

No 743,521.

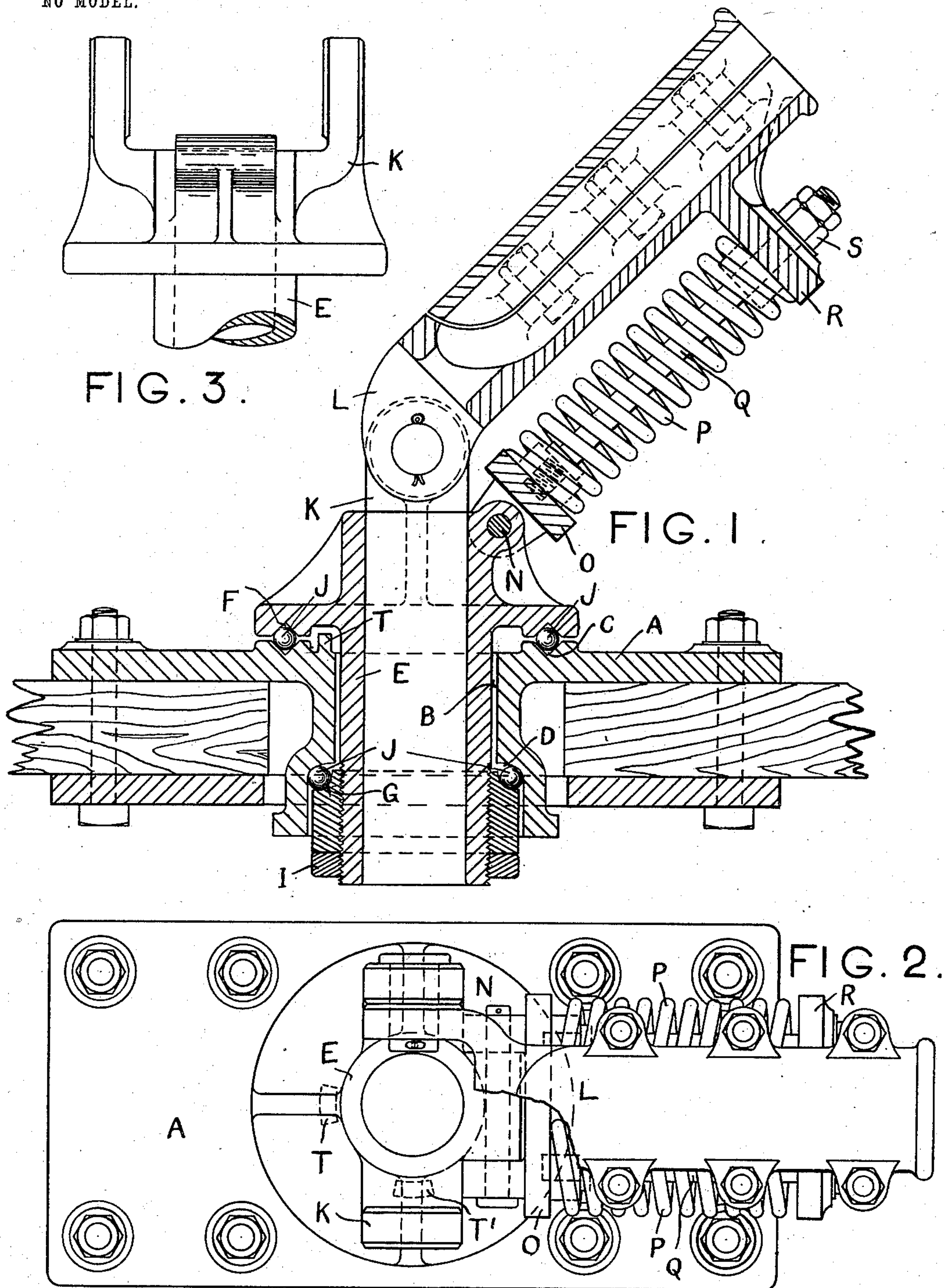
PATENTED NOV. 10, 1903.

F. KENNINGTON & D. L. FAWCETT.

TROLLEY STAND.

APPLICATION FILED JAN. 14, 1903.

NO MODEL.



WITNESSES

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UNITED STATES PATENT OFFICE.

FREDERICK KENNINGTON AND DAVID LADLEY FAWCETT, OF LEEDS,
ENGLAND.

TROLLEY-STAND.

SPECIFICATION forming part of Letters Patent No. 743,521, dated November 10, 1903.

Application filed January 14, 1903. Serial No. 139,041. (No model.)

To all whom it may concern:

Be it known that we, FREDERICK KENNINGTON and DAVID LADLEY FAWCETT, subjects of the King of Great Britain and Ireland, residing at Leeds, in the county of York, England, have invented a new and useful Improvement in Trolley-Stands, of which the following is a specification.

This invention relates to trolley-stands for overhead electric-traction systems, and has for its object the arrangement and construction of such a device in a strong, simple, light, and compact form having very little vertical height above or below the position of support in order to reduce the head-room for passage to a minimum and provided with a supporting spring or springs in a special position for counteracting the weight of the trolley whip or arm, also in the provision of antifriction means for supporting the pivoting portion of the device on a vertical axis in order to insure movement of the trolley-arm with a minimum of friction, although the length of the bearing vertically is very small.

A special feature of the device is that by reason of its particular characteristics it is readily applicable to the top of the light weather screens and covers now being adopted for tram-cars or to the roofs of single-deck cars where the head-room on the line of route is restricted, and is particularly applicable to mining-locomotives.

In order that the invention may be better understood, we will now proceed to describe the same in relation to the accompanying drawings, reference being had to the letters marked thereon.

Figure 1 is a vertical sectional elevation of the device. Fig. 2 is a plan of the same, the trolley-arm being shown in its horizontal position. Fig. 3 is a detached view of the forked support for the trolley-arm.

To carry the invention into effect, we provide a base-plate A, having a central hole or socket B, around which on the upper side we provide a ball-race C and on the lower side a ball-race D. Into this bore we insert

a trunnion or pivot E, carrying a ball-race F on the upper side and a ball-race G on its lower side, the said races coinciding with the races C and D on the base-plate. The lower race G is screwed upon the trunnion H in order to form means of adjustment and is retained in position by a lock-nut I. Into these two sets of ball-races balls J are inserted, so as to form an antifriction-bearing. The upper part of the trunnion or pivot is provided with a forked device K, within which is pivoted the holder L, carrying the arm or whip, so that the latter can be moved about a horizontal axis. Upon the forked device K, at a point below the axis of the arm or whip L, we provide another pivoting-point, N, to which is attached a device O for supporting one or more spiral springs P. This device O has a central bolt Q, which passes through and beyond the spring threaded upon it and also through a lug or ear R, attached to or forming a part of the whip or arm support. Nuts S are screwed onto each bolt on the outside of the lug R, by means of which the normal height or angle of the trolley-arm can be adjusted as desired. Stops T and T' are provided to limit the motion of the trolley-arm about its vertical axis.

It will be noted that the disposition of the spring-support of the axis of the trolley-arm is such that the depression of the said arm shortens the distance between the parts against which the springs abut and compresses the springs to a shorter length, with an increase of resistance. The ball-bearing pivot affords a very substantial means of providing movement of the trolley-arm about a vertical axis, with a very small vertical dimension of the said pivoting device. The base-plate A is attached to the roof by means of bolts and clamping-plate or in any other convenient manner, so that the firmness of the attachment is insured.

Having described our invention, what we claim, and desire to secure by Letters Patent, is—

A trolley-stand for electric traction con-

sisting of a trolley-arm adapted to be moved
about vertical and horizontal axes and a
spring-support arranged under the said trol-
ley-arm parallel to the axis thereof and adapt-
5 ed to bear on an abutment at one end and on
the arm at the other end, substantially de-
scribed.

In witness whereof we have hereunto set
our hands in presence of two witnesses.

FREDERICK KENNINGTON.
DAVID LADLEY FAWCETT.

Witnesses:

ALFRED STANLEY HOUGHTON,
ERNEST JOWETT.