

(No Model.)

A. MOORE & G. NORWOOD.
CAR BRAKE.

No. 442,235.

Patented Dec. 9, 1890.

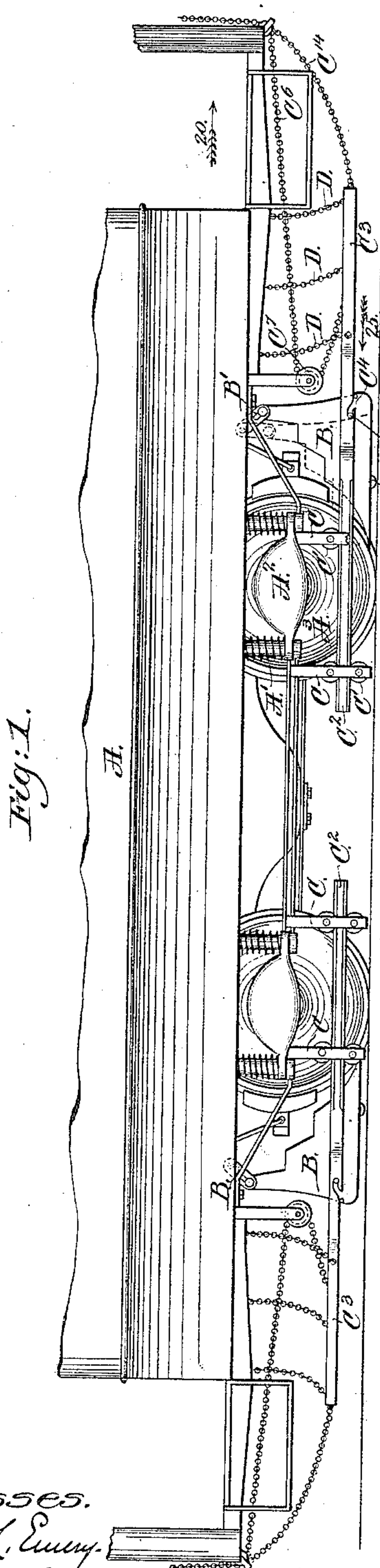


Fig: 1.

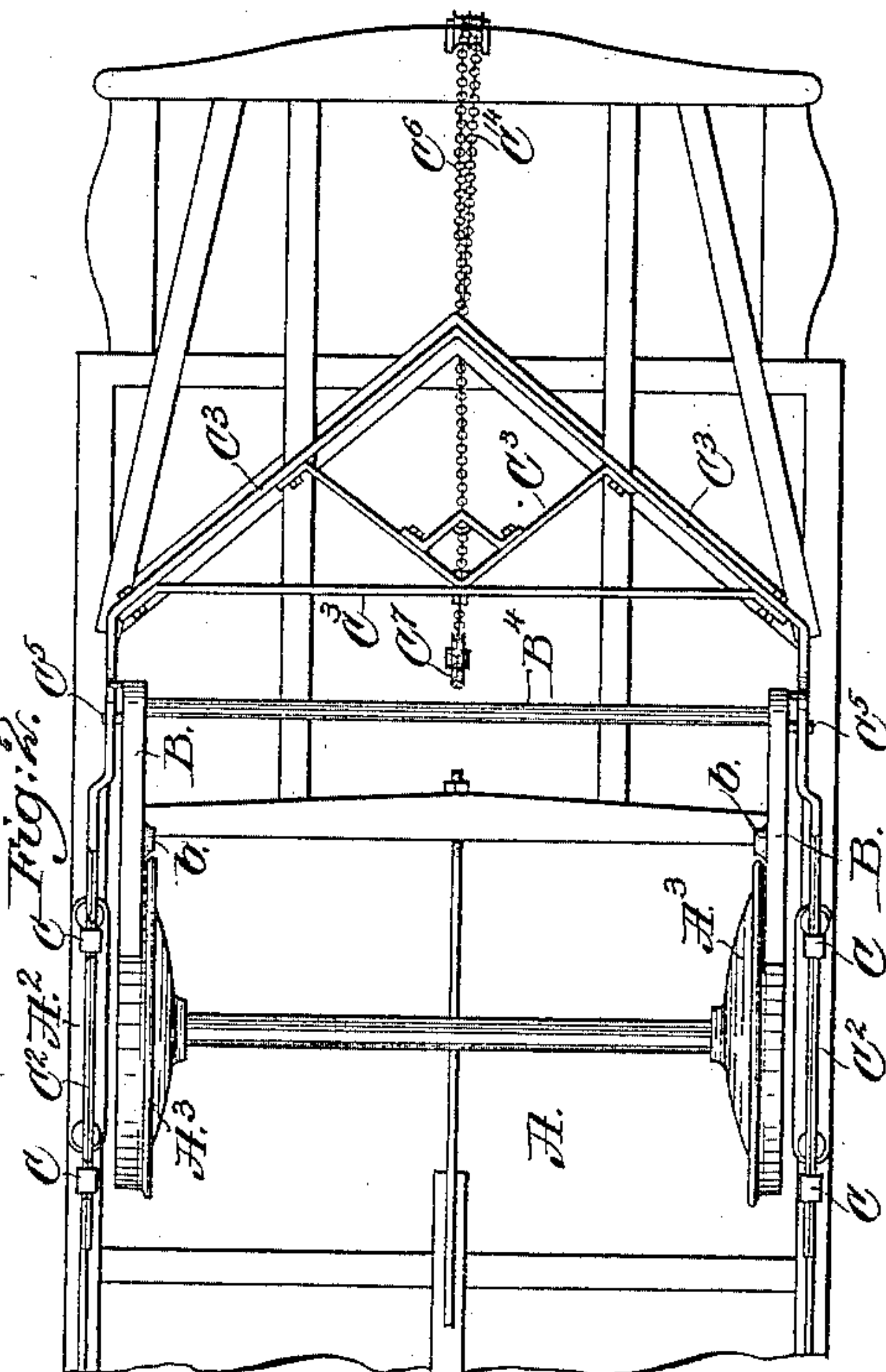


Fig: 2

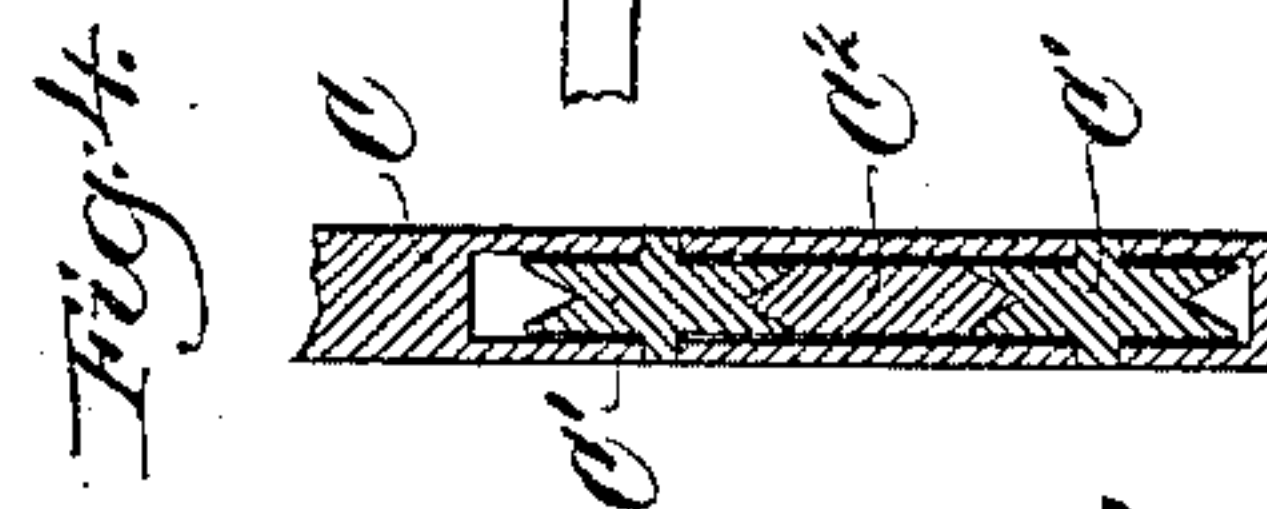


Fig. 4.

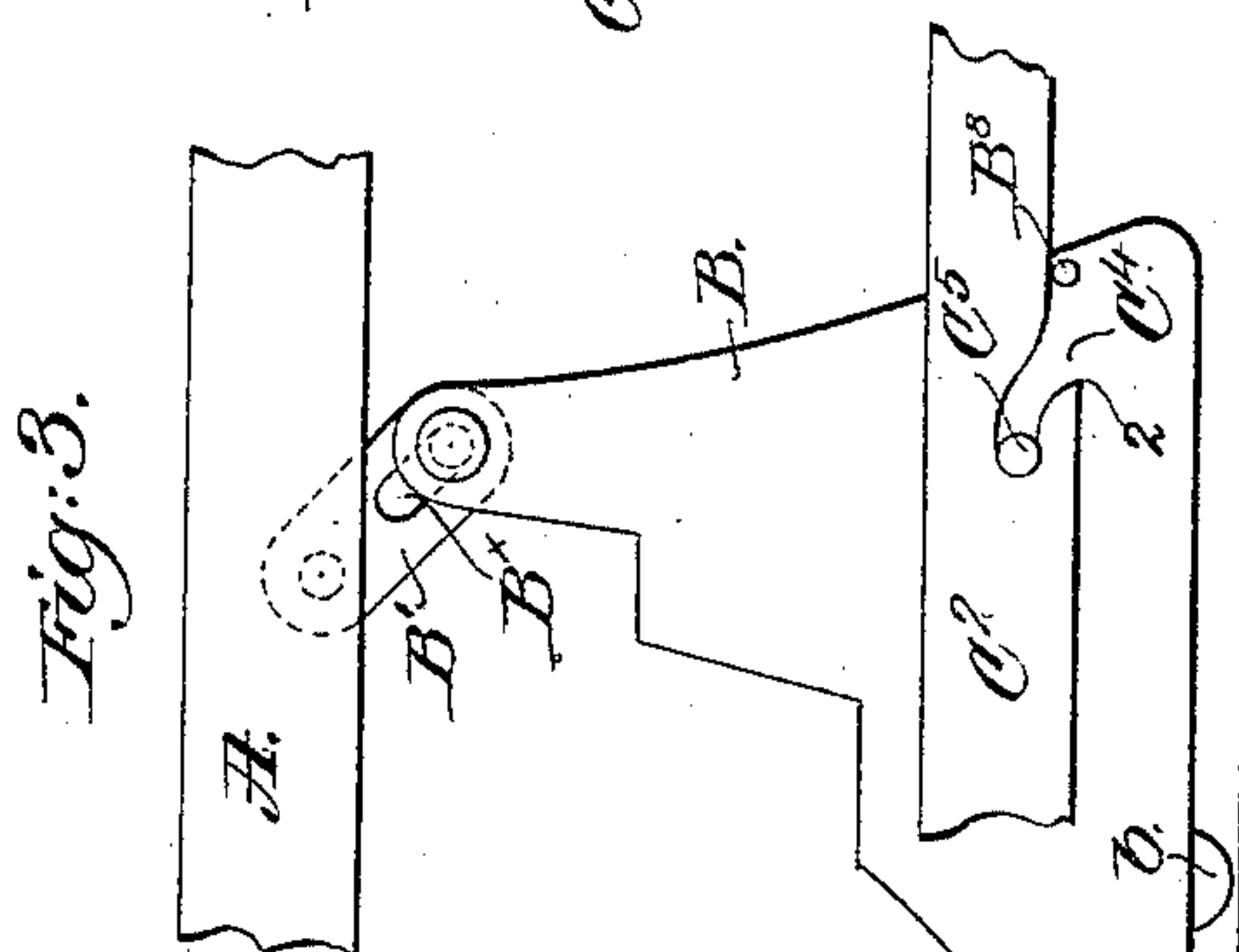



Fig: 3.

Witnesses.
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UNITED STATES PATENT OFFICE.

ALFRED MOORE AND GEORGE NORWOOD, OF BOSTON, MASSACHUSETTS.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 442,235, dated December 9, 1890.

Application filed March 31, 1890. Serial No. 345,928. (No model.)

To all whom it may concern:

Be it known that we, ALFRED MOORE and GEORGE NORWOOD, both of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Devices for Stopping Cars, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to provide a device for quickly stopping a car, and is particularly adapted to cars to which motion is given by some means other than by horses—such, for instance, as electricity, cable, or by steam.

Our invention consists, essentially, in the combination, with a car-body and wheels supporting the same, of shoes hung in front of said wheels and presenting to the same an inclined or curved surface, and means for forcing said shoes upon the rails, substantially as will be described.

Other features of our invention will be hereinafter described, and set forth in the claims at the end of this specification.

Figure 1 shows in side elevation a sufficient portion of a car to enable our invention to be understood; Fig. 2, an under side view of one end of the same, and Figs. 3 and 4 details to be referred to.

The car-body A, supported in usual manner by the springs A', resting upon the journal-boxes A², in which turn the axles of the wheels A³, resting upon the usual rails, has suspended from it, by suitable links B', shoes B, said shoes being hung immediately in front of the wheels A³, and having their sides adjacent to said wheels made concave, as shown, to present a long inclined face (see Fig. 3) immediately in front of the said wheels and lower straight surfaces, as shown, to bear or slide on the usual rails.

The journal-boxes A² are provided with downwardly-extended supports C, suitably shaped to receive the V-shaped or other rolls C', (shown best in Fig. 4,) between which are carried the legs C² of the triangular-shaped frames C³, (see Fig. 2,) there being two of said frames—one located at each end of the car in front of the wheels—the legs C² extending backward toward the middle of the car, as shown.

We shall hereinafter confine the description to one of the said frames—that shown at the right in Fig. 1 of the drawings—it being understood that the other is precisely the same and operates in like manner.

The legs C² of the frame C³ are provided opposite the shoes B with suitable inclined or cam slots C⁴, extending from the lower side of said legs upward and backward toward the center of the car, the said slots receiving the pins or studs C⁵ on the shoes B, and the said shoes are also provided with suitable safety pins or studs B⁸, which normally bear against the under side of the frame C³ to keep the said shoes in their proper positions. Assuming the car to be moving in the direction of arrow 20, Fig. 1, if an object of any kind is encountered lying upon the track, the frame C³ will meet said object and will be pushed backward or inward in the direction of arrow 25, Fig. 1, and the slots C⁴, acting upon the studs C⁵ of the shoes B, will force the said shoes down upon the rails, and by reason of their being hung on the links B' as they are forced down they will also be carried bodily toward the wheels A³, so that the said wheels will ride or roll up on the inclined curved faces of the said shoes, as shown by dotted lines, Fig. 1, thus throwing the entire weight of the front end of the car upon the said shoes, causing them to slide upon the rails and stop the car frictionally, the flanges b keeping the shoes upon the rails. After the car has been rolled back off the shoes B said shoes are lifted into their normal elevated positions free from the wheels by drawing the frame C² forward, preferably by means of a chain C¹⁴ provided for that purpose, the points 2 at the entrance of the slots C⁴ (see Fig. 3) engaging the studs C⁵ and causing them to ride up in the said slots, thus lifting the said shoes into their normal positions, the slots C⁴ being slightly depressed at their ends, as shown, to thereby keep said pins C⁵ from working down and out of the slot by any jarring of the car.

In order that the car may be stopped by the driver before reaching the obstruction, we have provided a chain C⁶, passing from the platform within convenient reach of the driver back and around the pulley C⁷, where it is secured to the back or inside of the frame

C³, so that by means of said chain the frame C³ may be drawn back in the direction of arrow 25 to depress the shoes B, precisely as when said frame is pushed back by striking

5 against an obstruction.

To obviate making the frame C³ sufficiently wide to completely fill the space between the rails and the car-body, we have made the frame very light and have provided several chains

10 or cords D, secured loosely to the said frame and car-body, so that an obstruction meeting the said chains or cords will operate to force the frame C³ back in the same manner as if the obstruction met the frame itself.

15 In lieu of the chains D we may use canvas or other flexible material, and the frame in practice may be suitably padded or cushioned, if desired.

The links B' are provided with slots B^x, to

20 admit of freedom of movement as the car works up and down on its springs, or moves forward with relation to the shoes when being stopped thereby.

We have herein shown the shoes B as rigidly secured together in pairs by means of

25 rods or bars B⁴ to secure a more even movement; but the same is not necessary, as all four of the shoes may be independent of each other. We have also shown the rolls C' with

30 V-shaped peripheries and the legs C² with corresponding V-shaped edges to prevent lateral movement; but they may be made straight, if desired.

It is obvious that the cam-slots C⁴ may be

35 in the shoes B and the pins or studs C⁵ carried by the frame C³, if desired.

We do not desire to limit ourselves to the particular form of shoe herein shown, it being only necessary to have the inclined curved

40 face adjacent to the wheel. Neither do we desire to limit ourselves to the exact construction of operating parts shown, as it is evident the same may be varied somewhat without departing from the scope of this invention.

We claim—

1. The combination, with the car-body and wheels supporting the same, of shoes hung in front of said wheels and presenting to the same an inclined curved face, and a horizontal sliding frame C³ to force said shoes upon the rails, substantially as described.

2. The combination, with the car-body and wheels supporting the same, of shoes B and links B', the horizontally-movable frame C³, having inclined slots C⁴, and studs C⁵ on the said shoes B to co-operate with said slots to force said shoes upon the rails, substantially as described.

3. The combination, with the car-body and wheels supporting the same, of shoes B, links B', supporting the same, the horizontally-movable frame C³ to force said shoes upon the rails, and means for operating the said frame from the car, substantially as described.

4. The combination, with the car-body and wheels supporting the same, of shoes hung in front of said wheels, a horizontally-movable frame for operating said shoes to stop the car, and cords or chains D, located in front of said shoes and connecting the said frame with the said car-body, substantially as and for the purpose specified.

5. The combination, with the car-body and wheels supporting the same, of shoes B and links B', the horizontally-movable frame C³, having inclined slots C⁴, and studs C⁵ on the said shoes B to co-operate with said slots to force said shoes upon the rails, and the pins or studs B⁸, substantially as described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

ALFRED MOORE.
GEORGE NORWOOD.

Witnesses:

BERNICE J. NOYES,
EMMA J. BENNETT.