

T. E. CRUESS.

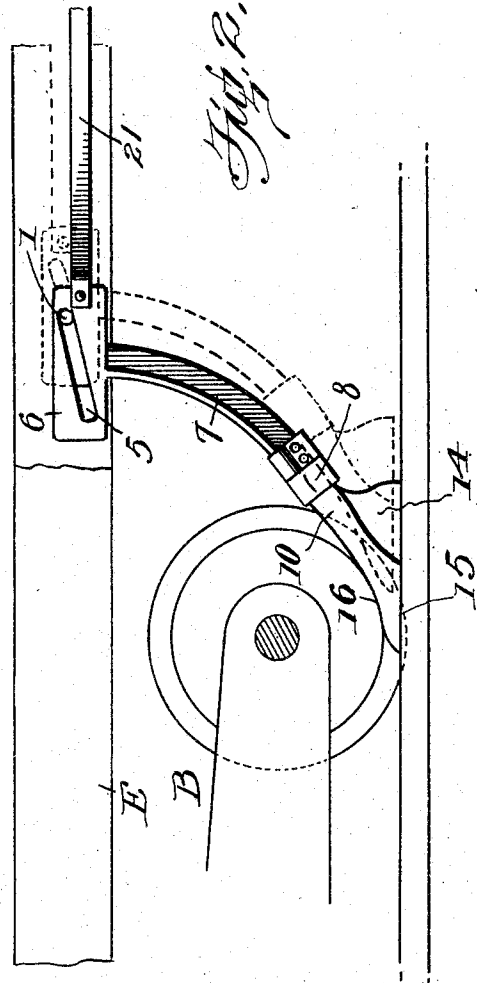
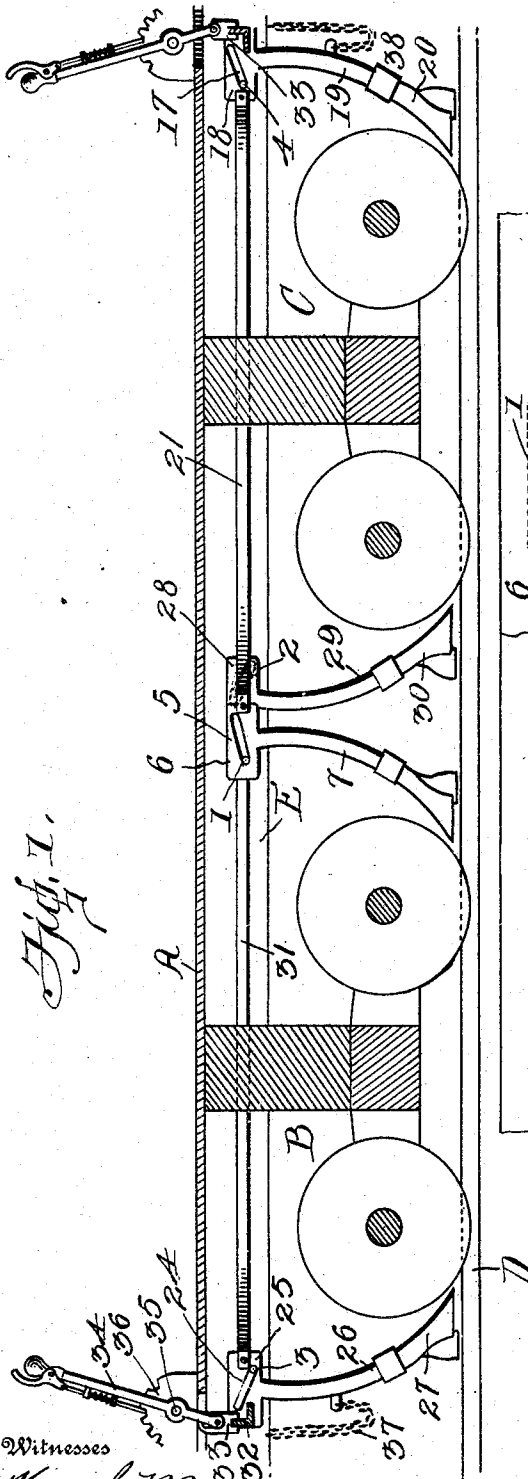
CAR BRAKE.

APPLICATION FILED APR. 21, 1909.

Patented Jan. 18, 1910.

2 SHEETS—SHEET 1.

947,074.



Witnesses

Frank B. Hoffman
James A. Roche

Inventor
Thomas E. Cruess

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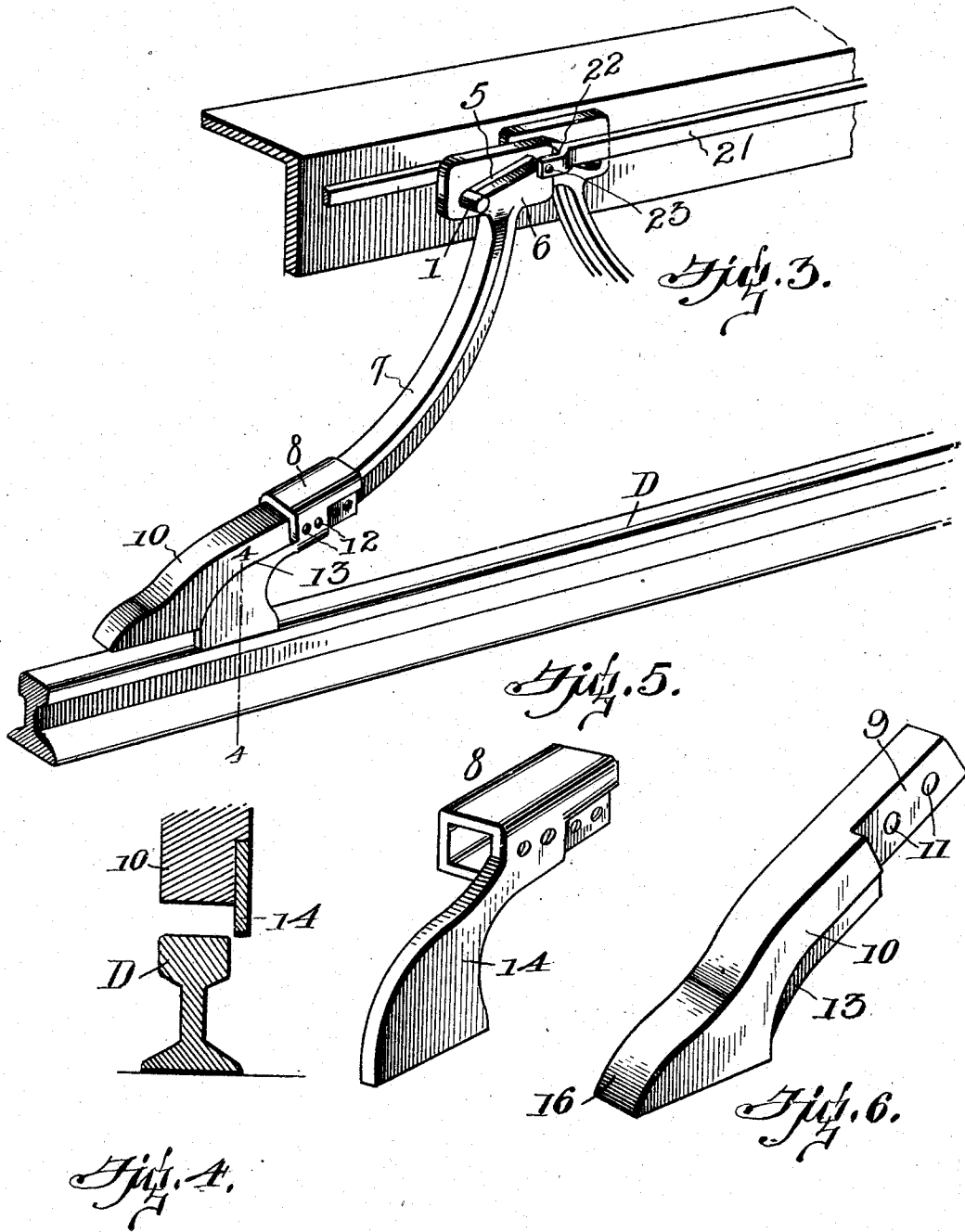
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

THOMAS E. CRUESS, OF SALINAS, CALIFORNIA.

CAR-BRAKE.

947,074.

Specification of Letters Patent.

Patented Jan. 18, 1910.

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To all whom it may concern:

Be it known that I, THOMAS E. CRUESS, a citizen of the United States, residing at Salinas, in the county of Monterey and State of California, have invented new and useful Improvements in Car-Brakes, of which the following is a specification.

This invention relates to car brakes, and more particularly to those adapted for use upon street railway cars, and has for an object to provide a brake of this character which may be effectively used in cases of emergency to effectively bring a car to an immediate standstill.

A further object of the invention is to provide a plurality of shoes or similar elements suspended from beneath the car, and further providing means for actuating said shoes to bring them into engagement with the rails upon which the car is traveling and for forcing said shoes beneath the wheels of the car trucks so that the entire body of the car can be raised upwardly away from the tracks to prevent movement of the car even should the motorman fail to disconnect his power.

Other objects and advantages will be apparent as the nature of the invention is better disclosed, and it will of course, be understood that changes within the specific scope of the claims can be made without departing from the spirit of the invention.

In the drawings forming a portion of this specification, and in which like characters of reference indicate similar parts in the several views, Figure 1 is a longitudinal section through a car body showing the application of my present invention thereto, parts being shown in an inoperative position. Fig. 2 is a detail view with parts broken away of the side sills of a car showing one of the shoe arms in position so that the shoe carried thereby engages the wheel of the car to bring it out of engagement with the rail. Fig. 3 is a detail perspective view of one of the car sills showing an intermediate pair of shoe carrying arms, said arms being in an inoperative position. Fig. 4 is a detail vertical section taken on the line 4-4 of Fig. 3. Fig. 5 is a detail perspective view of the guard and shoe receiving element. Fig. 6 is a detail perspective view of one of the shoes.

Referring now more particularly to the drawings, and with particular reference to Fig. 1 there will be seen a car A provided

with the usual wheeled trucks B and C, the wheels of which being supported upon the usual rails D.

The car A is provided with longitudinally extending beams or sills E provided midway between their ends with horizontally disposed inwardly extending pins or studs 1 and 2. The beams or sills E are provided adjacent to their outer ends with pins 3 and 4 similar to the pins or studs 1 and 2 previously described. The pin or stud 1 is disposed in a diagonal depending slot 5 formed in a head 6 at the upper end of an arm 7 which is preferably of arcuate form and is constructed from angle iron as will be clearly seen upon reference to Fig. 3 of the drawings. The arm 7 is provided at the lower end thereof with a shoe receiving element or socket member 8 in which is mounted the reduced upper end 9 of a shoe 10. The shoe 10 is preferably formed of wood or fibrous material so that it can be effectively engaged with the wheel of the truck B as will be readily understood. The reduced portion 9 of the shoe 10 is provided with a plurality of passages 11 adapted to receive removable clamping bolts 12 engaged with the shoe receiving element 8. The shoe 10 is provided with a rabbeted portion 13 in which is seated a portion of a guard element or wing 14 formed integral with the shoe receiving element 8. The shoe 10 is provided with a flat lower face 15 and with a curved or cam face 16, the former being adapted normally to lie in spaced relation to the tread portion of the rail D, and the latter arranged to lie in spaced relation to the peripheral edge of one of the wheels of the truck B. The pin 4 carried by the sill or beam E is disposed in a diagonal slot 17 formed in a plate 18 identical in construction to the head 6. The head 18 is provided with an arm 19 which carries at its lower end a shoe 20 identical to the previously described shoe 10. The shoe 20 is disposed directly behind one of the wheels of the truck C, and the head 18 which carries said shoe is connected to the head 6 by means of a link or bar 21. As shown, the ends of the said link or bar 21 are forked as shown at 22 to straddle portions of the heads 6 and 18 and the said forked portions receive pivot pins 23 engaged with said heads. The pin 3 is disposed in a diagonal slot 24 formed in a head 25 similar to the previously described head, and as shown, the arm 26 of said head carries at its lower end a shoe 27 disposed di-

rectly behind one wheel of the truck B. The pin 2 is connected with a head 28 identical in construction to the previously described heads, and this head has its arms 29 provided with a shoe 30 disposed behind one wheel of the truck C. The heads 25 and 28 are connected to each other by means of a link or bar 31, similar to the link or bar 21.

It will, of course, be understood that the description of my invention merely covers the construction of my brake at one side of the car, but I desire to use a duplication of the structure disclosed so that wheel engaging shoes are provided for all wheels of the car upon which the brake is mounted. The brake in general has its heads 18 and 25 provided with horizontally disposed cross bars 32, each being provided with a bracket 33 to which is pivotally connected the lower end of an actuating lever 34 pivoted at 35 to a rack segment 36. To prevent inward movement of the arm 26 beyond a predetermined point, I connect the sill or beam A to said arm by means of a chain or similar flexible element 37. A chain 38 also connects the arm 19 with the sill or beam E to prevent inward movement of this arm beyond a predetermined point.

The brake as shown in Fig. 1 is in an inoperative position, and should it be desired to bring the car A to a standstill, the levers 34 can be easily actuated by the motorman or operator of the car to simultaneously move the arms 7, 19, 26 and 29 so that the shoes carried by said arms will be effectively engaged beneath the wheels of the trucks B and C by momentum of the wheels so that the outer extremities of the arm lie eccentrically of the vertical axis of the axles of the trucks. The construction of the shoes is such that the car A can be rapidly moved upwardly so that the wheels of the trucks are completely thrown out of con-

tact with the supporting rails B, thus preventing movement in either direction of the car even should the motorman fail to cut off his power. By providing each shoe with a guard as previously described it will be seen that when the said shoes are moved in a position to raise the car, the guards will lie at the sides of the rails B to effectively prevent the car becoming displaced or derailed as will be fully appreciated.

I claim:—

1. In a brake of the character described, wheeled trucks, heads provided with depending arms, shoes carried by said arms and adapted to be engaged with the wheels of said trucks, said shoes being provided at their lower ends with rail engaging faces, means for slidably supporting said heads, links connecting the said heads, and means for simultaneously imparting sliding movement to said heads so that their shoe carrying arms can be moved into their operative or inoperative positions.

2. In a brake of the character described, wheeled trucks, heads provided with depending arms, horizontally disposed pins, said heads having angularly disposed slots formed therein, said pins being disposed in said slots, shoes carried by said arms and adapted to be engaged with the wheels of said trucks, said shoes being provided at their lower ends with rail engaging faces, links connecting the said heads, and means for simultaneously imparting sliding movement to said heads so that their shoe carrying arms can be moved into their operative or inoperative positions.

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

THOMAS E. CRUESS.

Witnesses:

WILLIAM J. SMITH,
JOSIAH W. COAN.