

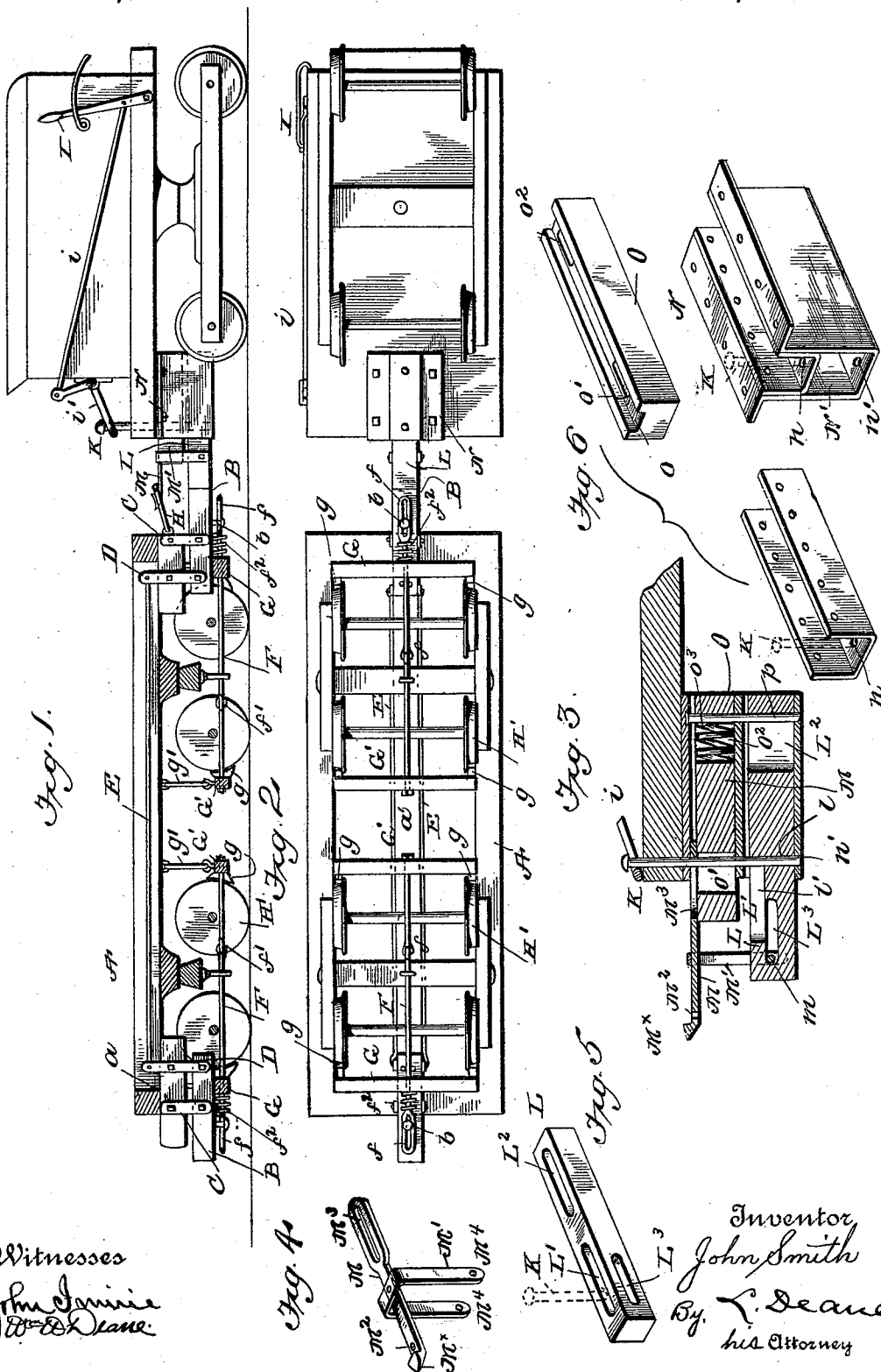
(No Model.)

2 Sheets—Sheet 1.

J. SMITH.
CAR BRAKE.

No. 514,286.

Patented Feb. 6, 1894.



Witnesses
John Smith
W. Deane

Inventor
John Smith
By *W. Deane*
his Attorney

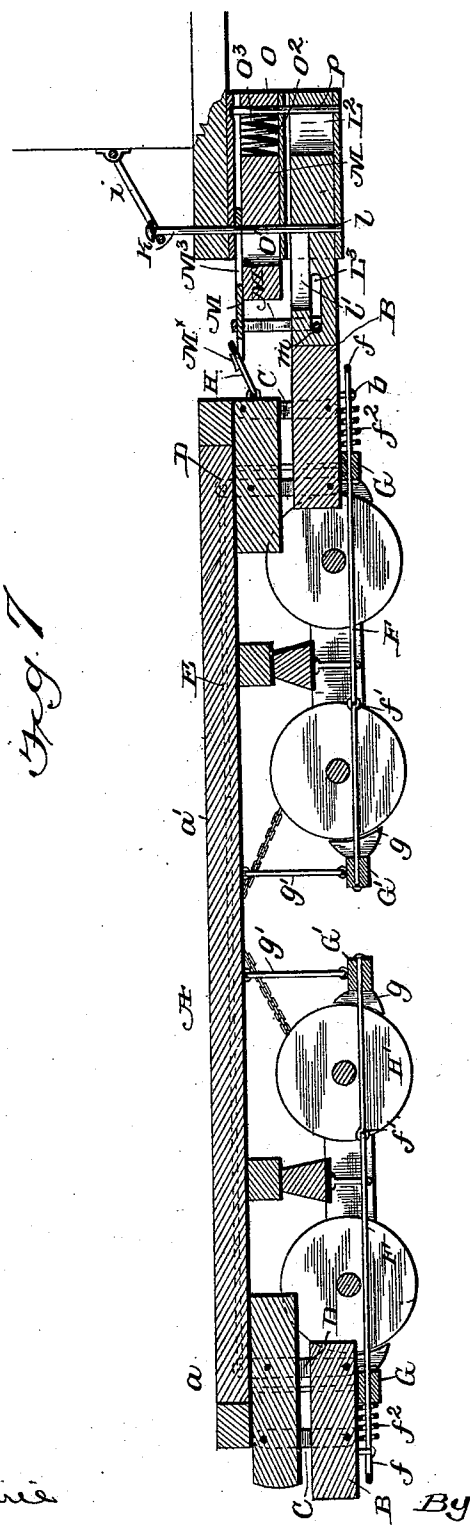
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UNITED STATES PATENT OFFICE.

JOHN SMITH, OF PIERCE CITY, MISSOURI.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 514,286, dated February 6, 1894.

Application filed August 5, 1893. Serial No. 482,455. (No model.)

To all whom it may concern:

Be it known that I, JOHN SMITH, a citizen of the United States, residing at Pierce City, in the county of Lawrence and State of Missouri, have invented certain new and useful Improvements in Railroad-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.

Figure 1, is a side elevation: the platform or frame of the car being shown in section. Fig. 2, is a bottom plan view. Fig. 3, is a detail in section of the coupler and ram in rear of the tender. Fig. 4, is a detail of the coupling link. Fig. 5, is a detail in perspective of the ram bar; Fig. 6, details of the case and the bar on which the coupling link rests. Fig. 7 is a longitudinal central sectional view.

This invention relates to the class of devices known as rail road brakes, and its object is to provide means whereby the mere impact of the next car upon its mechanism shall act to automatically press a brake or brakes against the truck wheels, and the novelty in the present instance consists in the construction and combination of the parts forming the mechanism for this purpose, and in the connection of this organization with a rail road car or locomotive, and in the detail of the invention, all as will now be more fully set out as well as embodied in the claims.

In the accompanying drawings A, denotes any ordinary rail road car truck, which except as it is modified by the present invention is of the well known type. The frame or platform of the car is designated by letter *a*, and the central longitudinal beam by letter *a'*. At each end of the car so as to act free of the drawhead, or in such a way as not to interfere with it, is centrally and pivotally suspended a block or piece B, by means of the straps C and D, each of which is also pivoted to the under side of the car at the end. Thus each block will have a free back and forth movement when its outer end is impinged upon by the draw-head of another car or in any way.

To the upper end of each strap D, are jointed the rods E, extending nearly the whole length of the under side of the car, and is designed to convey the movement of the block

impinged upon to the connected block at the other end of the car, and so as to operate the latter block in an opposite direction from the first. Underneath each block B, is secured one end of the rod F, by a pin *b*, which passes through the end loop *f*, of the rod. This rod passes through the brake beam G, near the end of the car, and is jointed at *f'*, and at the inner end connects about the middle of the car with the inner brake beam G', where it is suspended by the rod *g'*, jointed at top to the car bottom and at lower end to the brake.

The tender is coupled to the car by link H, on the front of the car and the hook M^x, at the end of the bar M, which bar rests and moves in the groove *o*, in the upper face of the bar O; or the bar M, may be connected to the link H, by a pin through M², and the end of the link. While a peculiar link is here shown, I propose to use at each end of the car any suitable coupling links and any usual or ordinary draw head. This bar M, is located in the upper part of the case N, which case is bolted longitudinally with and under the front part of the tender. The bar M, is also retained or guided in its movement in this groove by the bolt K, which passes down through the rear edge of the tender, the opening *o*, in the bar O, the holes *n*, and *n'*, in the front edges of the case. The bolt K, is operated by lever I, on the tender and the connecting rod *i*, and bell crank lever *i'*, and for a purpose hereinafter explained. The bar O, is held in the upper part of the case N, by a bolt *p*, passing through the ends of the case and the slot *o*², in the bar. The spring *o*³, in slot *o*², will allow some elasticity of the movement of bar O.

The coupling bar M, is connected with the ram bar by stirrup M', attached to the sides of M, while at its lower ends it is fixed to the pin *m*, adapted to move back and forth in the slot L³, of the ram bar.

The ram bar L, is designed to impinge or butt against the swinging block B, on the car. When the device acts as a brake the bar L, is simply held in fixed position by the bolt K.

The operation of this device as in connection with two cars is as follows: When a forward or rear car impinges against the outer end of the block B, the motion of said block carries the brake beam G, back and causes

the shoes *g*, to strike upon the forward car wheels *H*; the motion of said block also causes the rod *E*, to be thrust rearward and this movement carries the block *B*, at the opposite end of the car out and drawing on the rod *E*, causes it to move the brake beam *G'*, rearward and brings upon the face of the rear wheels *H'*, the brake shoe *g*. Of course the reverse of said movement of the rod *E*, would operate the brake shoes on the opposite car wheels. The spring *f'*, on end of the rod *F*, under the block *B*, will protect against any severity of thrust on said block *B*.

In order to prevent the locomotive when backing the car from operating the block *B*, there is provided the hand lever *I*, on the tender which by rod *i*, and crank *i'*, raises the loop *i''*, of the crank, and thus draws the bolt *K*, out of the ram bar *L*, and the bar will now have backward movement so that when it presses on the end of block *B*, the ram bar slides back. In this operation the end of the bolt *K*, will rest on the ram bar in the groove *l'*.

What I claim is—

1. In combination with a rail road car, a block pivotally suspended underneath it at each end, the two connected by a rod jointed to each, and also two rods under the car each rod at one end suspended under the car and at the other respectively connected to one of said blocks and each combined with and adapted to operate the brakes at its end of the car, substantially as set forth.

2. In combination with a rail road car a movable block at each end, each of which is adapted to be operated by the abutting car or tender, and the rods pivoted at the ends to and connecting said blocks, and the brakes

and their direct connection with said movable blocks, substantially as set forth.

3. In combination with a car having a movable block at one end, adapted to operate by connected mechanism the brakes on the wheels under the cars, a locomotive tender having a slotted ram bar and means for withdrawing its coupling pin so as to allow the ram bar to slide back and thus not impinge on the car block of the next car when the train is being backed, all substantially as described.

4. In a device for braking rail road cars, the combination of the swinging blocks at each end of the car, suitably connected together so as to be operated simultaneously with brake mechanism at the car ends consisting of a rod *F*, swingingly supported at the inner end and at the outer end passing through the brake beam and connected with the swinging block, substantially as described.

5. In a rail road brake the combination of the swinging block at each end of the car, connected by a rod pivoted to each the brake mechanism consisting of the jointed rods *F*, one at each end of the car, each swingingly supported near the car center and under it, and having at the outer end beyond the car beam through which it passes a spring attachment, whereby all danger from the thrust in coupling is prevented, substantially as set forth.

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

JOHN SMITH.

Witnesses:

J. H. DUNCAN,
CHAS. H. DENNY.