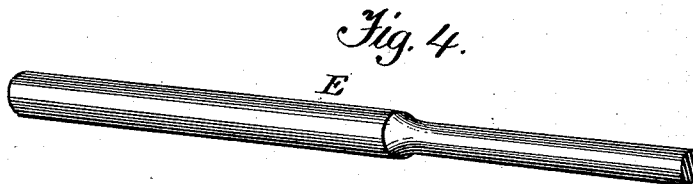
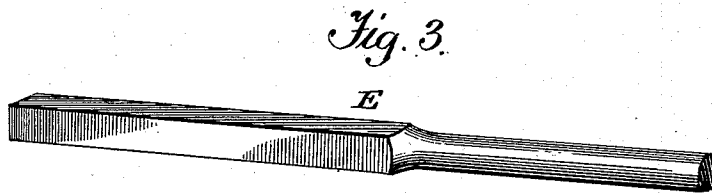
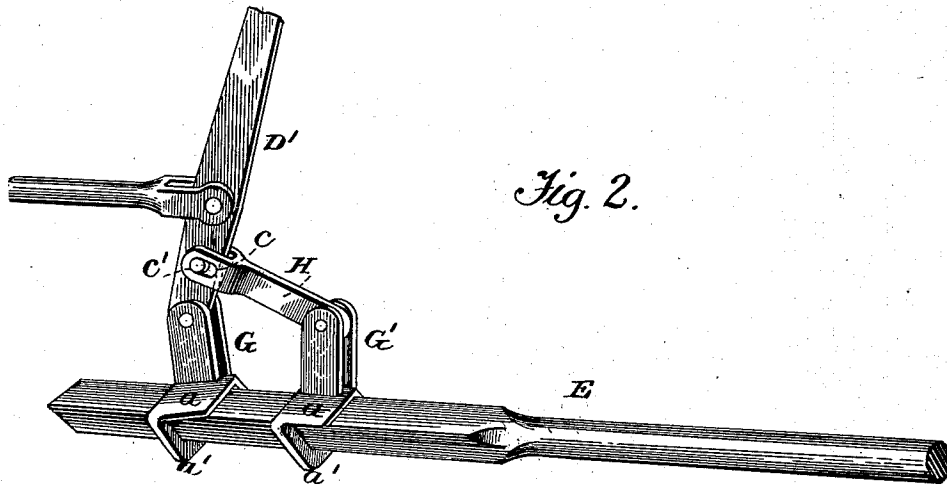
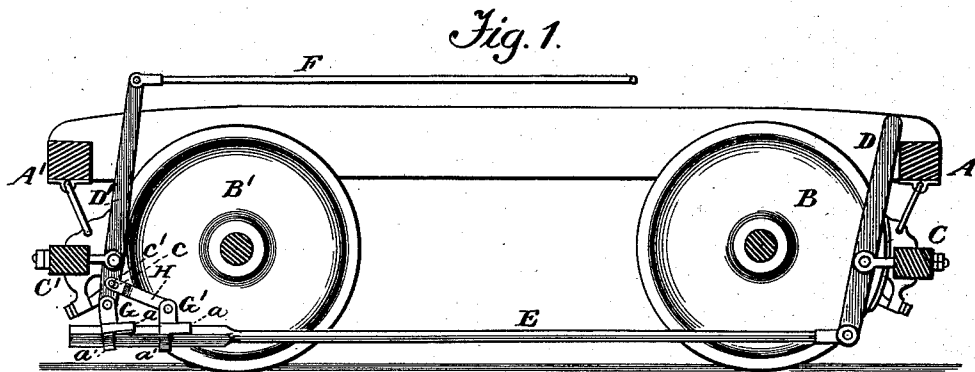


(No Model.)

E. D. EAMES.
AUTOMATIC BRAKE ADJUSTER.

No. 410,079.

Patented Aug. 27 1889.



Witnesses:
A. Ruppert.
C. B. Thompson

Inventor:
Elisha D. Eames,
by *[Signature]*

UNITED STATES PATENT OFFICE.

ELISHA D. EAMES, OF WATERTOWN, NEW YORK.

AUTOMATIC BRAKE-ADJUSTER.

SPECIFICATION forming part of Letters Patent No. 410,079, dated August 27, 1889.

Application filed January 5, 1889. Serial No. 295,543. (No model.)

To all whom it may concern:

Be it known that I, ELISHA D. EAMES, of Watertown, in the county of Jefferson and State of New York, have invented certain
5 Improvements in Automatic Brake-Adjusters, of which the following is a specification, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

10 The object of this invention is to preserve automatically the adjustment of the brake-shoes to the normal or predetermined distance from the wheels intended to exist when
15 brakes are off, so that upon wear of the shoes the increased amount of space between the shoes and the wheels will be at once taken up and the original distance between the shoes and the wheels existing when brakes are off
20 re-established. Various devices for effecting such a result have been projected, some of which have attained a greater or lesser degree of success.

In the accompanying drawings, Figure 1 is an elevation of a pair of car-wheels with their
25 brakes and appendages, showing the application thereto of my invention. Fig. 2 is a detached perspective view, upon an enlarged scale, of the parts entering chiefly into the invention. Figs. 3 and 4 are modifications.

30 Similar letters of reference indicate similar parts in the respective figures.

A A' show parts of the truck-frame, and B B' the car-wheels.

35 C C' are the brake-beams, suspended by links *c* to the truck-frame.

D D' represent the brake-levers, and E is a brake-rod uniting them.

40 F is a rod connecting the upper end of the brake-lever D' to the diaphragm, piston, winding-staff, or other agent for the application of power.

All of said parts and devices may be of any ordinary or approved construction.

45 The lower end of the brake-lever D is pivoted to the lower brake-rod E, the lever carrying the brake-beam C in the ordinary manner. The other lever D', which carries the brake-beam C', is pivoted to the upper part of a shackle G, preferably forked to receive
50 the end of the lever. The shackle G may be varied in construction, but as here shown is provided with upper and lower surfaces *a a'*,

and when in its normal position is slightly tilted, so as to bear upon and bind the brake-rod E, as shown in Fig. 2. In cross-section the
55 bearing-surfaces *aa'* are of the same shape as that of the brake-rod in cross-section, whether lozenge-shaped, square, round, flat, or otherwise formed. In Figs. 1 and 2 the brake-rod
60 is shown lozenge-shaped in cross-section, while in Figs. 3 and 4 it is square and round, respectively. The brake-lever D' is connected, by means of a link or rod H, to a second shackle G', which may be a duplicate of
65 the shackle G. The shackle G', like that G, is shaped in cross-section to conform to the shape of the brake-rod E. The connection between the brake-lever D' and the link or
70 rod H admits of a certain movement of the brake-lever without action upon the shackle G'. This free movement is shown as provided by slotting the link or rod, as at *c*, and furnishing the brake-lever with a fixed pin *c'*.
75 The object is to allow a free movement of the brake-lever without acting upon the shackle G' equal to the distance required to exist between the brake-shoes and the wheels when
brakes are off.

The operation is as follows: The distance
80 which the brake-shoes are designed to move in setting the brakes is, as has been stated, the distance which the brake-lever D' is free to move, by reason of the slotted connection, without acting upon the shackle G'. It is
85 therefore seen that so long as the brake-shoes, they having been properly adjusted, are unworn the lever D' will in the act of setting
brakes move only a distance equal to that provided by the slotted connection, in
90 which case the link or rod H will not be moved, and the shackle G' will in consequence remain stationary upon the brake-rod E; but, wear of the shoes having occurred, in
order to bring the shoes up to the wheels, a
95 greater movement of the lever D' becomes necessary, and this will cause the link or rod H to be pushed forward and the shackle G' to slide upon the brake-rod E. When the
brakes are released and the lever D' returns
100 to the position it occupies when brakes are off, it will carry the link or rod H back with it, and in this return movement the shackle G' will be tilted and frictionally engage the brake-rod E, while the shackle G will be

brought to a vertical position, releasing the
brake-rod from its frictional grip, the result
being to cause said rod to move forward with
the lever, thus taking up the slack and re-
5 storing the distance which normally existed
between the shoes and the wheels. Thus it
is seen that the action is entirely automatic.

Having described my invention, I claim—

10 In a brake mechanism, a brake-lever, a
brake-rod, and an oscillating and binding
shackle to which the short arm of said lever

is directly connected, combined with a second
oscillating and binding shackle and with a
link or rod uniting, by means of a slotted
connection, the brake-lever with the said sec- 15
ond shackle, substantially as set forth.

In testimony whereof I have hereunto set my
hand and seal.

ELISHA D. EAMES. [L. S.]

Witnesses:

E. CRUSE,

C. B. THOMPSON.