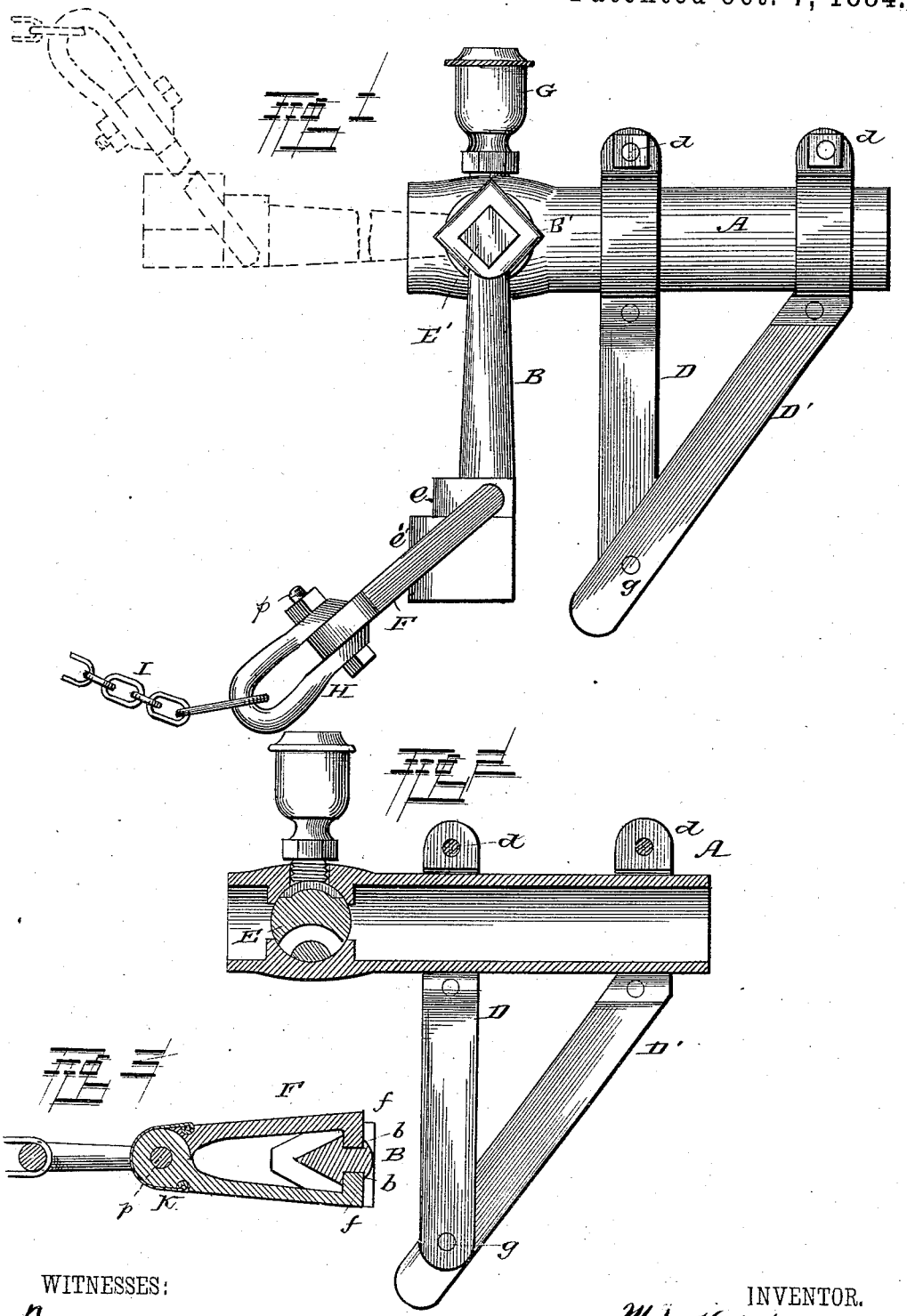
(No Model.)

# M. H. DICKSON.

## AIR BRAKE ATTACHMENT FOR RAILWAY CARRIAGES.

No. 306,140. Patented Oct. 7, 1884.




WITNESSES:

Fred. G. Dieterich.

Wm. J. Johnston

INVENTOR.

Mel. H. Dickson

By I. H. MacDonald

Lewis Tillman Jr

ATTORNEYS.

# UNITED STATES PATENT OFFICE.

MEL HOWARD DICKSON, OF KNOXVILLE, TENNESSEE, ASSIGNOR OF ONE-HALF TO LEWIS TILLMAN, JR., OF SAME PLACE.

## AIR-BRAKE ATTACHMENT FOR RAILWAY-CARRIAGES.

SPECIFICATION forming part of Letters Patent No. 306,140, dated October 7, 1884.

Application filed April 25, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, MEL HOWARD DICKSON, a citizen of the United States, residing at Knoxville, in the county of Knox and State of Tennessee, have invented certain new and useful Improvements in Air-Brake Attachments for Railway-Carriages, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to means for controlling automatic air-brakes for railway-cars; and to this end it consists in the devices which will be hereinafter described in the specification and pointed out in the accompanying drawings, reference being had therein to the letters of reference marked thereon.

In the drawings, Figure 1 is a side elevation of my device attached to the ordinary air-brake pipe; Fig. 2, a longitudinal section of the lever-guard and pipe, and Fig. 3 a detail sectional view of the lever-gripping device.

Referring more particularly to the drawings, the air-pipe A is the ordinary air-brake pipe now in general use for the air-cylinder connections, provided in the usual manner with suitable valve, E, at each end, which may be normally opened or closed when the hose-connections are coupled. It is intended that the rear valve of the rear car will be normally closed, and if the coupling between any two intermediate cars should break and separate the hose-couplings the brakes on the cars behind the separation, while being set by the ordinary automatic action, would be kept clear on those in front. This result is accomplished by my device, rendering impossible, or at least reducing to a minimum, the probability of accident and injury to the cars, now so frequently occurring by the sudden setting of the brakes on all the cars when a separation occurs. To this end I have secured in a detachable manner a lever, B, provided with a head, B′, to the nut or exterior projection, E′, of the valve E. This lever B normally hangs in a vertical position, as shown in Fig. 1, and when in that position the valve is open. At its lower end it is provided with the shouldered and beveled or wedge-shaped projections *e e′*, the upper one, *e*, having openings *b* in the sides for the reception of the ends of the clamp F. This clamp has two arms, pivoted at *p*, and held by the encircling band-spring K. The pivot *p* also passes through a swivel, H, to which is secured the chain I. This chain is secured (in a manner readily admitting detachment) to the car in rear, and when attached is a little shorter than the hose-coupling of the air-pipe—that is to say, in a train each car has such a chain so secured near its front, the other end of the chain being provided with the spring-clamp F, the arms of which grasp the lever B. The ends of the pipe A under each car are provided with depending guards, and secured thereto by the rivets or bolts *d*, the arms D D′ forming the guard, being united at *g*. These guards are near the air-pipe air-valves and between them, and in a train are always in front of the lever B. Thus the lever B is protected from interference or stroke from anything beneath the car. Only one lever is on a car at one time, and that one attached to the rear valve of the air-pipe A. Thus the levers, front and rear, are protected. The valves are lubricated by means of an oil-cup, G. (Shown in Figs. 1 and 2.)

The operation of the device is as follows: Suppose the train to be parted between any two cars, the lever B, attached to the chain I, is drawn backward, closing the valve E before the hose-coupling has parted, thereby preventing the escape of the air from the air-pipe in front, and so keeping free the brakes on all the front cars, while allowing those on the rear of that brake to be set, thus making sure the escape of the front cars from those detached. This position of the lever B is shown in dotted lines, Fig. 1. When thus drawn backward, the wedge end is pressed between the arms of the clamp F, throwing them open and releasing the lever B, which may be returned to its normal position when desired. The engineer will be warned of break in his train by the bell-cord, and may apply the brakes on the remainder of the train when at a safe distance. This of course affords an element of safety which is not present in the ordinary brake methods, enabling the escape of the front cars in every instance from those detached.

When the cars are uncoupled in the ordinary manner, the clamp F is detached from the lever B by simply springing apart the

arms from contact with the openings *f*. It is then allowed to fall, and hangs like the hose-coupling, or may be hung under the car. It can be readily and quickly put in place, for the beveled shoulders *e e'* spread apart the arms and allow the projections *f* to enter the openings *b*.

In making up a train the lever B and the chain I, with the clamp F, can all be shifted to either end of a car and attached in the manner herein described, so as to have the clamp F holding the lever B on the rear of each car, and the chain I attached to the car following, ready to perform its function in case of a break. This attachment can at little expense be placed on the present system of air-brakes and afford an additional element of safety.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In an air-brake attachment, the combination, with the air-pipe A, of the valve E, having the nut or exterior projection, E', and lever B, adapted to grasp the nut or exterior projection of the valve, as and for the purposes set forth.

2. In an air-brake attachment, the combination, with the air-pipe A, the valve, and the lever B, of a guard for said lever, as set forth.

3. In an air-brake attachment, the combination, with the valve-operating lever, of the spring-clamp F and its flexible attachment to an adjoining car, as set forth.

4. In an air-brake attachment, the combination, with the valve-lever provided with beveled shoulders, of the spring-clamp having the projections *f*, the swivel H, and chain or cord I, attached and coupled substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

MEL HOWARD DICKSON.

Witnesses:
LEWIS TILLMAN, Jr.,
A. S. PROSSER.