(No Model.) 2 Sheets—Sheet 1.

H. E. OLSON.

AUTOMATIC CAR BRAKE.

No. 531,131. Patented Dec. 18, 1894.

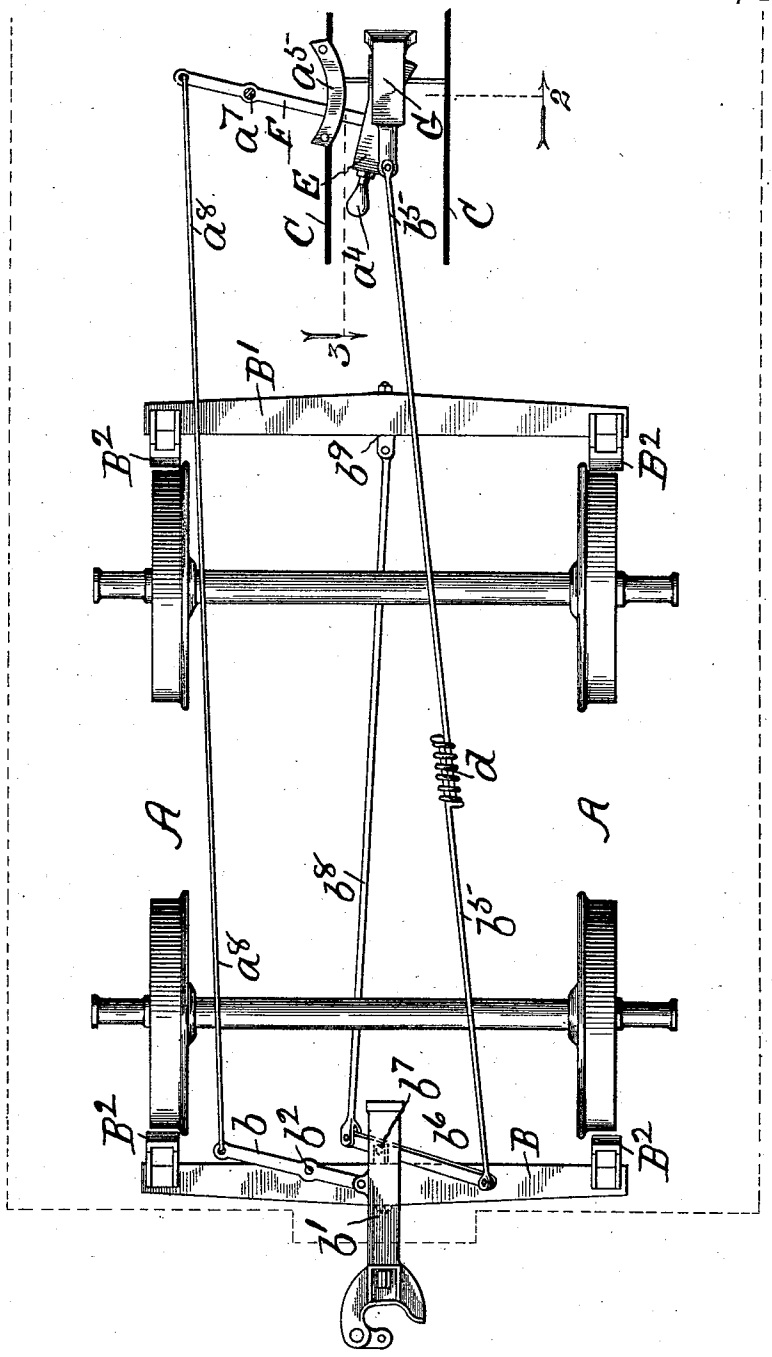

Fig. 1.

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

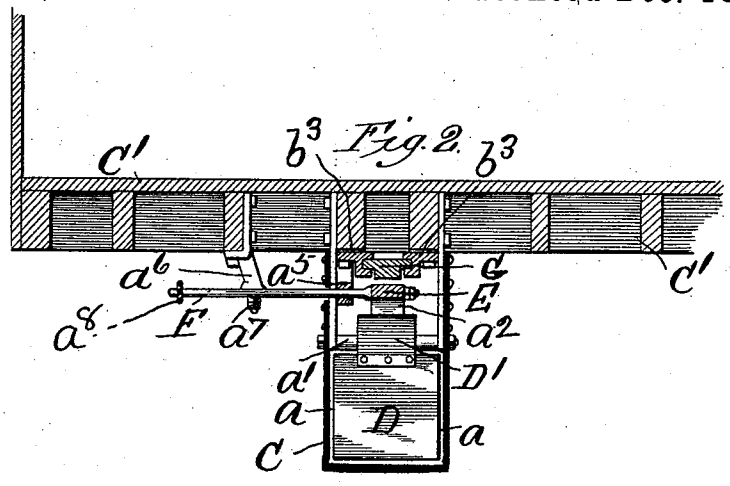
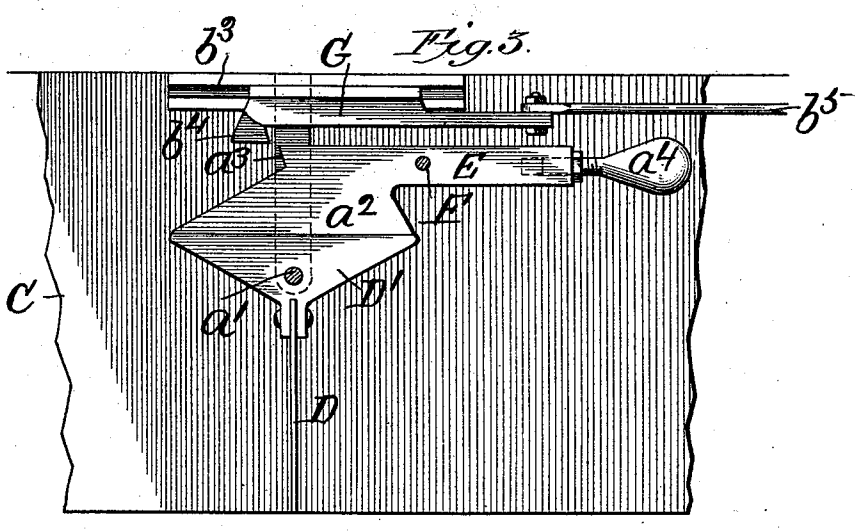


Fig. 5.



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UNITED STATES PATENT OFFICE.

HENRY E. OLSON, OF CHICAGO, ILLINOIS.

AUTOMATIC CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 531,131, dated December 18, 1894.

Application filed September 17, 1894. Serial No. 523,312. (No model.)

To all whom it may concern:

Be it known that I, HENRY E. OLSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Automatic-Car-Brakes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in self-acting car-brakes, and is more especially intended for use on freight-cars; the same consisting of certain novel features in the construction, arrangement and operation, as will be hereinafter set forth.

In the drawings:—Figure 1 is a plan, showing the application of the device; Fig. 2, a broken-away transverse section on line 2, Fig. 1, looking in the direction indicated by the arrow; and Fig. 3, a broken-away longitudinal section on line 3, Fig. 1.

A may represent an ordinary pair of car-trucks; B B′, the brake-beams, located at the respective ends of a car, and B^2, the brake-shoes secured to the brake-beams and adapted to have frictional contact with the truck-wheels.

C is a casing or box-like compartment secured to the under side of the car-bottom or frame C′. This casing is open at each end and has an air-vane or swinging leaf D located in the continuous passage *a* extending therethrough, as shown in Fig. 2. This vane is rigidly secured to a rocker D′, loosely mounted on a pivot-bolt *a′* extending transversely through the casing C. This provides for a swing-movement of the vane D on its pivot in either direction with reference to the inclosing casing.

A clutch-bar E is loosely mounted on the end of a lever, F, that extends inside of the vane-casing. This clutch-bar is provided with the enlarged part a^2 (Figs. 2 and 3). which rests upon the upper side of rocker D′. The bar E is provided with a shoulder-bearing a^3, and has a balance-weight a^4 inserted in one end by a screw-threaded connection, whereby the same may be turned inwardly or outwardly in balancing the bar E in its normal horizontal position when the car is at rest, as shown in Fig. 3.

A slotted bearing a^5, secured to the bottom of the car and located inside of the casing C, provides a support for the inner end of lever F. A bracket a^6, also secured to the bottom of the car, provides a fulcrum-bearing a^7 for said lever, and adapts the same to have a lateral rocking movement in a horizontal plane.

To the outer end of lever F is connected a rod a^8, the opposite end of which is in turn connected to the outer end of a lever *b*, the opposite end of which is connected to the draw-bar *b′*, as shown in Fig. 1. The lever *b* is provided with a fulcrum-bearing, as at b^2, so that it will have a corresponding movement with reference to lever F.

A second clutch-bar G is located directly above (Figs. 2 and 3). the companion bar E, and is loosely supported by, and adapted to have an endwise movement in, a pair of guides b^3 b^3, which are bolted to the bottom of the car. The clutch-bar, G, is provided on its inner end with a shoulder-bearing b^4, corresponding to the shoulder a^3 on the companion bar.

One end of a rod b^5 is connected to the outer end of clutch-bar G; the opposite end being connected to the outer end of a lever b^6, having a fulcrum-bearing b^7, as indicated by dotted lines in Fig. 1.

To the inner end of lever b^6 is connected one end of a rod b^8, the opposite end being connected to the inside brake-beam B′, as at a^9, which arrangement provides for the simultaneous application of both sets of brakes.

The rod b^6 is in two parts; the overlapping joining ends being connected by a spring *d*, so as to have a slight yielding action and avoid breaking by reason of too much rigidity.

When the car is at rest, the vane, suspended by a hinged connection, will hang in the normal vertical position illustrated in Fig. 3. When in motion, the vane will be swung backwardly, with reference to the direction in which the car is moving, by the force of the current of air that is drawn into the inclosing casing. Thus the vane will be held at an inclined angle between a vertical and horizontal position while the car is in motion. When the vane swings back on its pivot, it has

the effect, through the medium of the rocker D′, of raising the clutch-bar E high enough to be in position to engage with the companion clutch-bar. Now, when the steam, on the engine drawing the train, is shut off and the "bumpers" come together, the clutch-bars or members are thrown into engagement and the brakes automatically applied by means of the connections described. When the train comes to a stop, the vane and rocker assume the position shown in Fig. 3; the clutch-bars being disengaged and the brake-shoes out of contact with the truck-wheels, as shown in Fig. 1.

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

1. In an automatic car-brake, the combination with a casing, open at both ends and secured to a car, of an air-vane, pivotally suspended in said casing, a rocker, to which said vane is secured, a clutch-bar, a lever, supporting said bar, a companion clutch-bar, movably secured to the car-frame, and means for connecting said clutch with the draw-bars and brake-mechanism, substantially as set forth.

2. In an automatic car-brake, the combination with a casing, open at both ends and secured to the car-frame, of an air-vane, a rocker, pivotally mounted, and from which said vane is suspended, a clutch-bar, a lever F, supporting said bar, a companion clutch-bar E, loosely supported and adapted to have an endwise movement, a lever b, a rod, connecting-levers F and b, a rod b^5, a lever b^6, and a rod b^8, the draw-bar and brake-mechanism, substantially as set forth.

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

HENRY E. OLSON.

Witnesses:
L. M. FREEMAN,
J. B. DONALSON.