

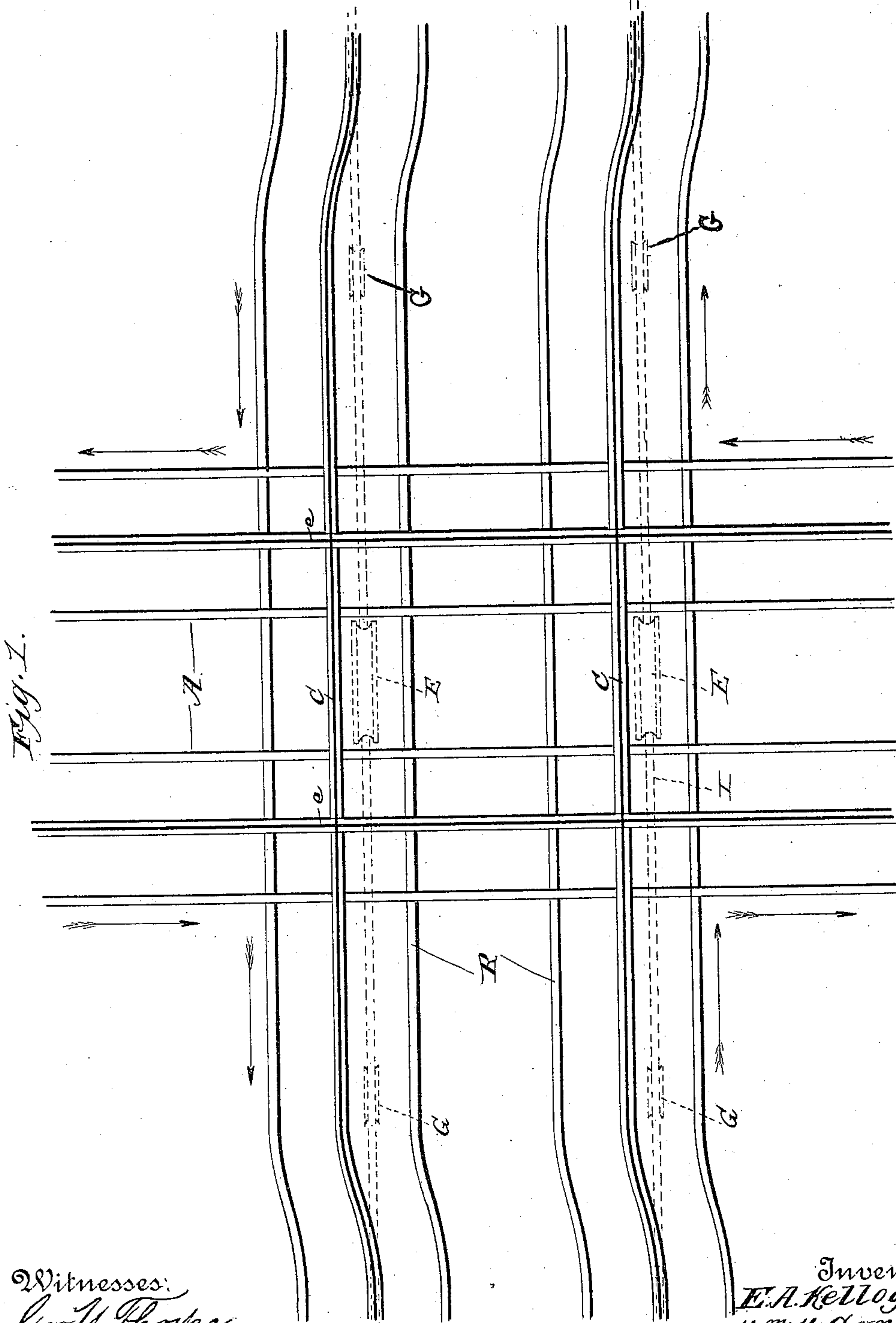
(No Model.)

3 Sheets—Sheet 1.

E. A. KELLOGG & W. W. COX.
AUTOMATIC CABLE RAILWAY CROSSING.

No. 442,704.

Patented Dec. 16, 1890.



Witnesses:
Geo. Y. Thorne.
H. E. Price.

Inventors
E. A. Kellogg and
W. W. Cox.

By their Attorneys.

Higdon & Higdon.

3 Sheets—Sheet 2.

No. 442,704.

Patented Dec. 16, 1890.

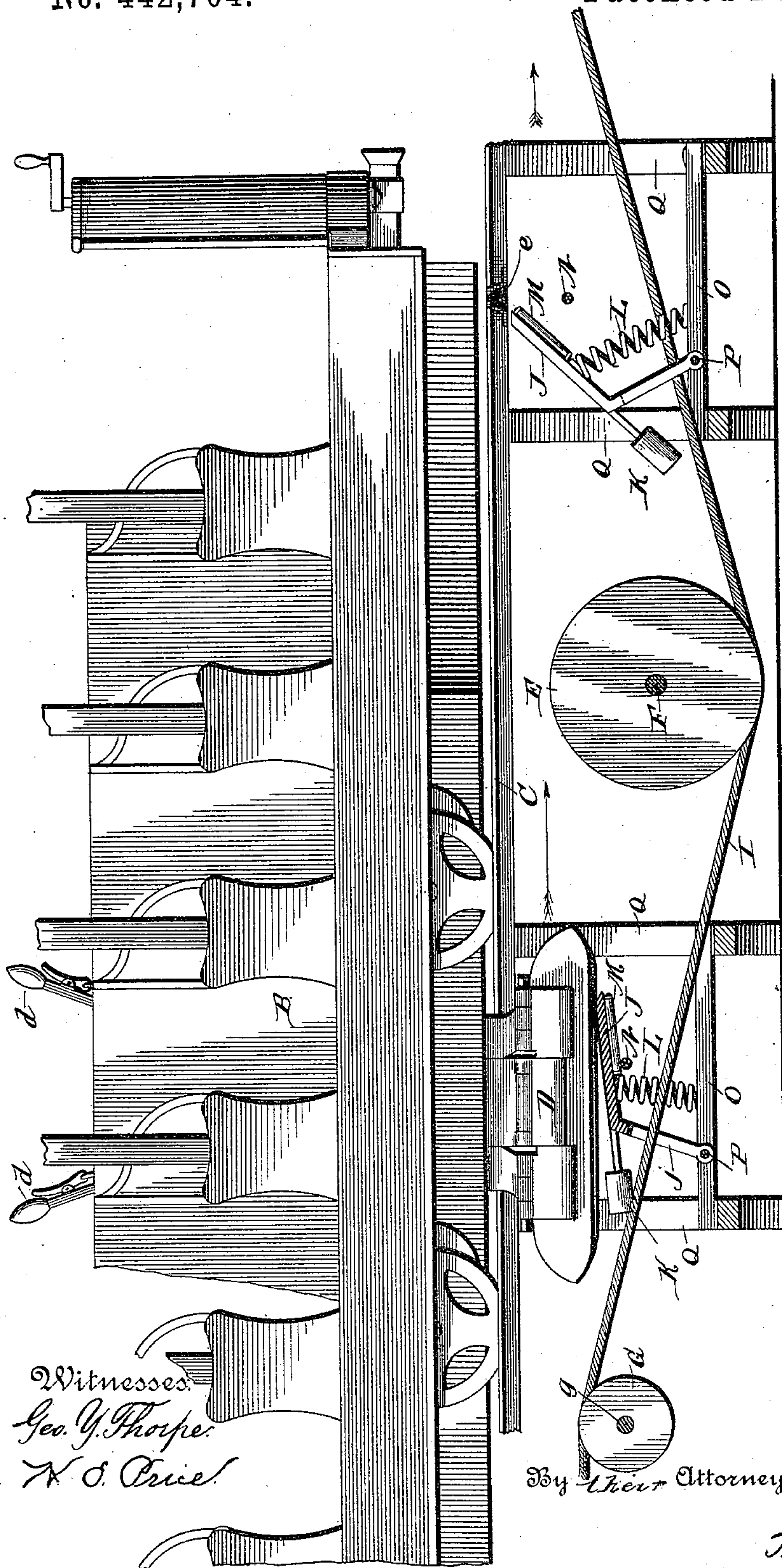


Fig. 2.

Witnesses:
Geo. Y. Thorpe.
W. O. Price.

Inventors,
E. A. Kellogg and
W^m W. Cox,

By *their* Attorneys,

Higdon & Higdon.

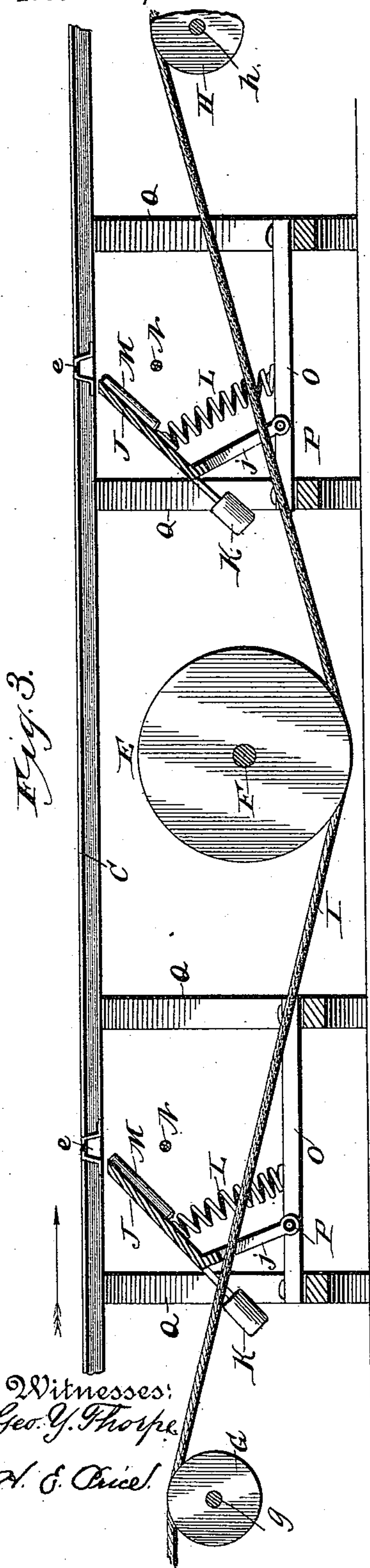
(No Model.)

3 Sheets—Sheet 3.

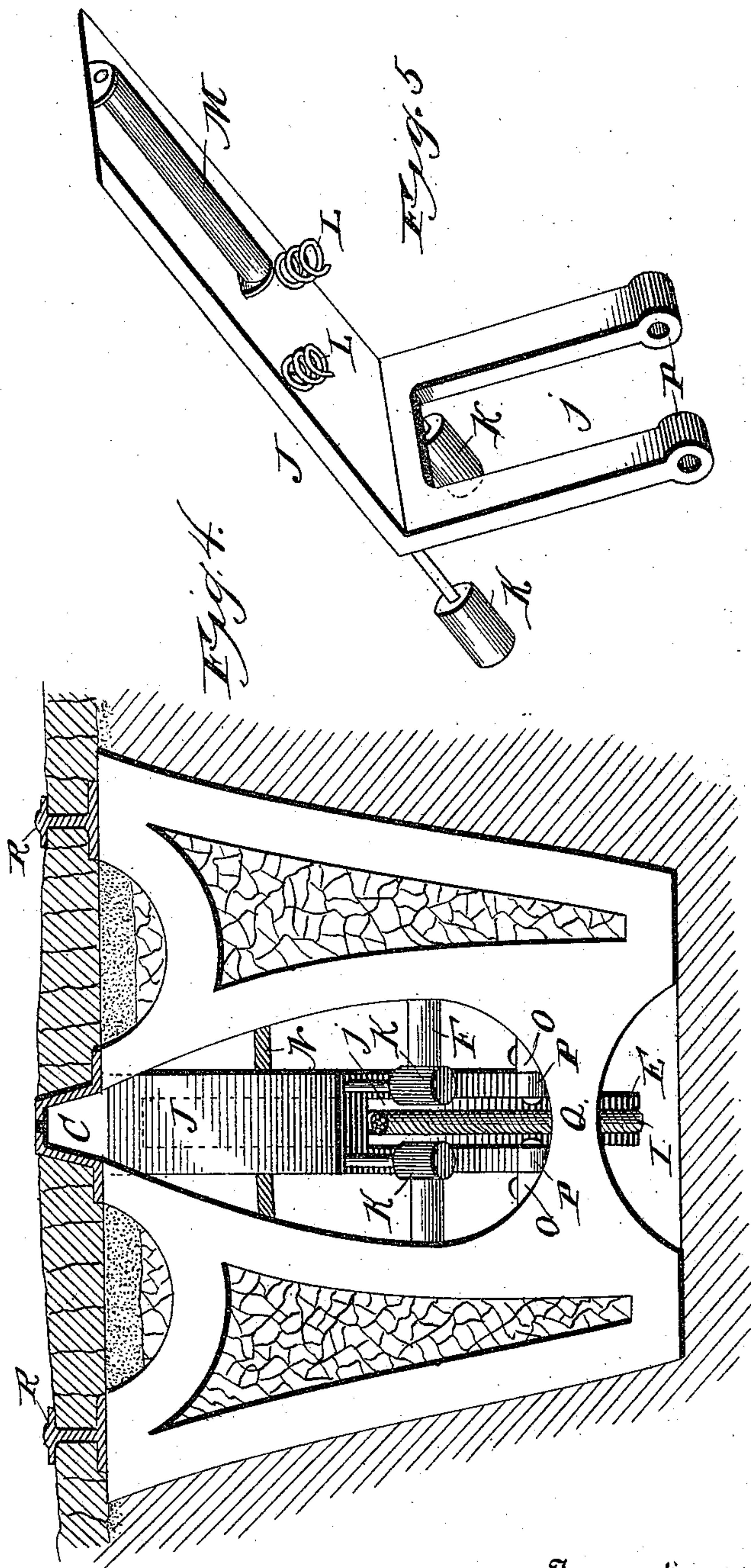
E. A. KELLOGG & W. W. COX.
AUTOMATIC CABLE RAILWAY CROSSING.

No. 442,704.

Patented Dec. 16, 1890.



Witnesses:
Geo. Y. Thorpe
H. E. Price.



Inventors
E. A. Kellogg and
Wm. W. Cox,

By *their* Attorneys.

Higdon & Higdon.

UNITED STATES PATENT OFFICE.

ERNST A. KELLOGG AND WILLIAM W. COX, OF KANSAS CITY, MISSOURI.

AUTOMATIC CABLE-RAILWAY CROSSING.

SPECIFICATION forming part of Letters Patent No. 442,704, dated December 16, 1890.

Application filed March 17, 1890. Serial No. 344,160. (No model.)

To all whom it may concern:

Be it known that we, ERNST A. KELLOGG and WILLIAM W. COX, of Kansas City, Jackson county, Missouri, have invented certain new and useful Improvements in Automatic Cable-Railway Crossings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

Our invention relates to improvements in street-railway cable-crossings; and it consists in the particular construction and arrangement of different parts, hereinafter more fully set forth and described by referring to the drawings by corresponding letters.

The object of our invention is to provide a means by which the grip attached to a grip-car on tracks running in two different directions may successfully cross each other without the grip coming in contact with the cable running in the opposite direction. In this case we have shown two sections of cable railways crossing each other in the opposite direction, we will say one running east and west and the other north and south. To accomplish this end we have provided an automatic arrangement which we will call a "gipsy," that is so arranged with its upper portion resting immediately under the slot-rail of the track running north and south, and so constructed that when the cars are passing on the tracks running east and west the grip comes in contact with the gipsy, pressing it downward, carrying the cable on the north and south line with it, thereby letting the grip pass free and clear over the cable. When the grip passes off of the gipsy and over the north and south cable, the gipsy by means of a spiral spring on its under side and sufficient weights attached to the rear of the gipsy readily forces the gipsy back to its normal position.

Figure 1 is a plan view of two street-railway tracks crossing each other at right angles. The track running east and west, it will be observed, has an abrupt parallel lateral offset formed on each side of the track running north and south. This offset is made in these tracks for the purpose of throwing the grip and car out of its main line, in order that the grip may pass free and clear by the pul-

leys. (Seen in the dotted lines at Fig. 1.) Just before the car reaches the offset in the track the cable is dropped from the grip. The car then passes with its own momentum over the crossing, the grip at the same time coming in contact with the gipsy, which forces the cable of the north and south track down out of its course, thereby passing free and clear over the cable.

Fig. 3 is a sectional view showing the position of the east and west line and crossing of the north and south line with the lag-pulleys in position holding the east and west cable from coming in contact with the north and south cable. It will be observed that in this view we have shown a lag-roller attached to the under side of the gipsy to destroy the greater part of the friction which would be otherwise caused by the gipsy coming in contact with the cable.

Fig. 4 is a cross-sectional view of the road-bed, showing the location of the gipsy under the slot-rails. In this view it will be seen more clearly the position of the weights K K, attached to the rear of the gipsy near each edge, with the cable I passing between them.

A, Fig. 1, is the tracks running north and south. *e* is a slot-rail; C C, the slots running east and west. G G are two small pulleys (shown in the dotted lines) over which the cable passes.

Fig. 2 is a side view of the grip-car, showing the position of the grip in passing over the gipsy; *d d*, the top ends of the lever by which the grip and brakes are operated. B is the car. D is the grip. C is the slot-rail; *e*, the slot-rail running north and south; G G, a small pulley; *g*, the wrist; K, the weights in the rear of the gipsy; Q, the yokes in position; J, the gipsy; *j*, the lower portion of the gipsy; P showing the position of the lower end of the gipsy bolted to the cross-beams O O. L is the spiral spring; M, lag-roller; N, cable running north and south; I, cable running east and west; E, large lag-pulley located between the two tracks running north and south. (Seen at dotted lines in Fig. 1.)

In Fig. 4, C is the slot-rails; R R, track-rails; J, the gipsy; N, cable running north and south; *i*, the lower portion of the gipsy; K K, the weights; F, the wrist holding lag-

pulleys in position; O, cross-beams to which the gipsy is secured; Q, the yoke; E, the lag-pulley, and I the cable.

5 Fig. 5 is a detail view of our gipsy, showing its construction. The two weights in the rear and the spiral springs L L are attached to the bottom of the section.

Having thus fully described our invention, what we claim, and desire to be protected in
10 by Letters Patent of the United States, is—

In a crossing for cable railroads, the combination, with two tracks intersecting each other, of cables passing under the said tracks, a lag-roller around which one of the cables is
15 carried down, a gipsy pivoted beneath the said cables and extending above both of the

said cables, a roller pivoted to the lower surface of that portion of the gipsy which is above the said cables, the upper surface of the said portion being adapted to be struck 20 by the grip of the cars, thus forcing the said portion of the gipsy below the normal levels of both of the said cables, and a spring tending to force the gipsy upward, as described.

In testimony whereof we affix our signatures 25 in presence of two witnesses.

ERNST A. KELLOGG.
WILLIAM W. COX.

Witnesses:

H. E. PRICE,
A. A. HIGDON.