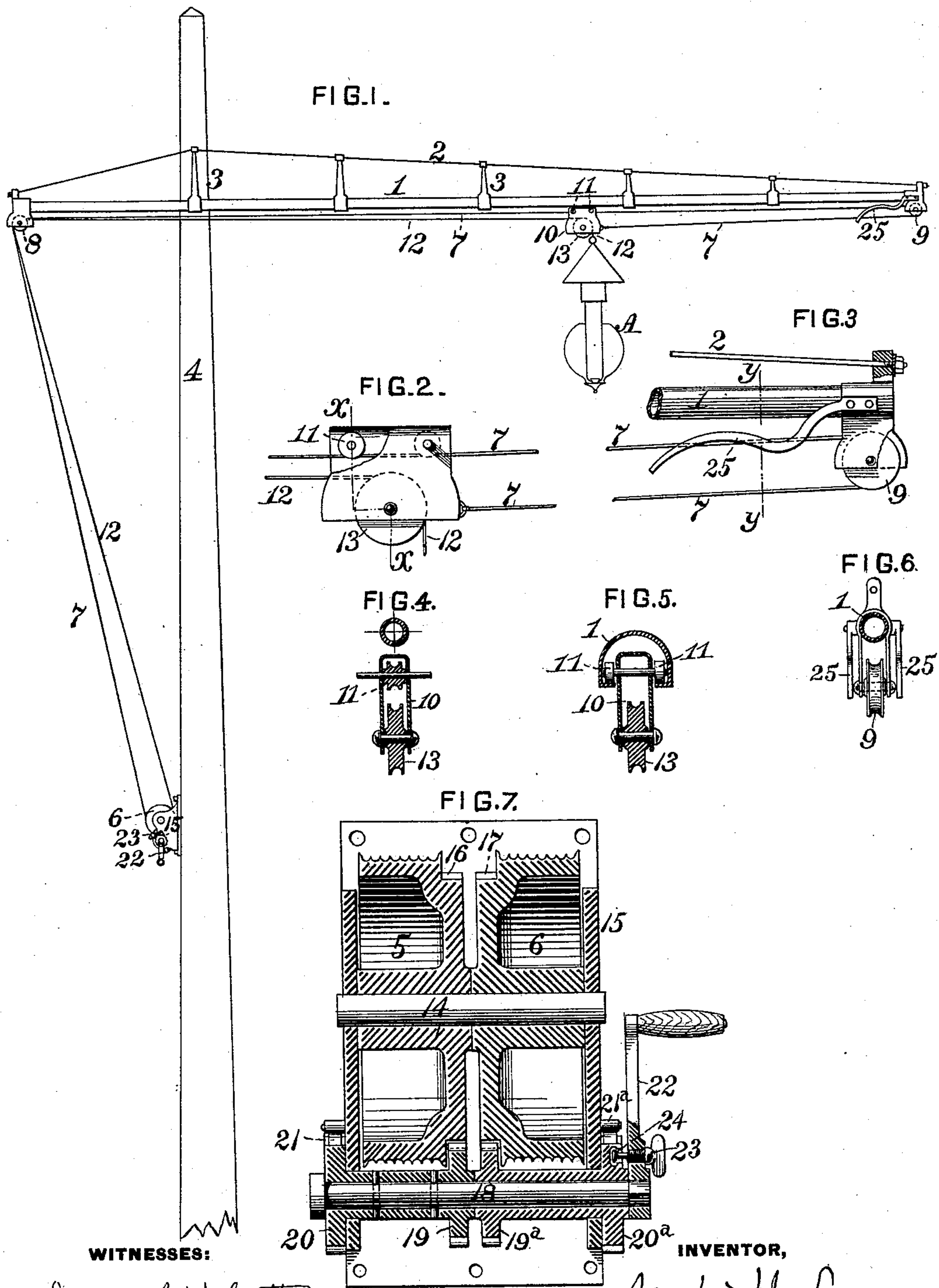


(No Model.)

A. H. LUCAS.  
SUPPORT FOR LAMPS.

No. 483,071.

Patented Sept. 20, 1892.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## SUPPORT FOR LAMPS.

SPECIFICATION forming part of Letters Patent No. 483,071, dated September 20, 1892.

Application filed October 27, 1890. Serial No. 369,402. (No model.)

*To all whom it may concern:*

Be it known that I, AUSTIN H. LUCAS, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented or discovered a certain new and useful Improvement in Supports for Lamps, of which improvement the following is a specification.

The invention described herein relates to certain improvements in jibs or arms for electric lamps. These jibs or arms are secured at a suitable height to a mast located along the curb of a street and project out for a greater or less distance over the road, preferably to a point about the middle of the street.

The object of this invention is to provide for the shifting of the lamp to or toward the mast before it is lowered to the ground, thus avoiding all danger or liability of accident.

In general terms the invention consists in the construction and combination of mechanical devices or elements, all as more fully hereinafter described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a view in elevation of a mast having my improved jib attached thereto. Fig. 2 is a view in elevation, on an enlarged scale, of the trolley. Fig. 3 is a detail view of the outer end of the jib. Fig. 4 is a sectional view, the plane of section being indicated by the line *x x*, Fig. 2. Fig. 5 is a similar view showing a modification of the construction of the trolley-support. Fig. 6 is a sectional view, the plane of section being indicated by the line *y y*, Fig. 3; and Fig. 7 is a sectional elevation of the winding-drums.

In the practice of my invention the jib, consisting of the metal tube 1, the truss-rod 2, and the posts 3, is secured in any suitable manner to the mast 4 at any desired height from the ground. At a suitable distance from the ground two drums 5 and 6 are attached to the mast, and to one of said drums, as 6, is attached one end of a rope 7, preferably formed of wire, said rope passing up over a pulley 8, loosely mounted on the inner end of the jib, thence along said jib and around a pulley 9, loosely mounted in the outer end of the jib, and has its end attached

to the trolley 10. The trolley 10 is provided, as shown in Fig. 2, with loosely-mounted friction-rolls 11, which rest upon the portion of the rope 7 between the pulleys 8 and 9, as shown in Figs. 1 and 2. A rope 12 has one end attached to the drum 5 and, passing over a loosely-mounted pulley arranged alongside the pulley 8 and a pulley 13, loosely mounted in the trolley, has its opposite end attached to the lamp A.

The drums 5 and 6 are loosely mounted on a shaft 14, having its end secured in the side pieces of the frame 15. These drums are preferably formed with grooves in their surface and have gear-wheels 16 and 17, either formed integral therewith or so connected to said drums that the latter will rotate with them. On a shaft 18, arranged parallel with the shaft 14, is secured a pinion 19, intermeshing with the gear-wheels 16. This pinion is provided with a hub extending along the shaft to a point outside of one of the side pieces of the frame 15, and on the outer end of said hub is formed a ratchet-wheel 20, with which a pawl 21 engages, as shown in Fig. 7. A similar construction of pinion 19<sup>a</sup> and hub and ratchet-wheel 20<sup>a</sup> is mounted loosely on the opposite end of the shaft 18, said pinion intermeshing with the gear-wheel 17 of the drum 6 and the ratchet-wheel being engaged by a pawl 21<sup>a</sup>. When it is desired to rotate the pinion 19<sup>a</sup>, which, as heretofore stated, is loosely mounted on the shaft 18, the crank 22, which is provided with a squared socket engaging the similarly-shaped end of the shaft 18, is locked to the ratchet-wheel 20<sup>a</sup> by means of a threaded pin 23, screwing through the crank and having its outer end adapted to engage the ratchet-wheel, as shown in Fig. 7. It is preferred to form a head or button 24 on the end of the pin, said button engaging an under-cut recess in the ratchet-wheel, as such construction will prevent the crank from sliding off the end of the shaft.

As will be readily understood by reference to Fig. 7, both drums will be rotated in the same direction, and by reference to Fig. 1 it will be seen that the ropes are so arranged on the drums that when the latter are rotated



one rope will be wound on one drum while the other rope is being unwound from the other drum.

In describing the operation of my device it will be assumed that the operator is desirous of shifting the lamp A toward the mast and then lowering it to the ground. To effect this the ratchet-wheel 20<sup>a</sup> is connected to the crank by screwing in the pin 23. Then the crank and with it both drums are so rotated that the rope 12 will be wound up on the drum 5 and the rope 7 unwound from the drum 6, thereby drawing the trolley 10 in toward the mast. During this operation the ropes 7 and 12 form practically one continuous rope. After the lamp has been thus drawn in the pin 23 is disengaged from the ratchet-wheel 20<sup>a</sup>, which, together with the drum 6, is held as against rotation by the pawl 21<sup>a</sup>. The pawl 21 is next raised from engagement with the ratchet-wheel 20 and the drum 5 is rotated so as to unwind the rope 12 therefrom, thus lowering the lamp A to the ground. After the lamp has been trimmed the drum 5 is rotated so as to wind up the rope 12 until the lamp is raised up to the trolley 10, when the ratchet-wheel 20<sup>a</sup> is again locked to the crank, which is then turned so that the rope 7 will be wound on the drum 6, while the rope 12 is equally unwound from the drum 5, thereby shifting the trolley and lamp to the outer end of the jib or arm.

It will be observed that in the construction shown in Fig. 1 the portion of the rope 7 between the pulleys 8 and 9 serves as a support for the trolley. In order to relieve the rope 7 from the weight of the trolley when shifted to the outer end of the jib, spring-arms 25 are secured on opposite sides of the case of the pulley 9, and the journals of one or both of the friction-rolls 11 are so extended as to ride up on the spring-arms when the trolley is drawn out. If desired, the tube 1 forming the jib may be longitudinally slotted and the edges of the slot so shaped as to form ways for the friction-rolls 11, which in such case are arranged outside of the trolley-case, as shown in Fig. 5.

The spring-arms 25 are so constructed that in case either one or both of the ropes break or the pawls are displaced the trolley will be sustained and held in position by said arms.

No claim is made herein, broadly, to a trolley mounted on an endless rope passing around guide-pulleys arranged at opposite ends of a jib, in combination with arms at the outer end of the jib for supporting the trolley.

I am aware that it is old, as shown in Patent No. 249,449, to attach the opposite ends of a cord to a movable trolley, said cord pass-

ing around guide-pulleys located on opposite sides of a street and a guide-pulley accessible from the ground, thereby forming an endless cord for shifting the trolley; and it is also old in such an arrangement to connect the lamp to a cord passing over a pulley on the trolley and a guide-pulley on one side of the street, the opposite end of the cord being accessible from the ground.

I claim herein as my invention—

1. The combination of a mast and a jib with a trolley movable along the jib, two drums capable of rotation together or independently of each other, mounted in suitable bearings on the mast, and two ropes connected one to each of said drums in such manner that when the drums are rotated in the same direction one rope will be wound on its drum and the other rope unwound from its drum, one of said ropes passing around guides on the jib and connected to the trolley and the other rope passing around a guide on the jib at or near the mast and a guide on the trolley and connected to the lamp, substantially as set forth.

2. The combination of a mast and jib with a trolley movable along the jib, two drums mounted in suitable bearings on the mast, one of said drums being rotatable independently of the other, a rope connected to the independently-rotatable drum and passing over a guide at or near the mast and a guide on the trolley and connected to the lamp, and a rope connected to the other drum and passing over guides on the jib and connected to the trolley, substantially as set forth.

3. The combination of a mast and jib with a trolley movable along the jib, two rotatable drums mounted in suitable bearings on the mast, and two ropes connected to the drums and arranged as described, one of said ropes serving as a support for the trolley, substantially as set forth.

4. The combination of a mast and jib, a trolley movable along the jib, two drums mounted in suitable bearings on the mast and connected to gear-wheels, a rotatable shaft, pinions arranged on said shaft and intermeshing with the gear-wheels, one of said pinions keyed to the shaft, the other pinion adapted to be connected and disconnected from the shaft, and two ropes connected and arranged substantially as described.

In testimony whereof I have hereunto set my hand.

AUSTIN H. LUCAS.

Witnesses:

DARWIN S. WOLCOTT,  
R. H. WHITTLESEY.