(No Model.)

L. B. HASKINS, Jr.

CAR BRAKE.

No. 302,248. Patented July 22, 1884.

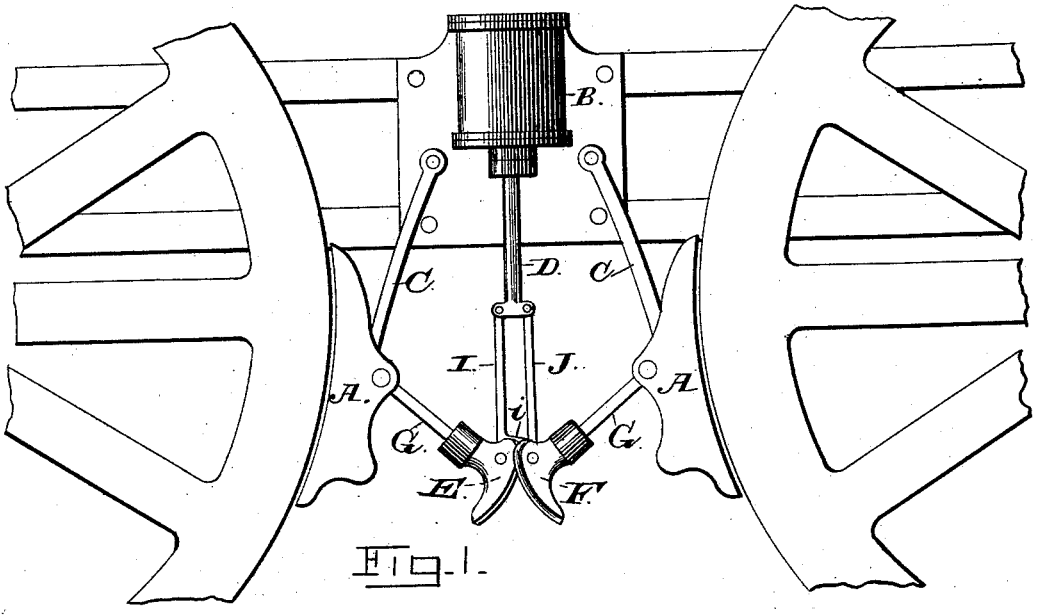

Fig. 1.

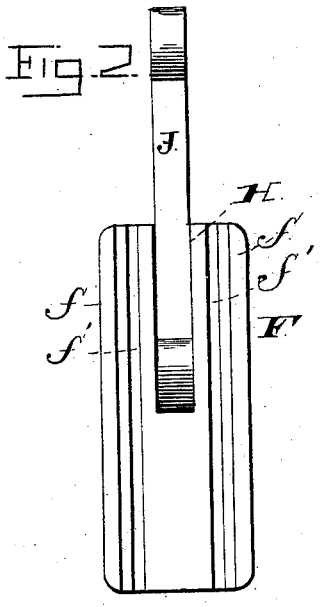

Fig. 2.

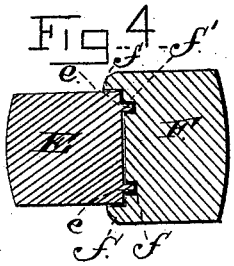

Fig. 4.

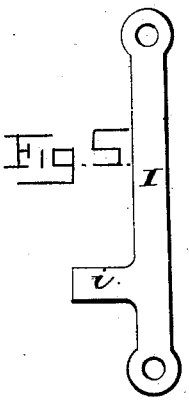

Fig. 5.

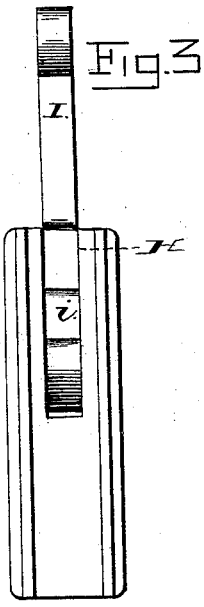

Fig. 3.

WITNESSES

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UNITED STATES PATENT OFFICE.

LOOMAN B. HASKINS, JR., OF UHRICHSVILLE, OHIO, ASSIGNOR OF ONE-HALF TO WILLIAM A. HORN, OF SAME PLACE.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 302,248, dated July 22, 1884.

Application filed May 13, 1884. (No model.)

To all whom it may concern:

Be it known that I, LOOMAN B. HASKINS, Jr., a citizen of the United States, residing at Uhrichsville, in the county of Tuscarawas and State of Ohio, have invented certain new and useful Improvements in Air-Brakes; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to air-brakes, and has for its object to so construct the cams as to obviate the slipping of same during operation.

To this end it consists in the novel construction, combination, and arrangement of the several parts, as will be hereinafter more fully described and claimed.

The brake-shoes A, cylinder B, links C, and rod D may be of any desired construction, or substituted by any other well-known construction desired.

My improvement lies wholly in the brake-cams and the arms of same, and I have illustrated the several other parts for the purpose of making clear the operation of the invention.

Referring to the accompanying drawings, Figure 1 is a side elevation of the brake. Fig. 2 is a detail view of the inner edge or bearing-face of one of the cams. Fig. 3 is a similar view of the other cam; Fig. 4, a transverse section of the two cams in contact. Fig. 5 is a side view of the arm of one of the cams, as will be described.

The cams E F have their meeting-faces correspondingly curved, and are connected with the brake-shoes preferably by means of rods G, as shown. Each of these cams has its inner face at the upper end mortised at H, and the arms J are pivoted within these mortises to, respectively, the cams E F; and the arm I is provided near its pivot to the cam E with a right-angled projection or guide-leg, *i*, which extends into the mortise H of cam F, and serves to brace and steady the operation of the cams, as will be understood from Fig. 1. I make the cam F with edge flanges *f*, extending the full length of its face, and with two or more narrow grooves, *f'*, also extending the full length of the cam, as shown most clearly in Figs. 2 and 4. The cam E has its inner face formed to fit between the ribs *f*, and has projected therefrom longitudinally-extended ribs or beads *e*, fitted to grooves *f'*, as shown in Fig. 4.

The operation of my invention will be understood from the drawings. When the parts are in the position shown in Fig. 1, and the rod D is drawn up, the cams operate to bind the brake-shoes against the wheels. Where so desired, instead of the cylinder B, rod D and links C, levers, or other well-known mechanical expedients may be employed to actuate the cams. The object of making my cams male and female and operating one within the other, as described, is to prevent the slipping and breaking of the cams, as of common occurrence when the cams are both males, as is usual. This slipping referred to is a lateral slipping of the cams one off the other. This ordinarily breaks one side of one or both cams, and is likely to break the cross-head, shoe-hangers, or bottom head out of the cylinders. When the cross-head breaks, the cams drop on the track, and are liable to throw the engine or car off the track.

It will be seen the broad principle of the invention consists in grooving the face of one cam, and making the other to fit thereto. This may be accomplished by the single, broad groove formed between the edge flanges *f* of the cam F, or by the narrow grooves *f'*; but I prefer to use both such parts constructed as shown. I also prefer to form the cam E as shown, though it will be understood that a roller or other suitable form of binding or supporting part could be used instead of the illustrated form of the cam E, where such form is not required.

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

1. The combination, with the brake-shoes and the connecting devices, of the cam having its inner or engaging face grooved, as described, and the cam or binding part fitted to

said grooved face, whereby the lateral detachment or slipping of the parts is prevented, substantially as set forth.

2. The combination of the cams provided in their faces with mortises formed near the upper ends of the arm pivoted to one of the cams, and provided with a lug or projection extended into the mortise in the opposite cam, substantially as set forth.

3. The combination, with the brake-cam F, having edge flanges *f* and longitudinal grooves *f'*, of the cam E, formed to fit between flanges *f* and having beads *e*, arranged to enter groove *f'*, and the arms pivoted to said cams and connecting one of same with the operating mechanism, one of said arms being provided with a lug or projection extended within a mortise formed in the opposite cam, substantially as set forth.

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

LOOMAN B. HASKINS, JR.

Witnesses:
E. A. PARRISH,
W. D. COLLIER.