No. 842,241. PATENTED JAN. 29, 1907.

T. E. R. PHILLIPS.

MECHANICAL EAR FOR TROLLEY WIRES.

APPLICATION FILED AUG. 1, 1905.

Fig 1

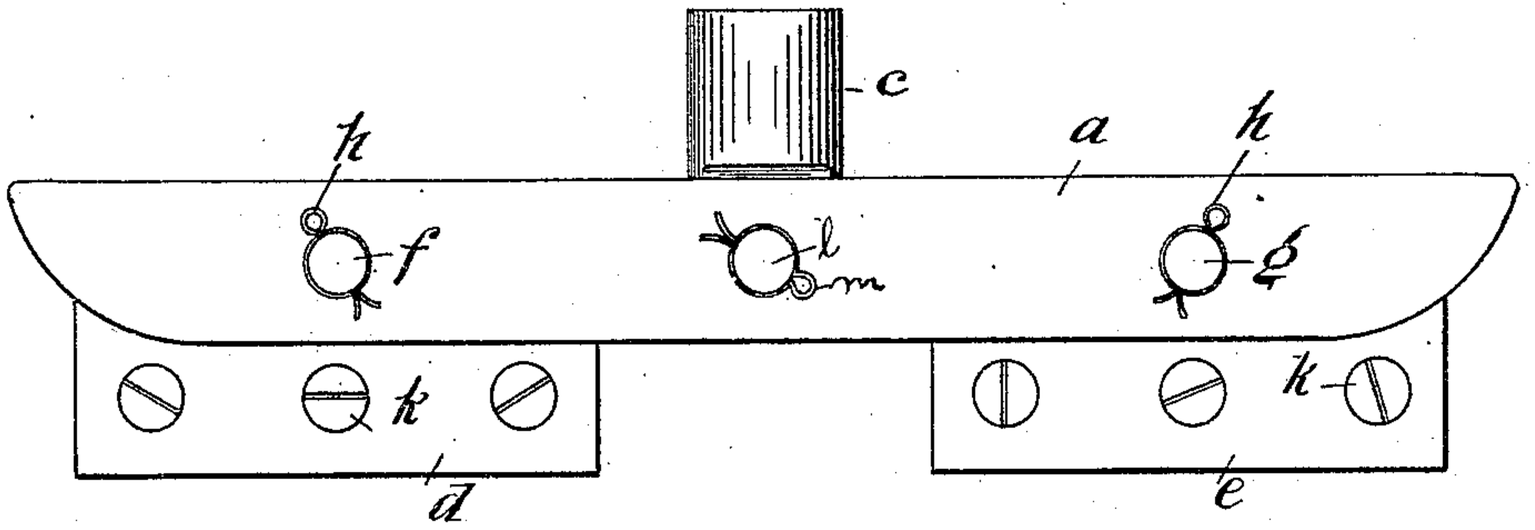


Fig 2

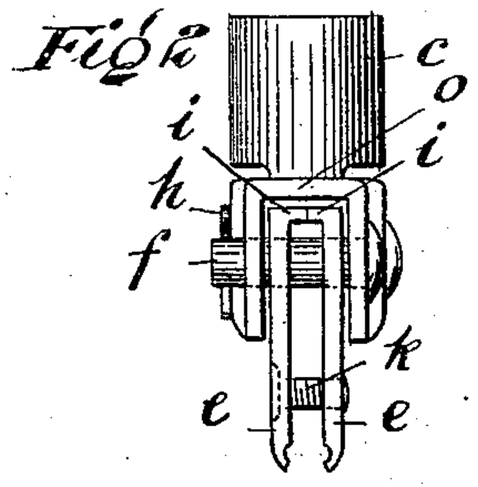


Fig 4

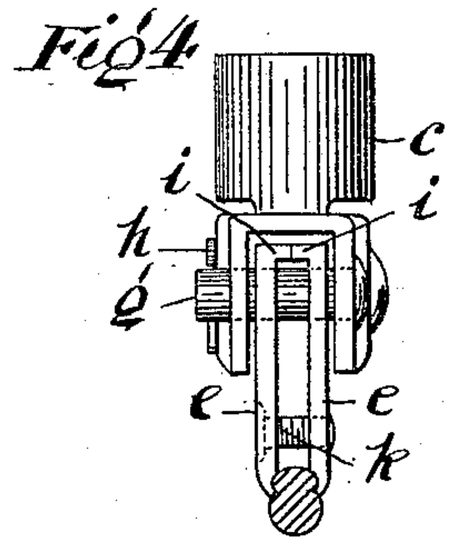


Fig 3

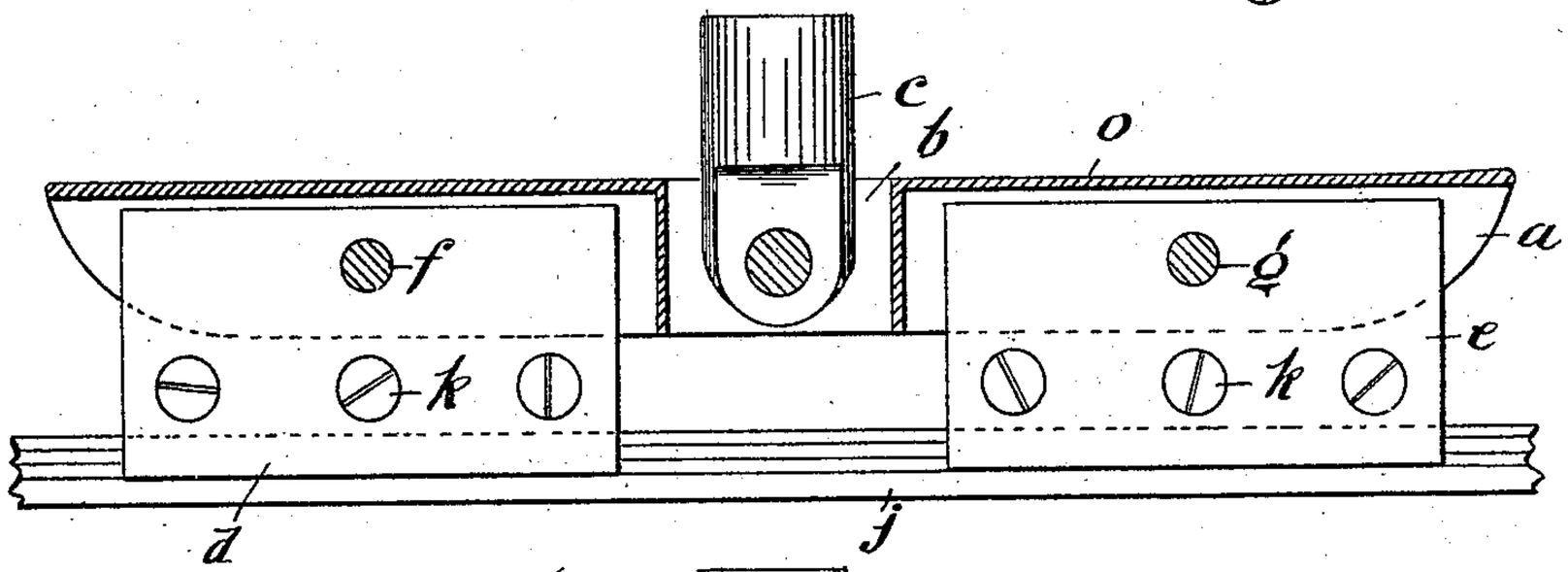
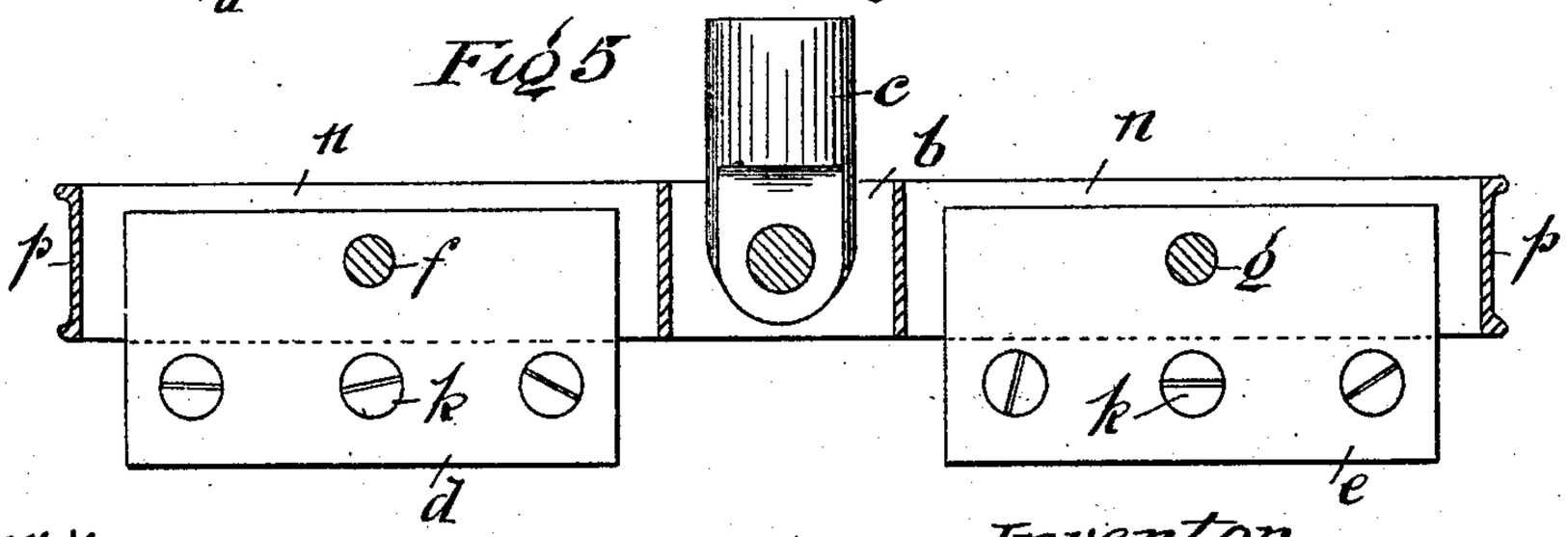


Fig 5



Witnesses

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UNITED STATES PATENT OFFICE.

THOMAS ERNEST RAYMOND PHILLIPS, OF LONDON, ENGLAND.

MECHANICAL EAR FOR TROLLEY-WIRES.

No. 842,241. Specification of Letters Patent. Patented Jan. 29, 1907.

Application filed August 1, 1905. Serial No. 272,273.

To all whom it may concern:

Be it known that I, THOMAS ERNEST RAYMOND PHILLIPS, a subject of His Majesty the King of Great Britain, and a resident of 11 and 12 Finsbury Square, in the city of London, E. C., England, have invented certain new and useful Improvements in Mechanical Ears for Electric-Trolley Wires or the Like, (for which I have made application for patent in Great Britain, No. 17,534, dated August 11, 1904,) of which the following is a specification.

My invention has reference to an improved construction of mechanical ear for electric trolley-wires or the like, particularly those employed for electric traction purposes.

An important object of my invention is to provide facilities for removing and renewing the trolley-wires or the like without the necessity of taking down or in any way disturbing the ears supporting such trolley-wires. Further, by reason of the improved construction constituting my invention the life of both ears and trolley-wires is greatly prolonged, and the size of the wires is uniform throughout and sparking and hammering are therefore prevented.

In order that my invention may be readily and clearly understood, reference is hereinafter made to the accompanying drawings, in which—

Figure 1 is a side view of an ear constructed according to my invention. Fig. 2 is an end view thereof. Fig. 3 is a longitudinal section. Fig. 4 illustrates an end view of the ear with the trolley-wire secured thereto, while Fig. 5 shows a slight modification in construction which may be adopted.

In carrying my invention into effect I construct a metallic frame, such as *a*, of approximately inverted-U shape in cross-section. Preferably centrally or thereabout of such frame *a* is provided a boss *c* or like means for connection to a span-wire or the like in the usual or any well-known manner. As shown, such boss or the like may, if desired, be pivoted to the frame *a* in an opening or slot *b* thereof.

Between the side members of the frame *a* and in removable connection therewith is or are provided a pair or a number of pairs of plates or divided clips. In the example given two pairs of such plates or divided clips *d* and *e* are provided in pivotal and removable connection within the frame by means of pins or bolts *f* and *g*, respectively, securely fastened by means of cotter-pins or the like *h*.

At their upper ends the said plates *d* and *e* are provided on their adjacent faces with spacing-ribs *i*, while the lower ends of the plates are suitably grooved and beveled or otherwise conveniently shaped to engage, for example, with oppositely-situated grooves formed in the trolley-wire *j*, Fig. 4, which latter may then be firmly gripped by tightly drawing said plates together by screws *k* or other suitable means. Obviously the said plates may be arranged to grip trolley-wire of any suitable section.

With an ear substantially so constructed the trolley-wire or the like *j* may be removed from the ear for renewal or other purposes by the simple operation of removing the cotter-pin *h* and withdrawing the bolts *f* and *g*, respectively connecting each of the pairs of plates *d* and *e* to the frame *a*, whereupon the trolley-wire *j* and plates *d* and *e* fall away from the frame or ear *a*, which is thus left entirely undisturbed in readiness for the replacement of the or a new trolley-wire in obvious manner. Further, by such a construction as herein described sparking and hammering are prevented, as the wire or the like is presented to the current-collecting device throughout its length without obstructions, as shown in Figs. 3 and 4, while owing to the manner of pivotally connecting the plates *d* and *e* to the frame *a* and the latter to the boss or like means *c* the wire may, moreover, form its own curve at the point of suspension, and so compensate for any sag therein.

If desired, the frame *a* may also be readily arranged removable from the boss *c* by securing the bolt *l* by a cotter-pin *m*.

As a slight modification of the construction so far described I may, if found advisable, employ in place of the frame *a* an open frame *n*—*i. e.*, in lieu of connecting the side members of the frame *a* by an upper part *o*, Figs. 2, 3, and 4, I may connect them by the end portions or walls *b*, Fig. 5. With this exception the construction is similar to that already referred to.

It is to be understood that the invention is not limited to the particular constructions hereinbefore described with reference to the accompanying drawings, as such construc-

tions may be suitably modified according to various requirements without departing from the principle herein involved.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A mechanical ear for electric conductors said ear comprising an inverted-U-shaped frame, a number of pairs of plates held in pivotal and removable connection within said frame, said plates being adapted at their lower ends to embrace and retain an electric conductor, and means for connecting up said frame to a span-wire, substantially as herein described.

2. A mechanical ear for electric trolley-wires, said ear comprising an inverted-U-shaped frame, a number of pairs of plates pivotally held within said frame by bolts, said plates having spacing-ribs at their upper ends and adapted at their lower ends to engage and hold a trolley-wire, and means for connecting up said frame to a span-wire substantially as herein described.

3. A mechanical ear for electric trolley-wires, said ear comprising a frame; a number of pairs of plates pivotally held to said frame by bolts removably secured in place by cotter-pins; said plates having spacing-ribs at their upper ends and adapted at their lower ends to engage and hold a trolley-wire, means for drawing and holding said plates tightly together and means for connecting up said frame to a span-wire substantially as herein described.

4. A mechanical ear for electric trolley-wires, said ear comprising a frame; a number of pairs of plates removably and pivotally held to said frame by bolts and cotter-pins; spacing-ribs at the upper ends of said plates, screws for drawing and holding said plates tightly together to hold a trolley-wire therebetween, and a boss pivoted and removably secured to said frame for connecting the latter to a span-wire substantially as herein described.

5. A mechanical ear for electric trolley-wires, said ear comprising a frame; a number of pairs of plates pivotally held to said frame as to be movable in relation therewith, and a boss pivoted to said frame whereby said frame is movable with relation to said boss, substantially as herein described.

6. A mechanical ear for electric trolley-wires, said ear comprising a frame having pivoted and removably connected thereto by means of bolts secured by cotter-pins, a number of pairs of plates having spacing-ribs at their upper ends, and being grooved and beveled at their lower ends for engaging and holding a grooved trolley-wire, screws for drawing and holding said plates tightly together, and a boss pivoted and removably secured to said frame substantially as and for the purposes described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

THOMAS ERNEST RAYMOND PHILLIPS.

Witnesses:
ALBERT GEORGE BARNES,
LEONARD COULSON.