

(No Model.)

2 Sheets—Sheet 1.

A. HENDEE.
CAR BRAKE.

No. 420,996.

Patented Feb. 11, 1890.

Fig. 1.

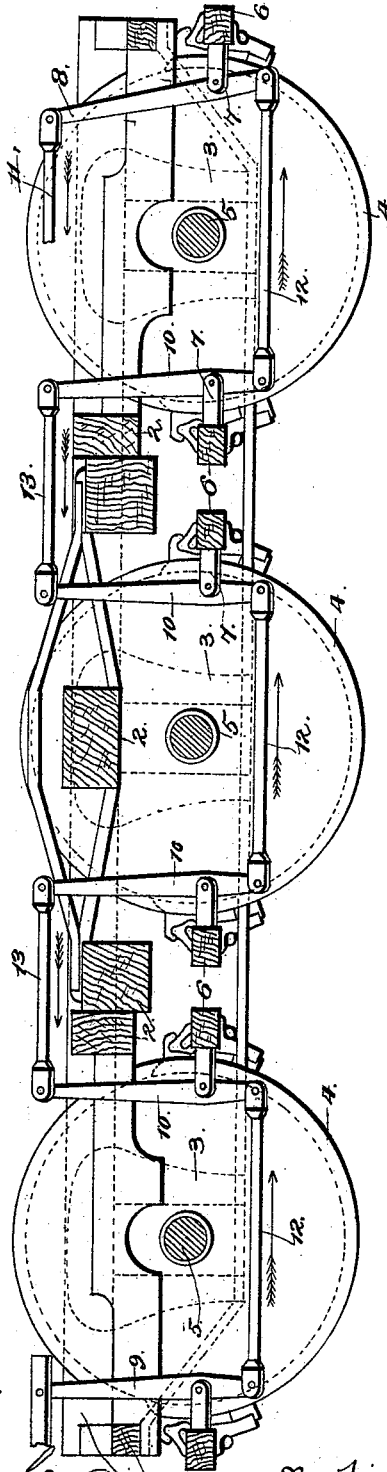
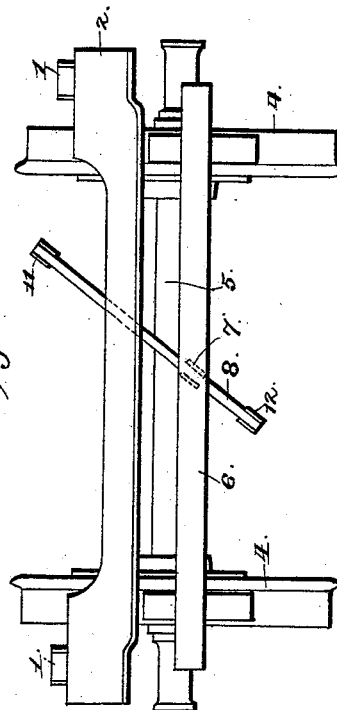


Fig. 3.



Witnesses

M. L. Fowler
Wm. Baggett

Inventor

Alarzo Hendee

By his Attorneys.

C. A. Snow & Co.

(No Model.)

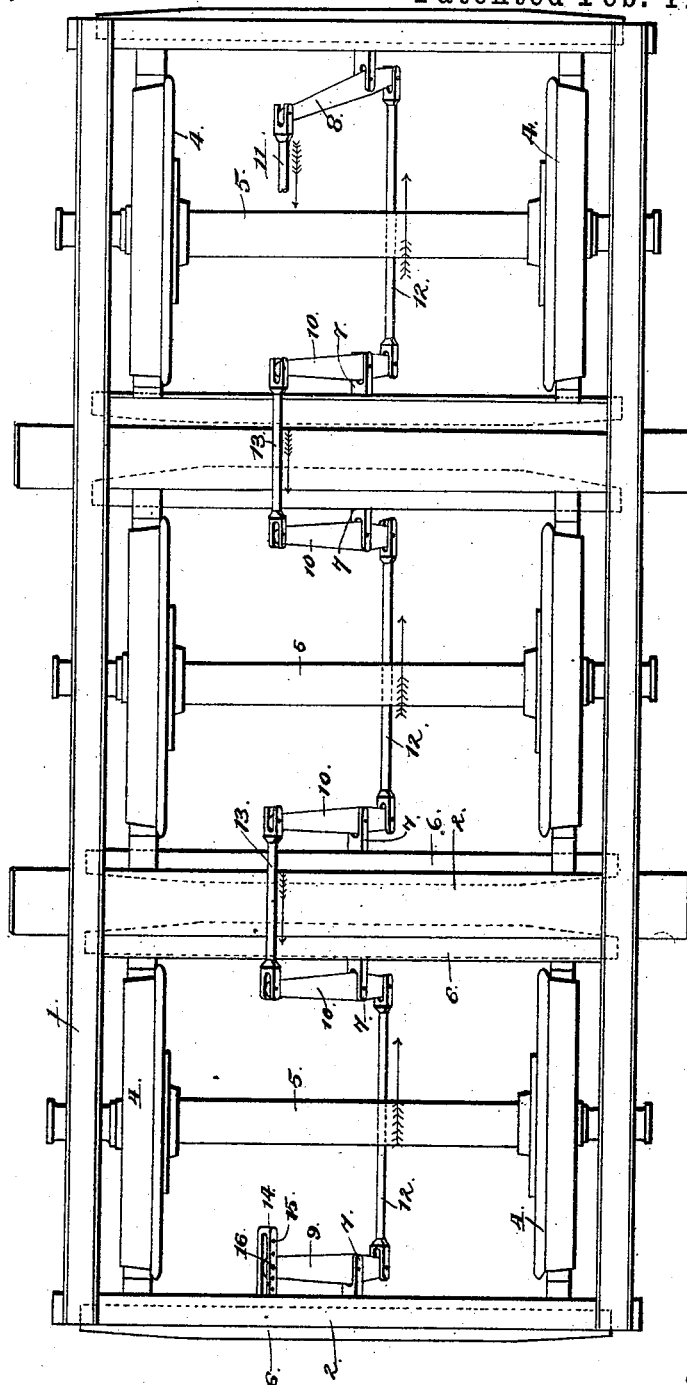
2 Sheets—Sheet 2.

A. HENDEE.
CAR BRAKE.

No. 420,996.

Patented Feb. 11, 1890.

Fig. 2.



Witnesses

M. E. Fowler
Wm. Bagger

Inventor
Alonzo Hendee

By his Attorneys

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

ALONZO HENDEE, OF RICHMOND, VIRGINIA.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 420,996, dated February 11, 1890.

Application filed November 29, 1889. Serial No. 331,839. (No model.)

To all whom it may concern:

Be it known that I, ALONZO HENDEE, a citizen of the United States, residing at Richmond, in the county of Henrico and State of Virginia, have invented a new and useful Car-Brake, of which the following is a specification.

This invention relates to railway-car brakes; and it has for its object to provide a brake mechanism adapted more especially to heavy cars, and whereby the strain shall be evenly distributed upon all the wheels, and shall be so regulated and graduated as to prevent any of the wheels from dragging and becoming worn in spots and thereby incapacitated for further use—an objection which obtains in a greater or less degree in all heavy brake-gearing as now ordinarily constructed.

The invention consists in the improved construction, arrangement, and combination of parts which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings hereto annexed, Figure 1 is a longitudinal vertical sectional view of a six-wheeled truck having my invention applied thereto. Fig. 2 is a top view of the same. Fig. 3 is an end view.

Like numerals of reference indicate like parts in all the figures.

The car-truck to which my invention in the drawings hereto annexed has been shown applied is of ordinary construction.

1 designates the side beams; 2, the transverse beams or braces; 3, the axle-boxes; 4, the wheels, and 5 the axles. All of these parts are constructed and put together in any suitable, approved, and well-known manner.

In a six-wheeled truck—such as that shown in the drawings hereto annexed—six brake-beams are used, said brake-beams, which are designated by 6 6, being arranged in pairs at opposite sides of each pair of wheels, as will be clearly seen in Figs. 1 and 2 of the drawings. Each of said brake-beams is provided on its inner side with a bifurcated arm or bracket 7, in which a brake-lever is pivotally mounted. Of these levers those at the two ends of the truck are designated, respectively, by 8 and 9, while the intermediate levers are designated by 10. Pivotaly connected to the

upper end of the initial lever 8 is the brake-rod 11, which may be the piston-rod of an air-brake cylinder; or power may be imparted to the upper end of the said initial lever in any suitable manner and from any suitable source, such as an ordinary hand-brake. Pivoted connecting-rods 12 connect the lower ends of the levers in pairs, each of the levers 8 and 9 being thus connected with the levers 10 next adjoining, and the upper ends of the levers 10 are likewise connected in pairs by means of pivoted connecting-rods 13. The upper end of the lever 9 is mounted adjustably in a longitudinal bracket or hanger 14, having a series of transverse perforations 15 to receive a pin or bolt 16, upon which the said lever is pivotally mounted. The upper end of the said lever 9 may thus be adjusted longitudinally, so as to compensate for wear.

The operation of this invention and its advantages will be readily understood from the foregoing description, taken in connection with the drawings hereto annexed. When power is applied to the upper end of the initial lever 8 in the direction of the arrow, the brake-beam connected with the said lever is forced in the same direction, thus bringing the shoes at the outer ends of the brake-beam into contact with the rims of the wheels. From the lever 8 the power is transmitted through the connecting-rod 12 to the next adjacent lever 10, and through the entire chain of levers and connecting-rods to the lever 9, thus forcing all of the brake-beams in the direction of the wheels. As will be readily understood, the power is absolutely equalized through all of the levers, and all of the brakes are set with precisely the same degree of power. This is an important consideration, inasmuch as uneven wear upon the wheels is thereby prevented.

In six-wheeled trucks as ordinarily constructed it has been customary to apply the brakes to four of the wheels only—namely, those at the ends of the truck. Such being the case, in order to render the brakes effective it has been necessary to apply them to the wheels with a very considerable degree of power, thereby frequently causing the wheels to drag and to become worn flat in places, and thus rendered useless. Again, by the cus-

tomary method of arranging the brake mechanism the truck has been subjected to a strain more or less uneven, which has eventually resulted in permanently disabling the truck.

- 5 By my present invention these disadvantages have been overcome, first, because the brakes are applied to opposite sides of all of the wheels, thereby making it unnecessary under ordinary circumstances to apply the brakes
10 with a degree of power which will cause the wheels to drag, and, secondly, because the strain is absolutely equalized throughout the entire length of the truck, so that no part of the latter will be subjected to an excessive strain.

- 15 It is obvious that by making such modifications as will readily suggest themselves to the skilled mechanic my invention may be applied with equal advantages to four-wheeled
20 trucks and to locomotive engines having two or three pairs of drivers. I, therefore, do not limit myself to the precise construction and arrangement of details herein described, but reserve the right to any modifications which
25 may be resorted to without departing from my invention.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

- 30 1. In a car-brake, the combination, with the truck, of brake-beams arranged in pairs on opposite sides of the wheels, the levers connected pivotally to the inner sides of the said brake-beams, the pivoted rods connecting

the said levers in pairs at their lower ends, the 35 pivoted rods connecting in pairs the upper ends of all of the said levers except those at the ends of the truck, a hanger or support for one of the said end levers, and a brake-rod or operating mechanism connected with the 40 upper end of the initial lever at the other end of the truck, substantially as and for the purpose herein shown and specified.

2. In a car-brake, the combination, with the truck, of brake-beams arranged in pairs on 45 opposite sides of the wheels, the levers connected pivotally to the inner sides of said brake-beams, the pivoted rods connecting the said levers in pairs at their lower ends, the pivoted rods connecting in pairs the upper 50 ends of all of the said levers except those at the ends of the truck, a bracket or hanger having a longitudinal series of transverse perforations, a pin or bolt mounted in said perforations and supporting longitudinally adjust- 55 ably the brake-lever at one end of the truck, and a brake-rod or operating mechanism connected with the upper end of the initial lever at the opposite end of the truck, all arranged and operating substantially as and for the 60 purpose herein shown and specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

ALONZO HENDEE.

Witnesses:

JOHN D. NEWMAN,
R. O. E. RICHARDSON.