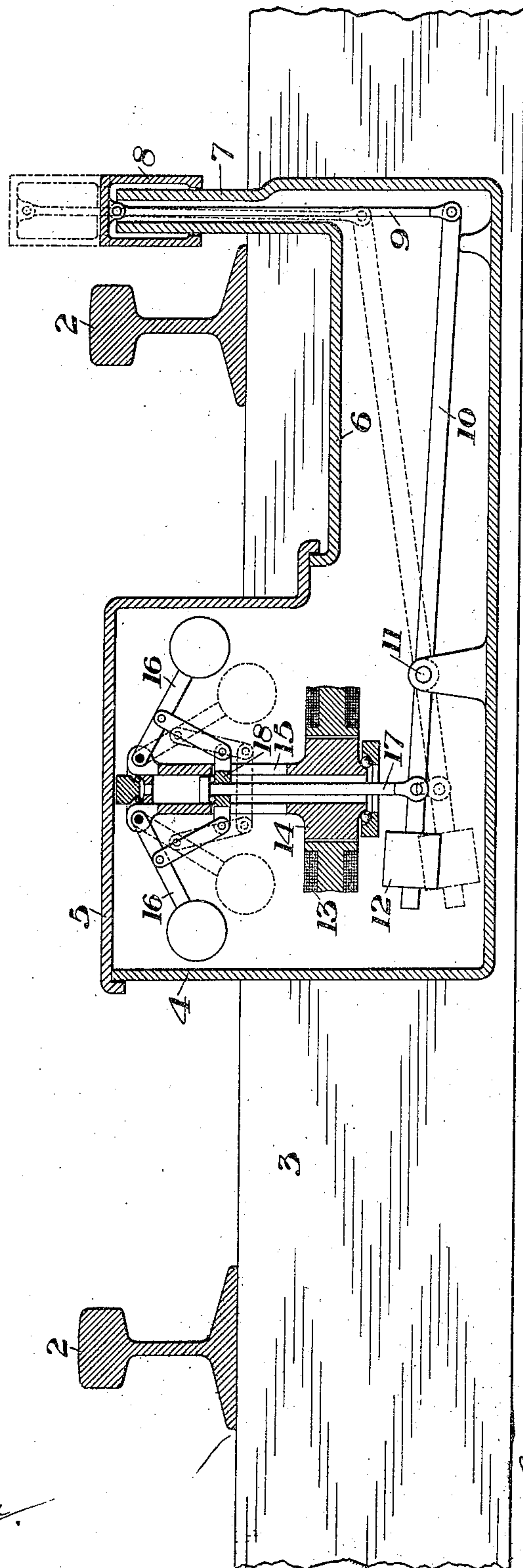


No. 897,321.

PATENTED SEPT. 1, 1908.

J. B. STRUBLE.
CENTRIFUGALLY ACTUATED TRAIN STOP.

APPLICATION FILED APR. 7, 1908.



WITNESSES

W. W. Swartz
R. A. Balderson

INVENTOR

J. B. Struble,
by B. Howard, Byrnes &
Parnell,
his Attys.

UNITED STATES PATENT OFFICE.

JACOB B. STRUBLE, OF SWISSVALE, PENNSYLVANIA, ASSIGNOR TO THE UNION SWITCH & SIGNAL COMPANY, OF SWISSVALE, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

CENTRIFUGALLY-ACTUATED TRAIN-STOP.

No. 897,321.

Specification of Letters Patent.

Patented Sept. 1, 1908.

Application filed April 7, 1908. Serial No. 425,791.

To all whom it may concern:

Be it known that I, JACOB B. STRUBLE, of Swissvale, Allegheny county, Pennsylvania, have invented a new and useful Improvement in Centrifugally-Actuated Train-Stops, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification, in which the figure of the drawing is a transverse section illustrating the embodiment of my invention and its application to a railroad-track.

My invention has relation to track stops for railways of that class in which a stop is moved into and out of operative position with respect to the rails, and which in its operative position is designed to engage with a valve or trip arm on a passing train and thus effect the setting of the brakes to either stop the train or decrease its speed.

The object of my invention is to provide a simple device of this character which can be operated by either an alternating current or a direct current motor, which shall be self-contained so that relative movement may take place between the ties to which it is secured without putting any of the moving parts of the apparatus out of proper alignment; and in which the stop is so constructed with respect to the inclosing shell or case and the operating mechanism as to exclude dirt or other obstructions from the case.

The precise nature of my invention will be best understood by reference to the accompanying drawing, in which I have shown one embodiment thereof and which will now be described, it being premised, however, that various changes may be made therein by those skilled in the art without departing from my invention as defined in the appended claims.

In the drawing the numeral 2 designates the track rails supported on the ties 3.

4 is a box or casing which is placed between two adjacent ties intermediate the rails, and preferably has a removable cover portion 5 extending upwardly between the rails. The lower portion of the casing has a lateral extension 6 underneath one of the rails terminating in an upwardly extending portion 7.

8 designates the movable track stop whose clear position is shown in full lines, and whose operative position is indicated by dotted lines in the drawing. This stop is made hol-

low and telescopically engages the upper portion of the upward extension 7 of the casing upon which it is arranged to slide vertically. It is actuated by a rod 9 which extends downwardly into the lateral extension 6 of the casing, and is connected at its lower end to one arm of a lever 10 pivoted at 11 and having an adjustable counterweight 12 on its other and shorter arm.

13 designates the field element of an electric motor, which may be of either alternating or direct current type.

14 is the armature of the motor which has an upwardly extending sleeve 15, to the upper portion of which are attached the weight arms 16 of a centrifuge, which is in the form of an ordinary centrifugal ball governor. Extending upwardly through the sleeve 15 and through the hollow armature 14 is a rod 17 whose lower end is connected to the short arm of the lever 10, and whose headed upper end is engaged by the vertically movable member 18 of the centrifuge.

The operation is as follows:—When current is supplied to the motor, its rotation will cause the centrifuge to move the rod 17 upwardly into the position shown in the drawing, thereby actuating the lever 10 and retracting the track stop 8 to the position shown in full lines. When the stop has thus been moved to clear position it will be held in this position without the consumption of any energy for a purpose other than that necessary to overcome the friction and other losses. When the motor ceases to operate the counterweight 12 will restore the track stop to its operative position in which it is normally held.

As shown, the armature of the motor is preferably placed in vertical position so that its commutator, in case a direct current motor is used, can be located at a convenient place for inspection. If the motor is designed to be operated by alternating current, its armature will preferably be of the squirrel-cage type, and if the alternating current is a single-phase current a part of each pole will be surrounded by a closed conductor to set up the necessary rotating field to operate the armature. It will be understood, however, that I do not limit myself to any particular type of motor for operating the centrifuge.

The counterweight 12 can be so adjusted as to put the stop in its lifting or engaging position just as soon as the power is cut off

from the motor. By reason of the telescopic engagement of the stop with the upward extension of the inclosing casing, dirt, water, etc., are excluded from the casing. The apparatus is entirely self-contained so that it can be adjusted as a whole between the ties to which it is secured without putting any of the moving parts out of proper alinement.

What I claim is:—

10 1. A track stop arranged to be moved into and out of operative position, a centrifuge for shifting the stop, and a motor for driving the centrifuge; substantially as described.

15 2. A vertically movable train stop, a centrifuge arranged to shift said stop from one position to another, a motor for driving the centrifuge, and means operating by gravity to shift the stop in the opposite direction to that in which it is actuated by the centrifuge;

20 substantially as described.

3. A track stop movable relatively to one of the track rails, a centrifugal device for actuating said stop, a motor for driving the centrifugal device, and means whereby when

25 the motor ceases to act the stop will be shifted in the reverse direction; substantially as described.

ed in the reverse direction; substantially as described.

4. A vertically movable track stop, actuating mechanism therefor, and a casing inclosing said mechanism and having an upwardly extending portion through which the track stop is connected with the operating mechanism and which is telescopically engaged with the stop; substantially as described.

5. A track stop having an inclosing casing provided with a lateral extension underneath one of the track rails, and with an upward extension at the outer side of said rail, a centrifuge for shifting the track stop, and connections from the centrifuge to the track stop, said connections extending through the said lateral and upward extensions of the casing; substantially as described.

In testimony whereof, I have hereunto set my hand.

JACOB B. STRUBLE.

Witnesses:

D. J. MCCARTHY,
JNO. D. TAYLOR.