

(No Model.)

2 Sheets—Sheet 1.

W. A. STADELMAN.
ELECTRIC CRANE.

No. 460,514.

Patented Sept. 29, 1891.

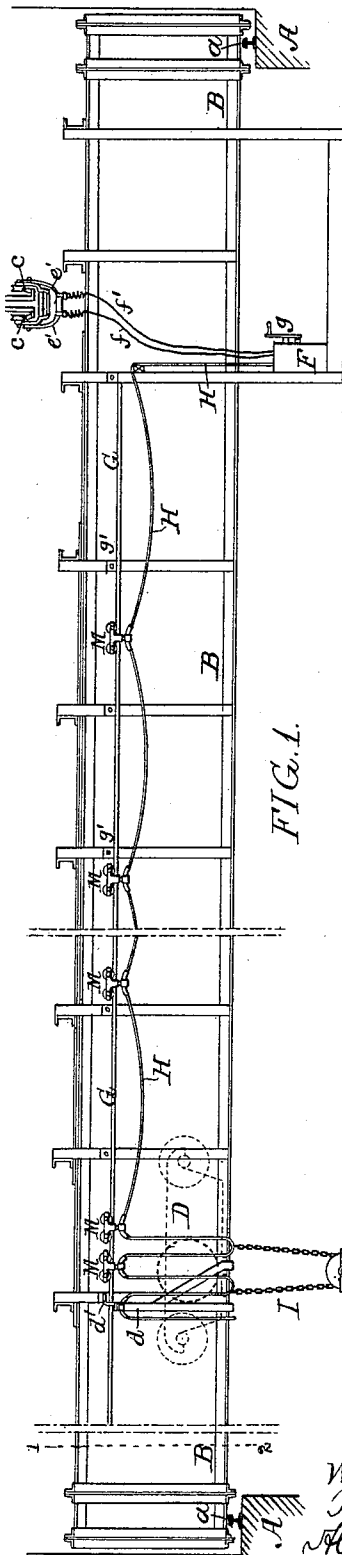


FIG. 1.

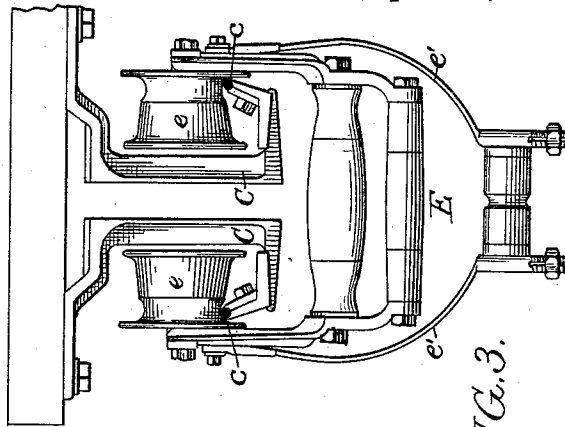


FIG. 3.

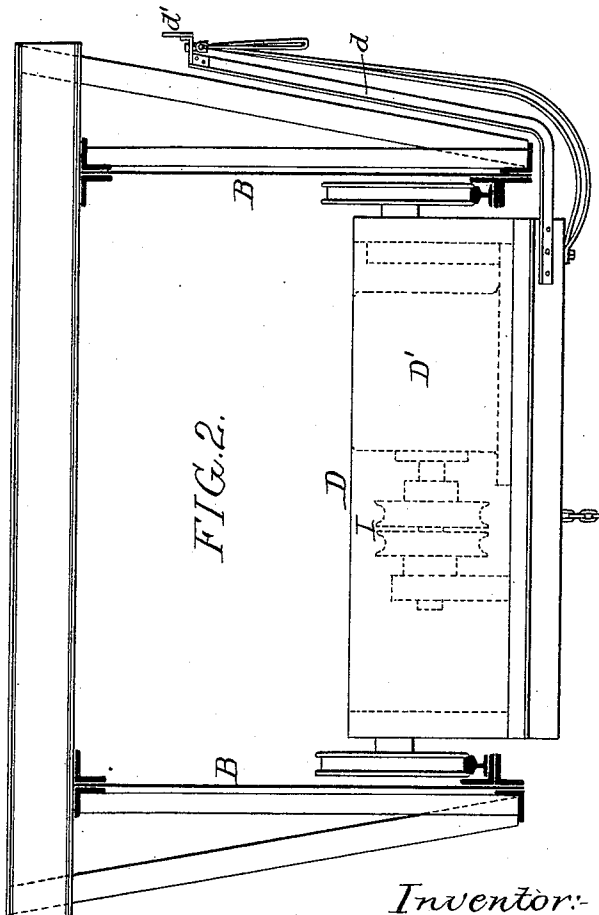


FIG. 2.

Witnesses:
R. Schleicher.
Alex. Barkoff

Inventor:
William A. Stadelman
by his Attorneys
Howe & Howard

(No Model.)

2 Sheets—Sheet 2.

W. A. STADELMAN.
ELECTRIC CRANE.

No. 460,514.

Patented Sept. 29, 1891.

FIG. 4.

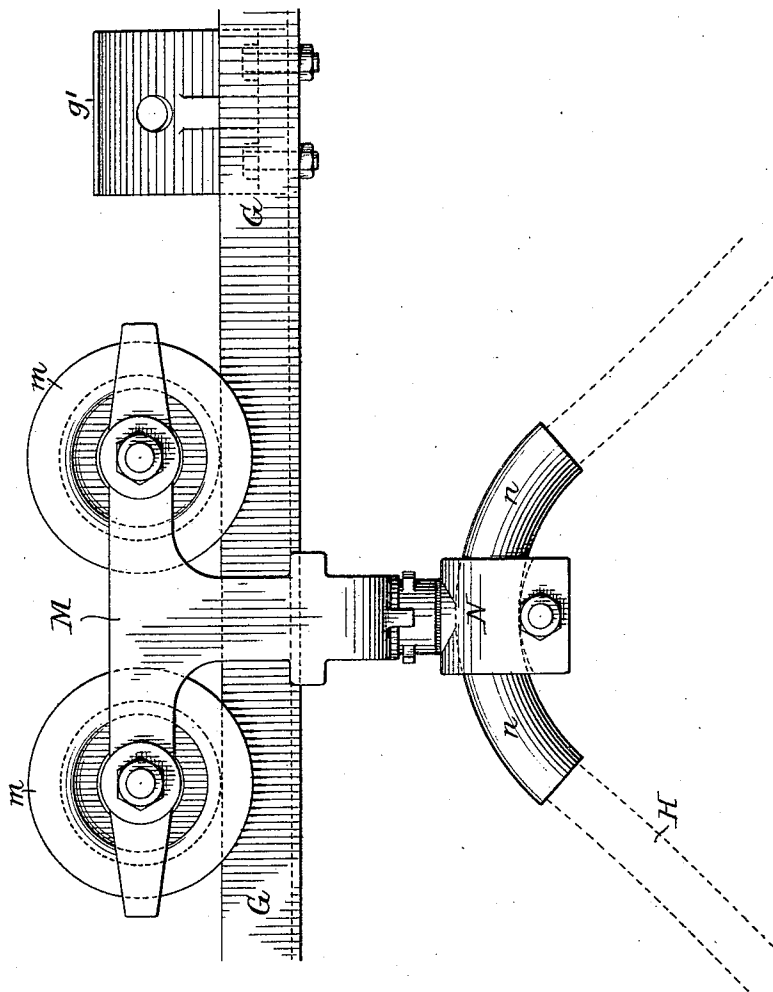
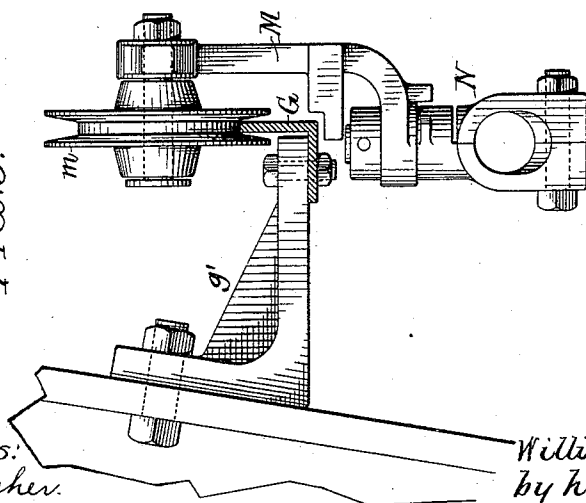


FIG. 5.



Witnesses:
R. Schleicher.
Alex. Barkoff

Inventor:
William A. Stadelman
by his Attorneys
Horn & Horn

UNITED STATES PATENT OFFICE.

WILLIAM A. STADELMAN, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
THE EQUITABLE ENGINEERING AND CONSTRUCTION COMPANY, OF SAME
PLACE.

ELECTRIC CRANE.

SPECIFICATION forming part of Letters Patent No. 460,514, dated September 29, 1891.

Application filed March 11, 1891. Serial No. 384,617. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. STADELMAN, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have
5 invented certain Improvements in Electric Cranes, of which the following is a specification.

The object of my invention is to so construct an electrically-operated traveling
10 crane that the motor on the carriage, traveler, or bridge will be connected to the source of electric supply through insulated wires or plates, as fully described hereinafter.

I have illustrated my invention in connection with an overhead traveling crane in
15 which the source of supply is a wire so arranged in respect to the traveling crane that a trolley carried by the bridge will travel on the wire or wires. The motor on the carriage in the present instance is a lifting-motor, the carriage being moved upon the crane
20 by means other than that shown in the drawings.

In the accompanying drawings, Figure 1 is
25 a side view of sufficient of an overhead traveling crane to illustrate my invention. Fig. 2 is an enlarged sectional view on the line 1 2, Fig. 1. Fig. 3 is a view of a contact-trolley for the supply-wires. Figs. 4 and 5 are
30 views of one of the supporting-trolleys for the flexible cable.

In cranes of the construction above referred to, where electricity is used as the motive power to lift the load or to move the bridge
35 or carriage, exposed wires or contact plates and brushes have generally been used; but these exposed wires are objectionable on account of the danger to which the workmen are exposed, and it is to overcome this objection that my invention has been devised.

A A are the foundations or side walls of a building or portions of a trestle-work, having
45 rails a a, on which travels the cross-beam or bridge B, made in the present instance of two plate-girders tied together at suitable intervals.

D is a carriage mounted to run on the beam B. On the depending platform of the carriage
50 are mounted the motors and switches by which the bridge is moved laterally on its rails and by which the carriage on the beam is moved.

On this platform the attendant operating the crane stands, and by simply moving the several switches he can direct with ease all the movements of the crane.

The general construction of this crane is to
55 have one or two motors mounted on the platform, in some instances one motor to move the bridge and the other geared to drive the shaft which is connected to the driving-gear
60 on the carriage D. I have omitted these motors and their driving-gears to avoid confusion. The sources of supply in the present instance are two wires c c, arranged above the
65 beam B and supported at intervals by the brackets C, as clearly shown in Fig. 3. Hung to these wires is a trolley E, having terminals e e in the form of trolley-wheels, which rest upon the wires and are connected to the
70 wires f f' on the beam B through wires e' e'. The wires f f' pass to the switch-box, provided with a suitable switch g. The connections between the wires f f' and the wires e' are flexible, so that the trolley will ride freely on
75 the wires while the bridge or beam is being shifted. The wires c c are preferably mounted in a suitable casing.

On the carriage D is a motor D', geared to the hoisting apparatus I. The wires of the motor are connected to the switch-box F through
80 a flexible cable H. Projecting from the carriage is an arm d, as clearly shown in Fig. 2. This arm extends up to a point in line with the rail G, secured by brackets g' in the present
85 instance to the braces of the beam B, as shown in Fig. 1. Adapted to travel on the rail G are a series of trolleys M, having flanged wheels m m, and swiveled to each trolley is a clamp N, to which is secured at intervals the flexible cables H. I preferably insert be-
90 tween the cables and the clamps a non-conducting sleeve n, preferably of rubber, which not only gives a better surface to clamp, but also prevents the wearing away of the insulation on the wire at the point where it is joined
95 to the trolley. On the arm d of the carriage D is a finger d', which, when the arm nears one of the trolleys, strikes the trolley, pushing it along until it strikes the next trolley, so that it will be seen that a series of
100 loops are formed, as shown in Fig. 1, when the carriage D is moved toward the source of

supply, but the loops are let out when the carriage is moved away from the source of supply. By this arrangement I am enabled to insulate the wires, preventing accidents and waste of electric energy.

It will be understood that I simply show the wires connected to the hoisting apparatus on the carriage, but that the wires may be connected to the mechanism for driving the carriage or the mechanism for moving the bridge, and the wires *c c*, carried by the brackets *C*, may be dispensed with and insulated flexible wires may be used carried by trolleys adapted to travel on a rail or by sliding arrangement, in the same manner as that shown in Fig. 1.

In some instances the hangers *M* may simply slide on the rails without the use of trolley-wheels, and I consider rope the equivalent of the rail.

I claim as my invention—

1. The combination, in an electrically-operated crane, of the fixed source of electrical supply, a carriage, a motor thereon with a flexible cable connecting the motor with the fixed source of supply, and means for looping said flexible cable as the carriage nears the fixed source of supply, substantially as specified.

2. The combination of the stationary source of electrical supply with a movable carriage, a motor mounted on said carriage, a wire or cable connecting the motor with the source of supply, carriers for said cable, and a rail for said carrier, substantially as described.

3. The combination, in a crane, of the movable carriage thereon, electric motor mounted on said carriage, and a switch at one end of said crane, with a flexible conductor connecting the switch with the motor on the carriage

and having one end movable with the carriage, substantially as described.

4. The combination, in a crane, of the bridge, with a carriage movable on said bridge, electric wires extending to a fixed point on the bridge, a motor on the carriage, a flexible electric conductor connecting the motor with the wires at a point on the bridge, with means for taking up the slack of the flexible conductor, substantially as described.

5. The combination, in a crane, of the bridge, electric conductors having their terminals at fixed points on the bridge, a carriage movable on said bridge, a motor on said carriage, an arm on the carriage extending to the outside of the bridge, a rail on the exterior of the bridge, and trolleys adapted to run on said rail, with a flexible conductor connecting the fixed terminal on the bridge with the motor on the carriage, said wire being secured to the trolleys, whereby as the carriage is advanced toward the fixed terminals the flexible conductor will be looped, substantially as described.

6. The combination, in a crane having a bridge traveling on ways, of electric wires, trolley on said wires, wires extending from said trolley to the bridge, a switch on said bridge, a carriage traveling on ways on the bridge, a motor on said carriage, flexible conductor connecting the motor with the switch, and means for taking up slack of the flexible conductor, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM A. STADELMAN.

Witnesses:

HENRY HOWSON,
HARRY SMITH.