

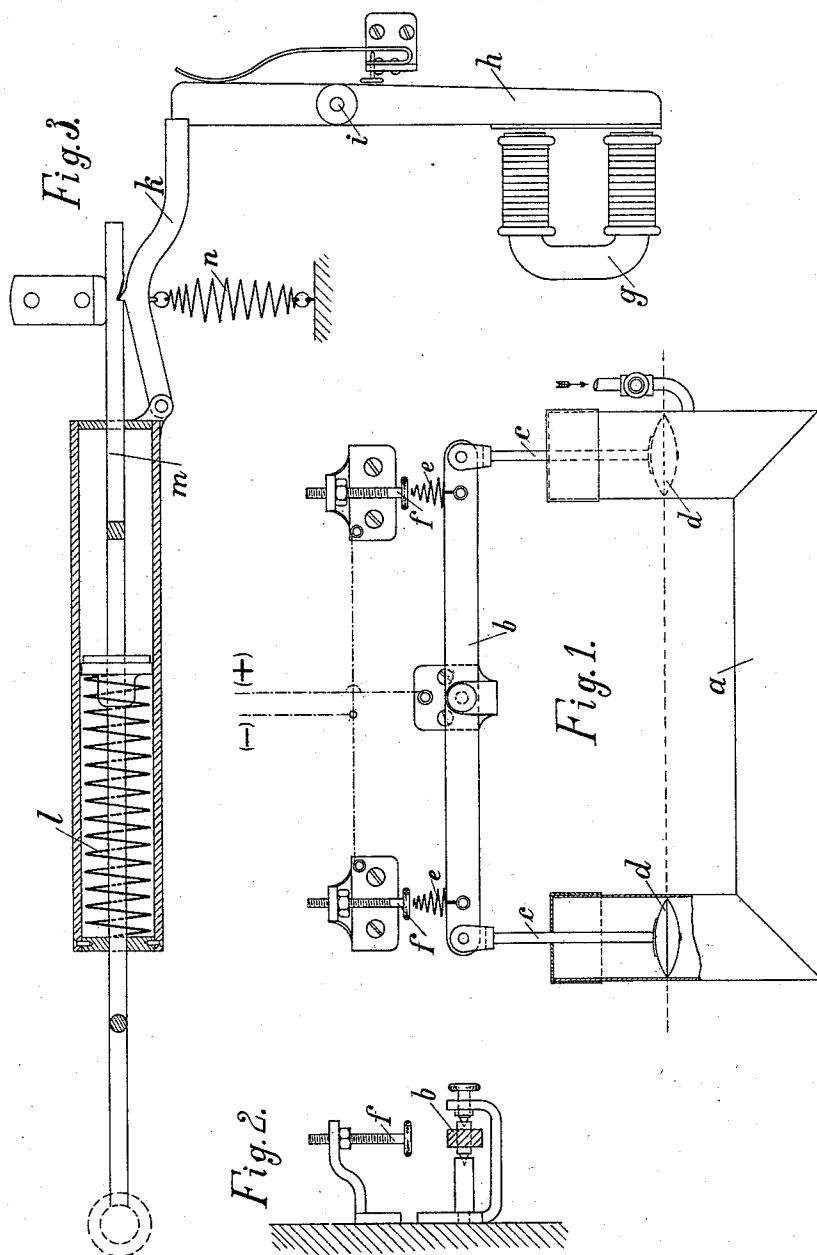
(No Model.)

J. ACKERMANN.

AUTOMATIC DISENGAGING DEVICE FOR ATMOSPHERIC BRAKES.

No. 532,745.

Patented Jan. 22, 1895.



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UNITED STATES PATENT OFFICE.

JOSEPH ACKERMANN, OF EITORF, GERMANY.

AUTOMATIC DISENGAGING DEVICE FOR ATMOSPHERIC BRAKES.

SPECIFICATION forming part of Letters Patent No. 532,745, dated January 22, 1895.

Application filed June 16, 1894. Serial No. 514,801. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH ACKERMANN, a subject of the King of Prussia, residing at Eitorf-on-the-Sieg, in the Kingdom of Prussia, German Empire, have invented new and useful Improvements in Automatic Disengaging Devices for Atmospheric Brakes, of which the following is a specification.

This invention relates to automatic disengaging devices for atmospheric brakes such as Carpenter or Westinghouse brakes and the object is to provide means for setting the brakes automatically in case of extraordinary longitudinal and lateral undulations of the locomotives and railway cars, and also in the case of brakes of tires and rails, of derailments, sunken spots and the like.

The invention is represented in the accompanying drawings.

Figures 1 and 3 show the general arrangement, while Fig. 2 represents a part thereof in side view.

The apparatus consists of a U-shaped water level *a*, above which is arranged a scale-beam *b*, the lever-arms *c c* of which carry floats *d d*. These floats rest upon the liquid contained in the water-level and they follow the changes of the level of the liquid in the two arms of the water-level, the latter being rigidly connected to the railway-car. The scale-beam *b* is connected in any suitable manner preferably at its support to the positive pole of an electric battery, and carries on its outer end spiral springs *e e*. Above the latter and rigidly secured to the car there are provided contact screws *f f* arranged in any suitable guides, the distance of which screws from the spiral springs *e e* may be regulated by means of the threads of the screws *f f*. The latter are connected with the negative pole of an electric battery. If the undulations of the cars increase, the spiral spring and contact screw will touch each other, whereby the circuit is closed. This current acts on a magnet *g* (Fig. 3), so that the armature *h* is attracted.

The armature *h*, the fulcrum of which is at

i, supports a stop lever *k*, which engages a rod *m* actuated by a spiral spring *l*. This disengaging device may of course be substituted by any other suitable arrangement fit for the intended purpose.

When the armature *h* is attracted by the magnet *g* its upper end becomes disengaged from the stop lever *k*, and the latter is pulled downward by the spiral spring *n*. The rod *m* is thus released and under the effect of the spring *l* it is pushed forward. The rod *m* may communicate by any suitable means, with the air cock of the brake. The air cock of the brake is therefore opened as soon as the circuit is closed in the apparatus.

It is advantageous to put into the circuit all the apparatus of the whole train, so that in the case of an accident on one sole car all the brakes are immediately put in action.

As a liquid I employ preferably glycerine mixed with water or mercury and in accordance with the nature of this liquid the material and measures are to be selected.

At sudden short and violent shocks the spiral springs permit a sufficient closure of the circuit for causing the magnet to act. The contact screws are regulated in such a manner, that on ordinary normal undulations of the car the circuit will not be closed.

I claim—

In a device for automatically setting the brakes of cars, a liquid receptacle, a beam balance, floats suspended therefrom and depending into the receptacle, contact pieces *f*, in proximity to the beam ends and electrical connections extending from said beam and contact pieces, and means controlled by the electric circuit for controlling the brakes substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH ACKERMANN.

Witnesses:

PETER FLECKING,
WILHELM HENSELER.