W. LOUGHRIDGE.
Car-Brake.

No. 206,464. Patented July 30, 1878.

FIG. 1

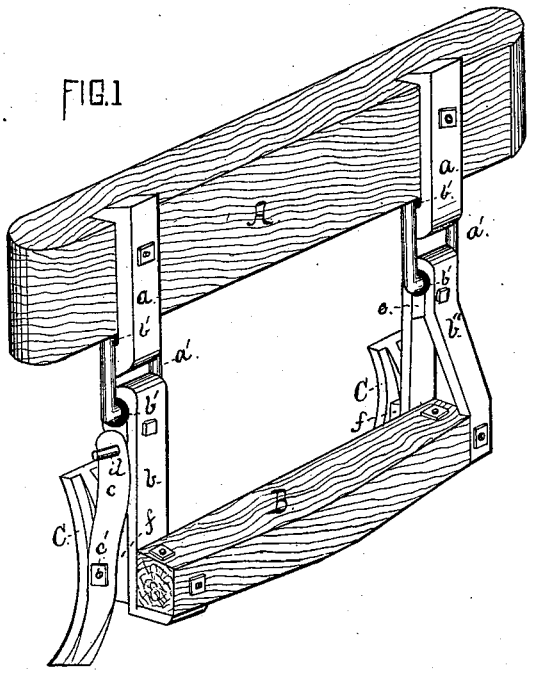


FIG. 2.

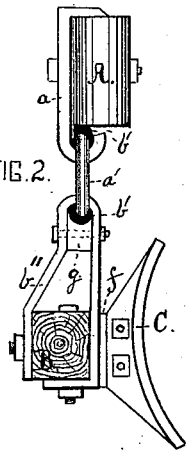
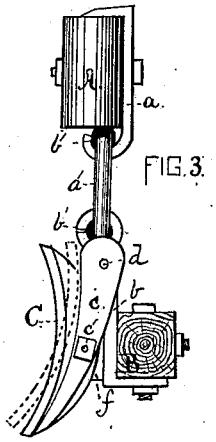


FIG. 3.



WITNESSES

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WILLIAM LOUGHRIDGE, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN CAR-BRAKES.

Specification forming part of Letters Patent No. **206,464**, dated July 30, 1878; application filed December 3, 1877.

To all whom it may concern:

Be it known that I, WILLIAM LOUGHRIDGE, of Baltimore city, State of Maryland, have invented certain new and useful Improvements in Brakes; and I hereby declare the same to be fully, clearly, and exactly described as follows, reference being had to the accompanying drawings, in which—

Figure 1 represents a perspective view of a brake embodying two modifications of my improvement; Figs. 2 and 3, side elevations, respectively, of the said modifications.

While in the accompanying drawings I have illustrated my present invention as applied to the truck of a railway-car, it is by no means confined thereto, certain salient features of the invention rendering it equally applicable to the brakes of other vehicles.

The objects of my invention are to economize material in the brake-shoes and their attachments, to more securely attach the brake-beam to the stirrup, and to provide a simple and efficient means of equalizing the wear of the shoes, all of which objects are accomplished by resorting to certain details of construction, as hereinafter described.

In the accompanying drawings, A represents the end beam of a railway-car truck, having the holders *a a* secured thereto in the usual manner. To the latter are attached the links *a' a'*, which hold the stirrups *b* or *b''*, a section of rubber hose, *b' b'*, being interposed between the links and their attachments, in order to prevent rattling.

The stirrups are constructed either as shown in Fig. 2 or Fig. 3.

In the form shown in Fig. 2 a strip of bar-iron, of suitable width and thickness, is bent at right angles near one end, thus forming a corner, as it were, into which the brake-beam is drawn, the iron being then bent and shaped as illustrated in the drawing.

A block of iron, *g*, is attached by means of a bolt below the link *a'*, in order to prevent the lifting of the stirrup. A projecting piece, *f*, is welded to the stirrup, and is perforated for the attachment of the brake-shoe, as hereinafter described.

The brake-beam B is secured within the stirrup by means of a pair of bolts at right angles, as shown, and thus an important advantage is secured, as any loosening or rattling due to shrinkage of the beam may be readily taken up by tightening the nuts. Where the beam, as is usual, is inserted in a casting, such taking up of lost motion is obviously impossible. The shoe C is secured by means of one or more bolts to the projection *f*.

In the modification shown in Fig. 3 the rear portion of the stirrup is dispensed with, the beam B being, however, attached, as just described, by means of a pair of bolts at right angles. A similar projection, *f*, is attached, to which the shoe is secured by means of a single bolt, *c'*. A spring, *e*, bent slightly, as shown in Fig. 1, and retained in position by the pin *d*, is also attached to the bolt *c'*, the whole being securely fastened by any suitable form of locked nut.

The spring *e* presses upon the rib of the shoe with sufficient force to prevent the latter from being accidentally jolted from any position to which it is brought—a contingency further rendered remote by the fact that the shoe is perforated as nearly through its center of gravity as may be. The shoe is thus adapted to swivel upon the bolt *c'* on being applied to the wheel, the spring retaining the shoe in the position to which it is thereby brought. It is clear that the shoe is thus constantly being adjusted to compensate for and equalize wear and tear.

It will be observed that the spring *e* bears upon the rib of the shoe on both sides of the bolt, the pressure being, however, concentrated near the ends of the shoe, thus affording the greatest leverage to the friction thereby caused.

Should it be deemed desirable, a supplemental spring may be applied to the opposite side of the rib.

The stirrups may be constructed of ordinary commercial T or angle iron, the flange being cut away in part, the portion left constituting the projection *f*.

The open stirrup *b''* (shown in Fig. 2) may, if desired, be caused to press upon the beam, the sides of the stirrup being sprung apart for the insertion of the beam.

I do not claim, broadly, a swiveling brake-shoe held by a spring, as I am aware that such has long been in use.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the stirrup, of the shoe C and side spring *c*, substantially as described.

2. The combination, with the shoe C and stirrup, of the spring *c* and pin *d*, substantially as described.

3. The combination, with the link *a'*, of the stirrup-rubbers *b'* and swiveling self-adjusting shoe C, substantially as described.

4. The open stirrup *b''*, adapted to be closed upon or clasp the end of the brake-beam, and provided with means for the attachment of the shoe, substantially as described.

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Witnesses:
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