(No Model.) 2 Sheets—Sheet 1.

# A. F. BAATZ.

## RAILWAY BRAKE.

No. 434,971. Patented Aug. 26, 1890.

Fig 1

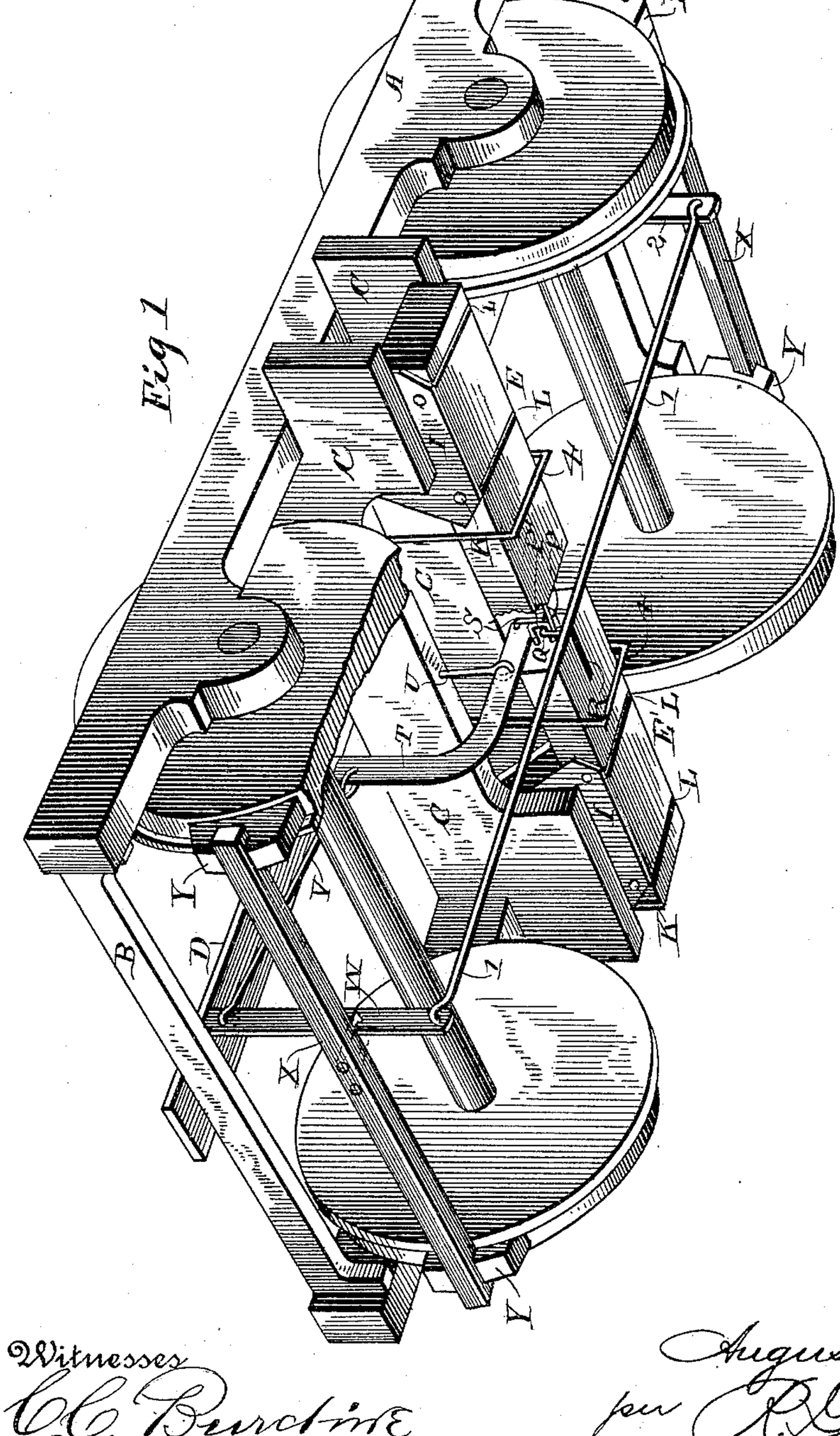
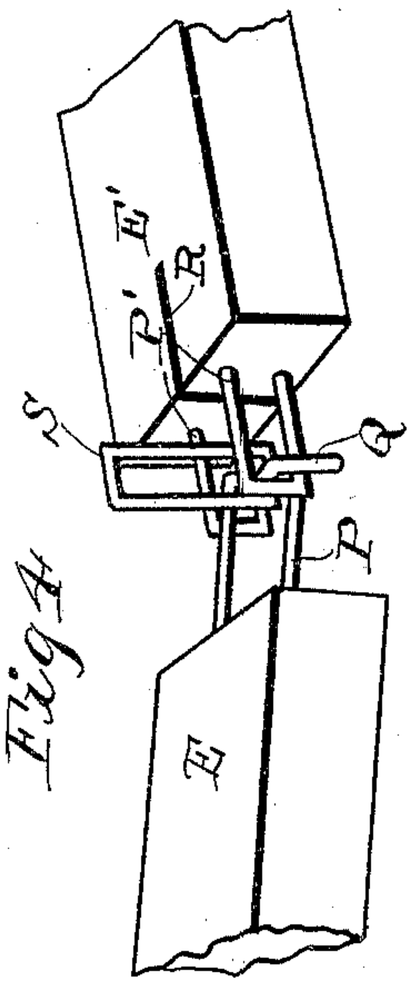


Fig 4



Witnesses
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(No Model.) 2 Sheets—Sheet 2.

# A. F. BAATZ.

## RAILWAY BRAKE.

No. 434,971. Patented Aug. 26, 1890.

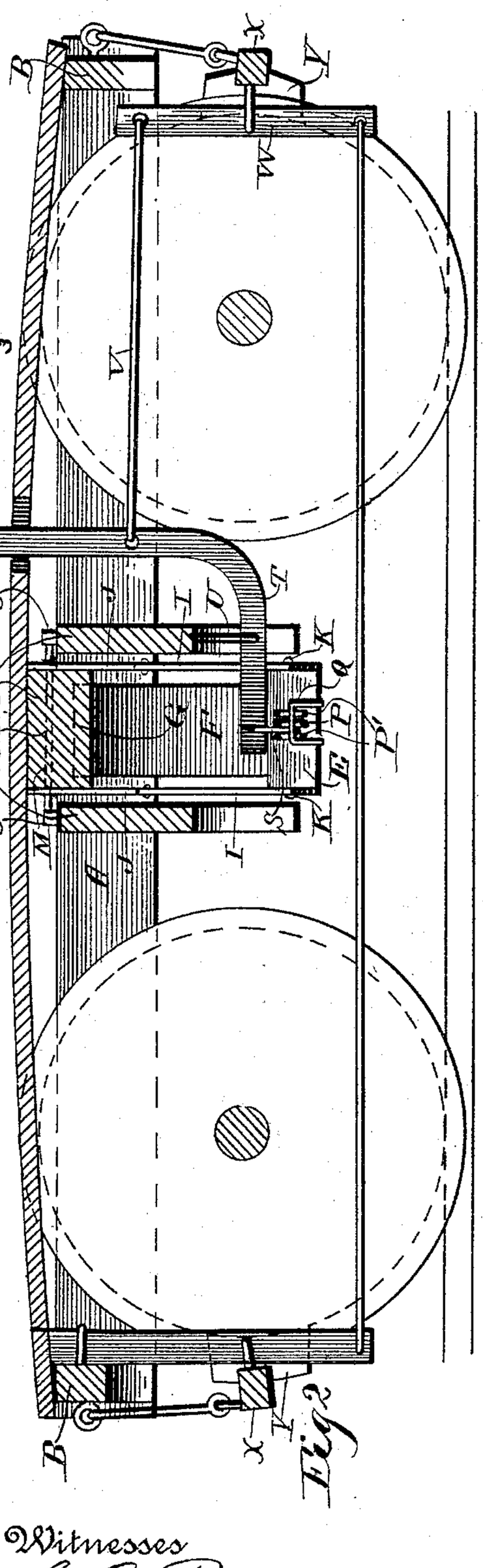


Fig 2

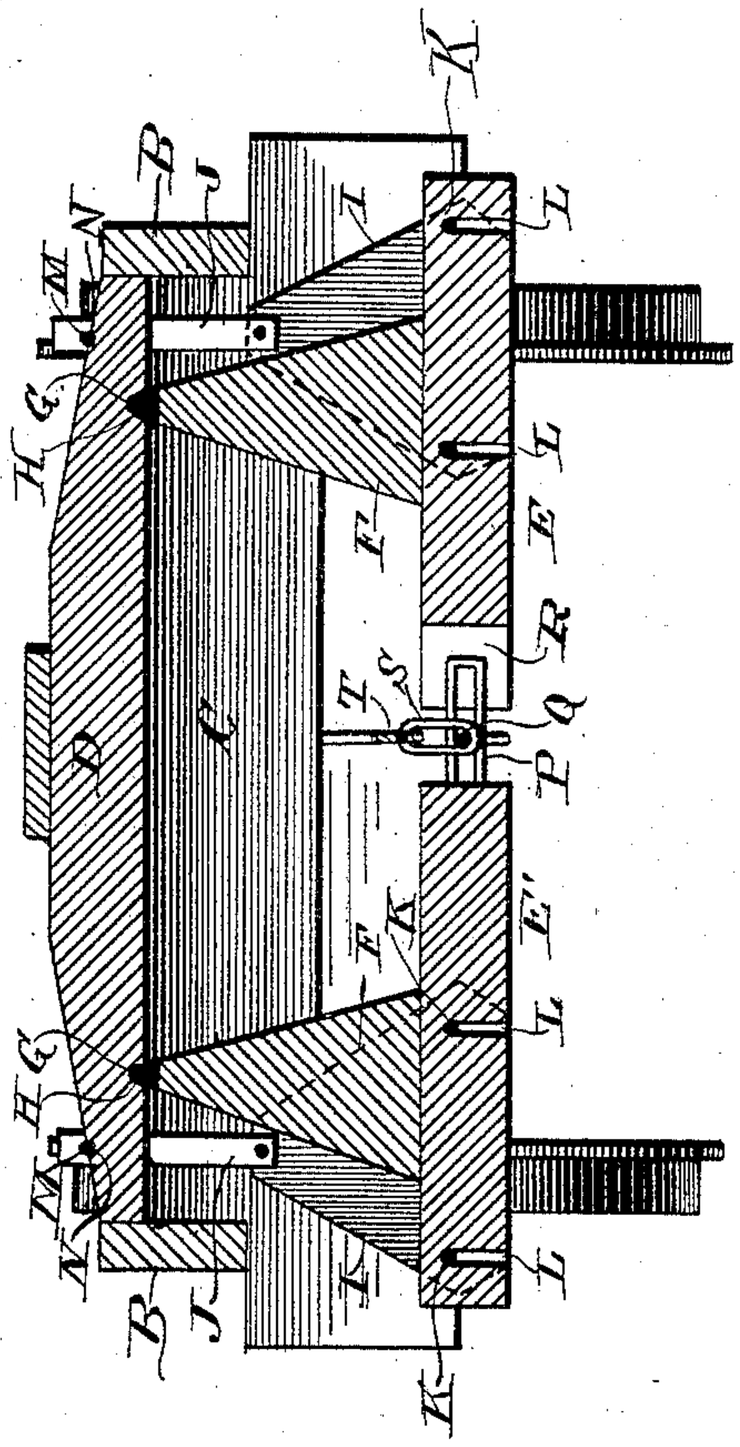


Fig 3

Witnesses
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# UNITED STATES PATENT OFFICE.

AUGUST F. BAATZ, OF BELLINGHAM, WASHINGTON.

## RAILWAY-BRAKE.

SPECIFICATION forming part of Letters Patent No. 434,971, dated August 26, 1890.

Application filed March 18, 1890. Serial No. 344,312. (No model.)

*To all whom it may concern:*

Be it known that I, AUGUST F. BAATZ, a citizen of the United States, residing at Bellingham, in the county of Whatcom and State of Washington, have invented certain new and useful Improvements in Automatic Railway-Brakes; and I do hereby 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.

My invention has relation to automatic railway-car brakes, but more particularly to that class of such devices operated or regulated by the weight of the car itself; and my object is to produce a more effective, strong, and sure arrangement of this kind than has heretofore been in use.

With this end in view my invention consists in the peculiarities of construction and combination of parts more fully described hereinafter, and pointed out in the claims.

Referring to the accompanying drawings, Figure 1 is a bottom perspective view of a car-truck provided with my improved brake mechanism; Fig. 2, a longitudinal section; Fig. 3, a sectional view taken on the line *x x* of Fig. 1, and Fig. 4 a detail view.

The reference-letters A and B represent, respectively, the side and end bars of a car-truck. The side bars A are connected at their centers by a pair of depending cross-pieces or guides C, which are located between the forward and rear wheels and project from either side of the truck. A space is left between the guides C, and in it is loosely fitted a sand-board D, having a curved upper surface which projects from the upper edges of the guides and truck-frame, for a purpose hereinafter explained. Beneath this board D and between the depending lower portions of the cross-pieces C is located a second loose sand-board, which is separated at the center and consists of two sections E E′. Upon each of these sections E E′ is mounted a standard F, preferably of rubber and made in a triangular shape, the apex of the same being crowned with a metal cap G, having a semi-cylindrical shape and engaging and fitting loosely within a corresponding depression or cavity H in the sand-board D. The sections E E′ and this said board D are connected by hangers I, which consist of triangular metallic plates having upwardly-projecting shanks J. One of these plates is placed on each side of each section and standard, and the opposite hangers are connected at their bottoms by shafts K K, which are sunk in cross-slots or recesses L L in the sand-board sections E E′. The upper ends or shanks of these hangers extend up between the guides and upper sand-board and are mounted on a shaft or pivot M, which fits in a groove N in the sand-board and is mounted at either end in bearings O, secured to the upper edges of the cross-pieces C.

The pivot M is located out of vertical alignment with the fulcrum or cap G on the upper end of the standard, for a purpose to be explained hereinafter.

The lower sand-board sections E E′ are connected together at the center by links P P′, projecting from their inner adjacent faces, and a pin or bolt Q, engaging said links and pivotally connecting them. The link P of the section E extends all the way across between the two sections, and a slot R is formed in the other section to allow ample play of the link. The section E′ has two short links P′ P′, one in each side of the slot R, and the link P fits between these two links P′. The pin Q also engages another link S, which is connected to the lower end of an elbow-lever T′, which has its fulcrum in a hanger U, depending from one of the cross-pieces C. The vertical arm of this lever is connected by a horizontal rod V to the upper end of one of the brake-levers W, which is pivoted to the cross-bar X, which is hung from the end bar of the truck-frame and is provided with the usual brake-shoes Y, said lever being connected by a horizontal rod L to the opposite brake-lever 2, which is pivoted to the brake in the same manner as the other lever.

The preferred construction of my invention having been set forth, I will now proceed to describe its operation. The normal position of the upper sand-board is that shown in Fig. 2, with its curved upper surface projecting from its upper edges of the truck-frame, and the sections E′ E of the lower sand-board will be in a horizontal position and in

alignment with each other. The weight of the car on the projecting sand-board D will force down the latter. The lower sections E E′ being pivotally connected to the frame of the truck by means of the hangers I, which are supported by the pivots M, which rest upon the cross-pieces C, and said pivots being located out of alignment with the connections of the standards and upper sand-boards, the latter will bear upon the fulcrums or caps G on the standards F and thus push down the inner ends of the sections E E′, caps G turning in their sockets H as the sand-board is borne down. It will be seen that the connecting-links P and P′ and the coupling-pin *q* will also be carried down with the pivoted sections, and through the medium of the links S will pull down the short arm of the elbow-lever F. This lever being fulcrumed at U, its vertical or long arm will be thrown back, and will thus bring into operation the rod V, and thereby the brake-lever W. The power is communicated by means of the rod *z* to the opposite brake-lever W′, and thus it will be seen that the brakes will be applied. The brake will be released by means of a release-rod 3, connected to the upper end of the lever T, which rod can be operated by any suitable power. Brackets 4 depend from the cross-bars C and embrace the inner ends of the sections E E′ to confine the same and protect them.

It is evident that many slight changes which might suggest themselves to a skilled mechanic could be resorted to without departing from the spirit and scope of my invention. Hence I do not limit myself to the precise construction herein shown; but,

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 of a vertically-movable upper sand-board, a lower sand-board composed of two sections, standards on said sections, on which standards said upper sand-board is fulcrumed, pivotal connections between the lower section and the truck-frame, the pivots being located out of vertical alignment with said fulcrums, and suitable connections between said lower sections and brakes, whereby the latter are applied, substantially as described.

2. In a car-brake, the combination of guides, a sand-board vertically movable between the same and projecting from their upper edges, standards on which said sand-board is fulcrumed, lower sand-board sections on which said standards are mounted, pivotal connections between said sections and the guides, a coupling between the inner ends of said sections, and suitable connection between said coupling and the brakes, whereby the latter are applied, substantially as described.

3. In a car-brake, the combination of a vertically-movable sand-board, standards on which the latter is fulcrumed, lower sand-board sections secured to the base of the standards, pivotal connections between the said sections and the truck-frame, a coupling connecting the inner ends of the sections, a lever connected to said coupling, and suitable connection between said lever and the brake, whereby the latter is applied, substantially as described.

4. In a car-brake, the combination of guides, a sand-board vertically movable between the standards on which said sand-board is fulcrumed, lower sand-board sections on which said standards are mounted, hangers supporting said sections and extending up between the guides and standards, pivots extending across between said guides and supporting said hangers, a coupling between the inner ends of the lower sand-board sections, and suitable connections between the latter and the brakes, whereby the latter are applied, substantially as described.

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

AUGUST F. BAATZ.

Witnesses:
W. G. BARNES,
J. E. PERRY.