

No. 788,091.

PATENTED APR. 25, 1905.

J. BRITZ.  
AUTOMATIC RAILROAD BRAKE.  
APPLICATION FILED SEPT. 29, 1904.

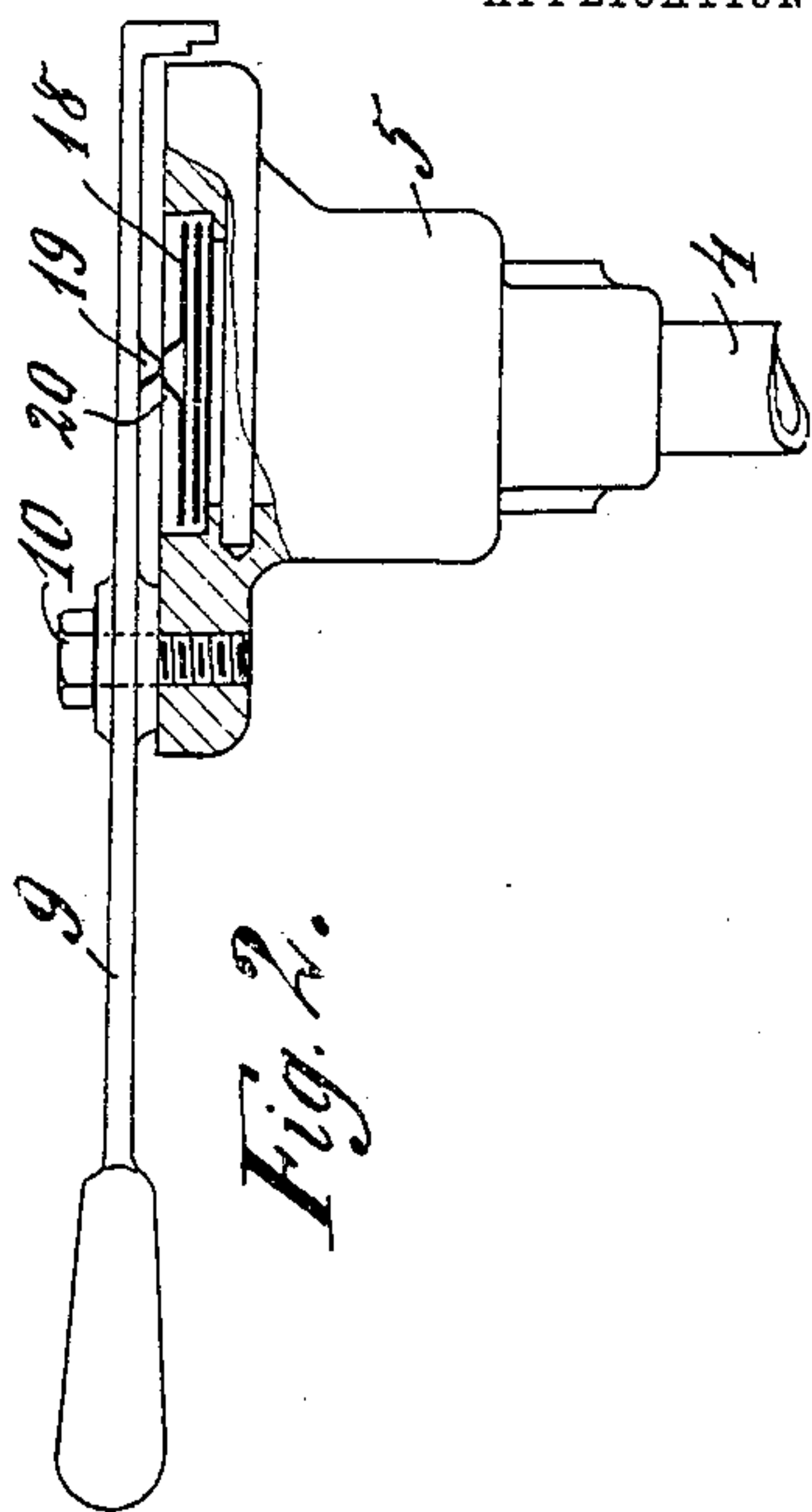


Fig. 2.

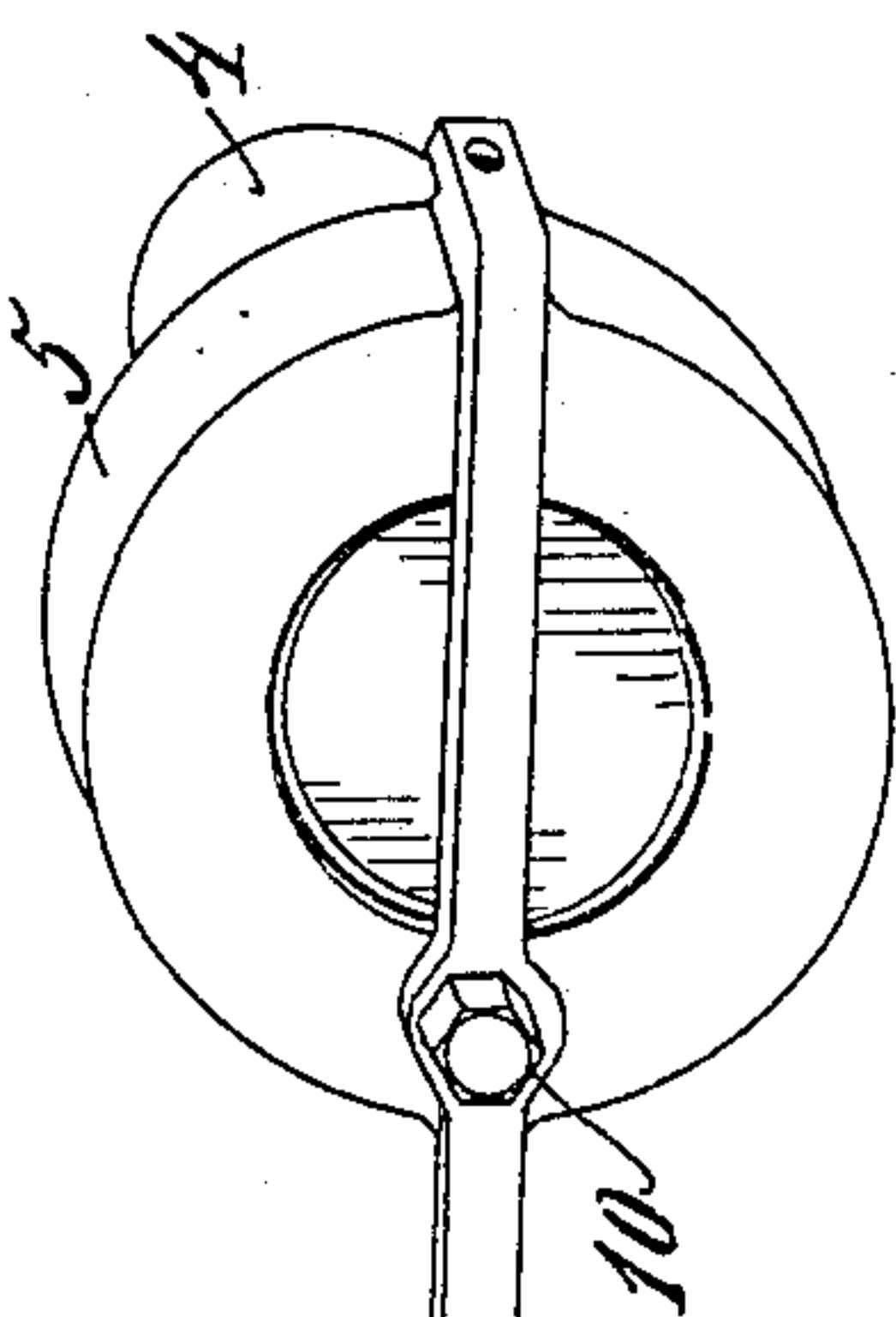
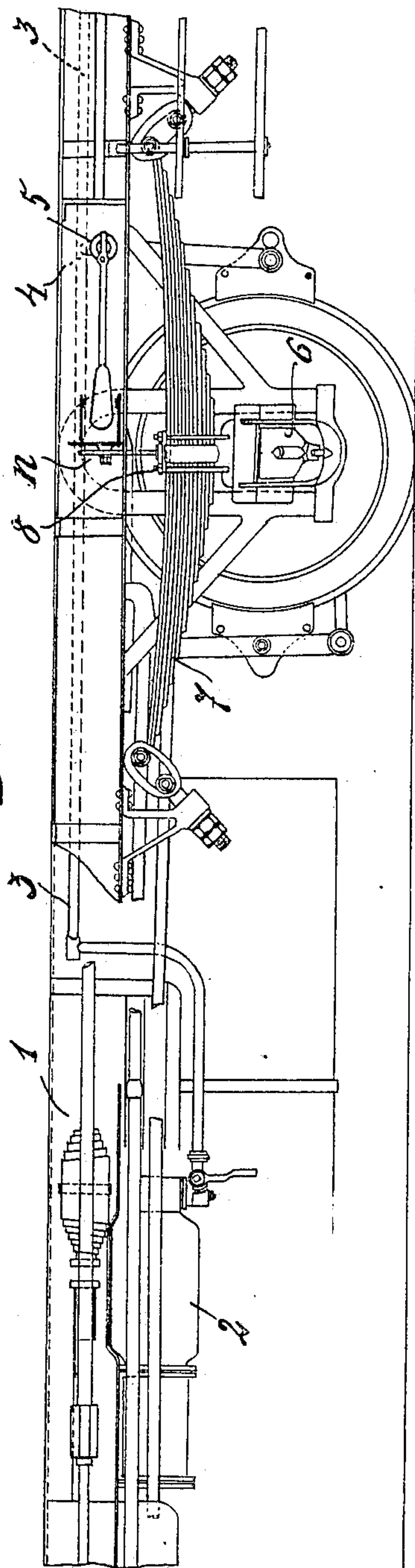


Fig. 1.

Fig. 3.



Witnesses:

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# UNITED STATES PATENT OFFICE.

JÁNOS BRITZ, OF BUDAPEST, AUSTRIA-HUNGARY.

## AUTOMATIC RAILROAD-BRAKE.

SPECIFICATION forming part of Letters Patent No. 788,091, dated April 25, 1905.

Application filed September 29, 1904. Serial No. 226,465.

*To all whom it may concern:*

Be it known that I, JÁNOS BRITZ, a subject of the King of Austria-Hungary, and a resident of Budapest, in the Kingdom of Austria-Hungary, and whose post-office address is the same place, have invented certain new and useful Improvements in Automatic Railroad-Brakes, of which the following is a specification.

Arrangements which automatically operate the brakes upon excessive oscillation of the vehicles are well known. For this purpose adjustable stops are arranged in connection with the axle-bearing of the wheel—that is, on the yoke of the bearing-spring—which upon dangerous oscillations of the vehicle operate a stopping device inserted in the brake-pipe and arranged between said stops. This arrangement only works when the vehicles oscillate in a vertical direction.

The object of the present invention is to further improve this arrangement, and this is effected by the fact that the stopping device arranged in the brake-pipe acts not only upon excessive perpendicular oscillations, but also when horizontal oscillations occur which pass a certain limit. Also an arrangement is provided which indicates the point on the line where the brake arrangement comes into action, so that the defective part of the line which caused such oscillation or shock may be easily found and repaired.

Figure 1 of the annexed drawings is a perspective view of the novel arrangement, and Fig. 2 illustrates the improved stopping device with the indicating arrangement partly in plan and partly in sectional view. Fig. 3 is a general view of the improved parts arranged on the truck of a railway-car.

1 is the frame of the car-truck; 2, the air-brake; 3, the air-brake pipe. 4 is a branch of said air-brake pipe leading to the stopping device 5.

6 is one of the axle-bearings, and 8 represents the yokes of the bearing-springs 7.

9 is the lever which operates the stopping device 5 and is journaled on this latter by means of the screw 10.

*n* is the rod, fixed in any suitable manner on the axle-bearing 6 or on the yokes 8 of the

bearing-spring 7 and supporting the adjustable stops *o* and *o'*. On these stops other abutments, 11, 12, 13, and 14, are arranged in a manner to be adjusted in horizontal direction, while the distance of the upper pair of abutments 11 12 from the lower pair of abutments 13 14 may be varied by adjusting the stops *o* and *o'* on the rod 15. The whole system of abutments is adjustable on the rod *n* by means of a set-screw 16. Between the abutments 11 12 13 14 projects the rounded end 17 of the operating-lever 9. The abutments 11 12 13 14 are formed as inclined planes and are arranged in such a manner that they rotate the lever 9 either upwardly or downwardly on excessive horizontal oscillations of the carriage taking place, by which means the brake will be operated. Such dangerous oscillations are not only caused by shaking action, but also by other causes, especially with four or six axled railway-vehicles or steam-engines with bogies. The latter generally can oscillate only so far with regard to the underframe as the curves of the rails permit; but when the bogie deviates from its central position—for instance, should it leave the track—oscillations much greater than usual will be caused, so that the above-mentioned arrangement operates the brakes in this case also.

The stopping-valve (illustrated in Fig. 2) consists of a box 5, connected to the brake-pipe 3 by means of a branch or joint 4. The box 5 is closed by means of a number of disks 18, held in position by a pin 19, provided on the lever 9, pressing (in the central position of the lever) upon a projection 20, pressed out of the outer disk 18. By this means all the disks 18 are pressed against a shoulder in the box 5, and when the lever 9 is brought out of its central position by the pressure of the before-mentioned abutments the pin 19 leaves the projection 20, so that the disks 18 are blown out by the air-pressure in the brake-pipe. The disks 18, which may be of various and striking colors, are scattered all over that part of the line where the brake was operated, so that this place is easily located.

What I claim, and desire to secure by Letters Patent, is—

1. An automatic stopping device for vehi-



cles, comprising an air-brake, an operating-lever, inclined abutments carried by a fixed portion of the vehicle adjacent to the lever and arranged to be actuated by excessive oscillations of the vehicle to operate the lever.

2. In means for operating the brakes on excessive oscillation of railway-vehicles, the arrangement of inclined surfaces on adjustable abutments adapted to release the closing device of the brake-pipe.

3. In means for operating the brakes on excessive oscillation of railway-vehicles, the arrangement of inclined surfaces on abutments adapted to release the closing device of the brake-pipe, means for adjusting said abutments horizontally and means for adjusting said abutments vertically.

4. In a stopping device for vehicles, a brake, means for operating the same, and means for marking on the roadway the location where the brake was operated.

5. In a stopping device for vehicles, an air-brake, means actuated by excessive oscillation of the vehicle to apply the brake, and means for marking on the roadway the location where the brake was applied.

6. In a stopping device for vehicles, an air-brake, an operating-lever, inclined abutments adjustably mounted on a fixed portion of the vehicle adjacent to the lever and arranged to engage therewith upon excessive horizontal or vertical oscillation of the vehicle to apply the brake, and means for marking the location where the brake was applied.

7. The combination with the arrangement

of the abutments described of a stopping device with indicating arrangement comprising a box connected to the brake-pipe and closed by a convenient number of suitably-colored disks pressed against the box by the operating device acted upon by said abutments and said disks being freed on displacement of said operating device.

8. An indicating arrangement comprising a box connected to the brake-pipe and closed by a number of disks, the outer of said disks being provided with a projection engaged by a projection provided on the lever operated by abutments mounted on parts connected rigidly with the axle-bearings of the car.

9. An automatic stopping device for vehicles, comprising an air-brake, a valve arranged in the air-supply pipe, metallic disks removably arranged on the valve-seat, a lever bearing upon the outer disk to hold the valve closed, inclined abutments adjustably mounted upon the vehicle on each side of and adjacent to the lever, whereby excessive oscillation of the vehicle in either direction will actuate the lever, releasing the disks, applying the brake and indicating by the scattered disks the location where the brake was applied.

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

JÁNOS BRITZ.

Witnesses:

EUGENE HERSANY,  
LOUIS VANDORN.