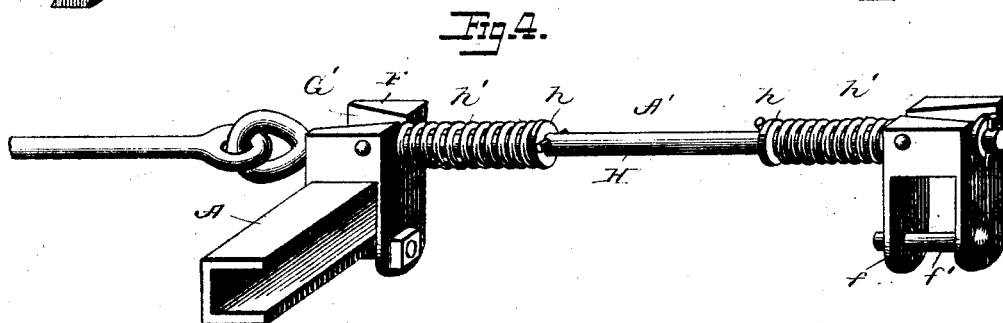
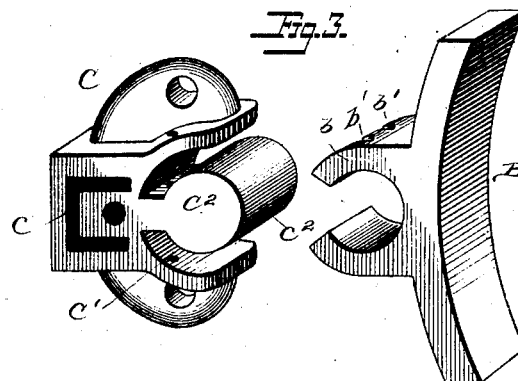
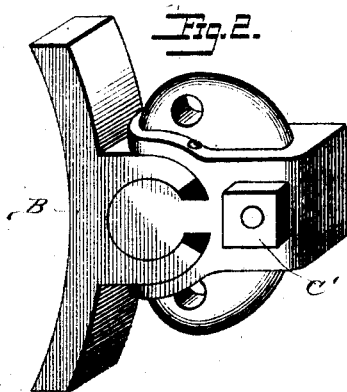
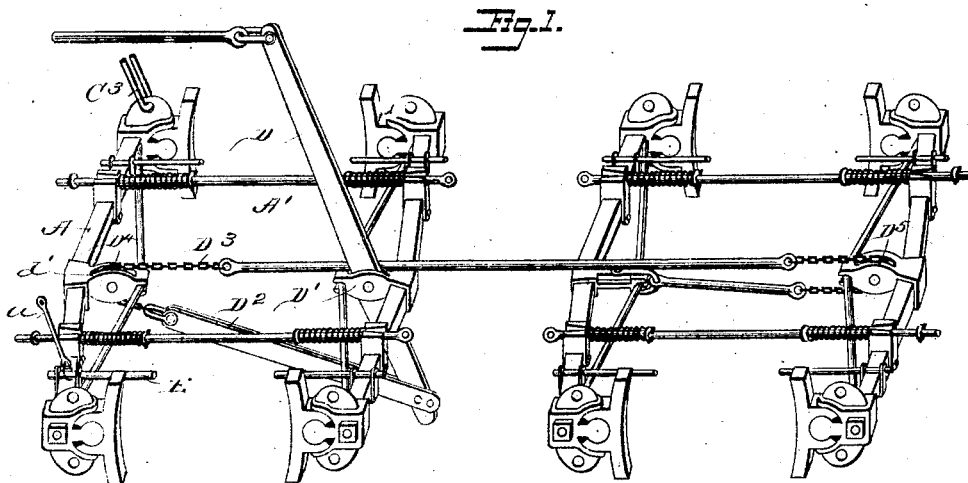


(No Model.)

A. MILLER.
CAR BRAKE.

No. 489,023.

Patented Jan. 3, 1893.



witnesses:
W. D. Val Brown
G. S. Bacon

Inventor:
Arnold Miller
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UNITED STATES PATENT OFFICE.

ARNOLD MILLER, OF MEDFORD, WISCONSIN.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 489,023, dated January 3, 1893.

Application filed September 3, 1892. Serial No. 445,386. (No model.)

To all whom it may concern:

Be it known that I, ARNOLD MILLER, a citizen of the United States, residing at Medford, in the county of Taylor and State of Wisconsin, have invented certain new and useful Improvements in Car-Brakes, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to an improvement in car brakes and consists in the construction and arrangement of parts hereinafter described and definitely pointed out in the claims.

The aim and purpose of this invention is the provision of improved, simplified, efficient and inexpensive means for setting the brakes of cars. This object I accomplish by the construction illustrated in the accompanying drawings wherein like letters of reference indicate corresponding parts in the several views and in which.

Figure 1 is a perspective view of the brake mechanism. Fig. 2 is a detail perspective of the brake shoe. Fig. 3 is a similar view with its parts separated and, Fig. 4 is a detail view of a connecting bar for the beams.

In the drawings A represents the brake beams, formed of angle iron preferably trough-shape in cross-section and inclined from their centers toward the ends.

A' is the truss rod uniting the ends of the beams. These beams are suspended from the base of the car by the jointed hangers *a*. On the ends of these beams are the brake shoes, which are of the following construction.

B is the shoe proper having semi-circular flanges *b* arranged with an intervening space between their ends and a circular central space. These flanges have vertical open ends and grooves *b'* on opposite sides. They being in alignment with those on the opposite flanges.

C represents the shoe supporting yoke formed with an angular trough-shaped opening in its rear as at *e*, formed to coincide and admit of the passage of the end of the beam, which is secured therein by passing the end of the truss rod through the yoke, and capping it with a nut *e'*. This yoke is formed with a semi-circular recess *C'* on its outer face, into which extends, a headed pin *C²* having flat upper and lower sides and a cylindrical

head as *c²*. The width of the stem of the pin is less than the space between the ends of the flanges on the shoe. Vertical openings are passed through the yoke and stem a short distance back from the head. The head is of a diameter to exactly fit in the central space between the flanges of the shoe and owing to the difference between the stem and space between the ends of the flanges, the shoe has a slight tilting movement. When the yoke and shoe are united suitable pins are placed in the apertures of the former which pins also pass into the grooves *b'* and the shoe is locked against lateral displacement. The tops of the yokes are perforated, and suitable hangers *C³* are passed therethrough which are attached to the base of the car and support the brake in connection with the jointed hangers *a*.

The beams are arranged on opposite sides of the wheel so that the same may be effectively blocked. To make the draw in opposite directions and simultaneous a lever *D* is pivoted in a cross-casting *D'* at the apex of one of the beams. The lower end of the lever has an adjustable connecting link *D²* thereon which has a chain *D³* connected to its opposite end, passing over a pulley *D⁴* mounted in a casting *d'* on the beam at the opposite side of the wheel. This chain is carried back and passes over a pulley *D⁵* on the outer side of the adjacent wheels and thence forward to the beam on the opposite side of the rear wheels, where it is secured. It will be apparent that by drawing on the arm of lever *D*, which has the proper connection with the braking motor, the entire series of brakes will be set and all simultaneously. The construction of casting *D'*, is such that the beam passes snugly fits in a trough-shaped recess in their larger ends, and have seats in their opposite ends in which the truss-rod rests. These castings serve the dual purpose of braces for the beams and supports for the pulleys, and lever.

To prevent side swinging of the mechanism, suitable buffer rods *E* are secured to the ends of the beams and extend out sufficiently to engage the inner faces of the wheels. These rods serve to retain the shoes in proper position relative to the tread of the wheels.

To force the brakes from the wheels I form castings *F* which have ears *f* on their underside spanning the beams and are locked in

place by cross bolts f' engaging in the ears below the beams. The upper portions of these castings have conical shaped vertically arranged grooves G' there the taper being in opposite direction respectively. In these grooves the ends of a rod H are placed the extreme ends of which are provided with suitable enlargements to prevent the same from becoming separated from the castings. On the rod H are collars h and between the collars and castings are springs h' sleeved on the rod. The rod is prevented from moving vertically in the groove by passing suitable pins through the casting above the rod.

When the brakes are set the springs are compressed, and serve to force the shoe apart as soon as the pressure is released. The object of making the grooves in the castings, conical is to allow of a swinging or lateral movement of the rod.

I am aware that many minor changes in the detail of construction of the invention can be made and substituted for those herein shown and described without in the least departing from the nature and principle of my invention.

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

1. In a car brake, the combination with four or more trussed beams carrying shoes on their ends, of cross pieces at the apex of the beams and trusses, pulleys in certain cross pieces, a lever in one cross piece and a flexible connection between the lever and all the beams, substantially as described.

2. In a car brake, the combination with the beam, of a yoke supported thereon having a recessed face, a pin in the recess, having a cylindrical head a shoe having severed flanges surrounding the head of the pin and formed with grooves in their edges and means for locking the shoe from lateral displacement, substantially as described.

3. In a car brake, the combination with two brake beams located on opposite sides of the wheels, of castings on the beams having conical grooves therein rods in the grooves having fixed collars thereon and springs sleeved on the rods between the collars and castings, substantially as described.

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

ARNOLD MILLER.

Witnesses:

ALEX. MATHEY,

E. H. SCHWEPPE.