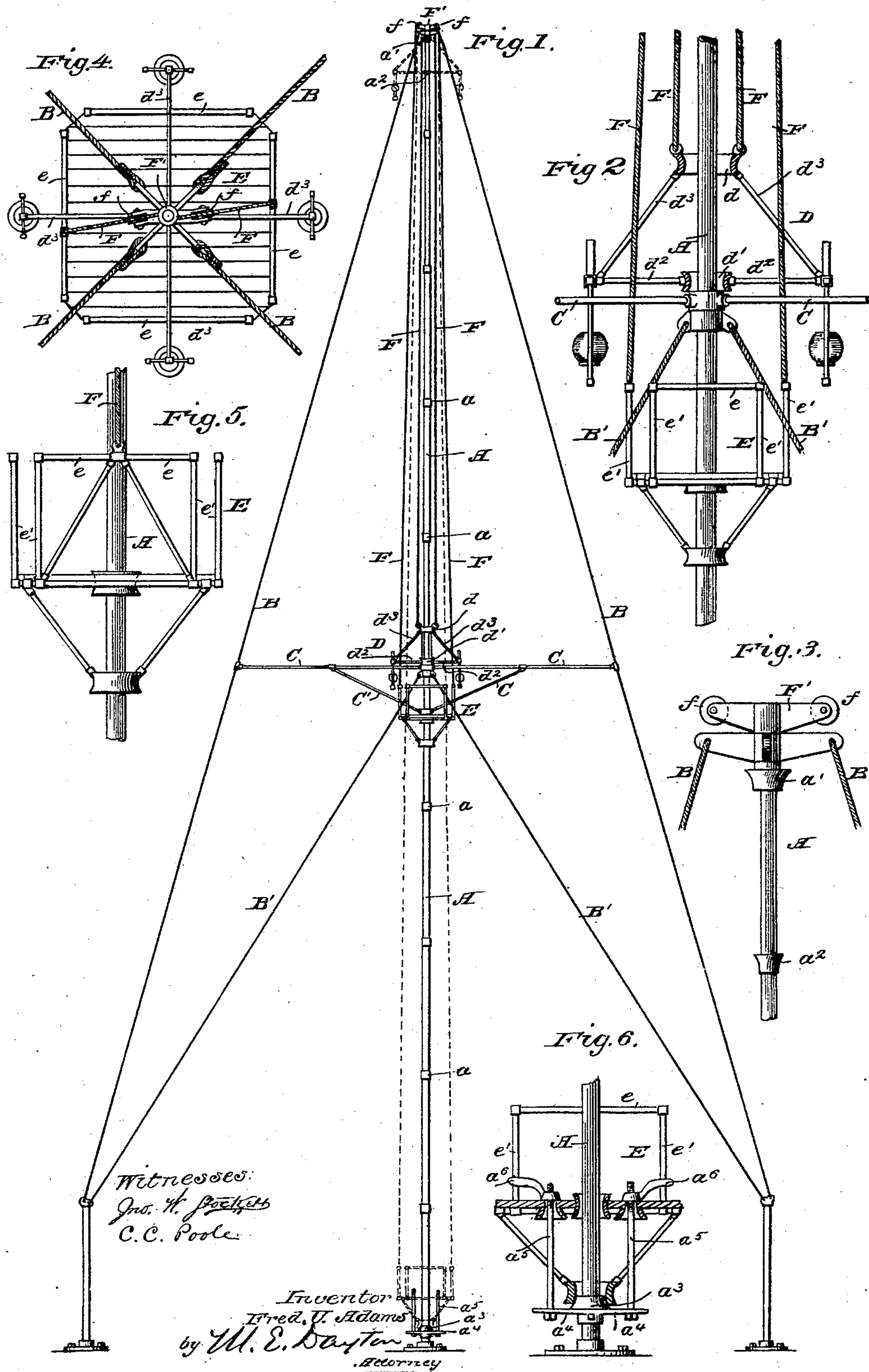


(No Model.)

F. U. ADAMS.
ELECTRIC LAMP SUPPORT.

No. 312,789.

Patented Feb. 24, 1885.



UNITED STATES PATENT OFFICE.

FREDERICK U. ADAMS, OF CHICAGO, ILLINOIS, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE ADAMS ELECTRIC MAST COMPANY, OF SAME PLACE.

ELECTRIC-LAMP SUPPORT.

SPECIFICATION forming part of Letters Patent No. 312,789, dated February 24, 1885.

Application filed June 9, 1884. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK U. ADAMS, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Electric-Lamp Masts or Supports; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to the class of electric-lamp supports which comprise a central upright or mast; and it has especial reference to means for giving access to the lamps by the attendant. Movable lamp-carriages for such masts are constructed to surround the mast, and, as heretofore operated, have been raised or lowered by ropes trained over suitable pulleys and manipulated from the base, or from a platform near the base, of the mast. When the lamps are stationary or fixed at the top of the mast, they have been reached sometimes by means of steps, and in some instances by elevators. If the mast is free of attachments between its extremities, an elevator-cab embracing the mast is practicable; but if guys or braces connect with the mast between the ends, obviously neither a lamp carriage nor a cab embracing the mast can be made to travel the length of the latter. To meet this difficulty, and also to provide for a less elevation of the cab in order to reach the lamps, even when obstructing attachments to the mast are absent, this invention has been made; and said invention consists, primarily and broadly, in the combination, with a mast, of a movable lamp-carriage and a movable elevator-cab, each traveling from its appropriate extremity of the mast to an intermediate meeting-point.

The invention also embraces certain features of construction that will be hereinafter further explained.

In the drawings, Figure 1 shows a mast with top guys, and with guys and braces attached thereto at or near its middle point. Said Fig. 1 also shows an elevator-cab and a lamp-carriage, both movable and both embracing the mast, said cab and carriage being illustrated in their proximate position near the middle of the mast. Fig. 2 is a fragmentary view of the middle point of the mast, including por-

tions of middle braces and guys, with the lamp-carriage and elevator-cab brought together at the opposite sides of the braces and guy attachments. Fig. 3 is a detail showing the top of the mast, with the pulley-arm and the sleeves by which the lamp-carriage is steadied when raised to its place. Fig. 4 is a fragmentary plan view. Fig. 5 is a side view of the cab and a fragment of the mast. Fig. 6 shows the cab in vertical central section, with devices for securing it and tightening the ropes which connect the cab with the lamps.

A is a mast constructed in tubular sections, as of gas-pipe, joined by couplings *a a*.

B B are guys extending from the top of the mast to the ground.

B' B' are guys (distinguished briefly as sub-guys) connecting with the mast at or near its middle point.

C C are braces supporting the mast centrally from the main guys B B.

C' C', Fig. 1, are sub-braces extending from the braces B B to a point on the mast below the main braces.

D is a lamp-carriage, consisting, as here shown, of upper and lower central circular rings, *d d'*, and suitable arms and braces, *d² d³*. Both the rings are large enough and so flared at their central openings as to pass freely over the couplings *a*. The upper ring, *d*, is larger than the lower one, *d'*, for a reason that will be explained farther on.

E is any suitable elevator-cab. Said cab is herein shown as consisting of a platform and a guard-rail, *e e*, open or separated at its angles *e'*, to allow the top of the rail to rise past the inclined sub-guys B and sub-braces C', if present. The cab is connected with the lamp-carriage D by means of wire or other ropes, F, trained over suitable pulleys, *f f*, mounted at the extremities of a suitable horizontal arm, F', fixed to the extreme top of the mast. The attachment of the rope with the lamp-carriage is preferably made at the ring *d*, and with the cab at the outer margin thereof, or with the rail *e*. Being thus connected, when the cab is raised the lamp-carriage is lowered, and vice versa, their meeting-point being on opposite sides of the braces C', or of the sub-guy connection with the mast.

The connected vehicles may be so relatively adjusted in weight that when the cab is occu-

pied by the attendant it will more or less exactly counterbalance the lamp-carriage, so that the occupant of the carriage may raise and lower himself by pulling down or up on the mast or on a rope placed for the purpose at the side of the mast. With such a rope a windlass may be employed, if preferred. If thought desirable to exactly maintain the counterpoise between the lamp-carriage and the cab in all their positions, the familiar device of an idle-rope depending from the lamp-carriage and attached to the cab may be provided.

In order to insure fixedness of the lamp-carriage when raised, two tapering sleeves, a' and a'' , are provided upon the mast, of proper size, and in position to respectively enter and fill the rings d and d' of said carriage when the latter is elevated to its place for use, and means are preferably furnished by which to draw downward forcibly upon the cab when lowered, in order to hold the said rings d and d' of the lamp-carriage firmly and closely in contact with the sleeves or stops a' a'' .

The particular means chosen for illustration by which to thus draw and hold the cab consist of vertical rods a^3 , supported by arms a^4 , proceeding from a hub, a^5 , secured to the mast near its base, as shown in Fig. 6, the said rods a^3 being made to pass through suitable openings in the cab-platform, and provided with hand-nuts a^6 , threaded upon the rods, so that by running said nuts downward the desired tension may be given to the ropes F . Other devices may obviously be employed for this purpose.

For some purposes of my invention it will not be necessary that the lamp-carriage and attendant's cab be connected, since the two may be independently movable, and the cab first raised to a desired point of meeting, and the lamp-carriage then lowered to a point within reach thereof. It is also manifestly not necessary to the operation of the cab and carriage above described that braces C or sub-guys B' should be present, as in those cases, when no such intermediate attachment to the mast exists, said cab and carriage may be operated to meet at a desired point intermediate to the ends of the mast. Such a construction will have the advantage in any case of avoiding the danger on the part of the attendant of going to the extreme top of the mast, and of lowering the lamps the entire distance to the bottom. If the cab and lamp-carriage are connected, as shown in the drawings, such a construction will also have the advantage of greatly lessening the labor of bringing the lamps within reach of the attendant by reason of the counterbalance which one movable structure affords to the other. When the cab and carriage are brought into juxtaposition, as shown, they may be temporarily secured, if not suitably balanced, by any sort of clutch adapted to engage the two movable structures, or by a simple cord by which the attendant may tie the cab to the carriage, so as to hold them reliably in their

proximate relation while the work of dressing the lamps is going on. If it is desired to cause the lamps to meet the cab—say at a point below the middle of the mast—the cab may be provided with pulleys and the connecting-ropes trained over the same to a fixed point on the mast, giving the effect of a movable pulley or tackle, so familiar as not to require illustration.

I claim as my invention—

1. The combination, with a lamp-mast, of a lamp-carriage and a passenger-cab, together with means for raising and lowering said cab and carriage, substantially as described.

2. The combination, with a lamp-mast having a pulley or pulleys at the top, of a lamp-carriage, a passenger-cab, and a rope or ropes leading from the carriage to the cab, whereby the lamp-carriage descends as the cab rises, substantially as and for the purposes set forth.

3. The combination, with a mast and guys or other attachments connected therewith at a point between its ends, of a lamp-carriage, a cab, and connections, substantially as described, whereby the lamp-carriage and the cab may be brought into juxtaposition on opposite sides of said guys or attachments.

4. The combination, with a mast, of a conical stop thereon, a traveling carriage or cab provided with a ring surrounding the mast and fitted to bear on the conical surface of said stop, and means for drawing the cab or carriage into bearing with said stop, substantially as described.

5. The combination, with a mast, of two conical stops, a' a'' , the uppermost of which is the larger, a lamp-carriage provided with two correspondingly-unequal rings surrounding the mast and fitted and arranged to engage said stops, and means for forcing the carriage into engagement with said stops, substantially as described.

6. The combination, with a mast provided with a stop or stops at the top, of a lamp-carriage constructed to engage said stop or stops, a cab, a suitable tackle connecting said cab and carriage, and means for holding the cab, whereby tension is applied to or maintained upon the tackle, substantially as and for the purposes set forth.

7. The combination, with a mast having a pulley or pulleys at the top and inclined guys joined to the mast between its ends, of a lamp-carriage, a cab, ropes trained over the pulley or pulleys and connecting the cab and carriage, the cab being provided with a rail having openings to admit the guys, substantially as described.

In testimony that I claim the foregoing as my invention I affix my signature in presence of two witnesses.

FREDERICK U. ADAMS.

Witnesses:

JESSE COX, Jr.,
M. E. DAYTON.