

No. 674,226.

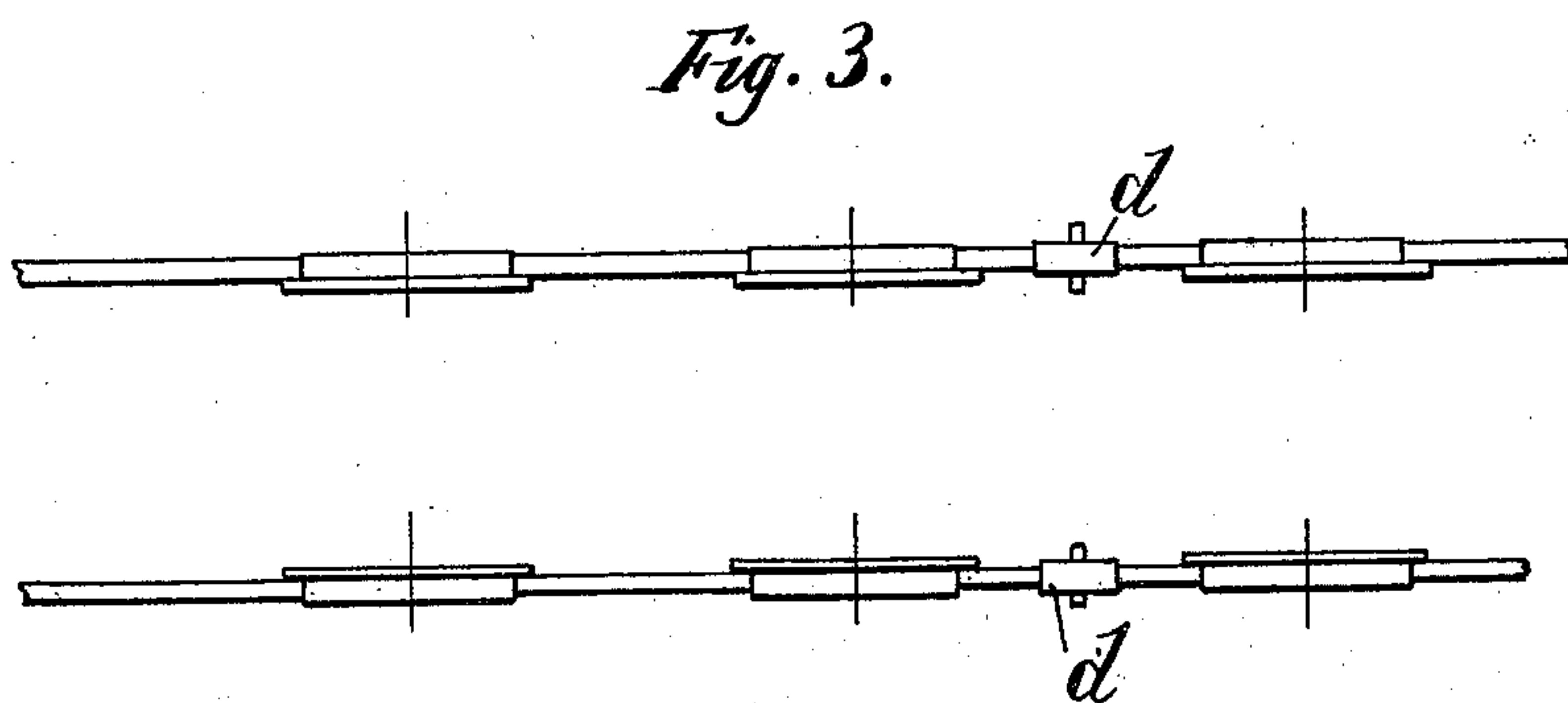
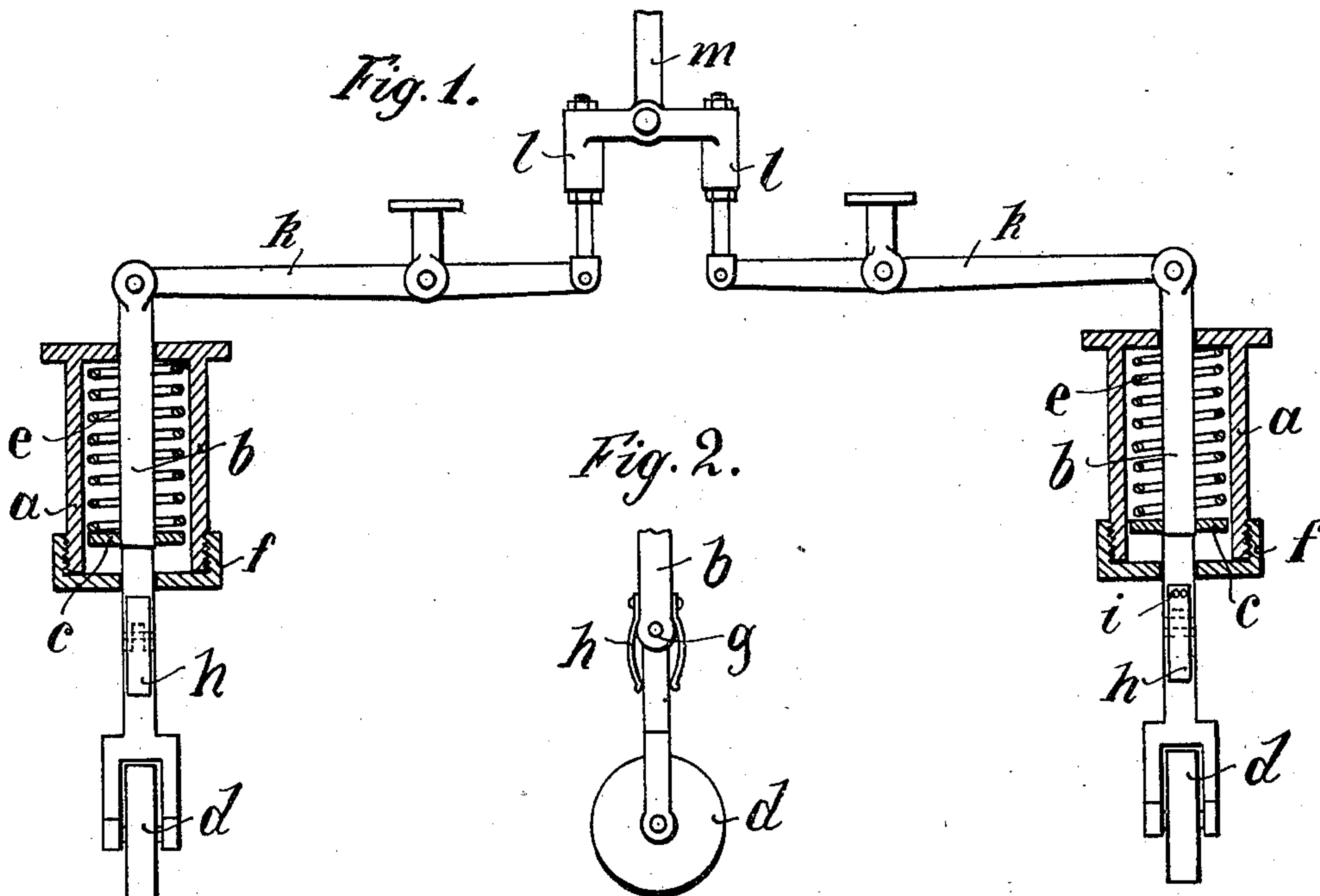
Patented May 14, 1901.

H. UNTIEDT.

APPARATUS FOR PREVENTING ACCIDENTS TO RAILWAY VEHICLES.

(Application filed Dec. 11, 1900.)

(No Model.)



Witnesses:
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UNITED STATES PATENT OFFICE.

HEINRICH UNTIEDT, OF SCHWEINFURT, GERMANY.

APPARATUS FOR PREVENTING ACCIDENTS TO RAILWAY-VEHICLES.

SPECIFICATION forming part of Letters Patent No. 674,226, dated May 14, 1901.

Application filed December 11, 1900. Serial No. 39,512. (No model.)

To all whom it may concern:

Be it known that I, HEINRICH UNTIEDT, civil engineer, a subject of the Emperor of Germany, residing at Schweinfurt, Bavaria, in the Empire of Germany, have invented certain new and useful Improvements in Apparatus for Preventing Accidents to Railway-Vehicles, of which the following is a specification.

10 My invention relates to apparatus designed for preventing accidents to railway-vehicles through the breakage of rails, the train running off the track, collisions, the breakage of wheels, springs, or the like, which apparatus 15 will apply an automatic brake on the passage of the locomotive-engine over the point where the breakage has occurred or in the event of some other mishap.

20 The apparatus constructed according to my said invention is represented in the accompanying drawings, wherein—

Figure 1 is a view of the device, partly in elevation and partly in vertical section; Fig. 2, a side view of a contact-roll forming the chief feature of the improved apparatus. Fig. 3 is a diagram showing the arrangement of the contact-roll on the engine.

Between the two rear axles of the locomotive-engine or else between the last wheel of 30 the engine and the first wheel of the tender I attach to either side of the frame a cylinder *a*, wherein a pressing-rod *b* is guided. This rod may be square at its lower part and is prevented from turning by a corresponding 35 hole in the cover *f* of the cylinder. At its lower extremity the pressing-rod carries a contact-roller *d*, pressed downward by a spiral spring *e*, situated in the interior of the cylinder *a*. It is expedient to allow the spiral 40 spring to bear upon a nut *c*, screwed upon the rod *b*. The pressing-rod *b* is made in two parts, connected by a joint *g*. Any accidental turning movement at the joint *g* is prevented by two plate-springs *h*, which press 45 against the two sides of the joint and whose tension may be varied by screw-threaded bolts *i*. The upper end of the pressing-rod *b* is attached to one end of a lever *k*, whose other end is joined to an arm of a connecting-piece *l*. The other arm of this connecting-piece is attached to the lever of a similar 50 apparatus arranged on the other side of the

engine. The connecting-piece *l* is connected by a rod *m* with the valve (not shown) of the air-pressure brake.

55 On the passage of the front wheels of the engine over a point where the rails are broken the wheels will either force the broken-rail ends apart or tilt them over. This causes one or both of the rolls *d*, which usually run 60 upon the top of the rails, to pass from the rail and to be pressed downward by the spring *e*. It then strikes in the continued movement of the engine either upon the ground or upon the uninjured part of the track, and owing to 65 this resistance the rod *b* bends on pin *g* to the rear, one of the springs *h* yielding to the pressure. After this bending movement of the pressing-rod *b* by reason of its own weight and that of the roll the pressure of the spiral 70 spring moves rod *b* downward to such an extent that the lever *k* through the medium of the connecting-piece *l* and rod *m* will move on its pivot and forcing rod *m* upward will open the valve of the brake. In consequence 75 of this action the train is stopped within a short distance. When one roller leaves the track, the other will also leave its track, for the reason that all the parts of the device are attached by the pivots of the levers rigidly 80 to a fixed part of the engine, tender, or car, and all must move laterally together, causing the displacement of one roller to displace the other also. In like manner the breakage of a wheel-tire or of a carrying-spring of the en- 85 gine will set the apparatus in operation, inasmuch as by the downward pressure the roll turns, in conjunction with the lower part of the pressing-rod, about the joint, and by the pressure of the spiral spring in the cylinder 90 the upper part of the pressing-rod is forced downward, together with the lever extending to the valve of the automatic brake, thereby causing this valve to open.

It is assumed that by the breakage of the 95 tire or the spring the weight of the engine will give rise to a downward movement at this point, because the other tires or springs cannot carry the weight alone.

In the event of the wheels of the locomotive-engine jumping off the rails the apparatus will also be set in operation. 100

This apparatus may be applied to every passenger-carriage, especially of fast trains,

and serve as a safety device. This has particularly for its object to cause the stoppage of the train in case a single carriage should run off the track during a journey.

5 It will of course be understood that instead of being held in a cylindrical guide the rod *b* may be held in any other rectilinear guide.

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

10 The combination with a railway-vehicle, of a slideway rigidly secured thereto on each side above the rails of the track, a rod slidably mounted in each slideway normally spring-pressed downward, means for supporting the
15 lower end of each rod to yield in the direction of the rear of the vehicle, a roller on the yield-

ing lower end of each rod adapted to run on the rails, a rod *m* adapted for attachment to the air-brake valve, a connecting-piece *l*, and two levers pivoted centrally to the car, one of 20 said levers being connected pivotally at one end to the top of each of the slide-rods and at its opposite end to the connecting-piece *l*, substantially as described.

In testimony whereof I have hereunto set 25 my hand, in presence of two subscribing witnesses, this 5th day of September, 1900.

HEINRICH UNTIEDT.

Witnesses:

CARL WEISS,
NEWMANN FRANK.