

No. 675,247.

Patented May 28, 1901.

C. SCHINZER & N. J. GOLDFARB.
SWITCH FOR TRAMWAYS.

(Application filed Feb. 21, 1901.)

(No Model.)

Fig. 1.

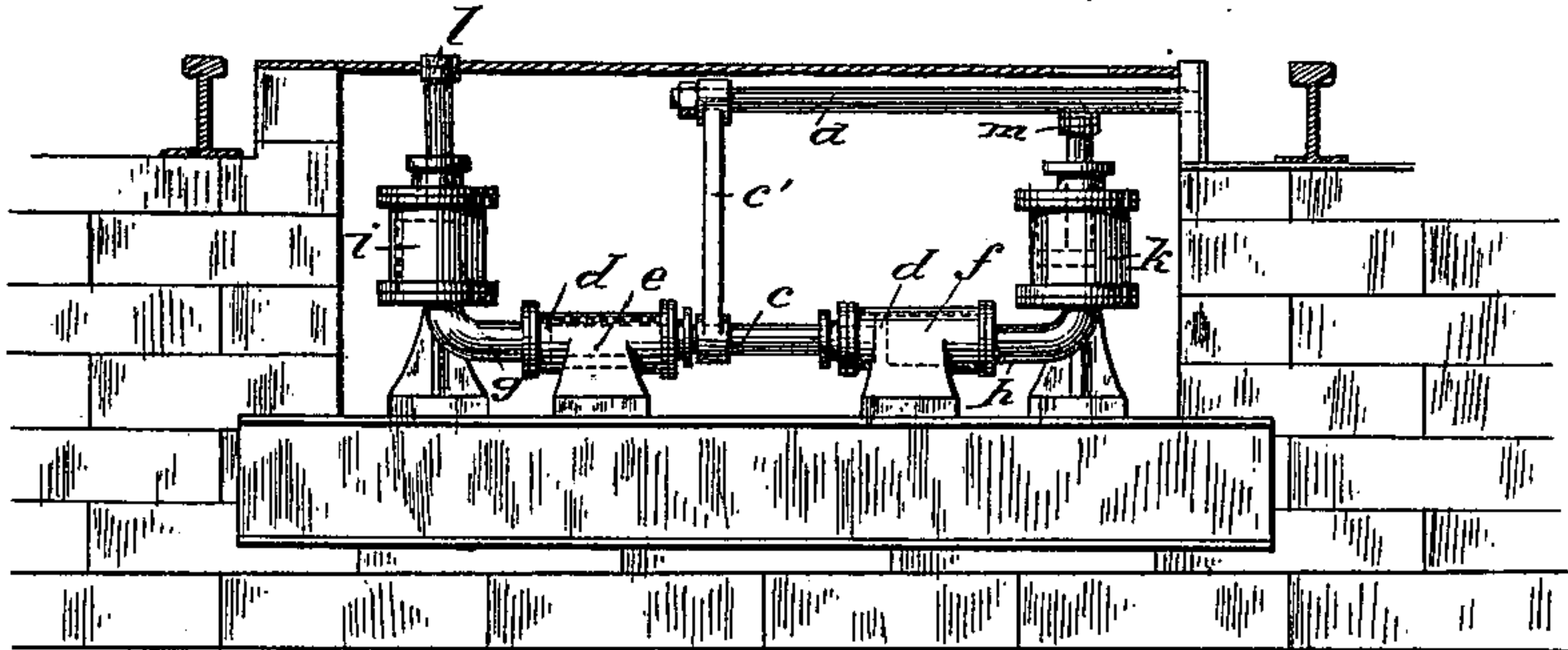
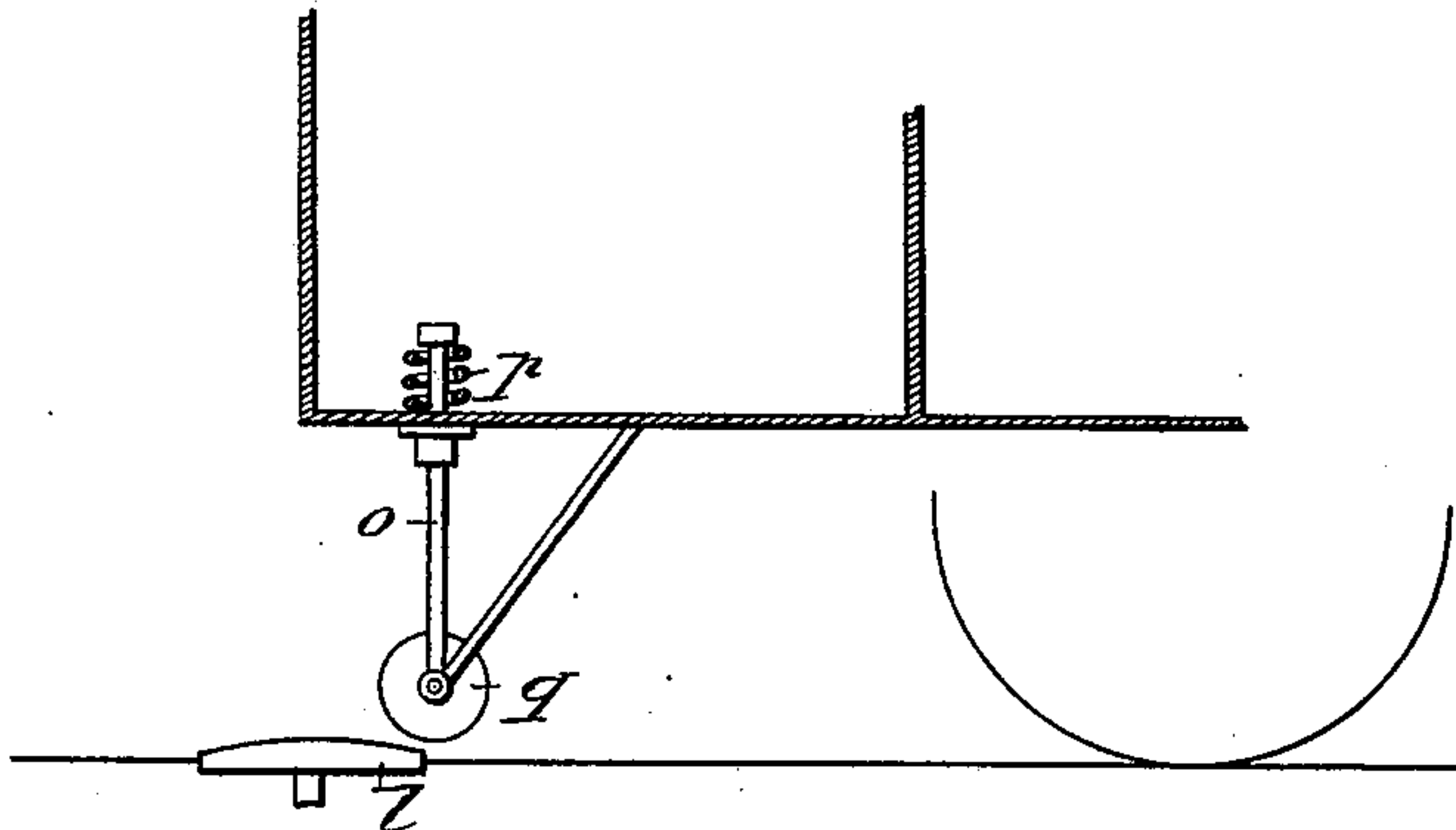


Fig. 2.



Witnesses:

J. D. McMahon.
E. Hoffman.

Inventors

Carl Schinzer
Nathusius Josef Goldfarb
by B. Singer. Att'y.

UNITED STATES PATENT OFFICE.

CARL SCHINZER AND NATHUSIUS JOSEF GOLDFARB, OF DUSSELDORF,
GERMANY.

SWITCH FOR TRAMWAYS.

SPECIFICATION forming part of Letters Patent No. 675,247, dated May 28, 1901.

Application filed February 21, 1901. Serial No. 48,209. (No model.)

To all whom it may concern:

Be it known that we, CARL SCHINZER and NATHUSIUS JOSEF GOLDFARB, subjects of the German Emperor, and residents of Dusseldorf, Germany, have invented certain new and useful Improvements in Switches for Tramways and the Like, of which the following is a specification.

This invention relates to improvements in switches for tramways and the like, and has more especially for its object to provide means for working the points from the carriage in movement.

In the accompanying drawings, which form a part of this application, Figure 1 is a vertical transverse section of the track, showing the switch-actuating device. Fig. 2 is a vertical section showing the pad serving to throw the device into operation.

Referring to the drawings, it will be seen that the switch *a* is connected, by means of a horizontal rod *b*, to a vertical arm *c'*. This arm is connected to the middle point of a piston-rod *c*, carrying on both its extremities a piston *d*. These pistons reciprocate in horizontally-arranged cylinders *e f*. The axis of these cylinders is perpendicular to the direction of the track. The outer ends of the cylinders *e f* are in communication, by means of angle-pieces *g h*, with two vertically-arranged cylinders *i k* of a larger diameter, containing two pistons which carry on the upper ends of their piston-rods pads *l m*. These pads project a little over the surface of the road, while the whole device hereinbefore described is arranged in a narrow pit in the earth.

The tram-car is provided with a device for actuating the described system. A vertical rod *o* is movably arranged in the bottom of the carriage and is held in a raised position by means of a spring *p* and carries on its lower end a pad *q*.

The cylinders *e f*, the communication-pieces *g h*, and the cylinders *i k* are filled with glycerin, water, or other liquid.

When the piston of one of the vertical cylinders is forced to lower, the piston of the corresponding horizontal cylinder is pushed forward, and with it the rods *c d* and the switch *a*. When the switch *a* is to be moved in the opposite direction, the other vertical piston is forced to sink. The horizontal piston-rod is moved in the opposite direction.

It will be understood that the details of the construction hereinbefore described can be altered without departing from the principle of our invention—for instance, by replacing the liquid by air, &c.

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

1. In a device for actuating switches the combination of two pistons moving in two vertical cylinders with two horizontally-arranged cylinders having two pistons with a common piston-rod, a vertical and horizontal rod connected with the switch and means for actuating the said vertical pistons substantially as and for the purpose described.

2. The improved railway-switch, comprising two vertical cylinders and two smaller horizontal cylinders a movable piston in each cylinder a common piston-rod between the horizontally-movable pistons, means for connecting said piston-rod to the switch, vertically-extending piston-rods on the vertically-movable pistons, and a suitable fluid in the spaces between each vertically and horizontally movable piston, substantially as set forth.

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

CARL SCHINZER.
NATHUSIUS JOSEF GOLDFARB.

Witnesses:

WILLIAM ESSENWEIN,
P. LIEBER.