F. M. FINNEL.

Car-Brake.

No. 109,727 Patented Nov. 29, 1870.

Fig. 1.

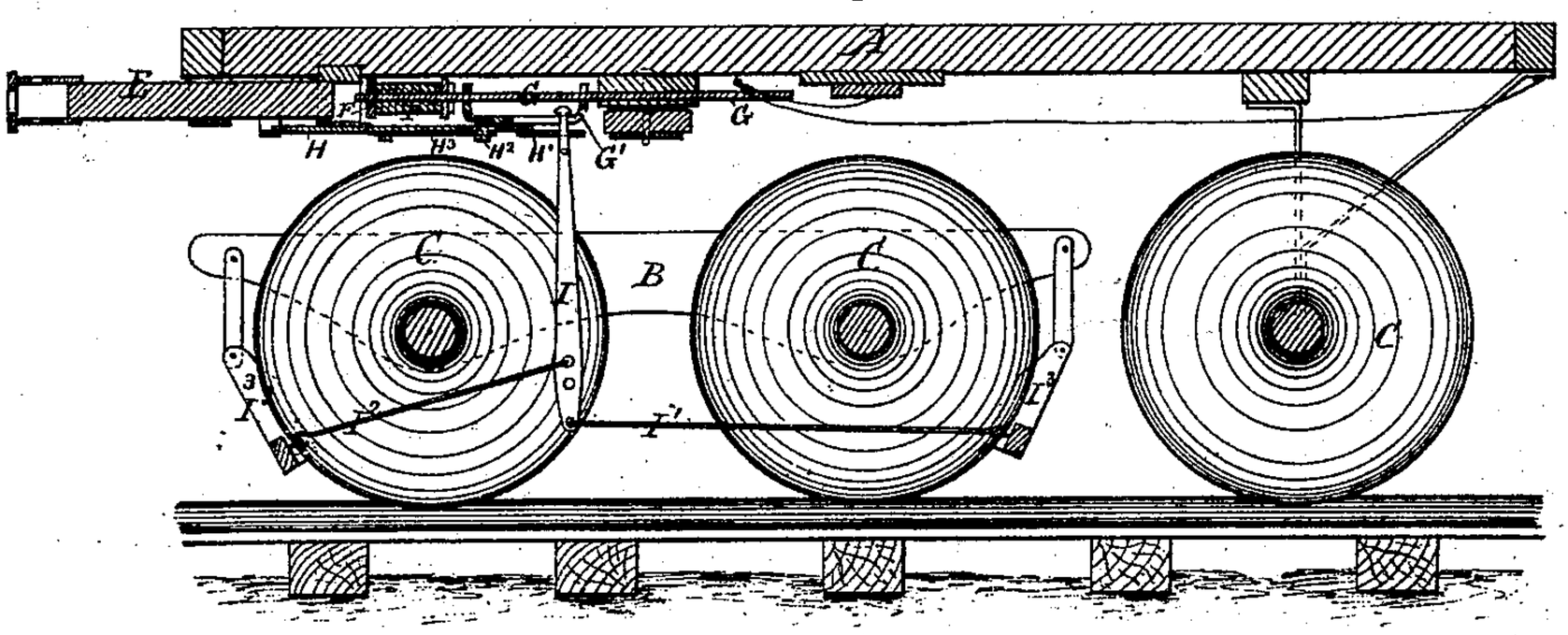
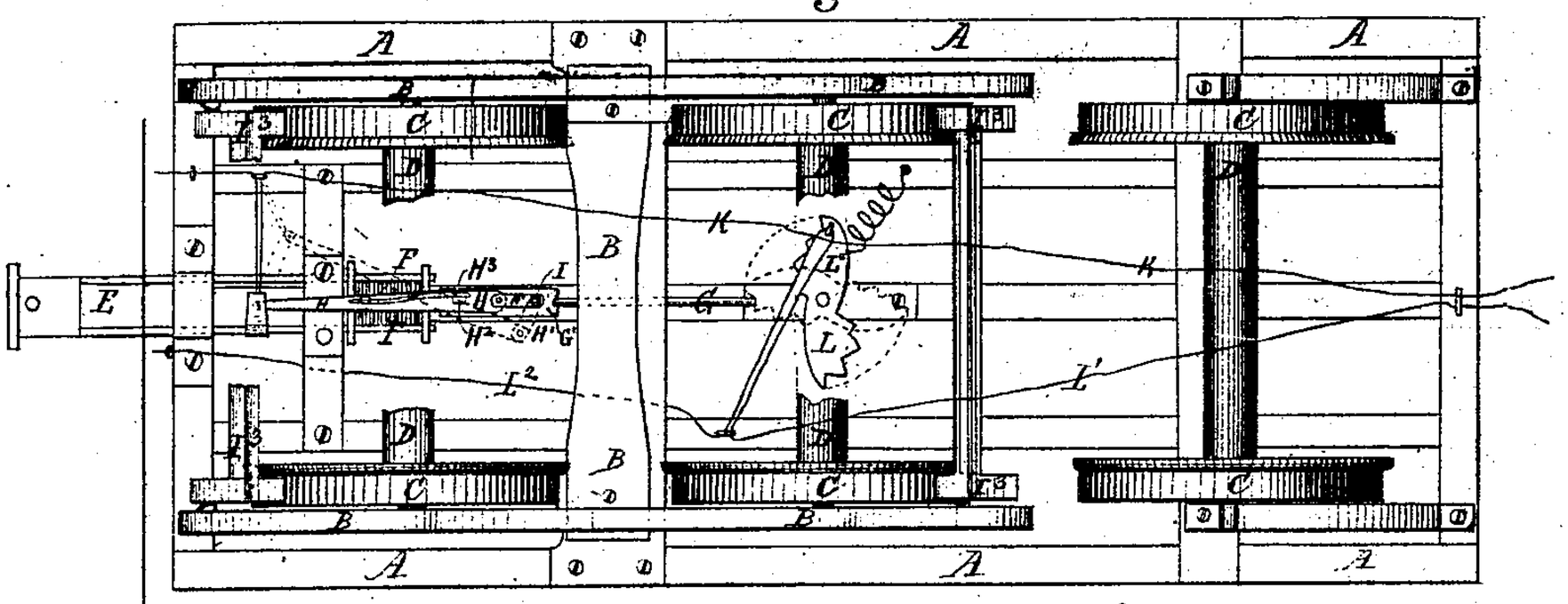


Fig. 2.



Attest
C. Edwin Bibb
C. F. Clarsen

F. M. Finnel
Inventor
D. P. Holloway & Co.
Attys

United States Patent Office.

FRANCIS M. FINNELL, OF COVINGTON, KENTUCKY.

Letters Patent No. 109,727, dated November 29, 1870.

IMPROVEMENT IN RAILWAY-CAR BRAKES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, FRANCIS M. FINNELL, of Covington, in the county of Kenton and in the State of Kentucky, have invented a new and useful Improvement in 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 drawing, in which—

Figure 1 is a central vertical longitudinal section of my improved brake, as it appears when attached to the car.

Figure 2 is a bottom view of a car or truck, showing the brake and the means of applying and detaching the same.

Corresponding letters refer to corresponding parts in both figures.

This invention relates to that class of brakes which are automatic in their operation; and

It consists in the combination and arrangement of the parts of which it is composed, as will be more fully explained hereinafter.

An automatic brake that could be relied upon for certainty of action, and that could be readily brought into requisition, and as readily have its functions suspended, has long been a desideratum, and this invention has for its object the supplying of such a one.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A, in the drawing, refers to the frame-work of the car; B, to the truck; C C, to the wheels; D, to the axles; and E and F, to the buffer and its spring; all of which may be of any approved form of construction, but which, as they form no part of this invention, need not be more particularly described here.

G refers to the rod of iron which, for the purpose of enabling me to attach my automatic mechanism, is firmly secured to the inner end of the draw-bar or buffer, so as to move with it, its inner end being supplied with a proper guide or support through which it slides.

To this rod, at or near the point where it enters or is secured to the buffer, there is attached a yoke, G′, which consists of a piece of metal, its ends being bent up so as to permit the rod G to pass through holes bored therein.

In that portion of this yoke which is in line with the rod G there is formed a slot, as shown in fig. 1, the purpose of which will soon be explained.

H refers to a lever, which is pivoted to the yoke G′, near its outer end, from which point its long arm extends outward in line with and near the under side of the buffer to near the point where said buffer is attached to the frame or platform of the car, where a shield is provided for its outer end to rest in or upon.

The short arm of this lever extends back from the point where it is pivoted to the yoke for a short distance, where it is joined to a connecting-link, H′, through which the upper end of lever I passes.

H^2 refers to a bolt or rivet which connects the lever H to the yoke G′, it having an elongated head upon its lower end, its office being to receive upon one of its sides the spring H^3, which is attached to the lever H at about the middle of its length, its office being to return said lever to its former position after it has been drawn out into the position shown in dotted lines in fig. 2.

I refers to a vertical lever, the upper end of which passes through an aperture in the connecting-link H^1, as before mentioned, and is provided with a nut to prevent it from dropping down.

The lower portion of this lever is provided with a series of holes, as shown in fig. 1, into two of which the rods I^1 and I^2 are secured, said rods leading from this lever to and being connected with the brake-bars near their centers.

K refers to a rope or chain, one end of which is attached to the frame of the car at any convenient point, from this point it passes through a staple fixed in the frame of the car, at a point about opposite the outer end of the lever H, through a hole in the end of which it is passed, and then again through the staple above aluded to, and from thence to the opposite end of the car, where it may be attached to any form of operating device by which the brake can be made to act as pressure is applied to the buffer-head, or such action can be prevented.

The operation of the parts above described is as follows:

They having been constructed and arranged as described, the lever H, being placed in line with the buffer or draw-bar F, any motion given to such bar will carry backward the rod G and its yoke G′, and with them the upper end of lever I, which motion will cause the brake-blocks to be drawn toward and pressed upon the wheels, and thus brakes of a car will be automatically applied whenever pressure is applied to the buffer-heads.

Should it at any time become desirable to prevent the action of the buffers upon the brakes, the rope or chain K is to be wound around the brake-shaft or other suitable device, when the lever H will be drawn into the position shown in dotted lines, which will cause the upper end of lever I to move in the slot in the yoke G′ in such a manner as to permit the buffer to be forced inward without affecting the brakes.

When it is desired to bring the brake into action again, it is only necessary to release the rope or chain from the strain put upon it by the brake-wheel or other mechanism, when the spring H^3, acting upon

Assignor to himself & C. A. Culbertson of same place

the elongated head of the bolt or rivet H^2, will return lever H, and the parts connected therewith, to their original position in line with the buffer, and the brake will be applied to the wheels upon the application of pressure to the buffer-head.

An equivalent mechanism, so far as the result of rendering the brake operative and inoperative is concerned, is shown at L in fig. 2, it consisting of a lever which is pivoted to the frame of the car, directly in rear of the rod G, its ends being segmental in form, and provided with serrations or notches, so that when turned in a certain position, such as shown in dotted lines in fig. 2, the operation of the brake would be prevented by the rod G coming in contact with said lever, but when turned into the position shown in full lines in the same figure, the rod would pass back with the buffer, and thus the brake would be permitted to act.

The method of operating this last-named device is by means of ropes or chains, as described previously.

Having thus described my invention,

What I claim, and desire to secure by Letters Patent, is—

The buffer E, rod G G′, and brake-lever I, arranged relatively as described, in combination with the link H^1 and spring-lever H H^3, connected by the cord or chain K to the brake-shaft, and operating substantially as set forth.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

FRANCIS M. FINNELL.

Witnesses:

D. P. HOLLOWAY,

B. EDW. J. EILS.