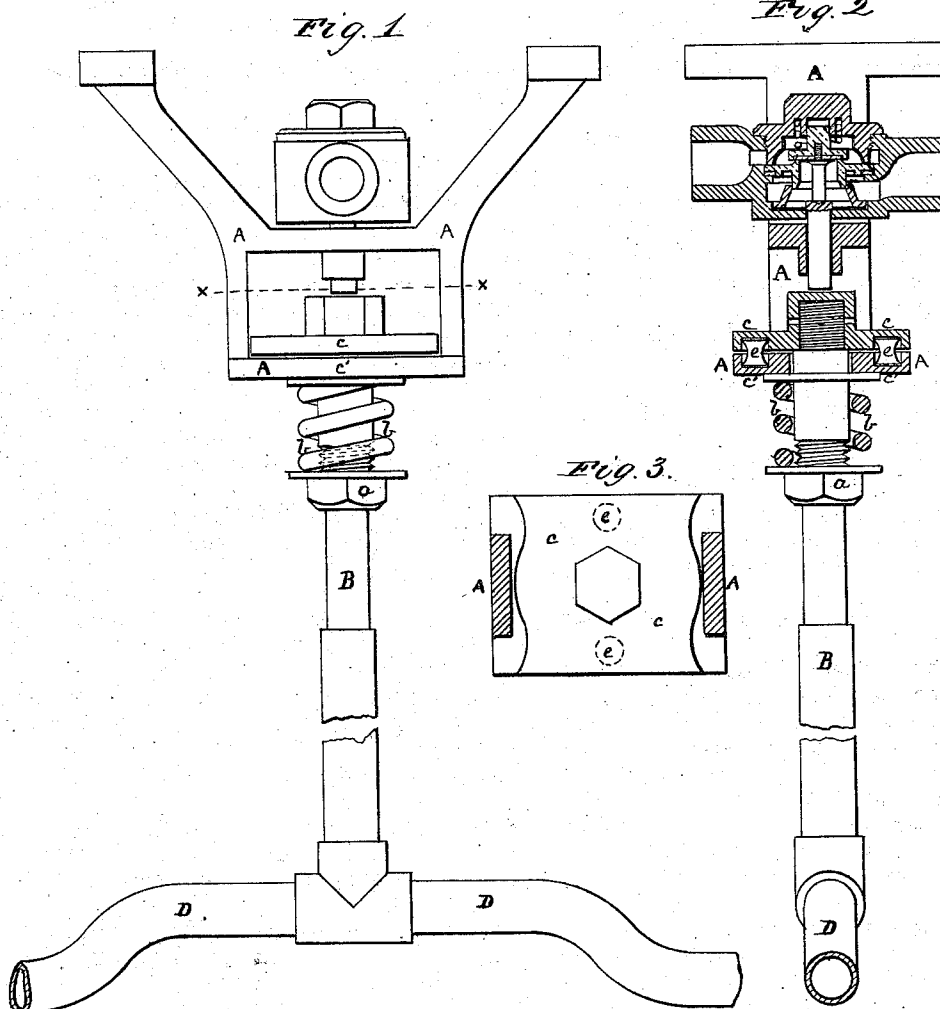


G. WESTINGHOUSE, Jr.

Tripping Apparatus for Air-Brakes.

No. 156,323.

Patented Oct. 27, 1874.



witnesses:

Edward Sprague
Saml McClain

Inventor:

George Westinghouse Jr.
by George H. Christy
his atty.

UNITED STATES PATENT OFFICE.

GEORGE WESTINGHOUSE, JR., OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN TRIPPING APPARATUS FOR AIR-BRAKES.

Specification forming part of Letters Patent No. **156,323**, dated October 27, 1874; application filed June 27, 1874.

To all whom it may concern:

Be it known that I, GEORGE WESTINGHOUSE, Jr., of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Tripping Apparatus for Compressed-Air Car-Brakes; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing, making a part of the specification, in which—

Figure 1 is a side elevation of my improved apparatus. Fig. 2 is an edge elevation, partly in section; and Fig. 3 is an end view of the tripping head and plate as it appears when cut off by a plane through the line *x x*, Fig. 1.

Like letters of reference indicate like parts in each.

My invention relates to certain improvements in apparatus for automatically applying the brakes to the wheels of railway-cars, somewhat similar to that represented in Letters Patent of the United States No. 124,404, granted to me March 5, 1872.

In this apparatus a tripping-arm extends from a bracket arranged beneath the car down such distance that, in case the car leaves the track, the lower end of the arm will strike the rail or other part of the sub-structure, and, by being inclined and thrown out of its normal position, will release a tripping device, which, opening a valve, will permit of the flow of the air in such a direction as to apply the brakes. The tripping-arm, as there represented, has a flat broad head, which, when tilted, releases a spring-catch, so as to accomplish the end in view.

My present improvement is adapted for the performance of the same functions, but by improved means, whereby the end in view is more perfectly and certainly attained.

In order to prevent the arm B, which extends vertically downward, from being too easily tilted, as by striking some light and immaterial obstruction, or by being struck with a cane through ignorance, maliciousness, or carelessness, I arrange thereon a spiral or other suitable form of spring, *b*, which has a

bearing at its upper end against the bracket A, and at its lower end against an adjustable nut, *a*, so that the arm, in being tilted, will have to resist or overcome the tension of the spring; and this tension is increased or lessened by shifting the position of the nut *a* up or down; also, the spring co-operates in bringing the arm back to a vertical position after, by being tilted, it has done its work. The lower end of this arm B I make with a cross-bar or T, D, in order the more surely to secure its effective operation; and in such case, if the extreme end of the cross-bar encounters the rail or track, or a dangerous obstruction thereon, the tendency will be to give it a rotary motion.

In order, now that this rotary motion may accomplish the end in view, I arrange between the head-plate *c* on the upper end of the tilting arm B and the lower plate *c'* of the bracket A, and in suitable recesses, one, two, or more posts, *e*, of such form that, on the tripping-arm and its plate being rotated, these posts will be tilted slightly, so as to stand oblique, and thereby raise the plate of the tripping-arm a distance equal to the difference between the vertical height of the posts and the diagonal height of the same.

In this way I provide for the raising of the tripping-arm and its cap or plate either by a tilting motion or by a rotary motion; and, being thus raised, it releases the spring-catch, where such is used, as in the patent above referred to, or shifts the position of the valve, as shown in the drawing, and made the subject-matter of a separate application, or in any other desired manner it effects an opening, so as to permit of the escape or outflow of air from the pipes or other device with which it is connected.

The head-plate *c* is so shaped at its ends, as illustrated in Fig. 3, as to be capable of a sufficient rotary motion inside the bracket by which it is carried.

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

1. In an air-brake trip, the spring *b*, in combination with the bracket A, tripping-arm

B, head-plate *c*, and adjustable nut *a*, substantially as set forth.

2. In a compressed-air brake-trip, the fixed plate *c'*, tilting plate *c*, and posts *e*, in combination with arm B and cross-bar D, arranged in convenient proximity to the track, substantially as set forth.

In testimony whereof I, the said GEORGE WESTINGHOUSE, Jr., have hereunto set my hand.

GEO. WESTINGHOUSE, Jr.

Witnesses:

JOHN D. MORELAND,

GEO. H. CHRISTY.