

(No Model.)

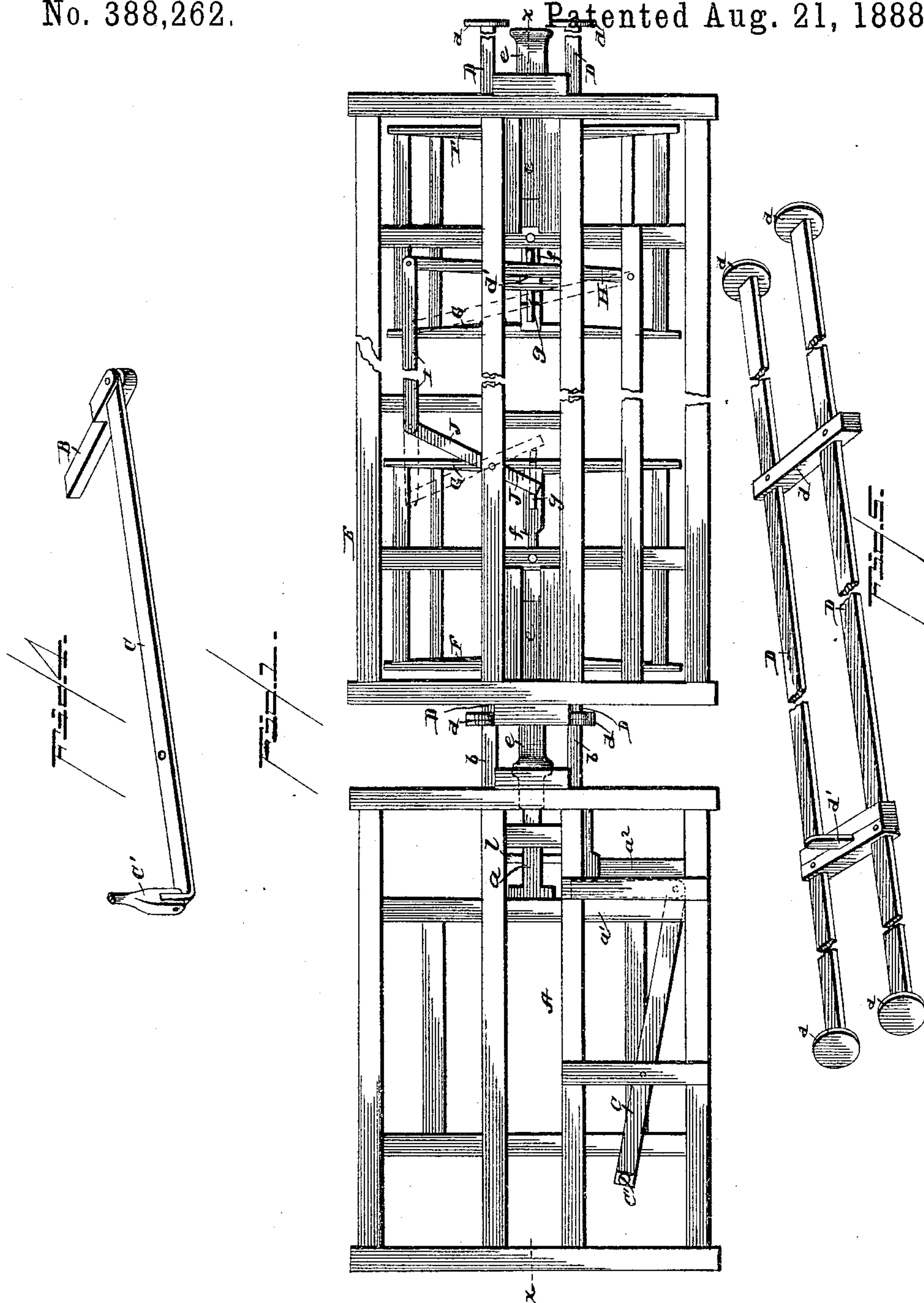
2 Sheets—Sheet 1.

J. J. COATES.

CAR BRAKE.

No. 388,262.

Patented Aug. 21, 1888.



WITNESSES.

W. H. Humphrey.
S. Specht.

INVENTOR.

James J. Coates.
By R. S. & A. T. Lacey.
Attorney s.

(No Model.)

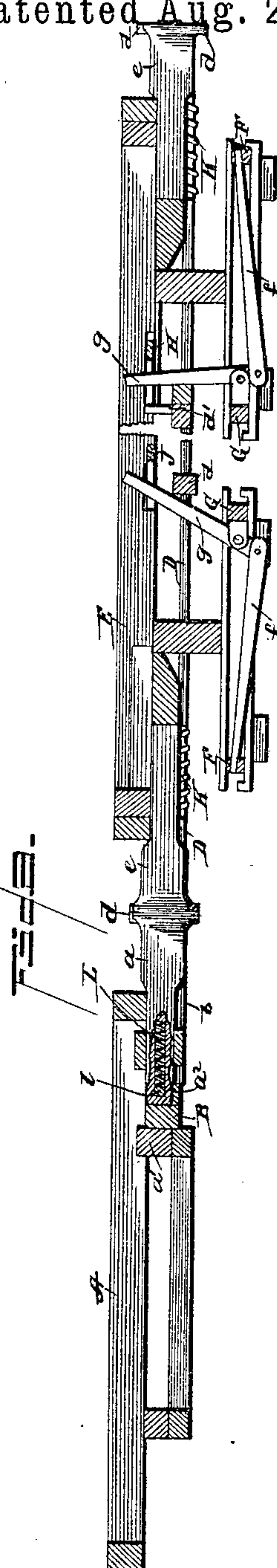
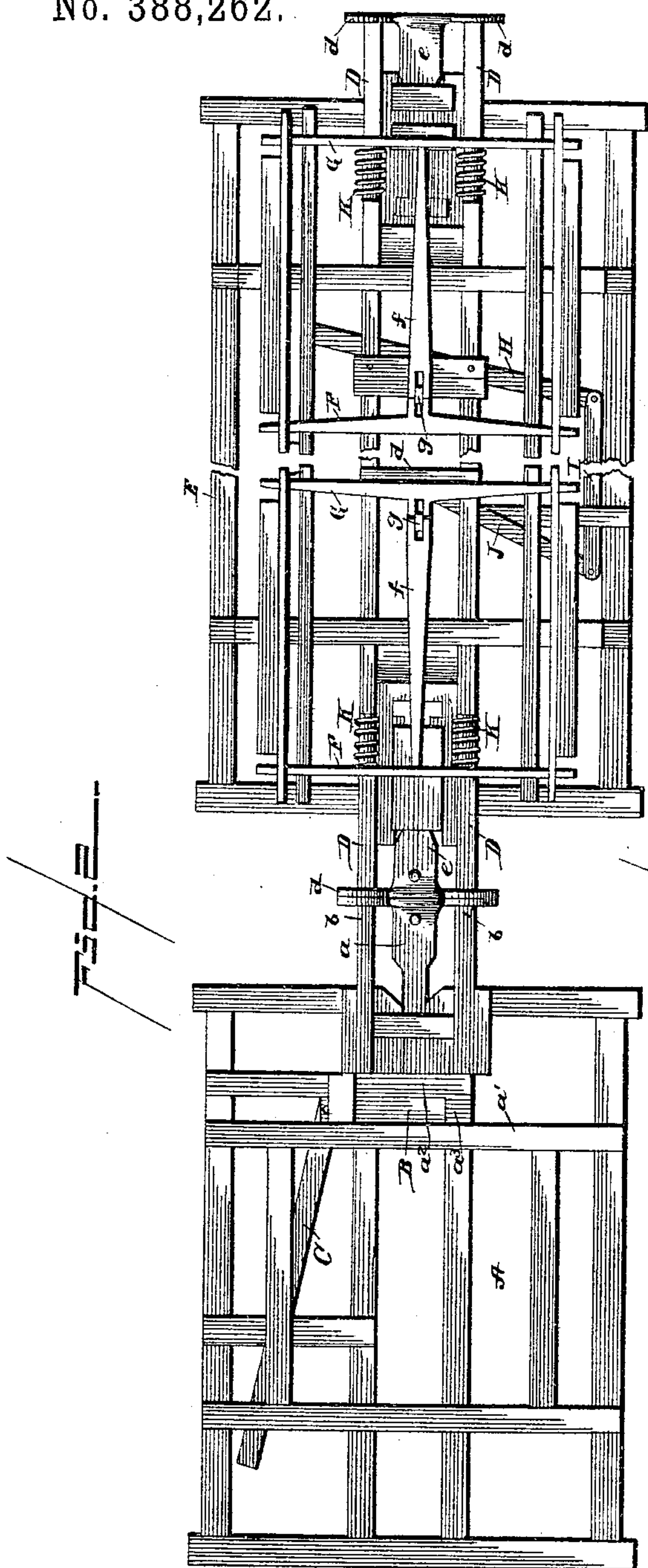
2 Sheets—Sheet 2.

J. J. COATES.

CAR BRAKE.

No. 388,262.

Patented Aug. 21, 1888.



WITNESSES.

M. H. Humphrey.
S. Specht.

INVENTOR.

James J. Coates.
By R. B. & A. P. Lacey.
Attorneys

UNITED STATES PATENT OFFICE.

JAMES J. COATES, OF MOBERLY, MISSOURI.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 388,262, dated August 21, 1888.

Application filed May 9, 1888. Serial No. 273,294. (No model.)

To all whom it may concern:

Be it known that I, JAMES J. COATES, a citizen of the United States, residing at Moberly, in the county of Randolph and State of Missouri, have invented certain new and useful Improvements in Car-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 the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to car-brakes, and has for its object to devise a means for automatically applying the brakes by the slowing up of the train.

The improvement consists in having the tender of the engine provided with a movable draw-head which is held in position by a sliding block and with fixed push-bars, and in having the cars provided with sliding frames or bars which extend the whole length of the car and have their ends about flush with the ends of the draw-bars, and in having connections interposed between the brake-bars and the said frames or bars for transmitting motion from them to the said brake-bars for applying the brakes when the said frames are actuated.

The improvement further consists in the peculiar construction and combination of parts, which hereinafter will be more fully described and claimed, and shown in the annexed drawings, in which—

Figure 1 is a top plan view of a pair of trucks embodying my invention, showing the sliding block drawn back; Fig. 2, a bottom plan view, parts being broken away, of the trucks, showing the block in position back of the draw-bar; Fig. 3, a vertical section on the line XX of Fig. 1; Fig. 4, a detail perspective view showing the means for operating the block; and Fig. 5, a detail perspective view, parts being broken away, of the frame or bars for operating the brake-levers.

The truck A of the tender is provided with the draw-head a , which is adapted to slide in, being held out or in a fixed position by, the block B, which slides in between the rear end of the draw-head and the cross bar or sill a' . The block B works in the space between the

sill a' , the bar a^2 , parallel with the bar a' , and the cross-bar a^3 , which unites the bars a' and a^2 and supports the block B, and is pivotally connected with the end of the lever C, that extends lengthwise of the truck, and has the hand-lever C' applied to its other end and extended within convenient reach of the engineer or fireman to be operated for moving the block B in or out, as may be desired. The push-bars b —one on each side of the draw-head—have their ends flush with the end of the said draw-bar when the latter is projected, and are adapted to bear against the ends of the frame or sliding bars D on the car-truck E.

It is proposed to construct all the car-trucks substantially alike; hence a description of one will suffice for all. The bars D extend from one end of the car to the other and have their ends about flush with the ends of the draw-heads e at the ends of the car-truck. The brake-bars F and G, extending from one side to the other side of the car and having brake-shoes at their ends, are connected midway of their ends with each other by the rod f and the lever g . The lever g extends vertically, and is pivoted near its lower end to the brake-bar G and at its lower end to the rod f . By pushing the longer end of the lever g in, the brake-bars F and G will be brought together and the brakes will be applied, and by pushing the lever out the brakes will be liberated.

The frame or sliding bars are provided at one end with the cross-bar or stop d , which is adapted to strike the lever g when the said bars D are moved in one direction and push it in and apply the brakes, and at the other end with the vertical extension or stop d' , which is adapted to strike the lever H when the said bars are moved in the opposite direction, and, through the rod I and lever J, move the lever g in and apply the brakes. Thus it will be seen that the brakes can be applied whichever way the cars are moving and whichever direction the bars D are moved. In one direction the bars D, through the stop d , act directly on the lever g . In the opposite direction the bars D act indirectly on the lever g through the lever H, the rod I, and the lever J.

The ends of the bars D are flanged to insure the abutting of the ends of the bars of two cars, and the bars are held in a normal position by

the springs K, mounted on the rods and held between the end sills of the truck and the collars or stops on the said bars.

When the cars are coupled together, the ends
5 of the push-bars *b* on the tender will come opposite the ends of the bars D on the car coupled thereto, and the ends of the bars D of each car in the train will come opposite each other. When the block B is slid from behind the draw-
10 bar *a* and the engine is slowed up, the draw-bar *a* will move in and the push-bars *b* will bear against the bars D and move them in, and the push-bars D will move the corresponding bars of the next car in, and so on throughout
15 the train, causing an application of the brakes, as will be readily understood. When the cars are drawn forward, the springs K will return the bars D to their normal position, and the draw-head *a*, being relieved from any external
20 pressure, will be pushed out by the spring L, which is located in a slot in the said draw-head and confined between the front end of the slot and the cross bar *l*, extending through the said slot and secured at its ends in the
25 frame of the truck. When the cars are run together, the spring L is compressed, and when the cars separate the said spring L will push the draw-bar *a* out sufficiently far to allow the block B to be inserted behind the said
30 draw-head, as will be readily comprehended.

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

1. The combination, with the trucks A and
35 E and the sliding bars D on the truck E, for actuating the brakes, of the sliding draw-bar

a, the movable block B, and the push-bars *b*, substantially as and for the purpose described.

2. The combination, with the trucks A and E and the sliding bars D on the truck E, 40 adapted to have connection with the brakes, of the sliding draw-bar *a*, the push-bars *b*, the block B, the horizontal lever C, and the vertical lever C', extending within convenient reach of the engineer, substantially as and for 45 the purpose described.

3. The combination, with the truck, the lever *g*, connected with the brake-bars, and the sliding bars D, having the stop *d'*, of the lever H, the rod I, and the lever J, substantially as 50 and for the purpose described.

4. The combination, with the car-truck, the lever *g*, connected with the brake-bars, and the sliding bars having the stops *d* and *d'*, of the lever H, the rod I, and the lever J, sub- 55 stantially as and for the purpose specified.

5. The combination, with the truck A, the sliding draw-bar *a*, the movable block B, and the push-bars *b*, of the truck E, the sliding bars D, extending from one end to the other 60 of the truck and having the stops *d* and *d'*, the springs K, for holding the bars D in a normal position, the brake-bars, the rods, and the lever *g*, connecting the brake-bars, the lever H, the rod I, and the lever J, substantially as and 65 for the purpose set forth.

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

JAMES J. COATES.

Witnesses:

W. A. THOMAS,

W. S. BOULWARE.