

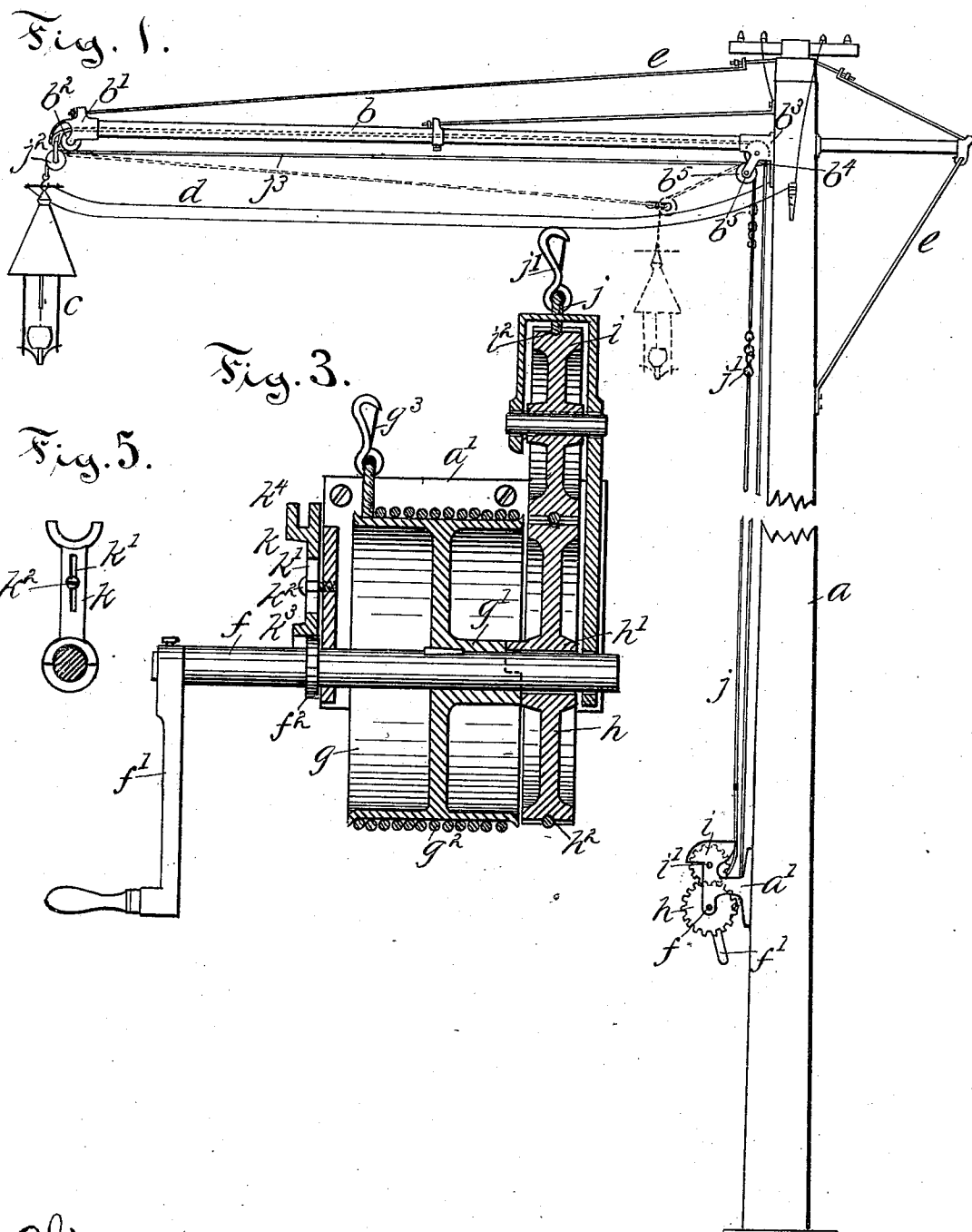
(No Model.)

2 Sheets—Sheet 1.

J. J. RENEHAN.
ELECTRIC LAMP SUPPORT.

No. 510,486.

Patented Dec. 12, 1893.



Witnesses:

Joseph Arthur Cantin.
Arthur B. Jenkins.

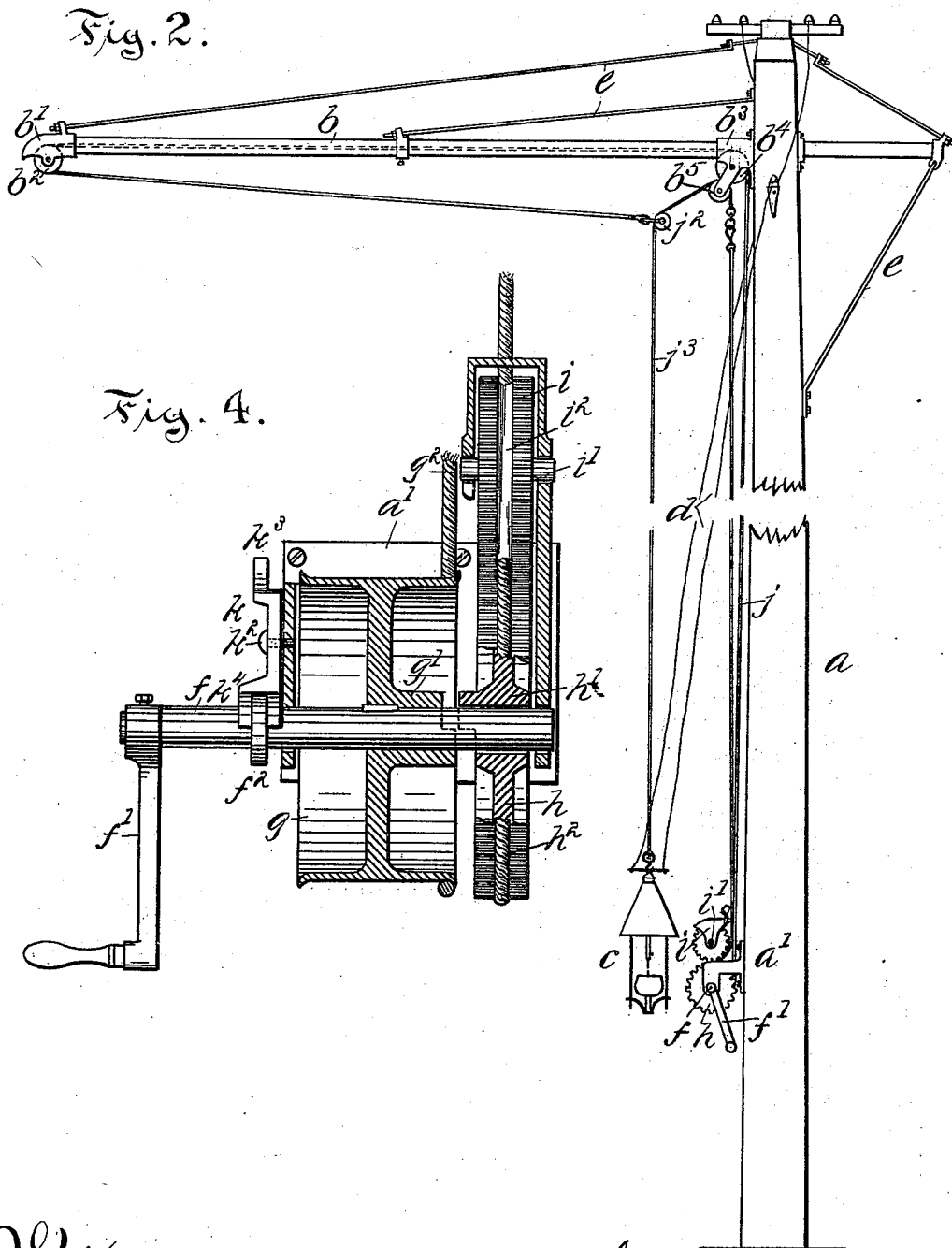
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UNITED STATES PATENT OFFICE.

JAMES J. RENEHAN, OF NEW BRITAIN, CONNECTICUT.

ELECTRIC-LAMP SUPPORT.

SPECIFICATION forming part of Letters Patent No. 510,486, dated December 12, 1893.

Application filed March 20, 1893. Serial No. 466,766. (No model.)

To all whom it may concern:

Be it known that I, JAMES J. RENEHAN, of New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Electric-Lamp Supports, of which the following is a full, clear, and exact description, whereby any one skilled in the art can make and use the same.

10 My invention relates to the class of supports generally used for enabling an electric lamp to be suspended over a road-way the mast being erected at one side of the road and the lamp hanging from the outer end of an arm that projects over the road-way, and the object of my invention is to provide a mast and arm of this class with means for suspending a lamp that shall enable the latter to be moved in and out along the arm and lowered to a position easy of access to the trimmer or line-
20 man without changing the position of the arm.

To this end my invention consists in the details of the several parts comprising the lamp support and means for changing its position and in the combination of such parts as more particularly hereinafter described and pointed out in the claims.

Referring to the drawings: Figure 1 is a detail view in side elevation of a lamp support embodying my invention. Fig. 2 is a detail view in side elevation of a lamp support illustrating the lamp in its inner and lowered position. Fig. 3 is a detail view on enlarged scale in elevation of the winch showing the position of the parts for moving the lamp horizontally. Fig. 4 is a detail view in elevation of the winch showing the position of the parts of the hoisting apparatus to enable the lamp to be raised and lowered. Fig. 5 is a detail view showing the mechanism for retaining the raising and lowering mechanism in or out of engagement with each other.

45 In many localities the use of the trolley system of electric railroads requires the use of a large number of wires that overlie the street surface at a convenient level below that at which an electric light is usually suspended. In such cases it is desirable to use a mast having a rigid projecting arm and to provide
50 means for moving the lamp horizontally from

the mast outward to its proper position and to provide means for raising and lowering the lamp in a position near the mast as compared with the old method of raising and lowering a pivot arm.

In the accompanying drawings the letter *a* denotes a mast, and *b* an arm projecting from the mast and adapted to support on its outer end an electric lamp *c*, the line wires *d* being fastened to the mast and connected to the lamp in any usual manner. Braces *e* of any ordinary form and construction may be employed as an aid in strengthening parts and in holding the arm *b* in its extended position. The arm *b* is preferably hollow or concave as to its under surface and on the outer end is pivoted in a hood *b'* a pulley *b²* and on the inner end of the arm within the hood *b³* is pivoted the pulley *b⁴*; in a downward projecting arm from this hood is pivoted a pulley *b⁵*. To the lower part of the mast *a* is secured a bracket *a'* and in this bracket is mounted the shaft *f* having secured to one end the crank *f'* by means of which the shaft may be turned. There is also secured to this shaft, as by keying, the drum *g* and on the opposite end of the shaft from the crank *f'* is rotarily mounted the gear *h*. The drum *g* is preferably hollow as to a portion thereof and a portion of the hub *g'* is cut away to form an angular locking recess, the hub *h'* of the gear *h* being also cut away to form a corresponding locking recess to engage with that on the hub *g'*. (See dotted lines in Figs. 3 and 4.) It will be seen from this construction that when the shaft *f* is moved to the outer limit of its play the drum *g* may be turned independently of the gear *h*, the shaft revolving freely within said gear, but when the shaft *f* is moved to the opposite limit of its play the locking sockets on the hubs *g'* and *h'* will engage each other causing the gear *h* to be turned with the shaft *f* through the medium of the clutch as described. The upper part of the bracket *a'* is formed into the shape of a hood, and in each side thereof is mounted one end of the axis *i'* of the gear *i* that is in mesh with the gear *h*. In each of the gears *h* and *i* are formed annular grooves *h²* and *i²* respectively. A section *j* of an endless band, having secured thereto at one end a snap-hook or similar fastening device *j'*, passes downward

back of the gear i and between the gears i and h , through the grooves formed therein to the front of the gear h , around the gear h and up back of said gear to the arm b , passing around the pulley b^4 , through the hollow arm b , over the pulley b^2 at the outer end thereof, at which point there is secured to the section the pulley j^2 . (See Fig. 1 of the drawings.) In its normal position the lamp c is secured at the outer end of a section j^3 of the endless band adjacent to the pulley b^2 . This section j^3 of the band passes from the lamp secured thereto over the pulley j^2 , around the pulley b^5 and is secured at its lower end to the section j of the band that passes through a slot formed in the upper part of the bracket or hood located thereon, this slot being of such size that the fastening device j' cannot pass therethrough but will catch upon the outside and prevent the section j^3 from being drawn any farther downward. This band is of such size that in passing between and around the gears h and i a frictional contact is obtained so that by revolving the gears the band will be moved therewith. It will be seen from this construction that a practically endless band is provided, and that by the movement of this band the lamp c will be maintained in the same horizontal position at any point in its movement along the arm b .

Around the drum g is wound a rope g^2 , one end being secured to the drum and the other end bearing a snap-hook g^3 or like device, that may be secured to the drum in any suitable manner and prevent the unwinding of the rope upon the rotation of the shaft and drum in operating the other parts of the device.

On the side of the bracket a' is located a device for holding the shaft against lengthwise movement in its bearings, maintaining the hoisting and horizontally moving devices in engagement with each other. This consists of a retaining slide k having the slot k' through which passes the screw k^2 for securing the slide to the bracket a' . This retaining slide k is so secured to the bracket that it may be freely rotated on the screw k^2 and also have a longitudinal movement thereon through the medium of the slot k' . Each end of the slide k is so formed as to overlie and partially surround the shaft f , and on the inner surface of the end k^3 , adjacent to the bracket, is formed a recess for the reception of the collar f^2 that is secured to the shaft f . This serves as a means for maintaining the shaft f at the inner limit of its play. In the opposite end k^4 of this retaining slide k is provided a recess located farther away from the bracket a' than is the recess on the end k^3 , this recess also being adapted to engage the collar f^2 and maintain the shaft f at the outer limit of its play.

The operation of the device is as follows: The lamp being in its normal position, as shown in Fig. 1 of the drawings, and the drum and gear being in engagement, as shown in Fig. 3 of the drawings, a turn of the shaft f

by means of the crank f' causes the lamp to be moved horizontally inward along the arm b to a position adjacent to the arm and to the mast a . This movement has drawn the hook j' down next to the grooved gears. The hook g^3 on the end of the rope g^2 is then engaged with the hook j^3 and the hook j' disengaged therefrom. The retaining slide k is then moved upward, the shaft f pulled to the outer limit of its play, the retaining slide k turned opposite to its former position and engaged with the collar f^2 , as shown in Fig. 4 of the drawings. A turn of the shaft f will now rotate the drum independently of the gears and unwind the rope g^2 from the drum, thus paying out the section j^3 (which is then used as part of the hoist) and lowering the lamp to the position shown in Fig. 2 of the drawings. By a reversal of the operation just described the lamp is again brought to its normal position at the outer end of the arm b .

The band supporting the lamp has been termed in the description an endless band although divided into sections and thus having several ends, but the term endless has been used to denote the band when the ends of the sections are so connected as to enable the band to be moved as a whole and thus forming a practically continuous endless band in the sense that a belt is thus formed which serves to move the lamp horizontally.

I claim as my invention—

1. In an electric lamp support, in combination, a mast, a projecting arm extending therefrom, an endless band borne in operative relation to the mast and arm and supporting an electric lamp, the endless band having a separable section forming a part of the hoist whereby the lamp may be raised and lowered, all substantially as described.

2. In an electric lamp support, in combination, a mast, a projecting arm extending therefrom, a separable sectional endless band borne in operative relation to the mast and arm, the end of one section being secured to the opposite section and supporting an electric lamp and the other end adapted to be secured to a hoist whereby the lamp may be raised and lowered, all substantially as described.

3. In an electric lamp support, in combination, a mast, a projecting arm extending therefrom, a series of pulleys borne on the mast and arm, an endless band borne on the pulleys and supporting an electric lamp, the endless band having a detachable separable section forming a part of the hoist whereby the lamp may be raised and lowered, all substantially as described.

4. In an electric lamp support, in combination, a mast, a projecting arm extending therefrom, a series of pulleys borne on the mast and arm, a separable sectional endless band borne on the pulleys the end of one section bearing a means of engagement with the end of the second section, the end of the second

section supporting an electric lamp and in sliding engagement with the end of the first section, and the opposite end of the second section adapted to be secured to an end of the first section and to a hoist, and the hoist whereby the lamp may be raised and lowered, all substantially as described.

5. In an electric lamp support in combination, a mast, a projecting arm extending therefrom, an endless band borne in operative relation to the mast and arm and supporting an electric lamp, the endless band having a separable section forming a part of the hoist whereby the lamp may be raised and lowered, and the means substantially as described for imparting movement to the endless band, all substantially as described.

6. In combination in an electric lamp support, a mast, a projecting arm extending therefrom, a sectional endless band borne in operative relation to the mast and arm, the band having a detachable section forming a part of the hoist whereby the lamp may be raised and lowered, the gears for imparting movement to the band, the drum borne on a shaft and adapted to be thrown into or out of engagement with the gears, and the band secured to the drum and adapted to engage the detachable section of the endless band, and means for revolving the drum, all substantially as described.

7. In combination in an electric lamp support, a mast, a projecting arm, a sectional endless band supported in operative relation to the mast and arm and bearing an electric lamp, the grooved gears engaging said band, and the hoisting band secured to the drum whereby the lamp may be raised and lowered, all substantially as described.

8. In combination in an electric lamp support, a mast, an arm supported on the mast, an endless band bearing an electric lamp supported in operative relation to the mast and arm, a shaft borne on the mast, a gear rotarily mounted on the shaft and adapted to engage the endless band, the drum secured to the shaft, and the hoisting band secured to the drum and adapted to be attached to the lamp bearing section of the endless band, all substantially as described.

9. In combination in an electric lamp support, a mast, an arm supported on the mast, an endless band bearing an electric lamp supported in operative relation to the mast and arm, a shaft borne on the mast, a gear rotarily mounted on the shaft and adapted to engage the endless band, a second gear in en-

gagement with the first gear and also in contact with the endless band, the drum secured to the crank shaft and the hoisting band borne on the drum and adapted to be attached to the lamp bearing section of the endless band, all substantially as described.

10. In combination in an electric lamp support, a mast, an arm supported on the mast, an endless band bearing an electric lamp supported in operative relation to the mast and arm, a shaft borne on the mast, a support for the endless band, adapted to give to the band endwise movement, supported rotarily on the shaft, the hoisting band borne on the drum and adapted to be secured to the hoisting section of the endless band, and means for holding the band moving and hoisting devices in or out of engagement, all substantially as described.

11. In combination with the shaft for imparting movement to the endless band of an electric lamp support, a collar secured to the shaft, and the retaining slide provided with recesses adapted to engage the collar in the different positions of the shaft, all substantially as described.

12. In combination with the shaft for imparting movement to the endless band of an electric lamp support, a collar secured to the shaft, a slide supported adjacent thereto, the slot extending endwise of the slide, the headed pin passing through the slot, and the locking recesses in the ends of the slide adapted to engage the shaft in its different positions lengthwise of the slide, all substantially as described.

13. In combination in a hoisting device for an electric lamp, a bracket, a longitudinally reciprocating shaft located within the bracket, a drum secured to said shaft, the clutch mechanism, a pulley loosely mounted on the shaft and held against sidewise movement in the bracket whereby the clutch mechanism is operated, all substantially as described.

14. In combination in an electric lamp support, a mast, an arm supported on the mast, a sectional endless band borne in operative relation to the mast and arm, the band having a detachable section forming a part of the hoist whereby the lamp may be raised and lowered, and the pulley secured to the ends of the opposite section and having a movement independent of any other part of the section, all substantially as described.

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