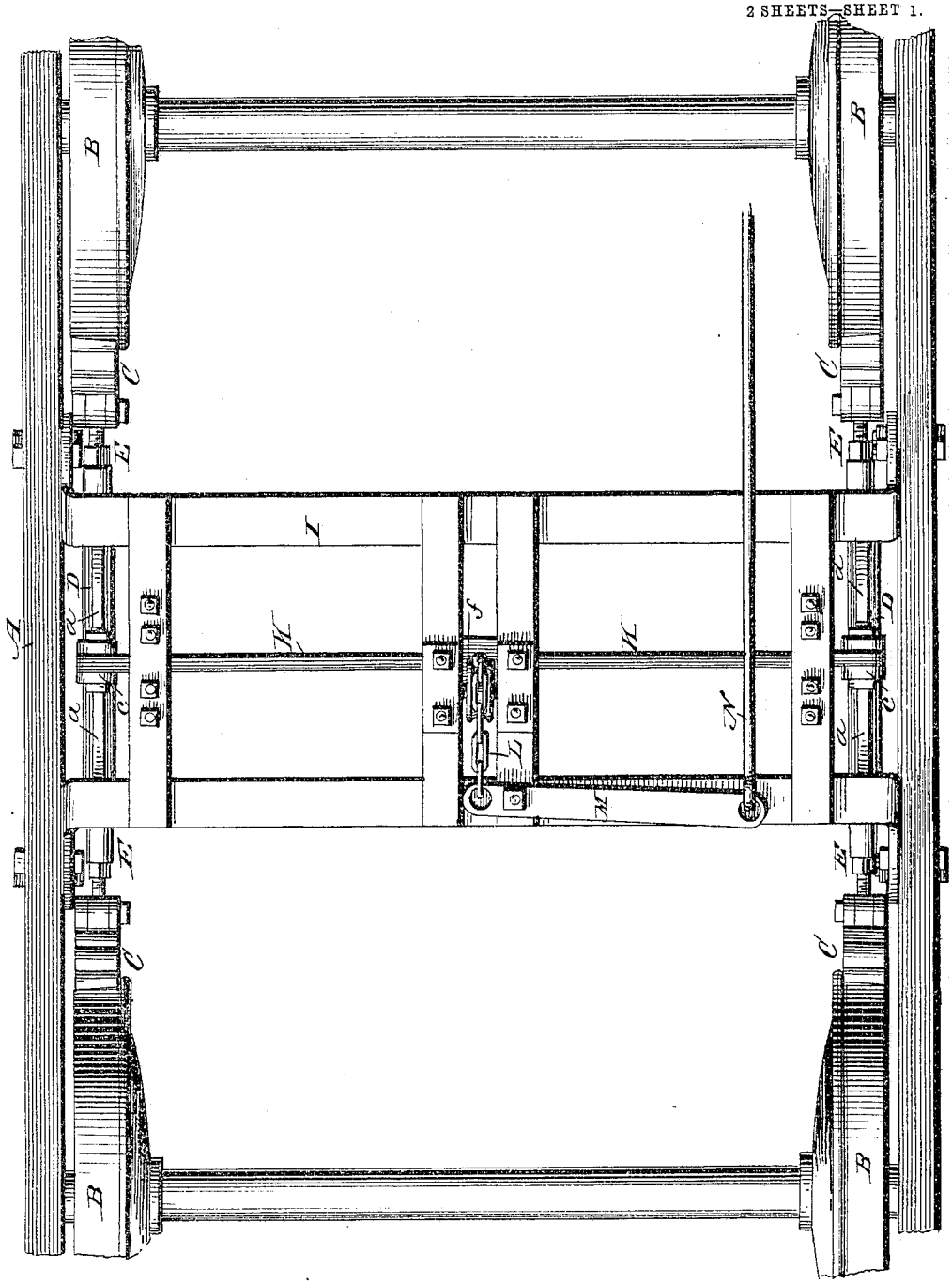
No. 787,151. PATENTED APR. 11, 1905.

F. DAVIGNON.

BRAKE.

APPLICATION FILED DEC. 30, 1904.

2 SHEETS—SHEET 1.



WITNESSES

C. J. Wilkinson

M. C. Moore.

INVENTOR

François Davignon.

per Chas. A. Fowler

Attorney

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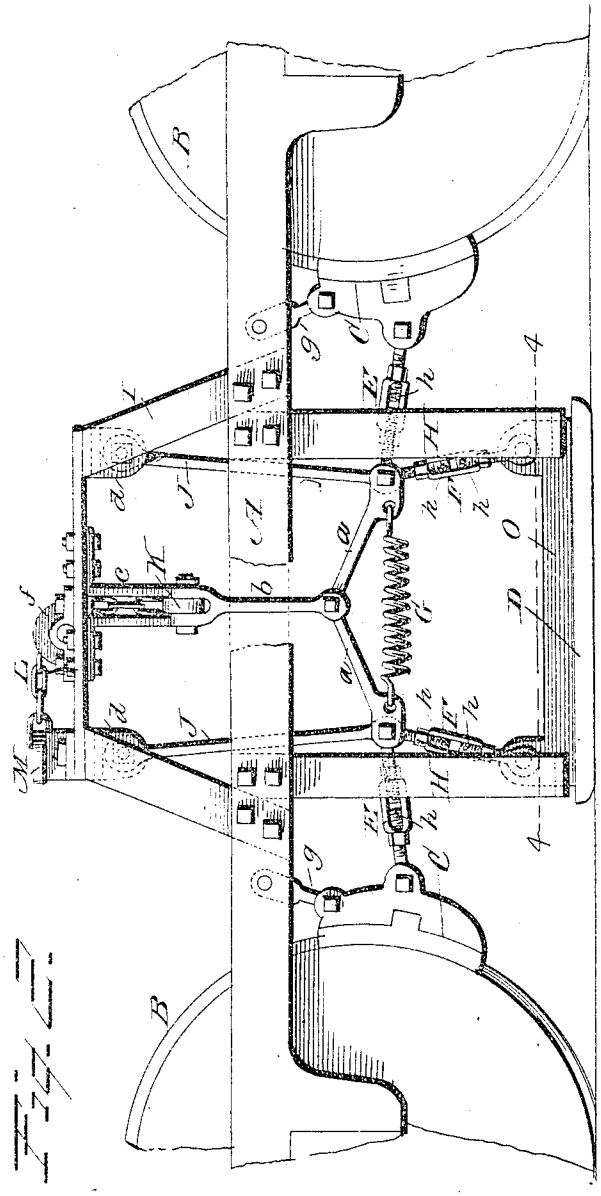

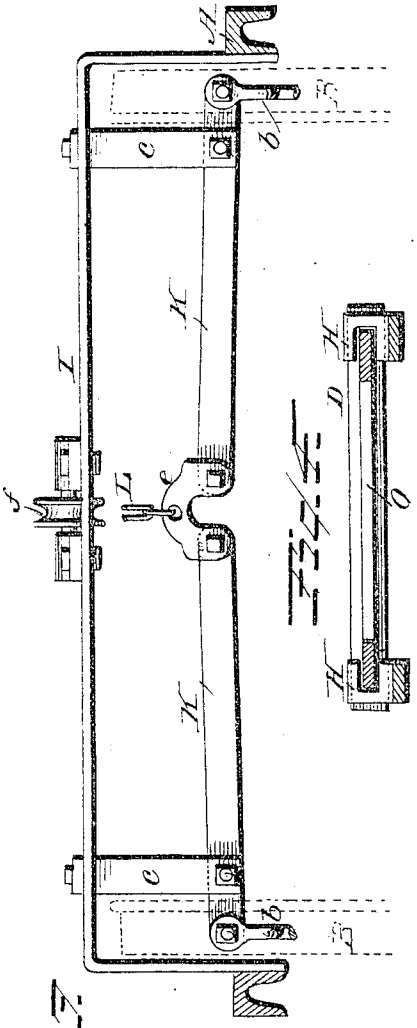

WITNESSES

G. F. Williamson

M. E. Moore

INVENTOR

François Davignon.

by Chas. A. Fowler

Attorney

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UNITED STATES PATENT OFFICE.

FRANCOIS DAVIGNON, OF SCHENECTADY, NEW YORK, ASSIGNOR OF ONE-HALF TO AUGUSTUS HERATH, OF SCHENECTADY, NEW YORK.

BRAKE.

SPECIFICATION forming part of Letters Patent No. 787,151, dated April 11, 1905.

Application filed December 30, 1904. Serial No. 238,975.

To all whom it may concern:

Be it known that I, FRANCOIS DAVIGNON, a citizen of the United States, residing at Schenectady, in the county of Schenectady and State of New York, have invented certain new and useful Improvements in Brakes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

The present invention has for its object to provide a brake for cars or other like vehicles in which the brake-shoes are adapted to engage the wheels of the vehicle and rails of the track. The brake-shoes are suitably connected to turnbuckles or other like devices and also connecting with suitable mechanism for operating the brakes, whereby the pressure of the shoes upon the wheels and rails may be regulated as desired through the medium of the turnbuckles, thereby increasing the efficiency of the brake and securing a perfect action thereof, the adjustment of the shoes forcing the weight of the car to come on the rail-shoes, thereby releasing the wheels of the weight to a great extent and preventing "skidding" and flattening of the face or tread of the wheels, thus providing a brake of many superior features over the brakes in ordinary use.

The invention consists in a brake constructed substantially as shown in the drawings and hereinafter described and claimed.

Figure 1 of the drawings is a top plan view of a portion of a car-truck and wheels with my invention applied thereto; Fig. 2, a side elevation thereof; Fig. 3, a detail end view of a part of the frame connected to the truck to which the brake-operating levers, chain, and pulley are connected; Fig. 4, a detail plan view, partly in section, of the brake used in connection with the rail of the track, taken on the line 4 4 of Fig. 2.

In the accompanying drawings, A represents a portion of the frame of a truck, and B the wheels thereof, connected thereto in the usual manner, and C the brake-shoes, constructed in any suitable manner found best adapted to the purpose, and D the track brake-shoe, of any desirable form and construction.

Both the brake-shoe for the wheels and the brake-shoe for the track are subject to many changes or modifications in their details of construction, and therefore I do not wish to be confined to the construction shown.

The brake-shoes C and the brake-shoes D for the rail of the track are hinged or pivotally connected to turnbuckles E F, respectively, or similar devices that will take up or lengthen or shorten the connection between the brake-shoes and the ends of the arms *a* may be employed in place of the turnbuckles herein shown and described. The arms *a* are pivoted at their upper ends to the ends of connecting-rods *b*, and in turn these connecting-rods are suitably pivoted to the ends of levers K. The arms *a* have connected thereto a coiled or other form of spring G, so that the arms will be drawn back to their normal position when the brake mechanism is released.

The levers K are pivotally connected near their outer ends to suitable supports *c*, which supports are suitably secured to a frame I, extending above the truck-frame A, and said truck-frame has connected thereto suitable clips *d*, to which the upper ends of pitman-rods J are pivoted, the lower ends of said rods being pivoted to the outer ends of the arms *a*.

The inner ends of the levers K are connected by a pivoted link *e*, and to this link is connected one end of a suitable chain or other suitable connection L, which connection passes over a grooved pulley *f* upon the upper side of the frame I, and the opposite end of said chain or connection engages a pivoted lever M, (shown in Fig. 1 of the drawings,) and connected to the opposite end of the lever is an operating-rod N, which is of such length as to extend within convenient reach of the brakeman or the person designed to operate the brakes.

The brake-shoes D, which are adapted to bear upon the rails of the track, are guided in their vertical movement and prevented from lateral movement by grooved guards H, which depend from the truck-frame to which the guards are connected, thereby securing a per-

fect operation of the brake-shoes upon the rails of the track.

The brake-shoes C are pivotally connected to hangers *g*, which are in turn pivoted to the truck-frame A, whereby the shoes are held more securely in position and the strain removed from the turnbuckles and preventing the shoes from swaying laterally.

The brake-shoe proper which comes in contact with the rail of the track is indicated at D, and O the bracket to which the shoe is connected; but as one is an essential part of the other I will call them both the "brake-shoe" in any further reference thereto, and in the same manner I shall refer to the brake-shoes, although the shoe proper is connected to a support in the usual manner.

The turnbuckles E and F are of the usual construction and are provided with stop-pins *h* to maintain the turnbuckle in place when brake is set. The turnbuckles when properly adjusted will bring the brake-shoes in position, so that when the brake is operated the shoes will bear with the required pressure against the wheels and also the rails of the track, the operation of the brakes being secured through the medium of the rod N, the lever connection M, and the chain L. The levers K when acted upon through the mechanism above described will cause the rods *b* to press down upon the arms *a*, and the arms being connected with the brake-shoes will cause the same to be forced against the wheels and rails with the required pressure to secure the desired result.

Through the medium of the turnbuckles the brake-shoes may be regulated or adjusted to bear against the wheels and rails with any desired degree of pressure and equal or unequal pressure, as found desirable and as circumstances may require.

The setting of the brake-shoes with regard to the wheels and the tracks through the medium of the turnbuckles will produce an efficient brake without flattening the face or tread of the wheels. The means also employed for operating the brakes are both simple and durable and effective in their purpose in bringing the brake-shoes in a position to operate, and the strength and durability of the operating parts materially enhances the value of brakes of this character.

It is evident that many modifications and changes may be resorted to without in any manner departing from the essential features of the invention, and any such changes may be made as would be considered as coming within ordinary mechanical judgment and skill.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a brake, a brake-shoe pivotally supported from a suitable frame, a turnbuckle pivotally connecting therewith and pivotally connecting with a pivoted arm and suitable means for operating the shoe through the medium of mechanism connecting with the arm, substantially as and for the purpose described.

2. In a brake, a brake-shoe adapted to bear against the wheel of the vehicle, and a shoe adapted to bear against the rail of the track, pivoted arms connecting with the operating mechanism, and turnbuckles pivotally connecting the several brake-shoes and pivotally connecting with the pivoted arms, substantially as and for the purpose specified.

3. In a brake, spring-actuated arms and a pivoted connecting-rod to which the arms are pivotally connected, suitable brake-shoes, and turnbuckles pivotally connecting the shoes with the pivoted arms, substantially as and for the purpose set forth.

4. In a car-brake, depending pivoted connecting-rods and suitable mechanism for operating them, depending pivoted pitman-rods, arms pivotally connecting the pivoted connecting-rods with the pitman-rods, said arms being spring-actuated, pivotally-depending brake-shoes for the wheels of the vehicle and brake-shoes for the rails of the track, and turnbuckles connecting the several brake-shoes with the spring-actuated arms, substantially as and for the purpose described.

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

his
FRANCOIS × DAVIGNON.
mark

Witnesses:
WM. DEWEY LOUCKS,
JOHN J. BEERS.