(No Model.)

J. DEMPSEY.

MEANS FOR SUPPORTING AND MOVING ELECTRIC LAMPS.

No. 554,245. Patented Feb. 11, 1896.

Fig. 1.

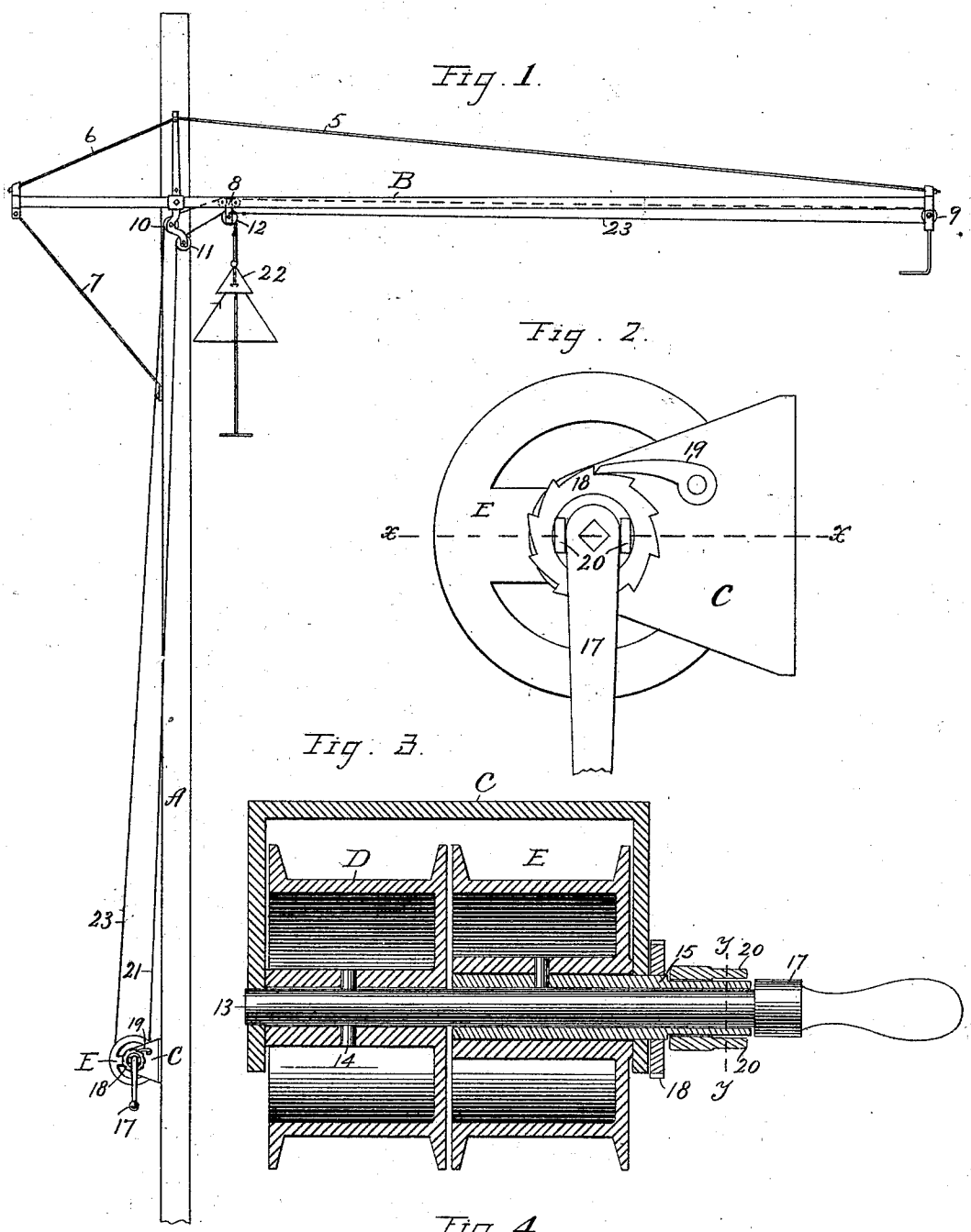
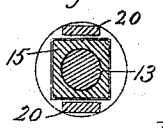


Fig. 2.

Fig. 3.

Fig. 4.



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MEANS FOR SUPPORTING AND MOVING ELECTRIC LAMPS.

SPECIFICATION forming part of Letters Patent No. 554,245, dated February 11, 1896.

Application filed April 1, 1895. Serial No. 543,961. (No model.)

To all whom it may concern:

Be it known that I, JAMES DEMPSEY, a citizen of the United States, residing at Berlin, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Means for Supporting and Moving Electric Lamps, of which the following is a specification.

My invention relates to improvements in means for supporting and moving electric lamps, and the main objects of my improvements are simplicity and economy in construction and efficiency and convenience in operation.

In the accompanying drawings, Figure 1 is a side elevation of my lamp-support and mechanism for moving the lamp. Fig. 2 is a detached side elevation, on a larger scale, of my winding-drums and their appurtenances. Fig. 3 is a sectional view of the same on the line *x x* of Fig. 2, some of the parts being shown in elevation. Fig. 4 is a sectional view on the line *y y* of Fig. 3.

A designates the mast or pole, and B the principal member of the arm supported by suitable truss or brace rods 5 6 7, all of which may be of any ordinary construction. The member B is preferably in the form of a slotted tube within which the lamp carriage or trolley 8 may be guided to and from the pole. At the outer end of the arm there is a pulley 9, and at the pole end there are two pulleys 10 11, and the lamp carriage or trolley 8 is also provided with a pulley 12. Lamp-supports in which the lamp is moved along the arm in suitable guides to and from the pole and then raised and lowered when near the pole are old and well known, and my improvements while belonging to this known class of lamp-supports reside more particularly in the operating-drums and parts immediately connected therewith, and therefore for the purposes of my invention any suitable pole and trolley-guide will be considered the full equivalent of those herein shown.

C designates the frame or bracket on which my drums D E and their shaft 13 are mounted. The drum D is made fast on the shaft 13 in any proper manner—as, for example, by the pin 14—so that said drum must of necessity move with said shaft. The drum E is in like manner made fast on the sleeve 15 by a pin 16, so that said drum can move only with said sleeve, while the sleeve is free to rotate on the shaft 13 or have the shaft rotate within said sleeve, whereby the drum E may rotate with said shaft or independently thereof, as may be desired. For convenience of manufacture I make the sleeve of a separate piece; but inasmuch as it is rigid with the drum E a drum and sleeve made in one piece would be an equivalent for the drum and sleeve herein shown. The sleeve 15 projects beyond the bracket or frame C at the crank end of the shaft, the crank 17 being so fitted that it must rotate with said shaft. A ratchet-wheel 18 is made fast on this sleeve and is engaged by a pawl 19. Between the ratchet-wheel and the crank 17 there is a sliding clutch or collar having two clutch arms or dogs 20 for engaging the hub of the crank when desired. The clutch and portion of the sleeve over which it slides are fitted to each other so as to prevent independent rotation—as, for example, by squaring that portion of the sleeve and making the hole through the hub of the clutch of a corresponding form, as shown in Fig. 4. The cable 21 has one end made fast to the fast drum D, extends up over the pulleys 11 and 12 and its other end is secured to the lamp 22. The cable 23 has one end secured to the loose drum E, passes up over the pulley 10, over a guide on the lamp trolley or carriage, along the arm to and over the pulley 9 at its outer end and back to the lamp.

When the lamp is in the position shown in Fig. 1, it may be lowered by turning the crank in the direction to unwind the cable 21 from the drum D, the drum E meanwhile remaining stationary. It may be raised by reversing the motion of said crank and drum D. The clutch may then be moved from the position shown in Fig. 3 up against the crank to engage its clutch-arms therewith and thereby cause both drums to necessarily rotate together. Then by turning the crank in the direction to wind the cable 23 upon the drum E, and at the same time unwind the cable 21 from the drum D, the lamp will be drawn to the outer end of the mast-arm. Inasmuch as the two drums must be revolved in opposite directions for unwinding, the lamp cannot

fall, because all tendency of the drum to revolve in the direction to lower the lamp will be resisted by the reversely-wound cable of the other drum so long as said drums are secured together.

In order to bring the lamp back again to its position near the pole for lowering, the pawl 19 must be disengaged from the ratchet-wheel while the clutch is still engaged with the crank. Said crank is then turned in the direction to carry its ratchet-wheel backward, thereby winding the cable 21 upon the drum D and unwinding the cable 23 from the drum E, thus drawing the lamp-trolley and lamp back again into the position shown in Fig. 1. The pawl 19 may now be again thrown into engagement with the ratchet-wheel, the clutch disengaged and the lamp lowered and raised by rotating the drum D alone, as before described.

I claim as my invention—

1. A lamp supporting and moving mechanism consisting of a driving-shaft, a fast drum mounted to rotate with said shaft, a loose drum, a ratchet-wheel rigidly connected with said loose drum, a rigidly-connected projecting sleeve end outside of said ratchet-wheel and mounted to have said shaft freely rotate therein, a driving-crank on said shaft and a clutch mounted on said projecting sleeve end for locking said loose drum and crank together against independent movement in either direction and for disconnecting them when desired, substantially as described and for the purpose specified.

2. A lamp supporting and moving mechanism consisting of a driving-shaft, a fast drum mounted to rotate with said shaft, a loose drum with projecting sleeve end mounted on said shaft with the shaft free to rotate therein, a crank on said driving-shaft, a sliding clutch on said sleeve end for connecting and disconnecting said loose drum and crank, and devices for preventing the clutch from rotating independently of said sleeve end while it is permitted to slide in the longitudinal direction of the driving-shaft, substantially as described and for the purpose specified.

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