

F. C. LEMON.  
CURRENT COLLECTOR FOR ELECTRIC CRANES.  
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1,014,071.

Patented Jan. 9, 1912.

Fig. 1.

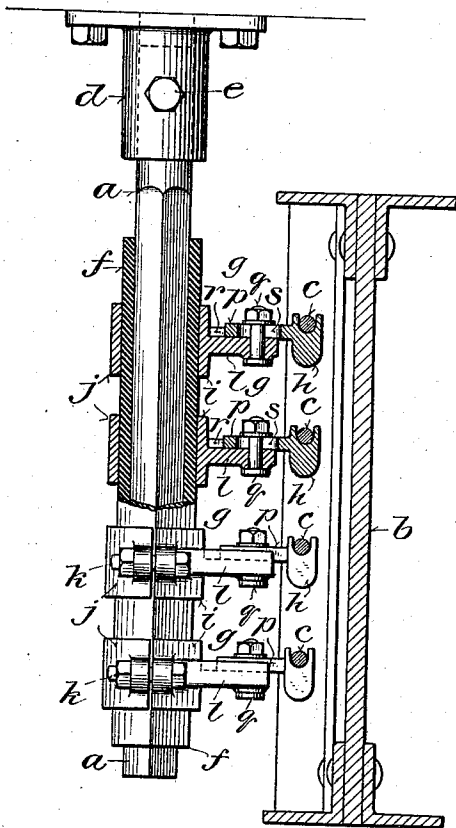


Fig. 2.

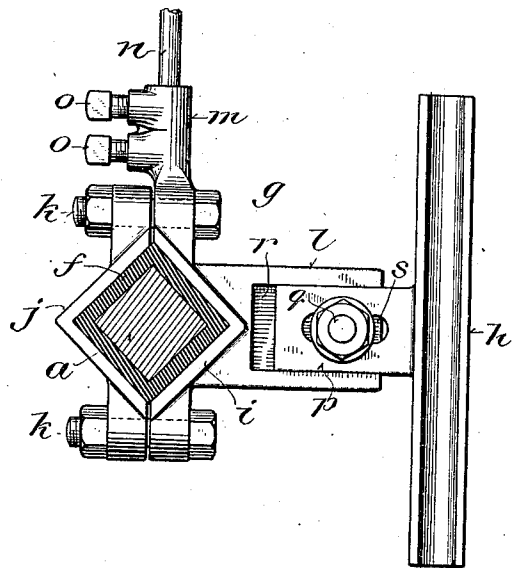
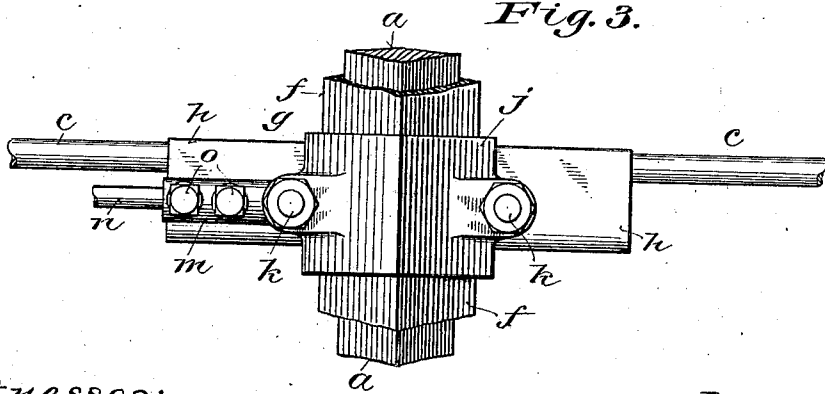


Fig. 3.



Witnesses:

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# UNITED STATES PATENT OFFICE.

FREDERICK C. LEMON, OF MILWAUKEE, WISCONSIN.

CURRENT-COLLECTOR FOR ELECTRIC CRANES.

1,014,071.

Specification of Letters Patent.

Patented Jan. 9, 1912.

Application filed September 11, 1908. Serial No. 452,606.

To all whom it may concern:

Be it known that I, FREDERICK C. LEMON, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Current-Collectors for Electric Cranes, of which the following is a specification, reference being had to the accompanying drawing, forming a part thereof.

The main objects of the invention are to provide for renewing and adjusting the contact pieces of such collectors without disturbing the mounting and electrical connections of the bodies thereof; to avoid the loss incident to renewal of the entire collector when the contact piece is made integral with the body; to provide for simultaneous adjustment of an entire series of connected collectors; and generally to improve the construction and operation of devices of this class.

It consists in certain novel features of construction and in the peculiar arrangement and combinations of parts as hereinafter particularly described and pointed out in the claims.

In the accompanying drawing like characters designate the same parts in the several figures.

Figure 1 is a view partly in elevation and partly in vertical section of a series of collectors embodying the invention as applied to a crane; Fig. 2 is a plan view on an enlarged scale of one of the collectors, the supporting post and insulation being shown in cross section; and Fig. 3 is an enlarged elevation of a single collector as viewed from the left with relation to Figs. 1 and 2, a portion of the conductor from which current is taken being shown.

Referring to Fig. 1, *a* is a supporting post, which may be assumed to be mounted on the trolley or on the bridge of an electric crane and to travel therewith, *b* is a horizontal beam or girder, which may be assumed to be a part of the bridge or one of the stationary girders on which the bridge is supported and travels at the ends, and *c* are conductors from which current is taken, running parallel with each other and the girder *b*, to which they are fastened at the ends. The post *a* has a cylindrical shank, adjustable endwise in a socket *d* on the trolley or bridge and secured therein by a bolt *e*. That part of the post on which the col-

lectors are mounted is preferably squared as shown, and is covered by a tube or strips of insulation *f*. A number of current collectors are mounted on this post in position to make contact with the several conductors *c* from which current is to be taken.

As shown in the several figures of the drawing, each collector comprises a metallic body *g*, and a separate metallic contact piece *h*. The body *g* comprises a half box or sleeve *i*, provided with a corresponding clamping cap *j*, by means of which it is secured with the intervening insulation *f*, upon the post *a*, the cap being fastened to the body of the collector by bolts *k*, and the half box or sleeve *i* is formed integrally with an arm *l*, and with a socket *m* to receive and hold the end of a conductor *n*, which carries current therefrom to a motor. The conductor *n* is secured in the socket *m* by one or more set screws *o*. The contact piece *h* is formed with a groove in the upper side to receive the conductor *c*, from which current is taken, and at right angles to said groove with an arm *p*, which is detachably fastened by a bolt *q* to the arm *l* of the body. One of these arms, in the present instance the arm *l*, is formed with a longitudinal groove or recess *r*, to receive the other arm, in the present instance the arm *p*, and thus hold the contact piece in the proper relation to the body *g* and to relieve the connecting bolt *q* of undue strain. One of the arms, in the present case the arm *p*, is formed with a longitudinal slot or elongated hole *s* for the connecting bolt, to permit of the adjustment of the contact piece toward and from the post *a*, in order to bring the groove in the contact piece into alinement with the conductor *c* with which it is intended to work. With collectors thus constructed and mounted the contact piece *h* of any collector may be easily and quickly replaced when it becomes worn or defective without discarding or distributing the body of the collector or its electrical connection with the motor which it supplies with current; the contact pieces may also be separately adjusted in or out toward and from the post *a* in order to bring them into perfect alinement with the conductors *c*, and all the collectors of the series may be elevated to compensate for wear and to properly engage with the several conductors, by the endwise adjustment of the post *a* in its socket or support *d*. In this way much trouble and expense will be

saved in maintaining the collectors in proper condition and adjustment.

The contact pieces *h* are preferably made of copper, which is softer than the metal of the conductors *c* and makes better electrical contact therewith than brass, or other suitable conducting metal which is cheaper and of which the bodies *g* are preferably made. The clamping caps *j* which serve simply to secure the collectors on the post *a* and do not carry current, may be made of still cheaper metal, such as iron.

Various changes in minor details of construction and arrangement of parts may be made without departing from the principle of the invention as defined in the appended claims.

I claim:

1. A current collector for electric cranes comprising a conducting body formed integrally with a half box, a conductor connection and a lateral arm, and provided with a detachable cap, a grooved metallic sliding contact piece formed integrally with a transverse arm, and a bolt detachably connecting said arms, one of which is longitudinally recessed to receive and hold the other in the proper relation thereto, the bolt hole in one

arm being slotted to permit adjustment of the contact piece relative to the body.

2. A current collector for electric cranes comprising a metallic body formed integrally with a conductor socket and with a lateral arm and provided with a binding screw for fastening a conductor in said socket and with a clamping cap and bolts for securing the collector on a supporting post, and a grooved metallic sliding contact piece rigidly and detachably fastened to the arm of the body, substantially as described.

3. The combination with a post adjustable endwise relative to the support on which it is mounted and a number of current collectors each comprising a body mounted on said post and formed with an arm projecting therefrom transversely to the conductor from which current is taken and a grooved contact piece detachably and adjustably fastened to said arm, substantially as described.

In witness whereof I hereto affix my signature in presence of two witnesses.

FREDERICK C. LEMON.

Witnesses:

CHAS. L. GOSS,  
P. G. ROESTL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."