereof being in planes at right angles to each other, the ears at one end being pivoted to the ears upon said supporting-knuckle, and a socket-holder having

ears pivoted to the remaining set of knuckles upon said second knuckle.

9. In a device of the class described the combination with two lapped members arranged to be pivotally moved with respect to each other, of a set-screw having a coned head screwed into one of said members and passing through a coned perforation in the other, said set-screw forming the pivot for said two members, and a washer rigidly secured to that one of said members into which said set-screw

is screwed, and having a conical portion confined between the conical opening and the conical head of the set-screw.

In witness whereof I have signed the above application for Letters Patent, at Chicago, in the county of Cook and State of Illinois, this 8th day of December, A D. 1903.

THEODORE SMITH.

Witnesses:

CHAS. O. SHERVEY,
RUSSELL WILES.