

(No Model.)

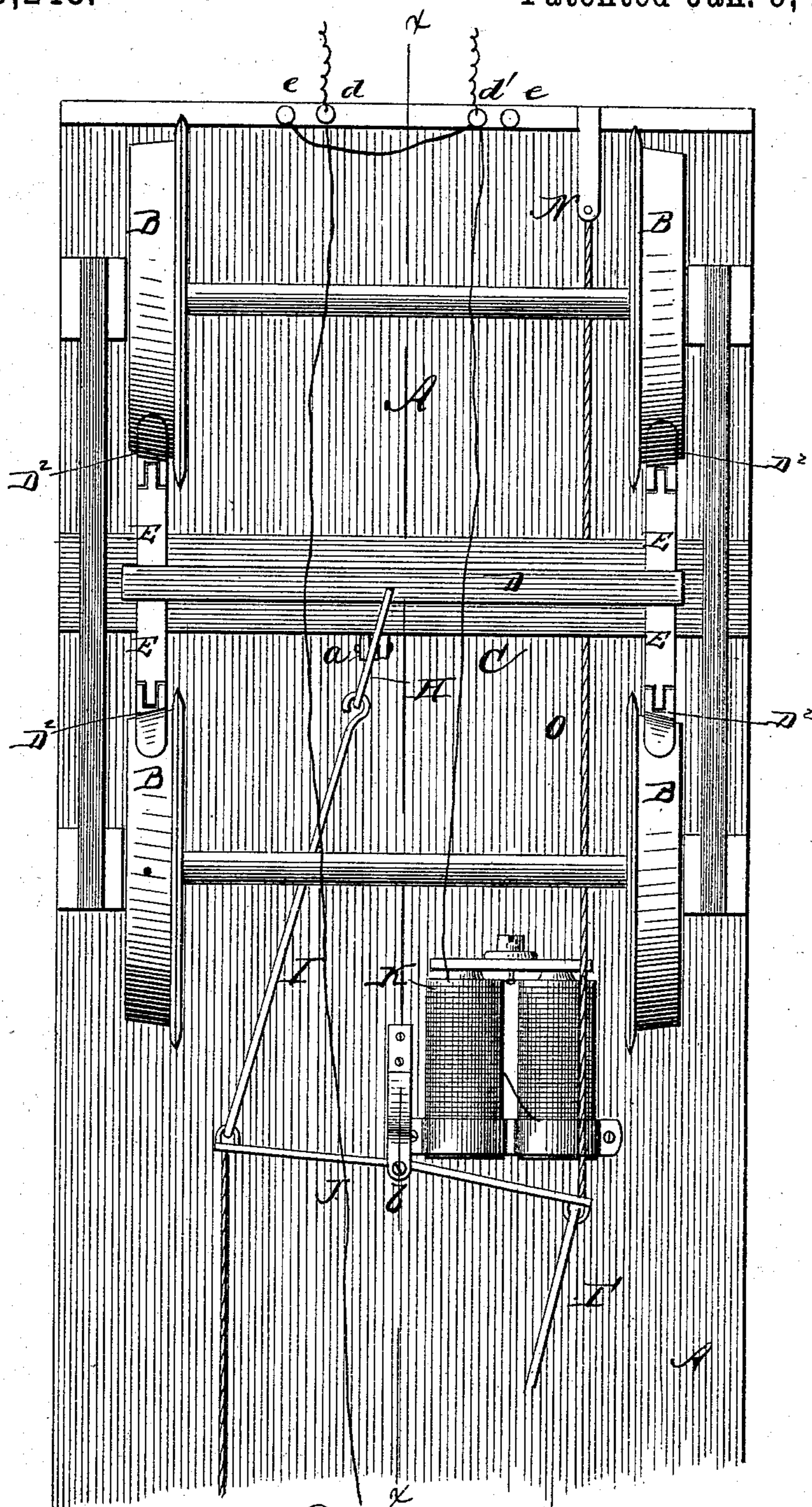
2 Sheets—Sheet 1

A. S. PARSONS.
ELECTRICAL CAR BRAKE.

No. 270,248.

Patented Jan. 9, 1883.

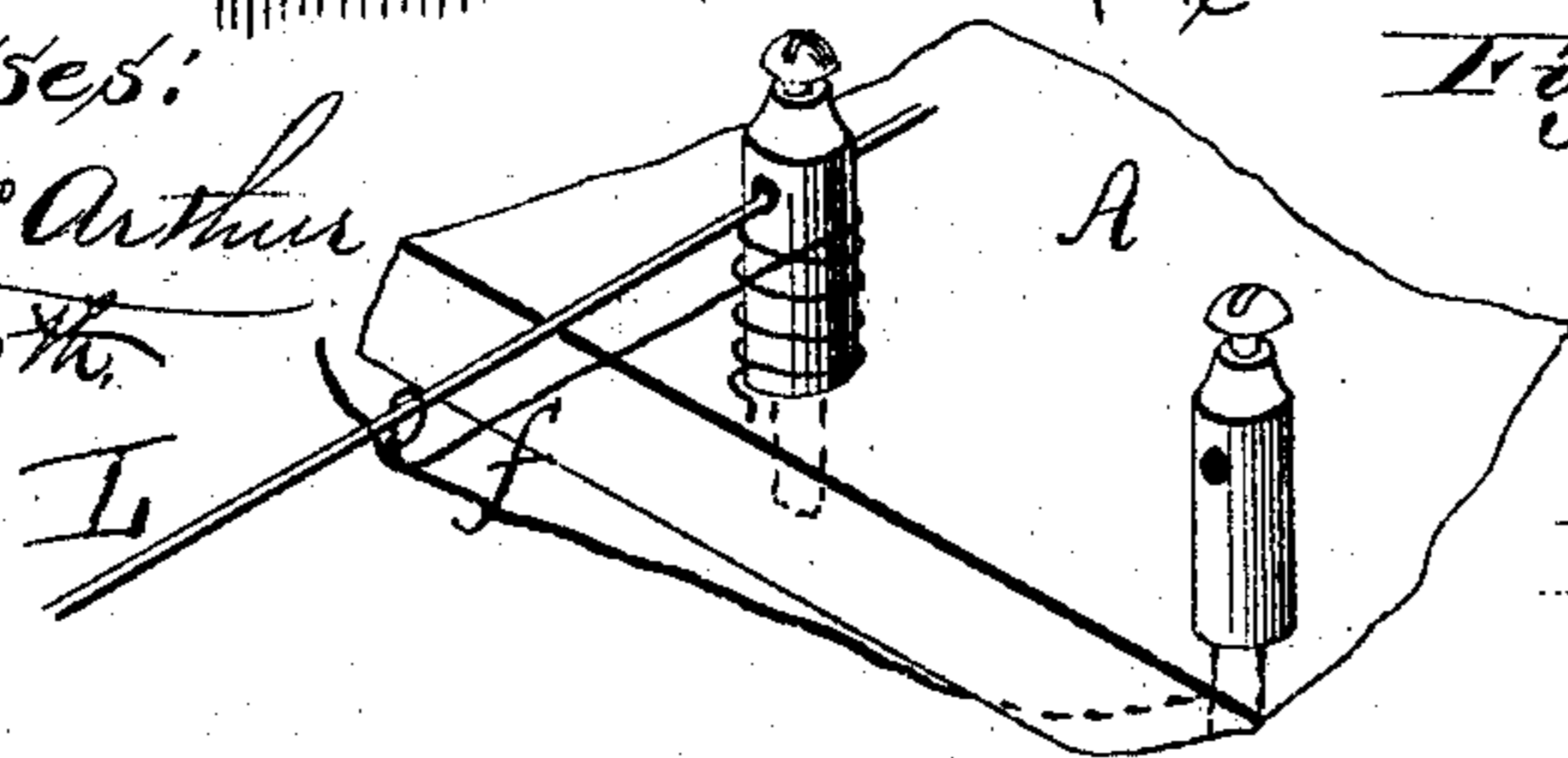
Fig. 1.



Witnesses:

H. C. M. Arthur
W. R. Kynard

Fig. 5.



Inventor.

A. S. Parsons.

Per.

W. Alexander
Attorney.

2 Sheets—Sheet 2.

No. 270,248.

Patented Jan. 9, 1883.

Fig. 2.

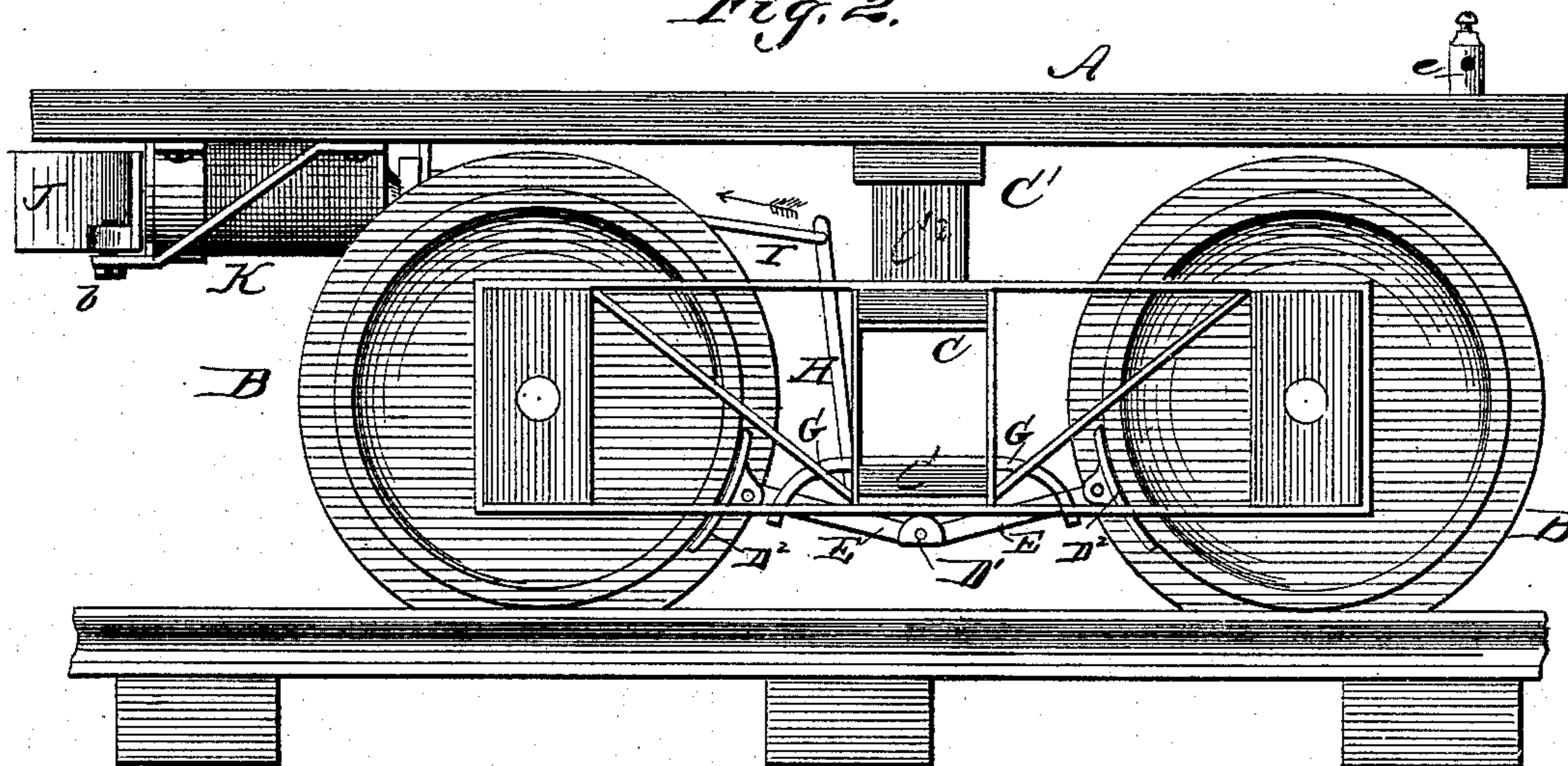


Fig. 3.

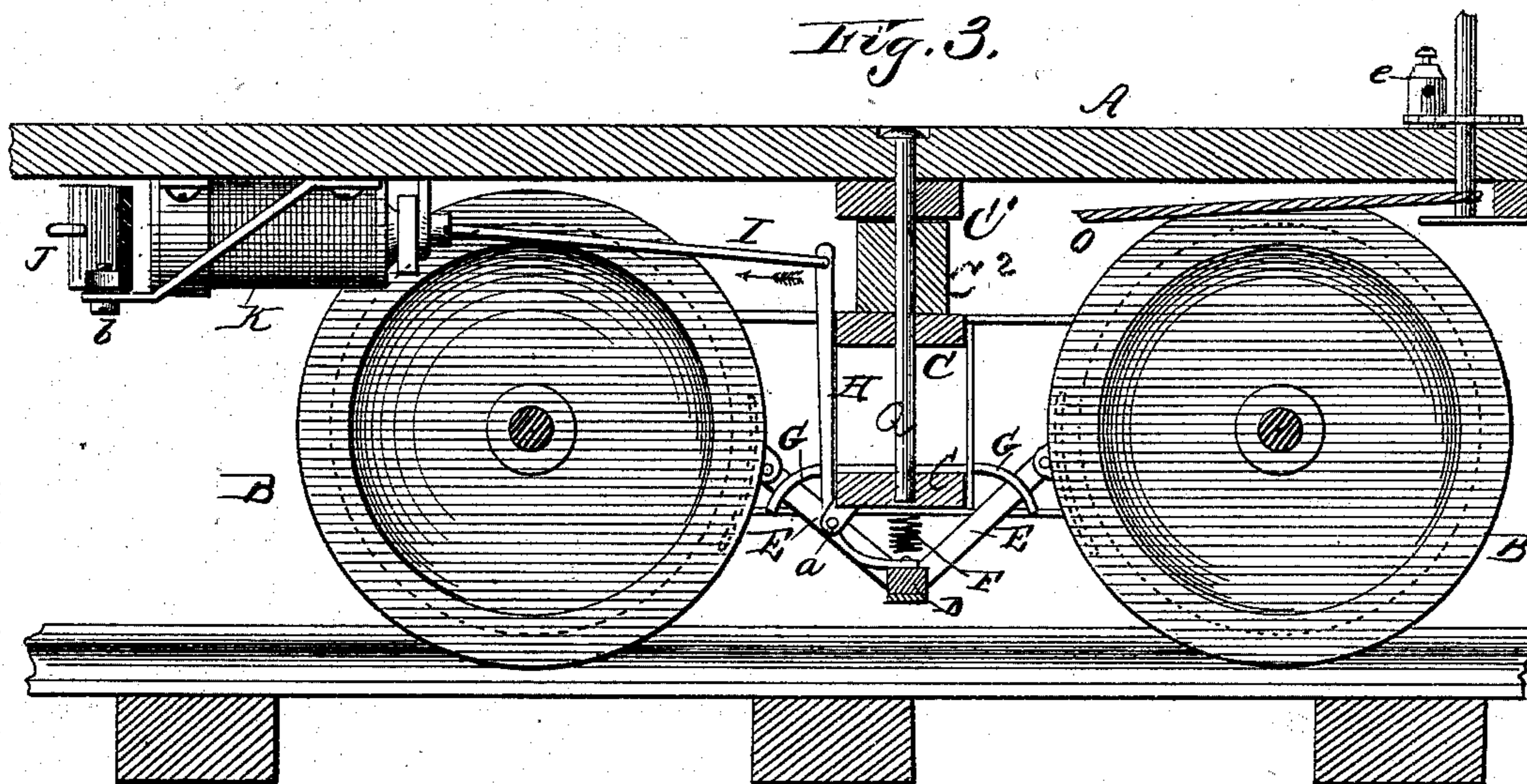
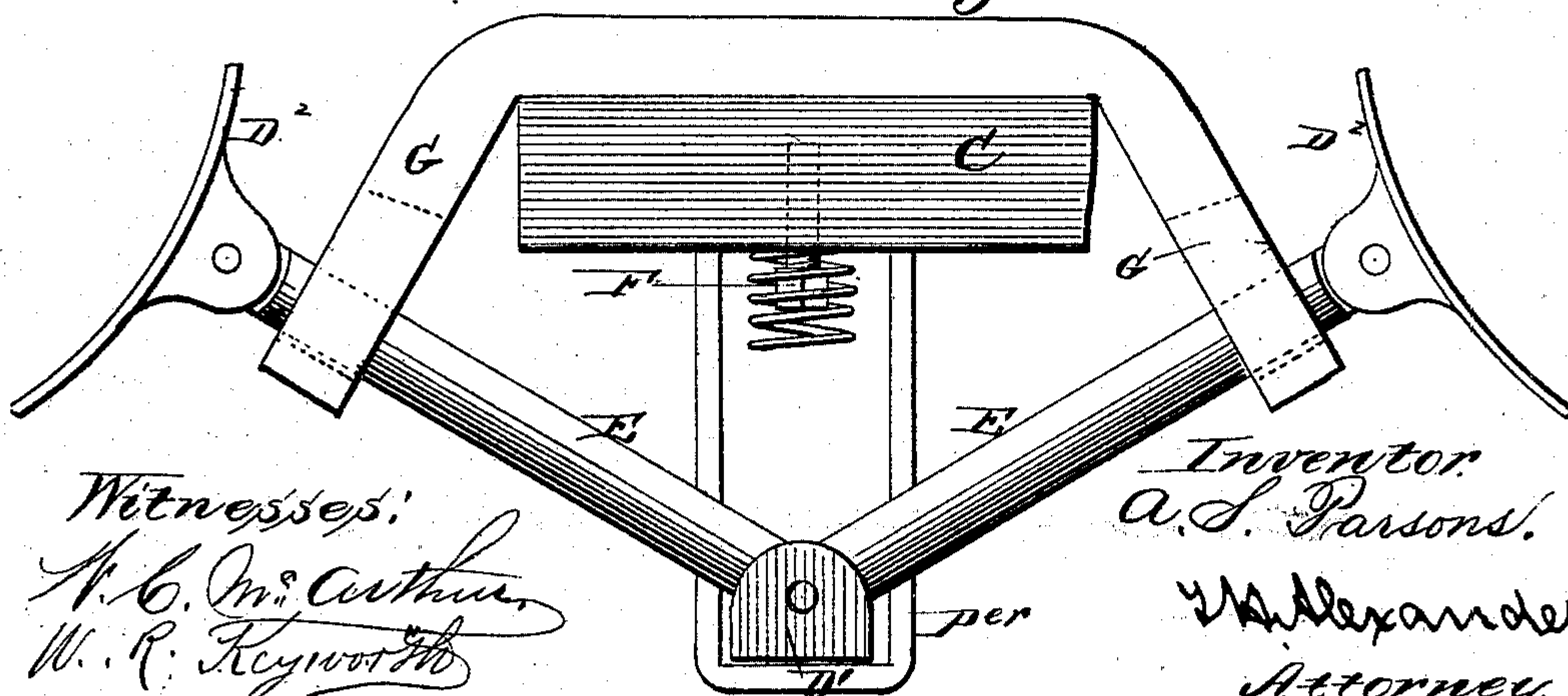


Fig. 4.



Witnesses:
N. C. M^r. Arthur,
W. R. Keyworth

Inventor.
A. S. Parsons.

Wm. Alexander
Attorney.

UNITED STATES PATENT OFFICE.

ALBERT S. PARSONS, OF HUNTINGTON, WEST VIRGINIA.

ELECTRICAL CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 270,248, dated January 9, 1883.

Application filed May 3, 1882. (No model.)

To all whom it may concern:

Be it known that I, ALBERT S. PARSONS, of Huntington, in the county of Cabell and State of West Virginia, have invented certain new and useful Improvements in Car-Brakes; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 is a bottom view of part of a railroad-car, showing my improved brake applied to it. Fig. 2 is an elevation of one side of part of a car bed and truck, showing the brake applied. Fig. 3 is a vertical longitudinal section through Fig. 1, indicated by the dotted line *xx*, showing the brakes relieved from the wheels. Fig. 4 is a view in detail, showing the toggle, the brake-shoes, the guides for the toggle-levers, and the spring-cushion applied to the bottom cross-beam of the truck-frame. Fig. 5 is a perspective view, showing the electrical posts applied to a section of a car-bed, and a spring, which will complete the circuit in the event of one car becoming disconnected from another.

My invention relates to improvements on railroad car-brakes; and the nature of my invention consists in certain novel means whereby the engineer of a train, when in the cab of the locomotive, can operate the brakes at will, and also whereby the brakes can be operated from either end of a car, as will be understood from the following description, when taken in connection with the annexed drawings.

The letter A designates the bottom or bed of a car; B, the truck-wheels.

C C designate two horizontal transverse beams, connected together by straps. C² indicates springs; C', a transverse beam, rigidly secured to the car-bed; and Q is a king-bolt or vertical pivot, all of which parts may be constructed in the usual well-known manner.

Below the transverse beams C is a transverse bar, D, to the extremities of which are pivoted toggle-levers E, the fulcrums of which are at D', in ears, which are rigidly secured to the extremities of the bar D. This bar D may be guided by stirrups depending from the lower transverse beam of the truck-frame. Above the bar D, and suitably applied to the said lower beam, are springs, which will re-

lieve shock when the toggle-levers are spread apart and the brake-shoes D² impinge on the tread of the truck-wheels B, as shown in Fig. 2. These springs F do not come into play until the brake-shoes begin to bind against the treads of the wheels and the brakes are actually applied. The said springs also prevent the intermediate fulcrum-bar, D, of the toggles from being thrown up suddenly against the lower transverse bar C of the truck-frame. The levers which compose the toggles pass freely through guides and fulcrum-pendants G, which are secured to the lower transverse beam C, and the brake-shoes D² are suitably pivoted to the outer ends of the toggle-levers, so that said shoes will accommodate themselves to the peripheries or treads of the truck-wheels when the bar is raised, as I will now proceed to describe.

At the middle of the length of the bar D is a lever, H, which has its fulcrum at *a* on the lower bar C, and which is constructed with a lower curved short arm, that plays upon bar D, and is connected to it in such manner that it will lift it when the longest arm is moved in the direction indicated by the arrows in Figs. 1 and 2. The longest arm of the lever H is flexibly connected to one end of a rod, I, the opposite end of which rod is flexibly connected to a lever, J, which has its fulcrum at *b* in a bracket secured rigidly to the car-bed, as shown in Fig. 1. One part of the lever J is the armature of an electro-magnet, K, which is suitably connected by insulated wires *c c* to a battery, that may be located on the locomotive-cab and provided with a key, by which the engineer can establish an electrical communication with the said electro-magnet at pleasure, and thus cause the said armature to contact with the soft cores thereof and bring the brake-toggles into action to apply the brakes.

In some cases I shall use a battery or the equivalent thereof on each car or coach, in doing which I shall make provision for electrically connecting cars or coaches in making up a train. In doing this I have three posts, *d*, *d'*, and *e'*, at each end of a car. The main-line wires are connected to the posts *d d'*, and from the post *e*, at each end of a car, is a branch wire, which connects with the post *d'* at each end of a car.

To the post *e* is attached a spring-actuated arm, *f*, which is adjusted under tension, so that when it is free it will fly around and contact with the post *d* of the main-line wires. The
 5 free end of each arm has a loop or eye through it, through which passes a flexible connection, *L*, which, in the event of its being broken, will allow the spring-arm to complete the circuit between the main wires of the cars, which are
 10 electrically connected to the cab of the locomotive for the purpose of causing the electromagnets to attract arm *J* and apply the brakes. The circuit-wires are connected between cars by suitable couplings, which are preferably
 15 coils, as shown, to compensate for the motion of the cars.

It is obvious that a helical spring, or any other electrical conductor which will admit of the endwise and lateral play of the cars, may
 20 be used for connecting together the posts of the main-line wires.

The armature end of the lever *J* is connected to a hand-brake rod, *N*, by a chain, *O*, and the opposite end of the lever *J* is similarly con-
 25 nected to a hand-brake rod at the opposite end of the car. A rigid rod, *I'*, is also connected to the armature end of the lever *J*, and to a lever corresponding to the lever *H*, which is fulcrumed on the other truck-frame. A single
 30 electro-magnet, applied to the head of each car, is made by the plan shown to apply the brakes of such car to the truck-wheels thereof.

The pendants *G G*, which I have above denominated "guides," afford fulcra for the outer arms of the toggle *E* and support the outer
 35 portion of one toggle-arm, and afford an upward bearing for the outer portion of the opposite end of the other toggle-arm reciprocally as the cars move forward or backward.

Having thus fully described my invention, 40 what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the wheels of a car, of jointed levers, the guides therefor, the brake-shoes pivoted to the ends of the levers, 45 the vertically-movable beam, and the springs against which the beam presses when it is raised.

2. The combination, with the wheels of a car, the jointed levers, the guides therefor, the 50 brake-shoes pivoted to the ends of the levers, the vertically-movable beam and an electro-magnet, of a pivoted vibrating armature, *J*, and the rods and levers connecting with the said brakes, all substantially in the manner and 55 for the purposes described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

ALBERT S. PARSONS.

Witnesses:

WM. R. KEYWORTH,
 W. C. MCARTHUR.