

(No Model.)

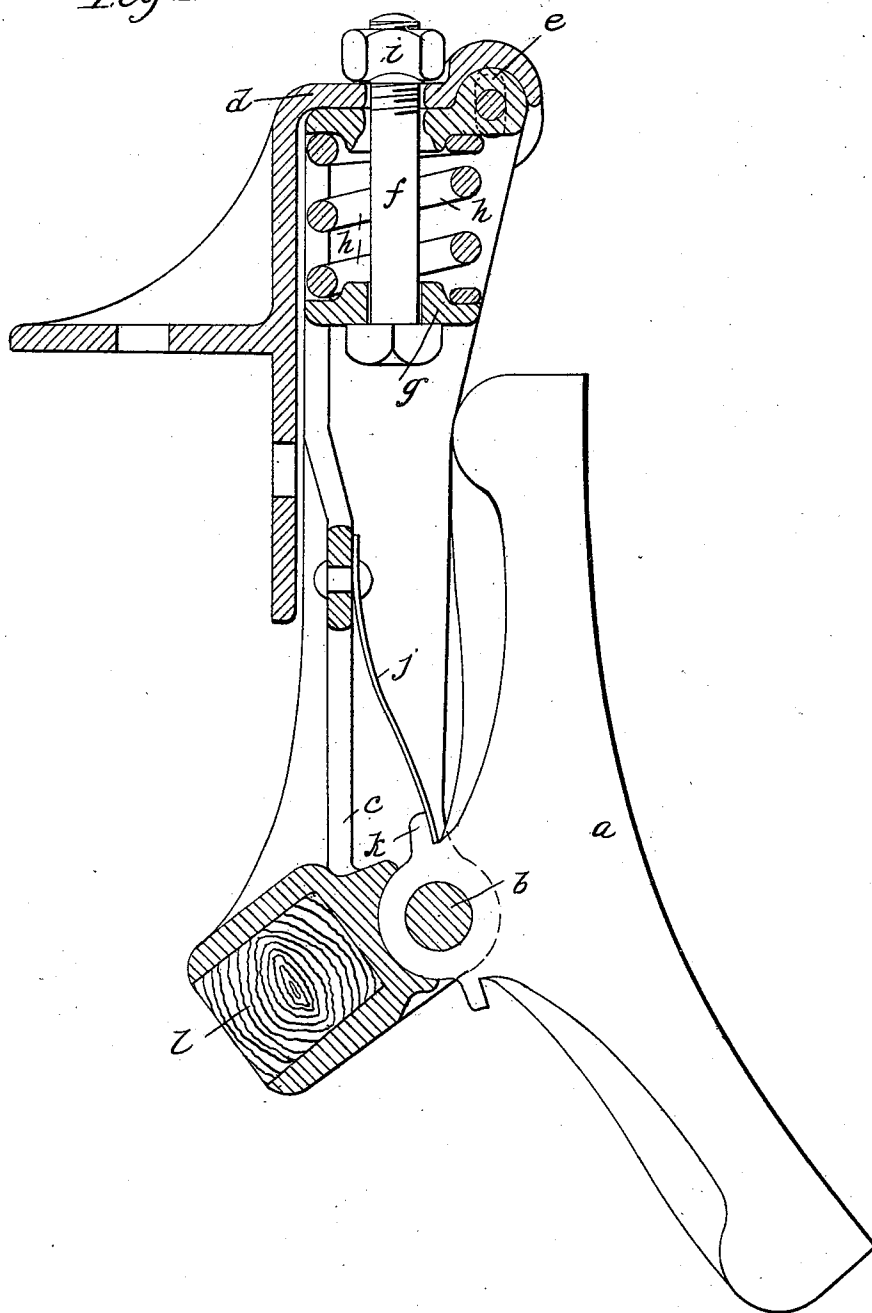
2 Sheets—Sheet 1.

W. A. McGUIRE & M. G. HUBBARD, Jr.
CAR BRAKE.

No. 557,013.

Patented Mar. 24, 1896.

Fig. 1.



Witnesses.

Wm. M. Rheems.
Ray White

Inventors.
William A. McGuire
by Moses G. Hubbard, Jr.
Rond Adams Pickard & Jackson
Attys.

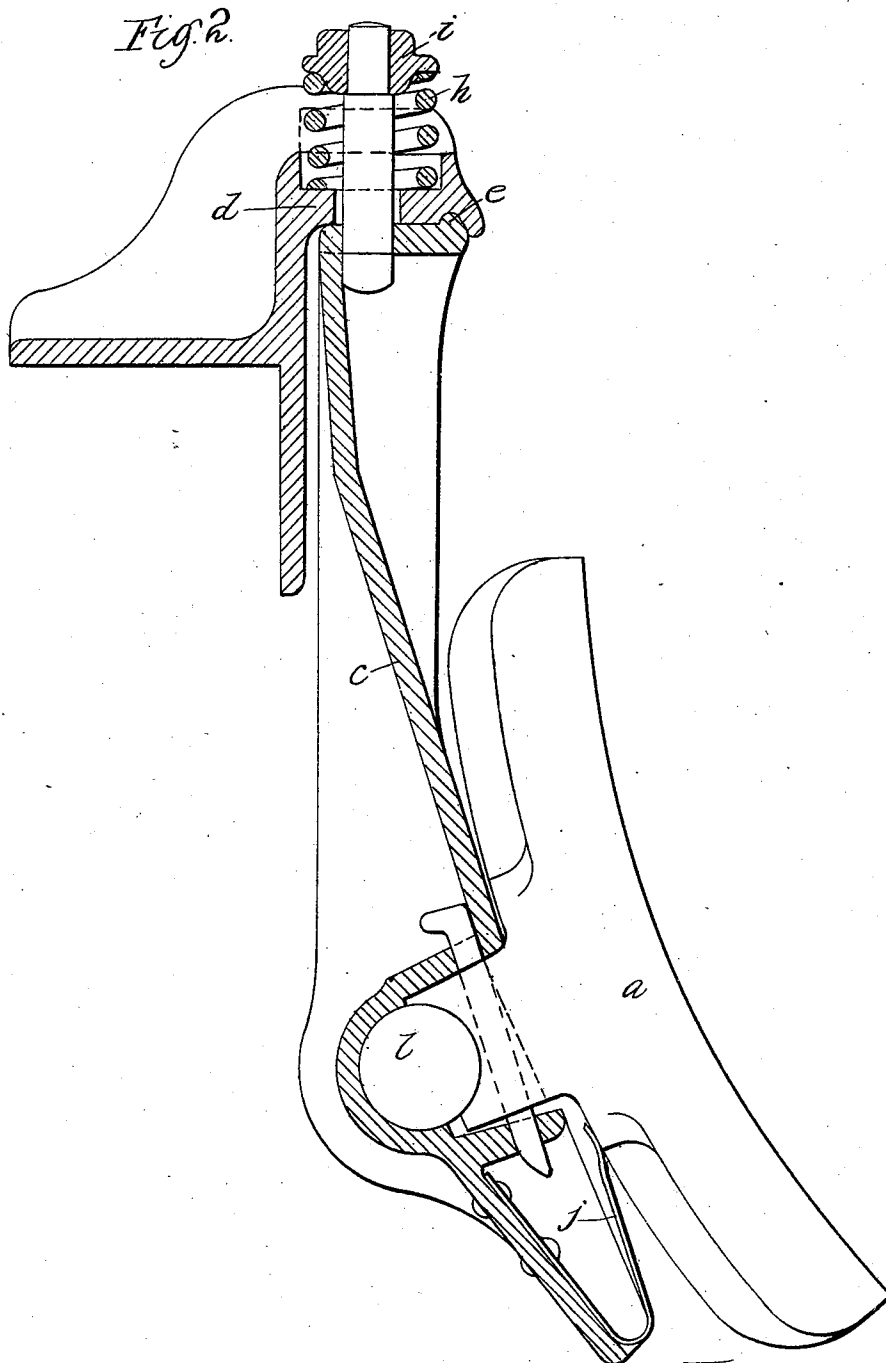
(No Model.)

2 Sheets—Sheet 2.

W. A. MCGUIRE & M. G. HUBBARD, Jr.
CAR BRAKE.

No. 557,013.

Patented Mar. 24, 1896.



Witnesses.

Wm. M. Rheem.
Ray White.

Inventors
William A. McGuire
by Moses G. Hubbard, Jr.
Bondman Richard Jackson
Attys.

UNITED STATES PATENT OFFICE.

WILLIAM A. MCGUIRE AND MOSES G. HUBBARD, JR., OF CHICAGO, ILLINOIS,
ASSIGNORS TO THE MCGUIRE MANUFACTURING COMPANY, OF SAME
PLACE.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 557,013, dated March 24, 1896.

Application filed June 17, 1895. Serial No. 553,079. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM A. MCGUIRE and MOSES G. HUBBARD, Jr., citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Brake-Hangers and Release-Springs, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a side view, a part of the device being shown in elevation and another part in section; and Fig. 2 is a similar view showing a modification.

Our invention relates to improvements in railway-car brakes, and has for its objects to provide an improved combined shoe back and hanger for the brake-shoe, to provide an improved elastic or yielding support for the hanger, to provide an improved arrangement and construction of parts whereby the brake-shoe is automatically quickly released and withdrawn from engagement with the rim of the wheel when the brake-applying power is removed, and to improve generally the construction and operation of brakes of the class employing link hangers from which brake-shoes are suspended. We accomplish these objects as hereinafter specified, and as illustrated in the drawings.

That which we regard as new and desire to secure by Letters Patent will be pointed out in the claims.

The maintaining in proper working condition at all times and under all conditions of use of brakes hung on pivoted swinging links has for many years been a serious problem with those having such matters in charge, and, notwithstanding that the cost of such maintenance has always been considerable, such form of brake has been retained in very general use, owing to many advantages possessed by the brakes of the type mentioned. We have designed a brake of this type which possesses many advantages over the styles heretofore employed, such advantages having been demonstrated very effectually by the application of our improvements during the

past year to several hundred railroad-cars in different parts of this country.

Referring now to the accompanying drawings, and particularly to Fig. 1 thereof, *a* indicates a brake-shoe of any approved construction, which is pivotally connected at *b* to a back *c*. This back *c*, as shown, is extended upward considerably beyond the brake-shoe's upper end and lies against a seat *d* secured to or formed with the usual framing of the truck and is secured to such seat in the manner about to be described. This seat *d* forming, as it does, practically a part of the truck-frame, the back or hanger may also be said to be secured to the frame. As will be seen by reference to the drawings, the upper end of the extended back (which, by reason of its height and also by reason of its supporting the shoe, may be termed a "hanger") is bent into a horizontal position and is provided at its extreme end with a rounded bearing portion *e*, which fits into a correspondingly-shaped bearing portion in the seat *d*.

f indicates a bolt, which carries at its lower or head end a plate *g*, between which and the horizontal portion of the hanger a heavy coiled spring *h* is inserted. The bolt *f* passes up through the horizontal portion of the hanger and the seat and is secured in place by a nut *i* on its end, by the adjustment of which greater or less pressure of the spring against the horizontal portion of the hanger can be had, as desired. It will be noticed that the openings in the hanger and seat through which the bolt *i* passes are somewhat larger than the diameter of the bolt, which enlargement of such openings is for the purpose of permitting the hanger to move and turn on its enlarged bearing portion *e*, the object of which we will explain hereinafter. For the purpose of providing an additional safety-support we have provided a bolt or pin which passes through the enlarged bearing-head *e* and into slotted holes in the wall of the seat *d*, on which bolt or pin the hanger is free to turn.

j indicates a spring-bar securely fastened

at one end to the shoe-back and having its opposite end engaged with the brake-shoe by means of a projection *k* formed on the hub portion of said shoe.

5 The lower end of the shoe back or hanger *c* is provided with a seat of a shape corresponding to the rear portion of the brake-shoe hub or pivotal portion that comes in contact with or engages the said seat in the
10 hanger. When the brake-shoe is out of action, the spring *j* will tend to keep it in substantially the position shown in the drawings. This spring also aids in preventing rattling of the parts.

15 *l* indicates a brake-beam of usual form, which may be attached to the shoe-back in any ordinary manner.

As shown in Fig. 2, the construction can be modified in some particulars without departing from the spirit of our invention. In the
20 modification that we have there shown the coiled spring *h* is located on the top of the seat *d* instead of below it, the nut *i* bearing on the upper end of the spring and the lower
25 headed end of the bolt *f* being held by the spring against the under side of the horizontal portion of the hanger *c*. In this construction also the spring *j* is shown as bent and applied to the lower half of the shoe. Other
30 slight differences in construction also appear; but the operation of the device as a whole is substantially the same as that set forth for the construction appearing in Fig. 1.

As before stated, by extending the shoe-back upward we make it also serve the purpose of a hanger, and by forming the upper
35 end as shown and connecting and holding it to the truck-frame by a spring such spring acts as a release-spring and one that can be
40 readily adjusted and that will take up any wear that may occur. Such construction also prevents the rattling and kicking of the brake, which are the great sources of wear in brakes of this type as now generally constructed.
45

It will be readily understood that, owing to the formation of the upper end of the brake-shoe back or hanger, when the brake-shoe is moved toward the car-wheel with which it is
50 designed to engage there will be exerted a bell-crank-lever action tending to compress the supporting-spring, the effect of which is to cause the brake-shoe to be immediately returned to its normal position when the brake-setting power is removed from the mechanism. It will also be evident that a considerable variation in the force of this return action on the part of the spring *h* can be effected by turning the nut *i*.
55

60 The brake-shoe is to be connected to its back in any usual and approved manner, and could be rigidly attached thereto if a special right-and-left shoe were used; but it is much more desirable to have one shoe-pattern for
65 all of the wheels of the truck, and so attach

them to the shoe backs or hangers that they can yield at their lower end as they are pressed against the wheels, thereby enabling compensation to be had for the difference in travel between their upper and lower ends. 70 To enable the shoes to be held up parallel with the periphery of the wheels the spring *j* is provided and arranged as described.

That which we claim as our invention, and desire to secure by Letters Patent, is— 75

1. In a car-brake, the combination of a brake-shoe with a brake-shoe back having an upward extension elastically connected to the truck-frame, substantially as described.

2. In a car-brake, the combination of a brake-shoe back having one end extended to form a brake-hanger, a seat for said extended end formed on or attached to the truck-frame, and an elastic connection of said hanger and seat, substantially as described. 80 85

3. The combination of a swinging brake-hanger having a rocking bearing upon one side of its seat, and an elastic connection constructed to hold said brake-hanger and seat together, substantially as described. 90

4. The combination of a swinging brake-hanger, a seat formed on or attached to the truck-frame, an elastic connection holding said hanger against said seat, and a bearing for said hanger on said seat located at one side of the elastic connection, substantially as described. 95

5. The combination of a brake-hanger having one end pivoted to the truck, an extension to one side of said pivot-bearing, and an elastic connection of said extension to the truck-frame, substantially as described. 100

6. In a car-brake, a swinging brake-hanger pivoted to the truck-frame at one end and to the brake-shoe or brake-beam at the other end, and having an elastic connection at each pivotal point for holding said pivot against its seat, substantially as described. 105

7. In a car-brake, an extended brake-shoe back pivotally connected to the brake-shoe at one end and to the truck-frame at its extended end, in combination with elastic connections for holding said pivotal connections against their seats, substantially as described. 110

8. In a car-brake, the combination with a swinging brake-hanger having one end pivoted to the truck and provided with an extension to one side of said pivot-bearing, of a release-spring arranged to act on the hanger through said extension and forming also an elastic connection for holding the pivot to its seat, substantially as described. 115 120

9. In a car-brake, a brake-release spring having an upward pressure on the brake-hanger both for releasing the brakes after action and holding said hanger against its seat, in combination with a swinging brake-hanger, substantially as described. 125

10. In a car-brake, a brake-shoe back connected to the brake-shoe in such manner that 130

said shoe can rock upon said back, in combination with a spring for holding said shoe in its normal position in relation to said shoe-back, substantially as described.

5 11. In a car-brake, a shoe-back connected to the brake-shoe at one end and having an elastic connection with the truck-frame at its opposite end, in combination with a brake-

beam mounted in said shoe-back, substantially as described.

WILLIAM A. MCGUIRE.
MOSES G. HUBBARD, JR.

Witnesses:

ALBERT H. ADAMS,
HOLMES A. TILDEN.