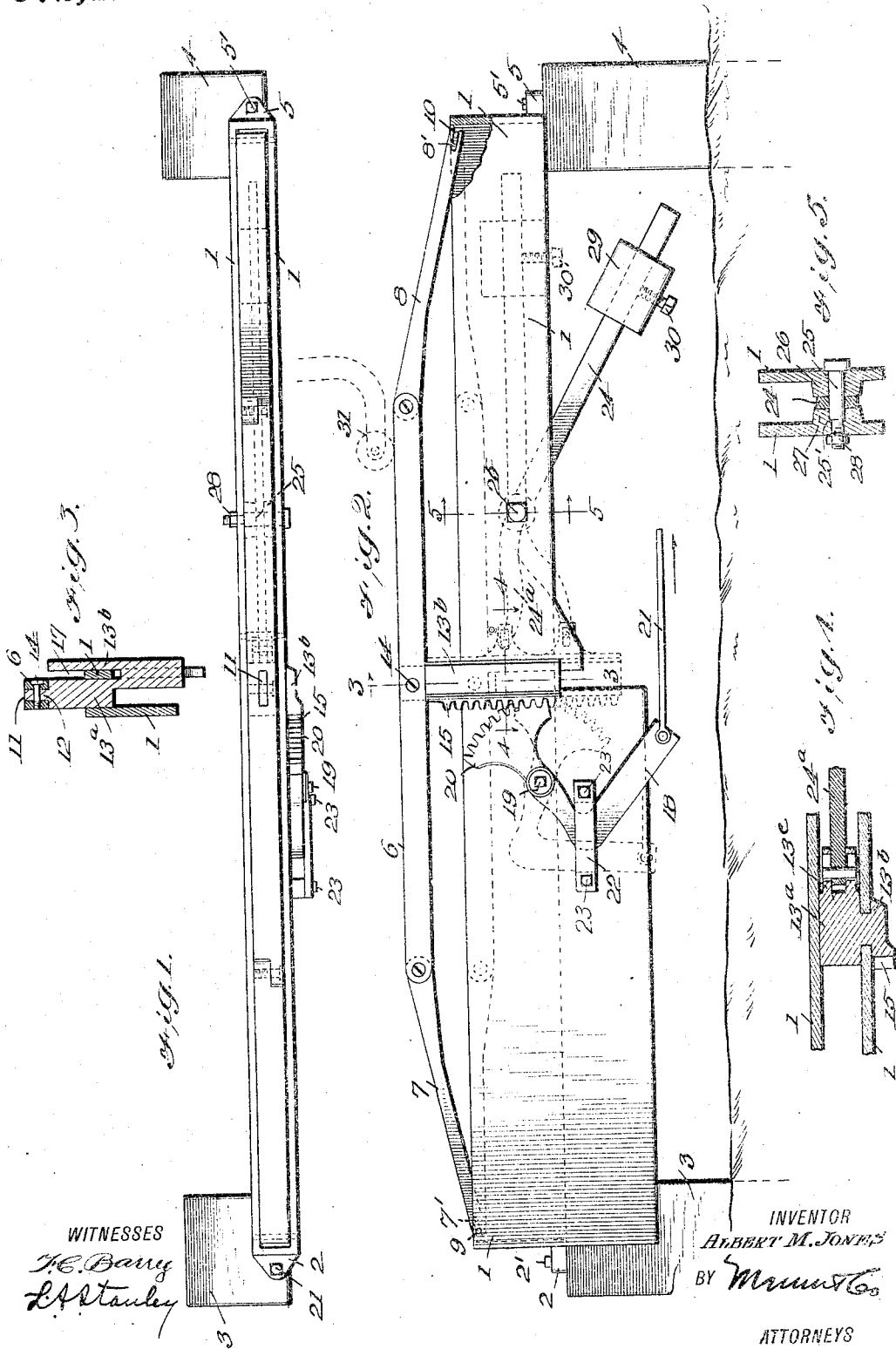


A. M. JONES.
RAILWAY TRIP DEVICE.
APPLICATION FILED OCT. 11, 1909.

Patented Oct. 4, 1910.

972,111.



UNITED STATES PATENT OFFICE.

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RAILWAY TRIP DEVICE.

972,111.

Specification of Letters Patent.

Patented Oct. 4, 1910.

Application filed October 11, 1909. Serial No. 522,001.

To all whom it may concern:

Be it known that I, ALBERT M. JONES, a citizen of the United States, and a resident of Hagerstown, in the county of Washington and State of Maryland, have made certain new and useful Improvements in Railway Trip Devices, of which the following is a specification.

My invention relates to devices for use on railway tracks for engaging a movable part on an engine or train for actuating a train stopping mechanism, and it consists in the combinations, arrangements and constructions herein described and claimed.

An object of my invention is to provide a device by which a tappet or other projecting portion connected with a valve stem on an engine may be positively moved to effect the stopping of the train. To this end I provide a trip adapted to be raised or lowered, of sufficient length to insure the positive action of the emergency valve.

A further object of my invention is to provide means for raising or lowering the trip which do not involve the use of springs but which consist of a pinion and rack, thus insuring the positive action of the mechanism.

A further object of my invention is to provide means by which the trip devices may be raised in case of breakage of the operating wires or rods.

Other objects and advantages will appear in the following specification and the novel features of the device will be particularly pointed out in the appended claims.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of the device; Fig. 2 is a side elevation; Fig. 3 is a section along the line 3—3 of Fig. 2; Fig. 4 is a section along the line 4—4 of Fig. 2; and Fig. 5 is a section along the line 5—5 of Fig. 2.

In carrying out my invention I provide a main casing 1 of the shape shown in the figures. One end of the casing is deeper than the other, see Fig. 2, and this end is secured to the end of a railroad tie 3 by means of a lug 2 and bolt 2'. The opposite end is secured to the adjacent tie 4 by means of a lug 5 and bolt 5'.

The trip proper consists of a bar 6 which is pivotally connected to the end members 7 and 8 respectively. These latter members

are slotted as at 7' and 8' to receive the pins 9 and 10, respectively. The central portion of member 6 is slotted at 11, see Figs. 1 and 3, to receive the tongue 12 of a slidable rack member, being secured to the latter by means of the screw 14. This rack member has an inner portion 13^a arranged to slide between the side members of the frame 1 and an outer portion 13^b upon which the teeth 15 of the rack are secured. The rack member is slotted at 17 as shown in Fig. 3 so as to permit it to slide up and down, being guided in its movement by a portion of the casing 1.

Pivoted on the outside of the casing 1 is a bell-crank lever 18 which rotates about a point 19 and bears on one end a gear section 20 having teeth arranged to mesh with the teeth 15 of the rack. The opposite end of the bell-crank lever is pivotally attached to a pull-rod 21 which extends to the switch tower or other place for operating the trip. The lever 18 is limited in its movement by the stop bar 22 which is secured to the side of the casing 1 by the bolts 23.

Pivotally secured to an extended portion 13^c of the rack is one end 24^a of a lever 24 which is rotatably mounted on a bolt 25 between the lugs 26 and 27 of the frame 1. The bolt 25 has a shoulder 25' and is held in position by means of a nut 28. On the bar 24 is a weight 29 which is adjustably secured to the bar by means of the set screw 3.

From the foregoing description of the various parts of the device, the operation thereof may be readily understood.

The device as stated before, is designed to be placed along a railroad track so as to engage a movable tappet 31 for forcing the latter upward and operating a train valve. The means by which a train is stopped is disclosed in a prior Patent No. 941,259 of Nov. 23, 1909, and forms no part of the present invention. When it is desired to raise the trip in position to engage the tappet, the rod 21 is moved in the direction shown by the arrow in Fig. 1, thereby turning the lever 18 on its pivot and causing the gear 20 to force the latter upwardly thereby raising the contact bar 6 and causing the ends 7 and 8 to be slightly drawn inwardly. The device is held in this position by locking means at the switch tower. Now when the tappet 31 comes in contact with the inclined ends 7 or 8 it rides up these ends on to the horizon-

tal contact member 6 which is of sufficient length to insure the absolute upward movement of the tappet and the operation of the valve. The trip may be lowered by moving the rod 21 in the opposite direction thus bringing the contact arms into line as shown in Fig. 1. In case the operating rod 21 on the lever 18 should break, the weight 29 will cause the upward movement of the trip so that there is little danger of the trip failing to operate. The weight may be moved along the bar 24 so as to obtain the desired leverage.

I claim:

15 1. A railway trip device comprising a casing, a contact member slidably secured thereon, inclined arms pivotally secured at the ends of said contact member said arms being slidably supported and means for moving said contact member into and out of operating position.

25 2. A railway trip device comprising a casing, a rack slidably mounted thereon, a contact member secured to said rack, inclined arms pivotally secured at the ends of said contact member said arms being slidably supported at their outer ends and a gear section arranged to engage said rack for moving the latter.

30 3. A railway trip device comprising a casing, a rack slidably mounted thereon, a hori-

zontal bar secured to the upper end of said rack, inclined arms pivotally secured at the ends of said bar, said arms being slidably secured to said casing, a bell-crank lever pivoted to said casing and provided with a gear section arranged to mesh with the teeth on said rack and a pull-rod for operating said gear section.

40 4. A railway trip device comprising a casing, pins carried thereby, a rack slidably mounted thereon, having a portion arranged to slide within said casing and an extended portion adapted to project outside of said casing, a contact bar secured at the top of said rack, arms pivotally secured at the ends of said contact bar, said arms being slotted to receive said pins and adapted to slide on the latter, a bell-crank lever pivoted on the exterior portion of said casing and provided with a gear section on one end arranged to mesh with the teeth on said rack, a pull-rod for operating said lever, an emergency lever pivotally mounted within said casing and having one end pivotally connected with said rack and an adjustable weight secured to the opposite end of said second lever for operating said rack.

ALBERT M. JONES.

Witnesses:

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