

(No Model.)

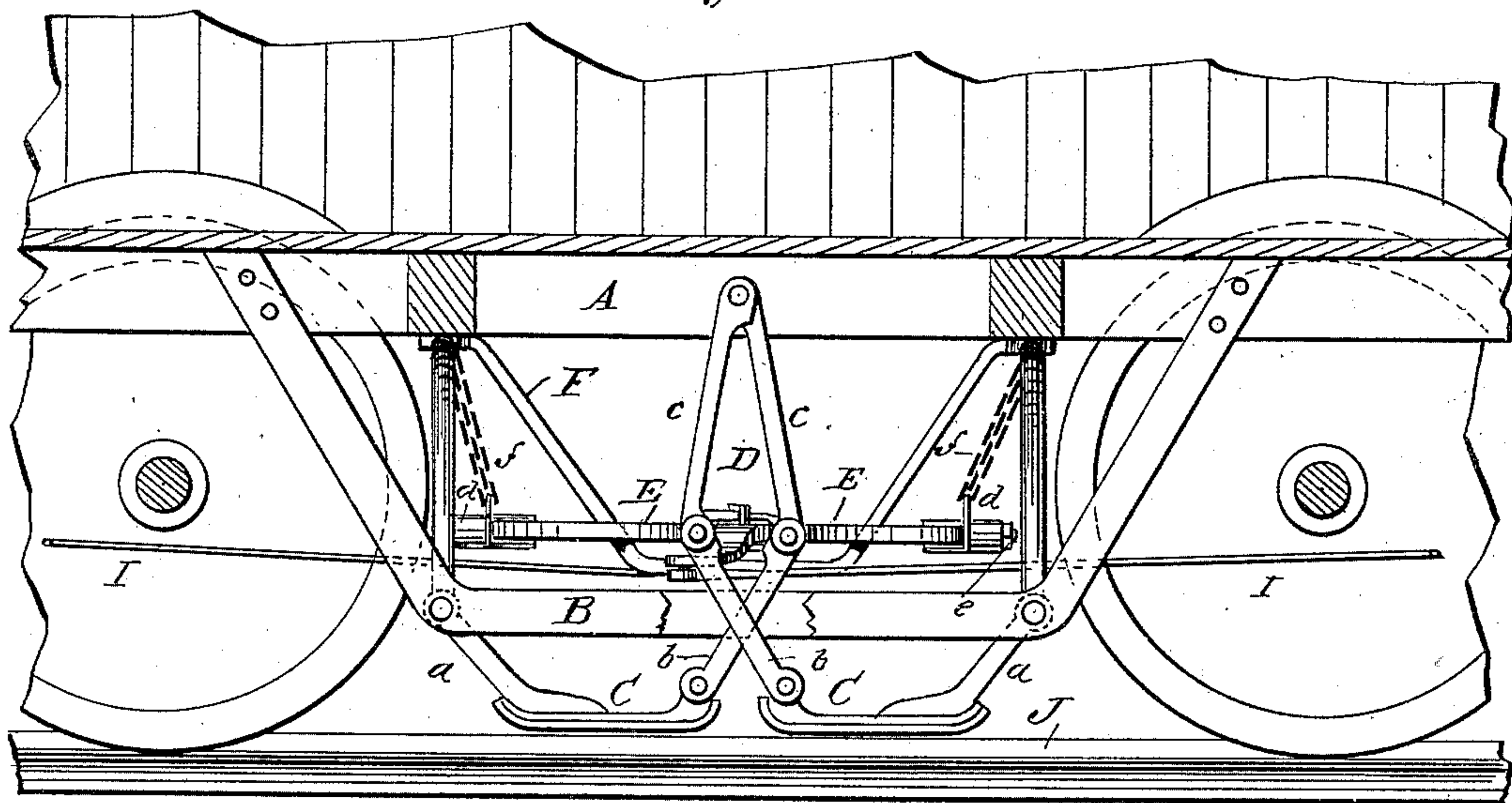
G. O. KANE.

CAR BRAKE.

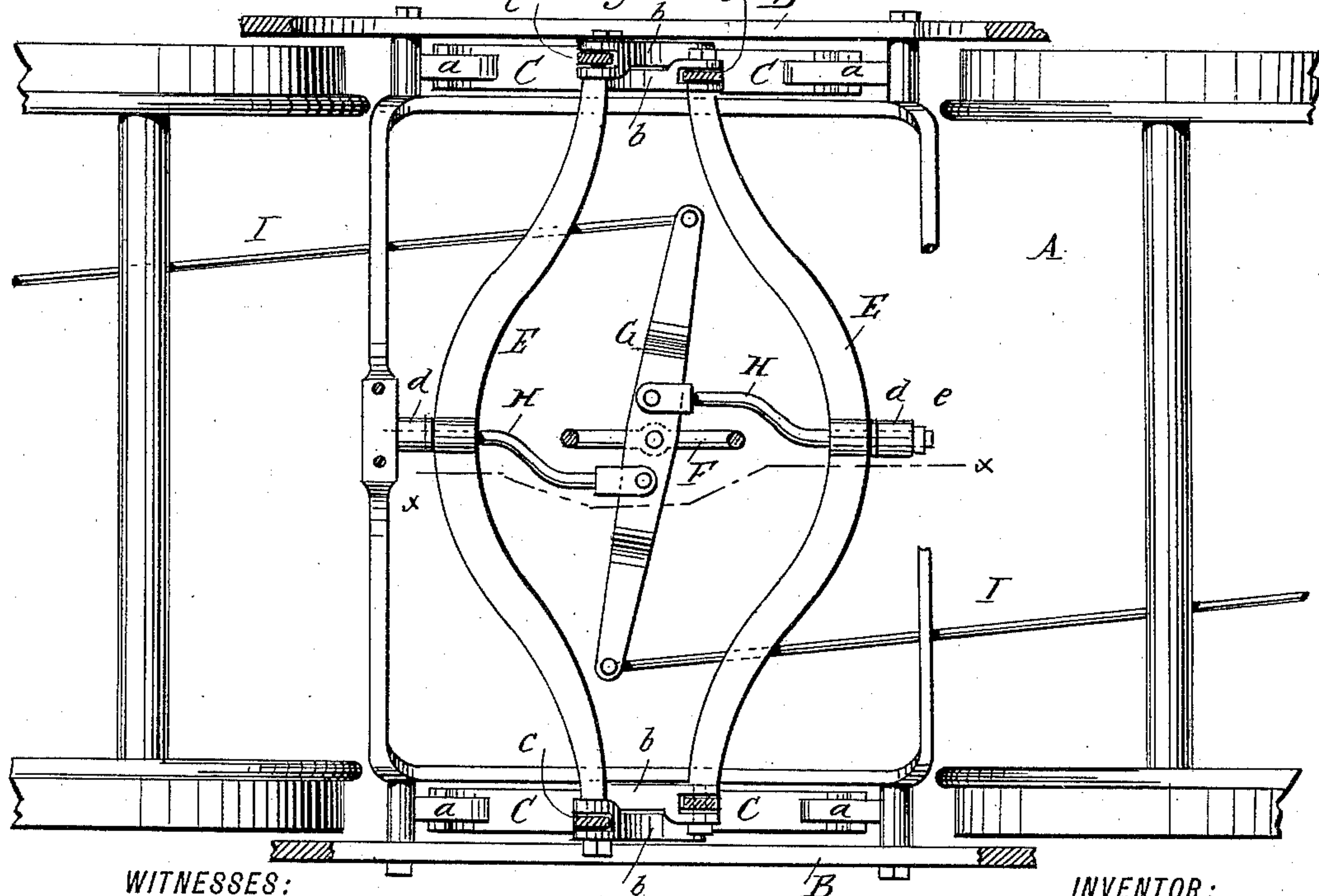
No. 396,876.

Patented Jan. 29, 1889.

*Fig: 1.*



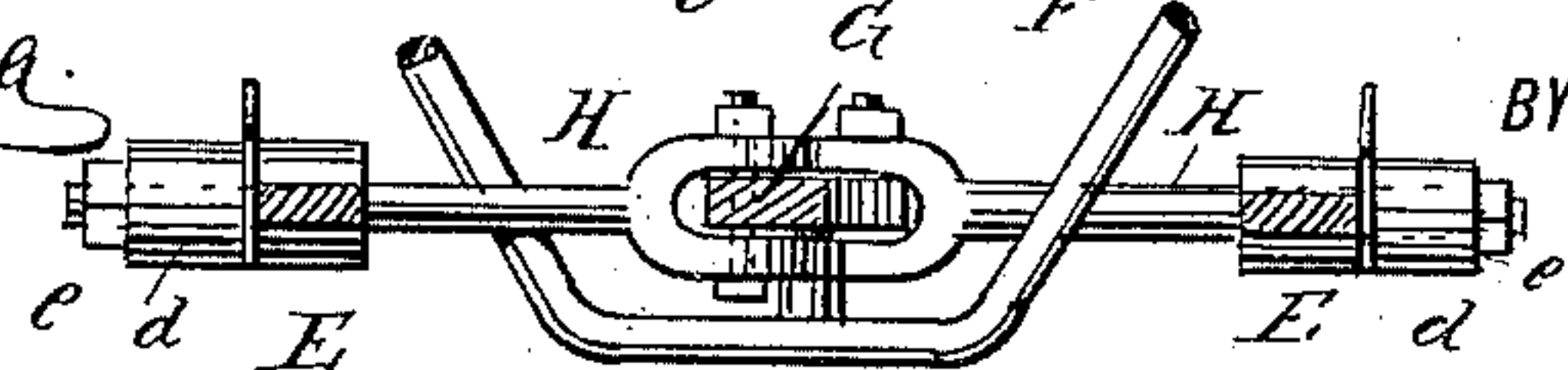
*Fig: 2.*



WITNESSES:

*Chas. Viola*  
*C. Sedgwick*

*Fig: 3.*



INVENTOR:

*G. O. Kane*

*Munn & Co*

ATTORNEYS.



# UNITED STATES PATENT OFFICE.

GEORGE O. KANE, OF PROVIDENCE, RHODE ISLAND.

## CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 396,876, dated January 29, 1889.

Application filed October 16, 1888. Serial No. 288,204. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE O. KANE, of Providence, in the county of Providence and State of Rhode Island, have invented a new and Improved Car-Brake, of which the following is a specification, reference being had to the annexed drawings, forming a part thereof, in which—

Figure 1 is a side elevation of my improved car-brake, showing its attachments to a car. Fig. 2 is a plan view, partly in section, of the same; and Fig. 3 is a transverse section taken on line *x x* in Fig. 2.

Similar letters of reference indicate corresponding parts in all the views.

The object of my invention is to provide a simple and effective brake for engaging the track-rail, thereby avoiding injury to the car-wheels resulting from stopping their rotation and allowing them to slide upon the track.

My invention consists of two pairs of oppositely-arranged brake-shoes pivoted to a frame suspended from the car-frame, and two pairs of toggle-joints connected with the car-frame and with the free ends of the brake-shoes, each pair of toggle-joints being attached to opposite ends of a brake-beam and arranged so that both shoes of each pair may operate simultaneously.

To each side of the car-frame A is secured a frame, B, which drops below the car-frame, and to which are pivoted arms *a*, secured to brake-shoes C, which are supported directly above the track-rail by the said arms *a*. The brake-shoes C are oppositely arranged with respect to each other, and to the inner end of each brake-shoe is pivoted one end of one bar, *b*, of a toggle-joint, D. The other bar, *c*, of each toggle-joint is pivoted to the car-frame A, and the bars of the toggle-joints are pivoted together upon studs projecting from the ends of the brake-beams E, each brake-beam being provided at its ends with a pair of similarly-arranged toggle-joint arms, *b c*.

The brake-beams E are curved outwardly toward the ends of the car and are oppositely arranged with respect to each other, and upon a brace, F, suspended from the bottom of the car, is pivoted a brake-lever, G, which is connected near its pivot with rods H, extending through the centers of the brake-beams and through springs *d*, the rods H being provided at their outer ends with nuts *e*, bearing upon the said springs. To the ends of the lever G

are pivoted brake-rods I, which are operated in the usual way by brake wheels or levers at the ends of the car. It will thus be seen that each brake-beam E is provided at its ends with toggle-joints adapted to press down the brake-shoes C when the joints are straightened, and that by applying power to the lever G, so as to turn it on its pivot, the brake-beams E will be made to approach each other and to straighten out the two pairs of toggle-joints, causing the brake-shoes C to bear upon the track-rails J with more or less pressure, as may be required. The curved central parts of the brake-beams E are suspended by chains *f* from the bottom of the car.

By means of my improvement skidding of the wheels is avoided and a broad bearing-surface is secured, which renders the brake very effective in controlling or stopping the car.

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

1. In a car-brake, the combination, with brake-shoes pivotally connected at their opposite ends with the frames or supports depending from the car, of the toggle-levers D, the lower bars, *b b*, of which cross each other and are pivotally connected to the adjacent ends of the shoes, brake-beams to the ends of which said toggles pivot at the joints between their upper and lower members, a centrally-pivoted lever between the two bars, rods connected at their inner ends to opposite sides of the lever, and at their outer ends to the centers of said beams, and brake-rods connected with the said lever beyond first-named rods, substantially as set forth.

2. The combination, in a car-brake, of the frames B, secured to the car-frame A, arms *a*, pivoted to the frames B, brake-shoes C, secured to the arms *a*, toggle-joints D, connected with the brake-shoes and car-frame, the brake-beams E, and mechanism for moving the beams toward each other for straightening the toggle-joints, substantially as specified.

3. In a car-brake, the combination, with the pivoted brake-shoes C, of the toggle-joints D, brake-beams E, springs *d*, rods H, the lever G, and mechanism for operating the said lever, substantially as specified.

GEORGE O. KANE.

Witnesses:

ARTHUR W. FIELD,  
H. A. FRENCH.