

D. Myers
Car Brake.

Patented Jan. 30, 1866.

No 52,311.

Fig. 1.

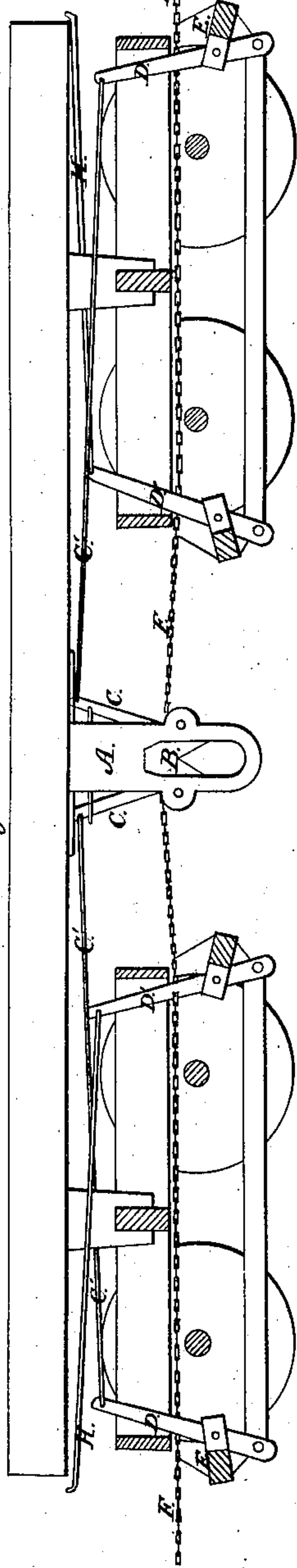


Fig. 3.

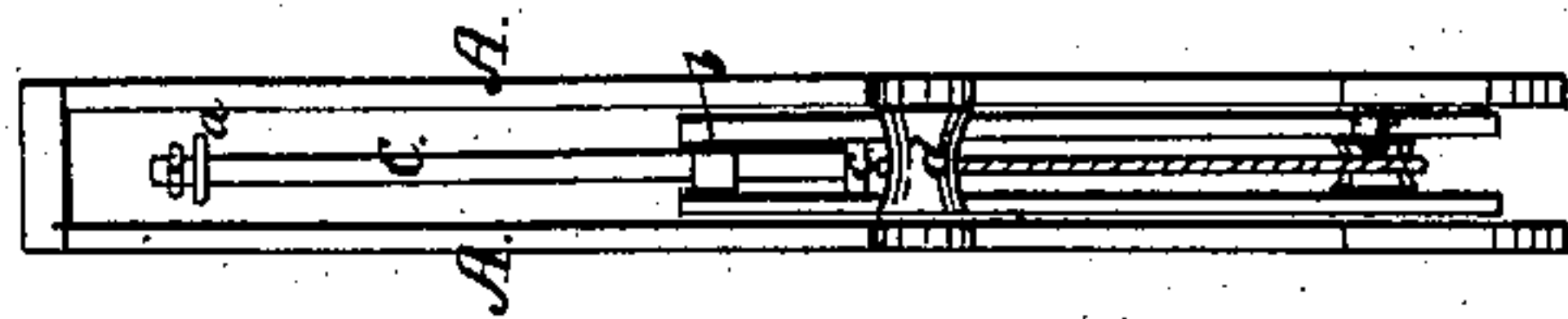
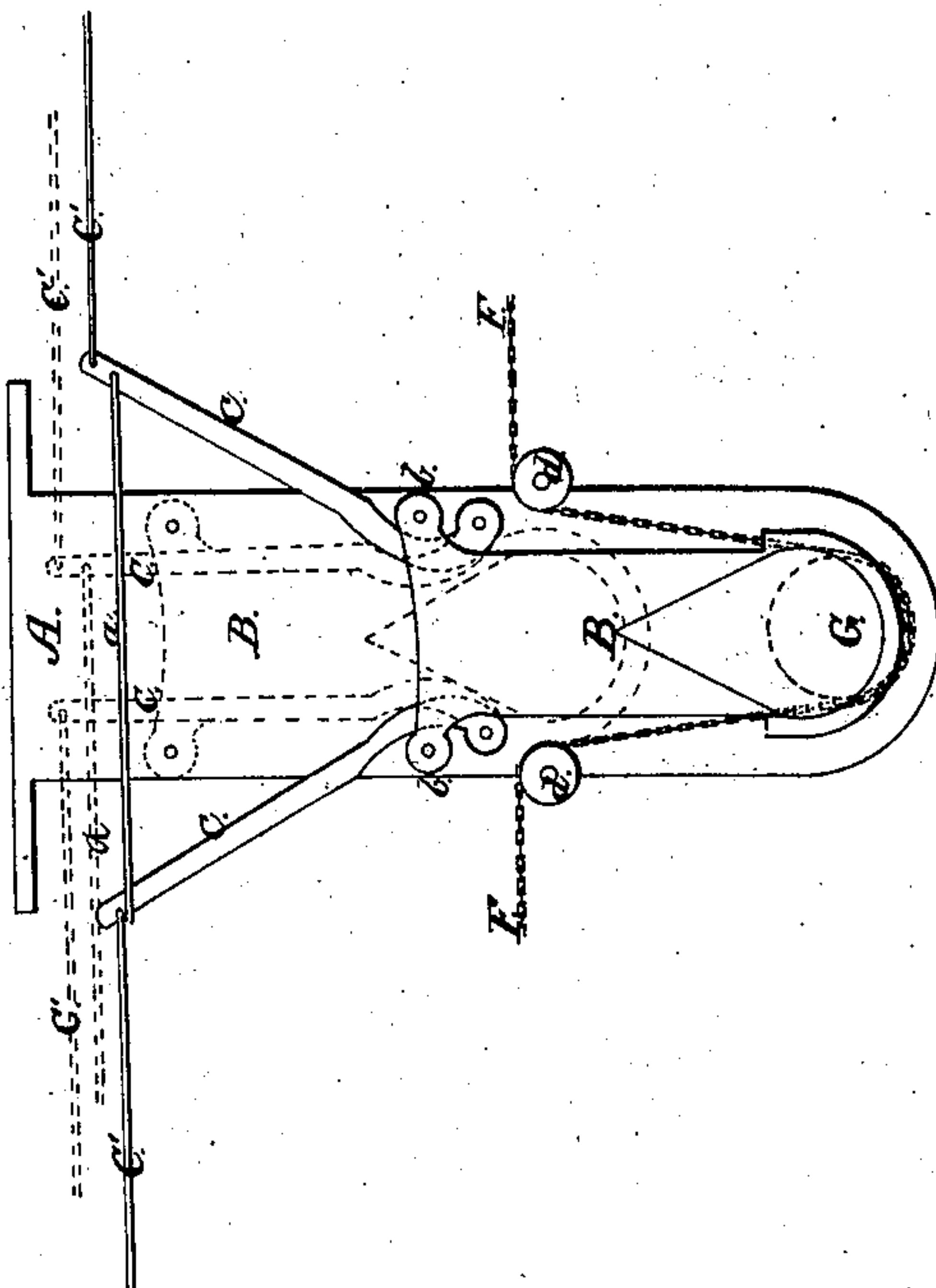


Fig. 2.



Inventor,
David Myers
by Coburn Mann
attorneys -

UNITED STATES PATENT OFFICE.

DAVID MYERS, OF CHICAGO, ILLINOIS.

IMPROVED CAR-BRAKE.

Specification forming part of Letters Patent No. 52,311, dated January 30, 1866.

To all whom it may concern:

Be it known that I, DAVID MYERS, of the city of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Operating Car-Brakes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings and the letters and figures marked thereon, which form part of this specification.

My said invention consists in a novel device to be attached to each car composing a train, whereby the brakes upon all the cars may be readily and simultaneously operated by tension upon a chain extending throughout the entire length of the train, which tension may be applied to said chain in any suitable manner.

To enable those skilled in the art to understand the nature, construction, and operation of my invention, I will proceed to describe the same with particularity, making reference in so doing to the aforesaid drawings, in which—

Figure 1 represents a side elevation of my invention, showing the manner in which it is applied upon the car. Fig. 2 is an enlarged side view of the same, the casing being removed to show the interior and operating parts; and Fig. 3 shows a front or back view of the same.

Similar letters of reference in the several figures denote the same parts of my invention.

A A represent two metallic plates inclosing the operating parts and forming bearings for the shafts supporting them, and also serving as guides for the vertically-reciprocating block. (Marked B.)

In a suitable slot or recess in the lower end of said block B there is arranged a pulley or roller, (marked G,) whose shaft or axle has its bearing in the said block, and at each of the upper corners thereof are arranged in a similar manner two smaller pulleys, (marked *b b*,) the recesses in which said last-mentioned pulleys are placed, being large enough to allow the levers marked C C to pass up through the same, behind said pulleys or rollers *b b*, as shown. The said levers are pivoted or have their fulcrums at *c*, which pivots or bolts have their supports in the side or guide plates, A A, and the levers passing up through the recesses in said block B extend up, as shown, to the up-

per ends of which are attached the brake-rods C' C', as shown.

d d represent two pulleys arranged, as shown, upon either side, the shafts upon which they revolve being supported in the side plates, A A.

The upper ends of the said levers C are surrounded by the link marked *a*, which allows said levers to approach each other, but not to fall back farther than the limits of the said link.

F represents the chain extending through the train, passing over the rollers *d d* and beneath the pulley G in the bottom of the block B, as shown, by tension upon which the brakes are operated, which tension may be applied by winding said chain upon a shaft by means of a friction-wheel, or in any other suitable manner.

The rods H connected with the brake-levers D' go to be attached to the ordinary brake-wheels at the end of each car, which are operated in the usual manner by the brakemen upon the train.

The hereinbefore-described device or attachment may be secured to the bottom of the cars by bolts or any other suitable fastenings.

Having described the construction of my invention, I will now describe the operation of the same: When tension is applied to the chain F the effect is to raise the sliding block B, which movement, by the action of the rollers *b b* upon the exterior of said levers C, throws the upper ends of said levers together, and thus, by means of the brake-rods C' C', applies the brakes E E to the wheels of the car, as shown, and thus by placing said device upon each car the entire train may be readily and simultaneously checked and released by the person whose duty it may be to apply or release the brakes.

When the steam is shut off at the engine preparatory to stopping the train, the cars are run together behind by their own momentum, and the chain F becomes slack, all of which slack has to be taken up on the shaft of the friction-wheel before the brakes can be applied to the various cars composing the train; but when the brakes are applied and the chain F is taut the effect of the brakes upon the cars is to draw the cars apart to the extent of the slack in the couplings, which would thus bring the whole draft of the train upon the

chain F and break it. My invention obviates this danger. The power is applied to the levers C C at the point of contact between said levers and the rollers *b b*, which is variable, as the block B is moved upward. At the outset the power is applied at a point very near the fulcrum, and consequently a slight motion at the point of the application of the power will cause the end of the upper or long arm of the levers to move through a space correspondingly longer in the ratio of the long and short arms to each other, while the force exerted upon the brake-rods C' C' would be correspondingly slight, yet sufficient to take up the slack motion between the brakes and the wheels. Thus a vertical motion of the block B through a small part of its possible elevation will bring the brakes in contact with the wheels. But the farther the said block is moved up the less space is passed over by the upper ends of said levers by the same vertical motion of the block, while at the same time the force exerted upon the brakes is correspondingly increased, until at the upper part of its path the vertical motion of said block B produces an almost imperceptible motion of

the ends of the levers in space, while the power exerted upon the brakes is very great. Thus a movement of about half the possible height to which said block B may ascend operates the brakes successfully and with sufficient pressure, and yet the said block may be forced up to the full height without hinderance should the lengthening out of the slack in the couplings, as aforesaid, require the chain F to yield in order to bring the draft upon the couplings and take it off from said chain.

Having described the construction and operation of my invention, I will now specify what I claim and desire to secure by Letters Patent:

1. The employment of the levers C C, arranged and operating substantially as and for the purposes herein specified and shown.
2. The combination of said levers C C with the sliding block B, arranged and operating substantially as and for the purposes shown and described.

DAVID MYERS.

Witnesses:

L. L. COBURN,
W. E. MAERS.