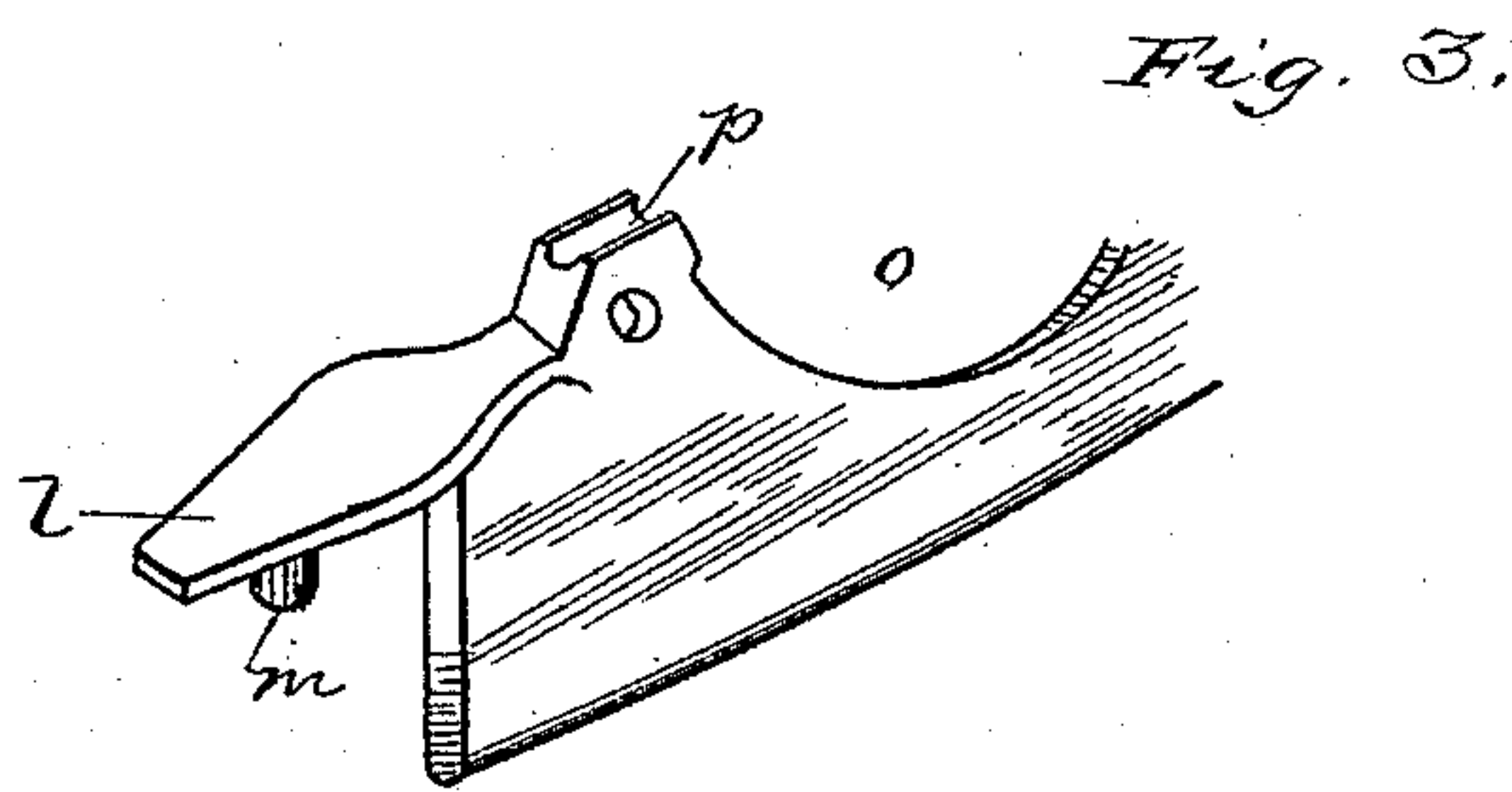
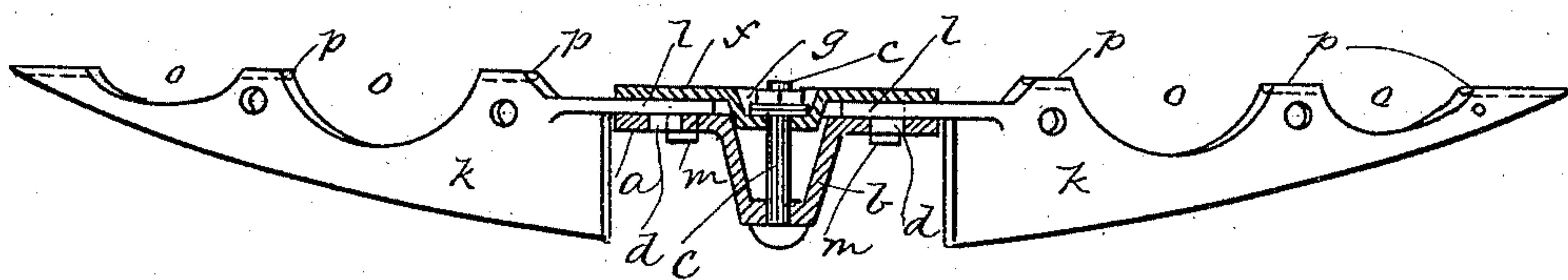
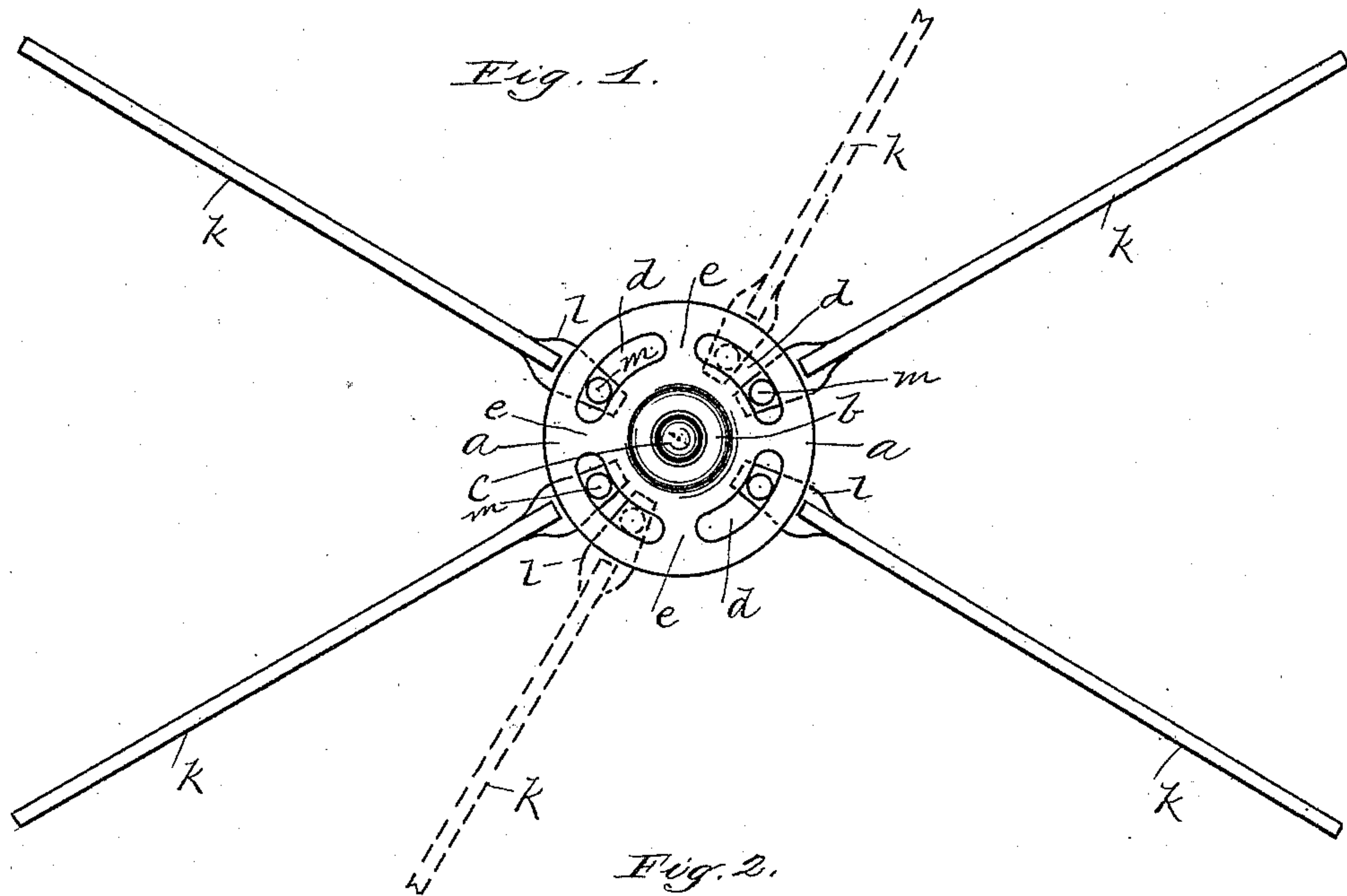


(No Model.)

W. M. RAMSEY.  
TROLLEY LINE SWITCH.

No. 443,004.

Patented Dec. 16, 1890.



Witnesses:  
H. O. Harrison,  
Chas. Richardson Rev.

Inventor.  
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Atty.

# UNITED STATES PATENT OFFICE.

WILLIAM M. RAMSEY, OF ALLEGHENY, PENNSYLVANIA.

## TROLLEY-LINE SWITCH.

SPECIFICATION forming part of Letters Patent No. 443,004, dated December 16, 1890.

Application filed August 7, 1890. Serial No. 361,347. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM M. RAMSEY, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Trolley-Line Switches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to an improved adjustable electrical trolley-line switch; and it consists in certain details of construction and combination of parts, as will be fully described hereinafter.

In the accompanying drawings, Figure 1 is an inverted plan view of my improved switch, which is constructed in accordance with my invention. Fig. 2 is a central sectional elevation of the same. Fig. 3 is an enlarged perspective view of one of the adjustable switch-bars.

To construct an electrical trolley-line switch in accordance with my invention, I provide an annular base-plate *a*, having a downwardly-extending hollow conical projection *b*, through which a bolt *c* is passed. This base-plate *a* is provided with a series of slots *d*, formed about the center and separated the one from the other by intervening integral portions *e* of the metal. Placed on the top of this base-plate *a* is a disk *f*, having a recessed crown *g*, and is confined in position by means of the bolt *c*. Secured between these two plates *a* and *f* are four switch-bars *k*, each of which is provided with a flat web *l*, having a downwardly-extending pin *m*, formed integral therewith, adapted to enter the slots *d*, formed

in the base-plate *a*. These switch-bars *k* consist of a flat tapering or wedge-shaped plate having recesses *o* formed in the top, in order to reduce the weight of the same, and are also provided with shallow semicircular grooves *p* along the top, in which the trolley-line may be either brazed, soldered, or tied.

In operation the switch-arms *k* may be revolved or adjusted toward or away from each other, thereby forming a switch or turn-out that may be adjusted to suit any required angle for a purpose well known to the art.

When constructing this switch for crossings which would bring the arms close together, the webs *l* of two opposite switch-bars *a* are made of a sufficient length to remove the heels, or that portion of the bars *k*, some distance away from the base-plate *a*. This arrangement will prevent the trolley-wheel from catching or coming in contact with the wrong bar *k*.

Having thus described my invention, I claim—

The herein-described trolley-line switch or cross-over, consisting of the base-plate *a*, provided with a series of slots *d*, the clamping-disk *f*, and a means for securing the two plates together, the switch-bars *k*, attached between the said plates in a manner that the same may be adjusted toward or away from each other, whereby a cross-over of any desired angle may be formed, substantially as and for the purpose set forth.

In testimony that I claim the foregoing I hereunto affix my signature this 18th day of July, A. D. 1890.

WILLIAM M. RAMSEY. [L. S.]

In presence of—

M. E. HARRISON,  
CHARLES LARGE.