L. SCHULTHEIS.

LUBRICATOR FOR ELEVATOR GUIDE RAILS.

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1,105,929. Patented Aug. 4, 1914.

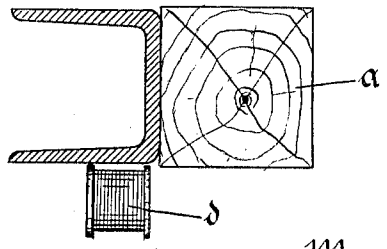


Fig. 1.

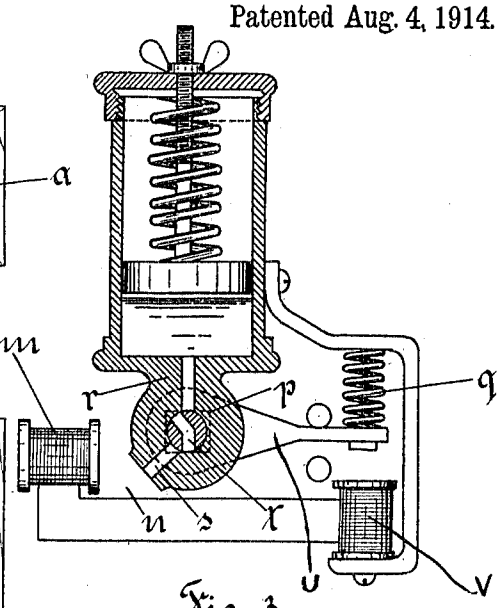


Fig. 3.

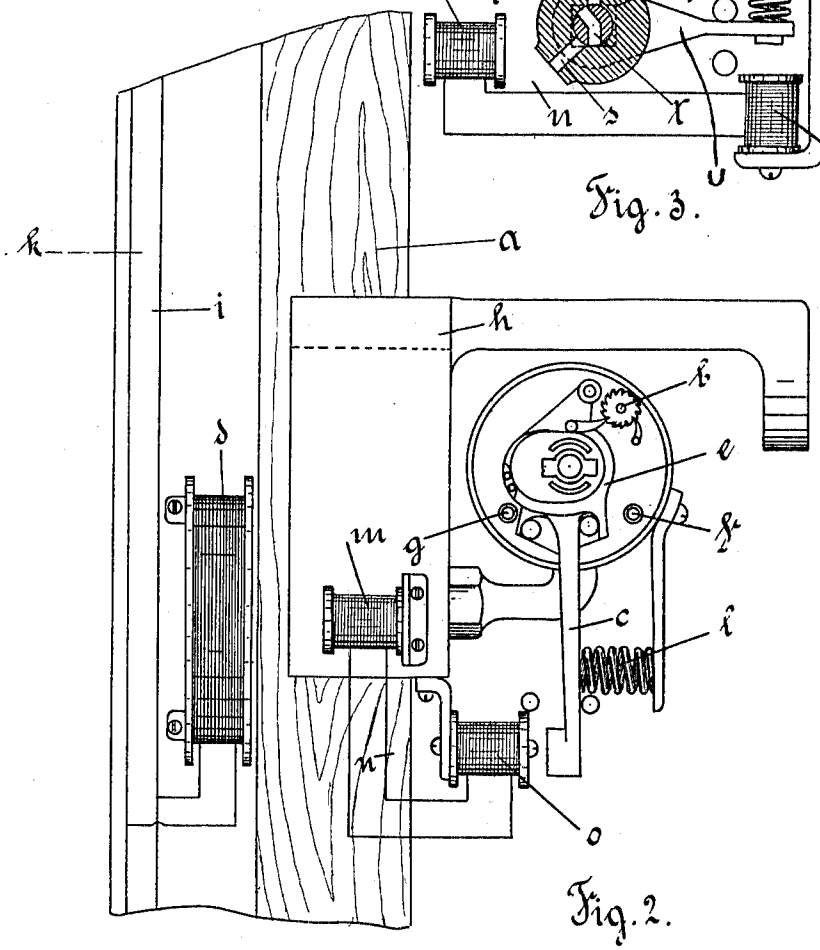


Fig. 2.

Witnesses.

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UNITED STATES PATENT OFFICE.

LUDWIG SCHULTHEIS, OF FRANKFORT-ON-THE-MAIN, GERMANY.

LUBRICATOR FOR ELEVATOR GUIDE-RAILS.

1,105,929. Specification of Letters Patent. Patented Aug. 4, 1914.

Application filed January 24, 1912. Serial No. 673,124.

To all whom it may concern:

Be it known that I, LUDWIG SCHULTHEIS, a citizen of the German Empire, residing at Frankfort-on-the-Main, Hesse-Nassau, Prussia, Germany, have invented certain new and useful Improvements in Lubricators for Elevator Guide-Rails, of which the following is a specification.

Devices for lubricating the guide rails of elevators and the like which are operated automatically by means of projections arranged on the track, at intervals as far apart as the necessity for lubrication demands, are well known.

It is the object of this invention to produce an electrically operated lubricating device consisting substantially of a lubricator carried by the elevator and adapted to be operated by electric or magnetic action exerted at suitable points along the guide rail. It is especially desirable to exert this influence without any actual touching of the movable lubricating device on the elevator, by the stationary electrical devices located at intervals on the guide rails.

The invention will first be hereinafter more particularly described, with reference to the accompanying drawings, which form a part of this specification, and then pointed out in the claims at the end of the description.

In said drawings: Figure 1 is a top plan view of a permanent magnet secured to the guide rail which is shown in section; Fig. 2 is a side elevation of the lubricant container, showing also a portion of the guide rail, and a permanent magnet attached thereto, and Fig. 3 is a cross section of a modification of the lubricant container shown in Fig. 2, with the temporary magnets attached thereto.

Referring to the drawings, in which the same letters of reference are used to denote corresponding parts in different views, the letter *a* denotes a guide rail of an elevator car and *h* the surface for the lubricating shoe. Instead of the usual mechanical projections on the guide rail there are provided at points where it is desired that lubrication should take place, a magnet or magnets *d* having outside excitation and connected in the electric circuit *i*. In the lubricating apparatus itself there is provided a ratchet-wheel *b* working through a shaft and a train of gearing, upon a piston which is gradually forced downward into the cylinder of the lubricating press, thus causing the lubricator to be forced out of the cylinder and onto the track, such a device being shown and described in my Patent No. 1,027,909, dated May 28, 1912. The actuation of the ratchet-wheel *b* is effected by means of a lever *c* controlled by the spring *l* and held normally out of contact with the magnetic coil *o*, the windings of which are connected with those of the coil *m*.

The operation of the device is as follows: As the elevator or lift is descending or ascending, the lubricating device carried by it will at certain times reach a position adjacent or near the permanent magnets or coils *d*, thereby causing an induced current in the coil *m*, which in turn will excite the coil *o* and cause the spring held lever *c* to be attracted toward it, thus throwing a pinion located on the other end of the lever against the ratchet wheel *b* through which a shaft and train of gearing forces the piston downward in the cylinder, and the lubricator oil onto the rails.

Fig. 3 shows a modification of the lubricating mechanism. In this construction a supply of oil is placed under spring pressure and shut off from the lubricating shoe on the track by means of the cock *p*. This cock *p* has attached to one end a lever *u* held normally out of contact with the coil *v* by means of the spring *q*. As has been explained before, this lever *u* is drawn down an instant by means of the current excited in the coils during the motion of the coil *m* about the magnet *d*, thus turning the cock *p* and admitting the oil through the channel *r*, *s*, *t*, to the lubricating shoe. It will be observed that in this modification the electric current merely releases the closure of the oil container and the oil is forced out on the track by spring pressure instead of the electrically actuated devices first described.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. In a device of the character described, the combination with a track and a shoe traveling thereon, of a lubricant container mounted on said shoe, means for actuating said lubricant container comprising a temporary magnet carried by said shoe, a permanent magnet mounted on said track adapted to excite the temporary magnet in passing the same, and means whereby the

excitation of the temporary magnet releases the oil.

2. In a device of the character described, the combination with a track and a shoe traveling thereon, of a lubricant container mounted on said shoe, a piston in said container, mechanism at the end of said container for moving said piston, including a lever, a temporary magnet for actuating said lever, and means for exciting said temporary magnet.

3. In a device of the character described, the combination with a track, of a lubricant container adapted to travel back and forth on said track, mechanism carried by said container for effecting a discharge of lubricant, including a temporary magnet, a lever held normally out of contact with said temporary magnet, and means mounted on said track for exciting said temporary magnet whereby said lever is actuated.

4. In a device of the character described, the combination with a track, of a lubricant container adapted to travel back and forth on said track, means for effecting a discharge of lubricant onto the track, consisting of a lever, a temporary magnet, a permanent magnet for exciting said temporary magnet and thereby drawing said lever toward said temporary magnet, and means for normally holding said lever out of contact with said temporary magnet.

In testimony whereof I affix my signature, in presence of two witnesses.

LUDWIG SCHULTHEIS.

Witnesses:

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MAX HERMANN HÖPPNER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."