No. 693,394. Patented Feb. 18, 1902.

K. HORA.

SECTIONAL CONDUCTOR ELECTRIC RAILWAY.

(Application filed Mar. 6, 1901.)

(No Model.)

Fig. 1.

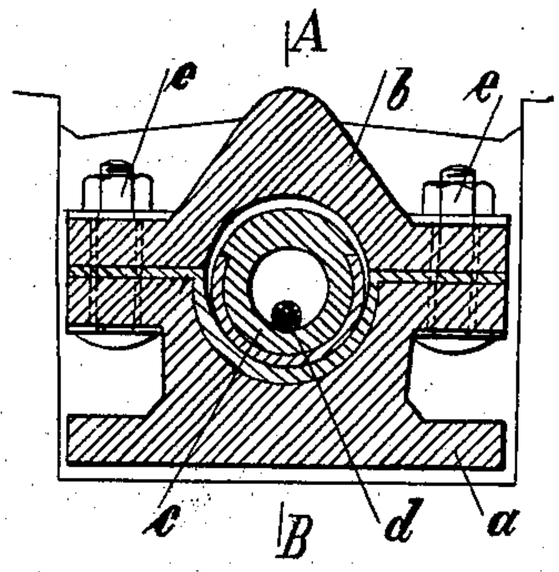


Fig. 3.

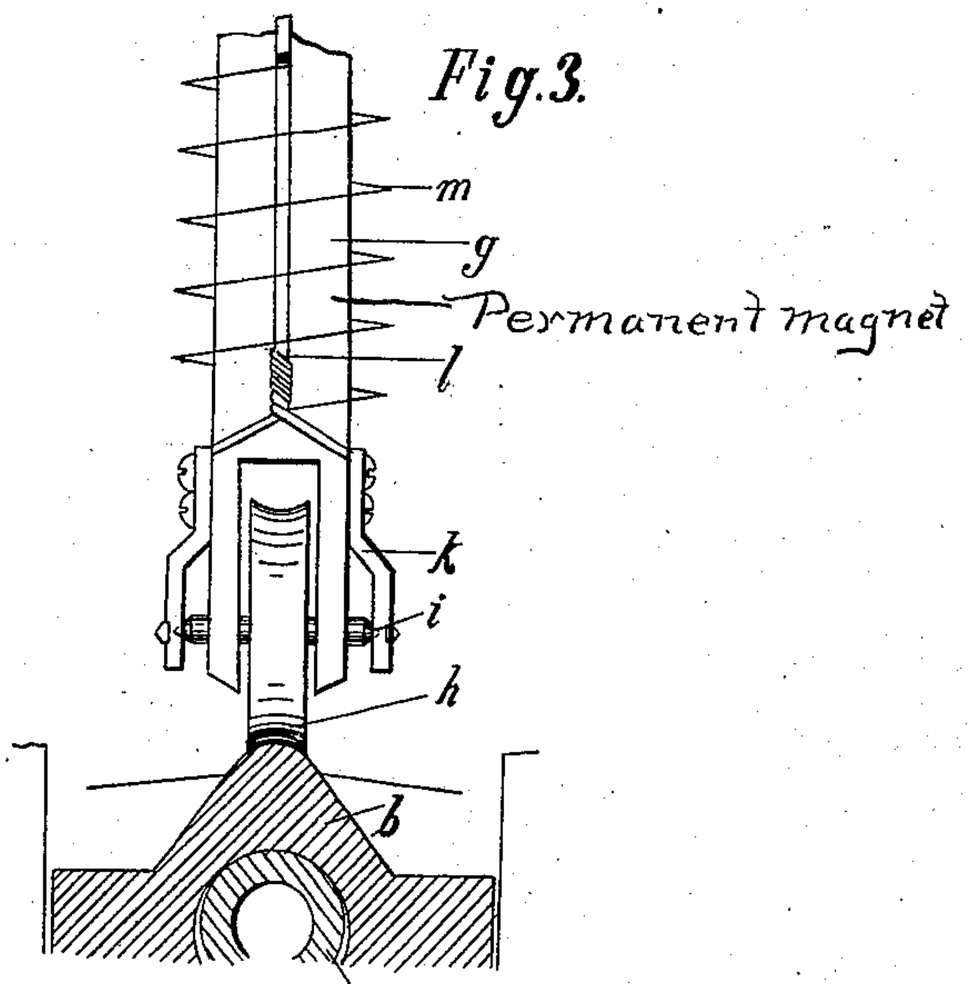


Fig. 2.

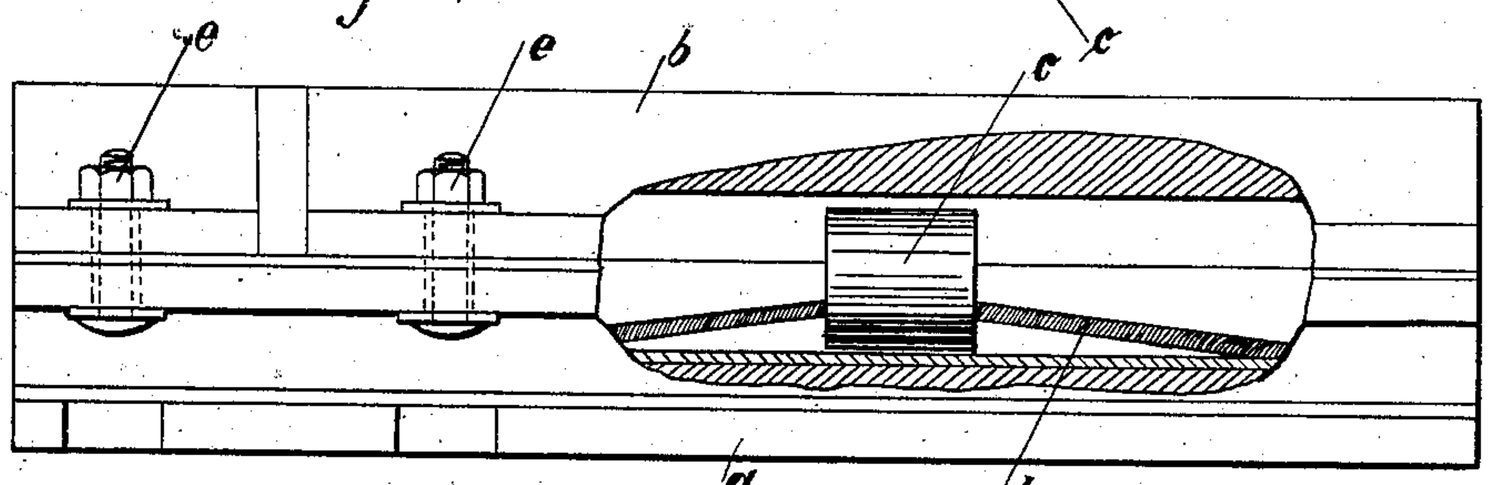
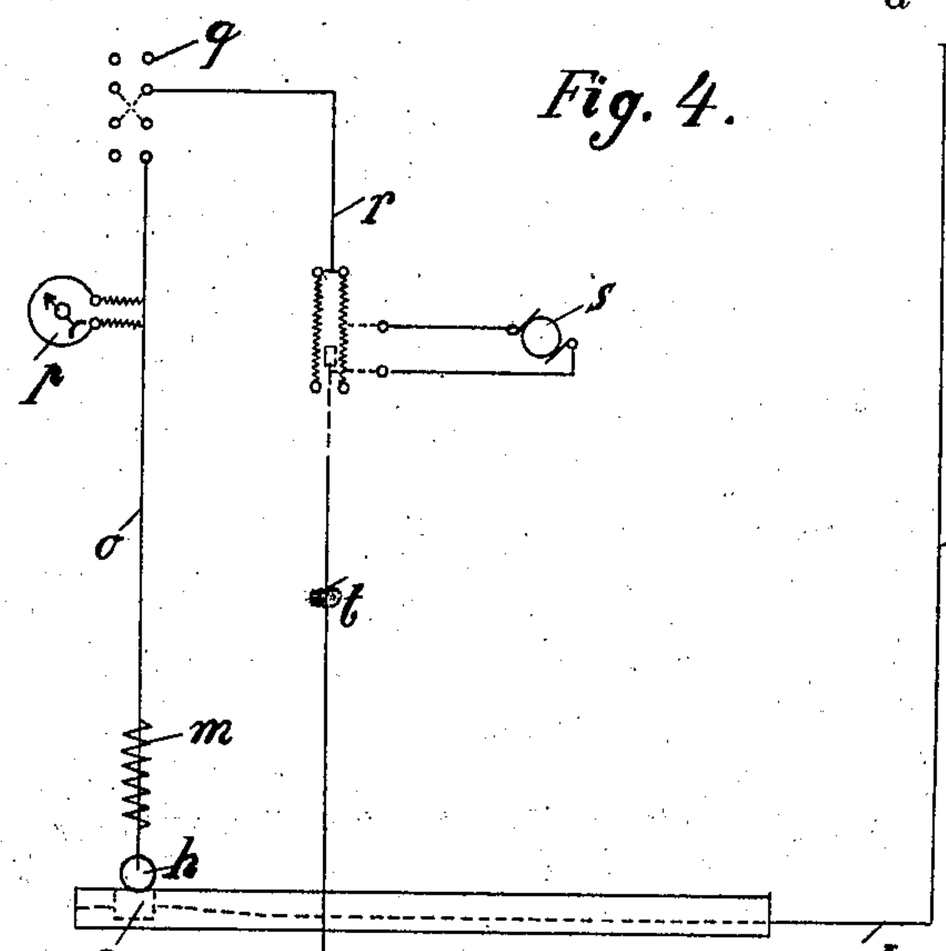
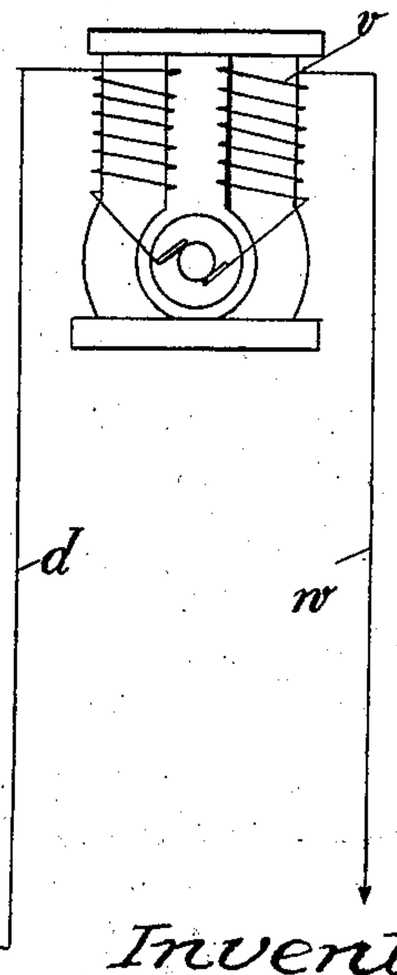


Fig. 4.





Witnesses:
Frank D. Ober
Waldo M. Chapin

Inventor
Karl Hora
by Munn & Rosenbaum
Attys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

KARL HORA, OF PARDUBITZ, AUSTRIA-HUNGARY.

SECTIONAL-CONDUCTOR ELECTRIC RAILWAY.

SPECIFICATION forming part of Letters Patent No. 693,394, dated February 18, 1902.

Application filed March 6, 1901. Serial No. 50,041. (No model.)

To all whom it may concern:

Be it known that I, KARL HORA, a subject of the Emperor of Austria-Hungary, residing at Pardubitz, Bohemia, in the Empire of Austria-Hungary, have invented certain new and useful Improvements in Sectional-Conductor Electric Railways, of which the following is a specification.

This invention relates to electric circuits and sectional conductors for tramways and the like in which the circuit for transmitting the current is carried in closed channel magnetizable carriers, which are magnetized when a car is situated over the section by a permanent magnet carried by the car, so that the sectional circuit-carrier is attracted by the magnet and electric current passes to the motor on the car. As soon as the car has left the section the latter ceases to be magnetic, the circuit-carrier therein falls into its position of rest, and the current is broken off automatically. The arrangement is suitably devised in such a manner that the magnet on the car carries a roller which runs a sectional conducting-rail to magnetize the latter and that the current passes through the roller to a winding provided around the magnet as a shunt-circuit before it passes to the motor in order to strengthen the magnet and to insure the certain magnetization of the section.

In order that this invention may be the better understood, I now proceed to describe the same in connection with the accompanying drawings.

Like letters refer to like parts in the various figures.

Figure 1 shows a transverse section through such a sectional conductor. Fig. 2 shows a part-sectional view. Fig. 3 shows the lower part of the car-magnet with the contact-roller, and Fig. 4 is a diagrammatic view of the arrangement of the circuits.

a is the base of a sectional conductor and carries the sectional conducting-rail *b*, which is detachably attached to the former by bolts and nuts *e*, so that by the removal of the nuts and the conducting-rail easy access is obtained to the channel containing the circuit *d*. This channel is provided with circuit-carriers *c*, in which rests the conducting-circuit *d*. Normally there is no electrical connection between the carrier *c* and the circuit *d*, respectively, and the conducting-rail *b*. Therefore the sections may be touched without danger. However, when a car is situated over a section the sectional conducting-rail *b* is magnetized, because a magnet *g*, provided on the car, makes contact with the rail *b* through a contact-roller *h*, and thus attracts the sectional carrier *c*, which holds the circuit *d*. The carrier *c* is conveniently constructed of an iron ring suitably insulated at the lower part from the base *a*, and the circuit *d* is attached inside the ring *c*. It will be seen that the arrangement is very simple and reliable. When the circuit-carrier *c* comes into contact with the sectional conducting-rail *b*, current passes from the circuit *d* through the carrier *c* and the sectional conducting-rail *b* to the motor on the car. The arrangement of the circuit is shown in Fig. 4. The current passes from the generator *v* to the circuit *d* through the carrier *c*, the roller *h*, and the winding *m*, surrounding the magnet *g*, to the circuit *o*, the measuring instrument *p*, the switch *q*, the circuit *r*, the motor *s* on the car, through the circuit *t* to the rail or return-circuit, and back through the circuit *w* to the generator *v*. The car then moves to the next section, and as the sections are somewhat shorter than half the length of the car only the section covered by the car is alive with current, while the other sections are without current, and therefore not dangerous. The current is caused to pass through the magnet-winding *m*, so that during the time in which the roller *h* (which runs on a pin *i* in bearing-cheeks *k*) is in contact with the sectional contacting rail *d* the magnet is strongly excited, and the corresponding carrier *c* is effectively attracted.

As before mentioned, the arrangement allows easy access to the channel and inspection or removal of the circuit, for which purpose it is only necessary to loosen the nuts *e* and remove the conducting-rail *b*, so to expose the carrier *c* and the circuit *d*.

What I claim, and desire to secure by Letters Patent of the United States, is—

In an electric railway, the combination of a closed conduit, a conductor extending therethrough, rings of magnetic material through which said conductor passes at intervals, the under side of said rings being covered by insulating material, and a magnet carried by the car for lifting the rings into contact with the top of the conduit.

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

KARL HORA.

Witnesses:

ADOLPH FISCHER,

CHARLES V. STRIZK.