

(No Model.)

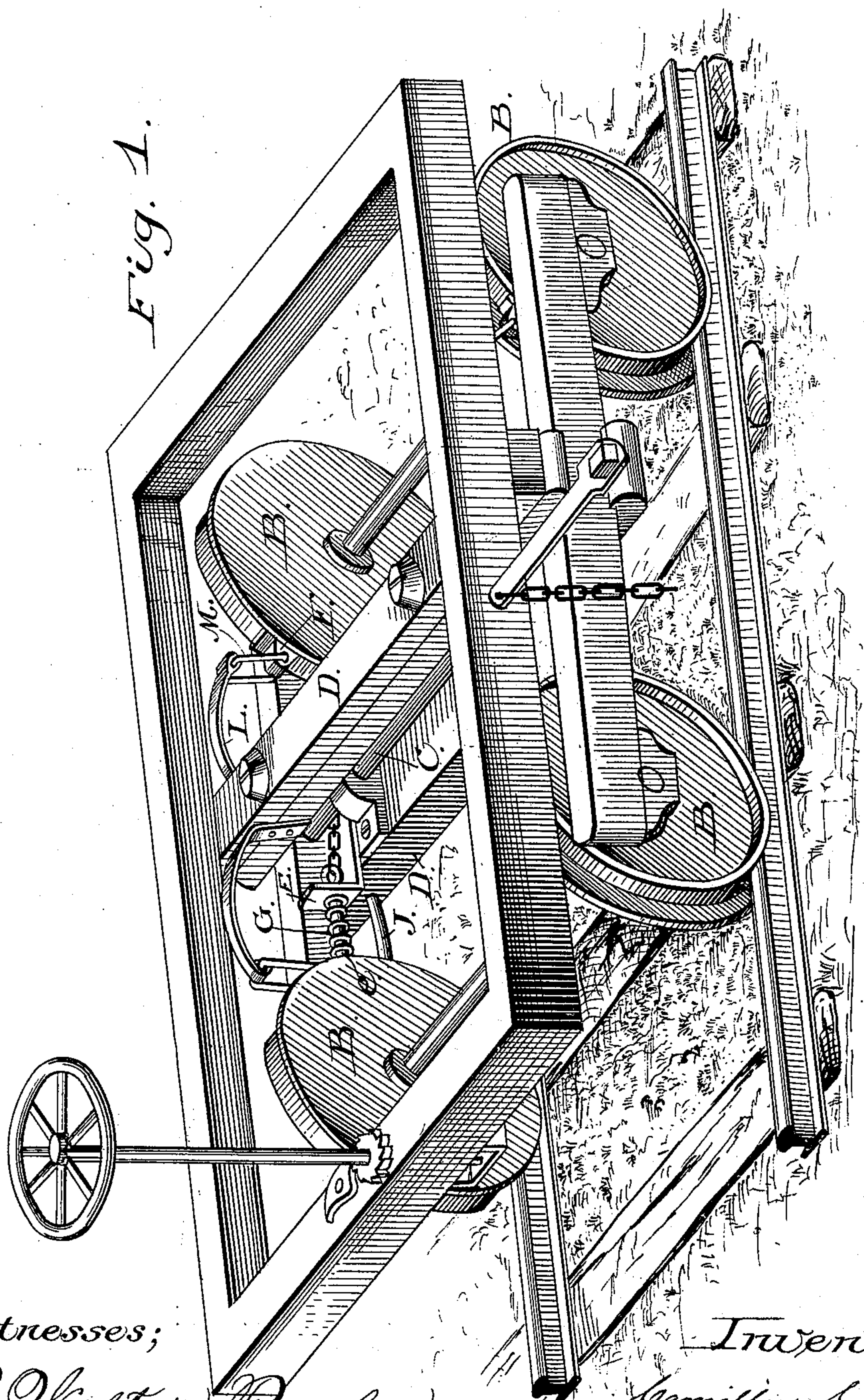
2 Sheets—Sheet 1.

C. S. HART.

CAR BRAKE.

No. 322,597.

Patented July 21, 1885.



Witnesses;

*P. Walter Fowler.*  
*H. B. Applewhite,*

Inventor;

*Camillus S. Hart*  
*per Atty.*  
*A. H. Evans*



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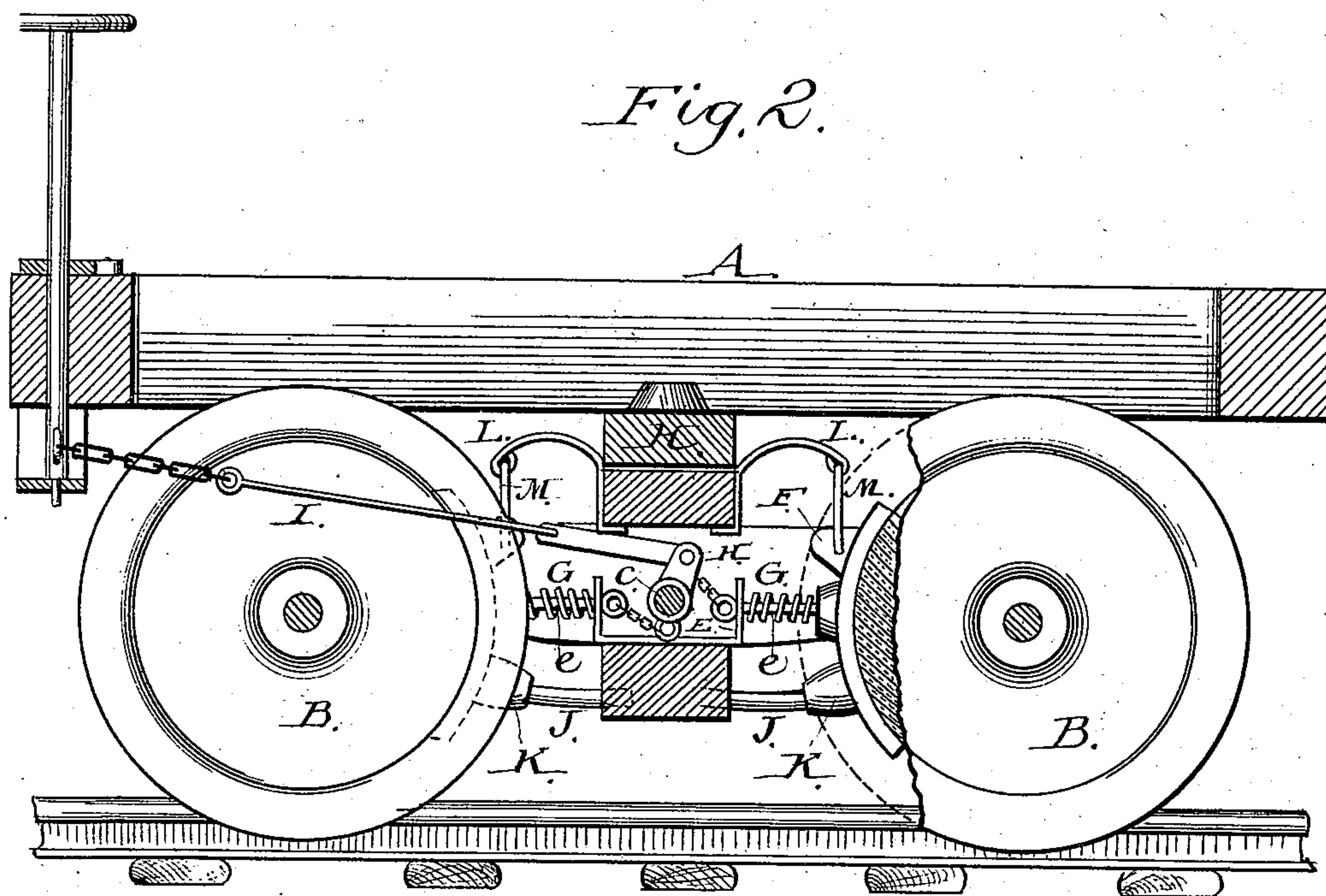
2 Sheets—Sheet 2.

C. S. HART.

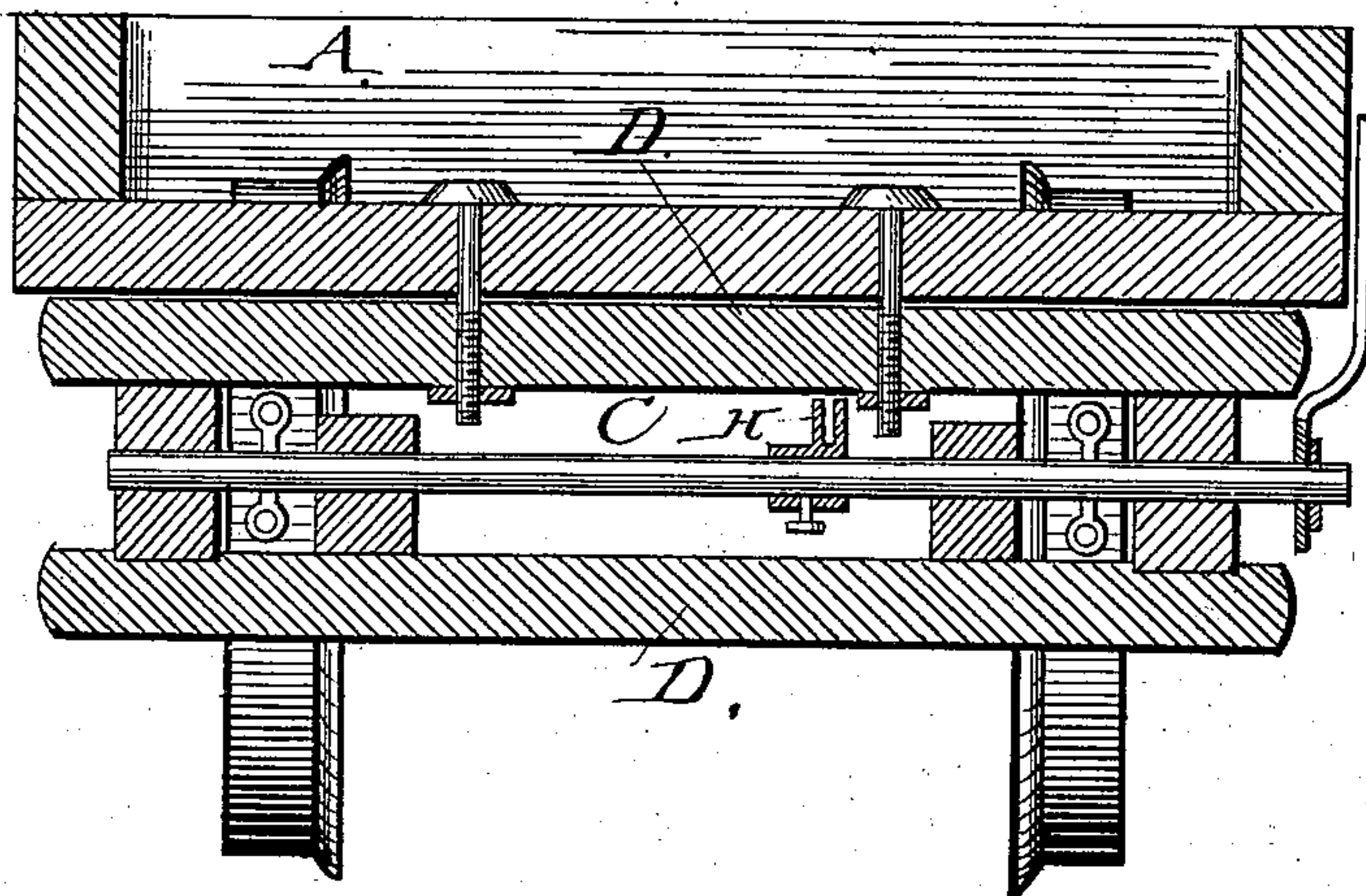
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*Fig. 3.*



Witnesses;  
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# UNITED STATES PATENT OFFICE.

CAMILLUS S. HART, OF WINCHESTER, VIRGINIA.

## CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 322,597, dated July 21, 1885.

Application filed December 12, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, CAMILLUS S. HART, of Winchester, county of Frederick, and State of Virginia, have invented a new and useful Improvement in Car-Brakes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of a truck with my improvements attached. Fig. 2 is a vertical longitudinal section of the same. Fig. 3 is a vertical cross-section.

My invention relates to that class of car-brakes adapted to passenger and freight cars; and it consists in the several combinations of devices hereinafter described and claimed.

The principle on which my brake is operated is that of the reflex action of spiral springs placed between each pair of wheels near the sides of the truck, the springs being operated by a shaft placed midway between the axles in a horizontal plane, and passing through the truck at or near its center.

In the drawings, A represents the framework, and B the wheels, of an ordinary truck. Immediately above and below the horizontal shaft C are placed the transverse beams D, secured to the truck-frame A. To the lower transverse beam are fastened the yokes E, through which the spring-core *e* works; connected at one end by a chain to the shaft C, and at the other end rigidly to the brake-pad F. Between yoke E and brake-pad F is placed the spiral spring G, of any desired strength. To the horizontal shaft C, near its center, is secured the crank-lever H, to which the brake-chain I is fastened. Near each end of the lower beam D are secured the small guide-rods J, the opposite ends of which play loosely in the hubs K, formed on the lower end of the brake-pads. Immediately above these, and secured to the upper transverse beam D, are placed the brackets L, carrying loops M, to which are suspended the brake-pads, thus maintaining the pad in its proper position to be operated by the shaft C and spiral spring G. The journals for shaft C are in the truck-frame, one end of shaft passing through and projecting beyond the frame, as shown in Fig. 1, and being turned square to take a hand-lever for the purpose of withdrawing the brakes with-

out mounting the car-frame. This portion of the device allows a person to apply or withdraw the brake from the level of the track, thus being very useful in "yards." The forward end of the brake-chain is secured to and operated by the ordinary "wheel-brake," with pawl and ratchet on the forward part of the car.

The operation of my invention is as follows: When the car is running, the springs are compressed and ready for action at any moment by merely releasing the chain, which allows the springs to force the brake-pads instantaneously against the wheels, thus requiring only a moment to apply the brakes throughout the train, requiring only the amount of work and time now expended in releasing the ordinary brakes. In withdrawing the brakes it is only necessary to produce a quarter-revolution of the shaft C to remove the brake-pads clear of the wheels, as it is evident that this will require but a slight turn of the wheel-brake, which again compresses the springs, the pawl and ratchet holding them in this position until it is again necessary to apply the brakes. The lower transverse beam D, as shown in Fig. 2, is so placed as to be only slightly below the horizontal plane through the centers of the wheels, thus protecting the shaft C from injury from accidental obstruction on the roadway, and sufficiently elevated to allow it to pass over the body of a person lying on the track.

This reflex spring-brake can be applied to any passenger, freight, stock, or box car now in use, requiring no alteration of those cars as at present constructed, and at but a trifling expense.

If found desirable, the lever which is attached to the transverse shaft C may be extended so as to extend to top of the car and be within ready reach of the brakeman. When this is done, any well-known pawl-and-ratchet mechanism may be employed to secure the lever, but permit of the said levers being moved to set the brakes.

I am aware that it is not new to apply springs which, by their reflex action, apply the brake, and this I do not claim broadly.

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

1. The shaft C, provided with the crank-lever H, in combination with the spiral springs G, placed between the wheels and in the horizontal plane of the axles, the spring-cores e, 5 and brake-pads F, substantially as and for the purpose set forth.
2. The shaft C, provided with the crank H, in combination with the spiral springs G, yokes E, and spring-cores e, all constructed and arranged to operate substantially as and for the 10 purpose set forth.
3. The shaft C, provided with the crank H, the spiral spring G, yokes E, spring-cores e, and brake-pads F, all constructed and arranged to operate substantially as and for the 15 purpose set forth.

4. The brake-pads F, provided with the guides J, in combination with the brackets L and loops M, substantially as and for the purpose set forth. 20

5. The pads F, provided with the guides J, the brackets L, and loops M, in combination with the springs G, and spring-core e, all constructed to operate substantially as and for the purpose set forth.

CAMILLUS S. HART.

Witnesses:

H. B. APPLEWHAITE,  
P. WALTER FOWLER.