

(No Model.)

M. M. CLARK.

CAR BRAKE.

No. 279,914.

Patented June 26, 1883.

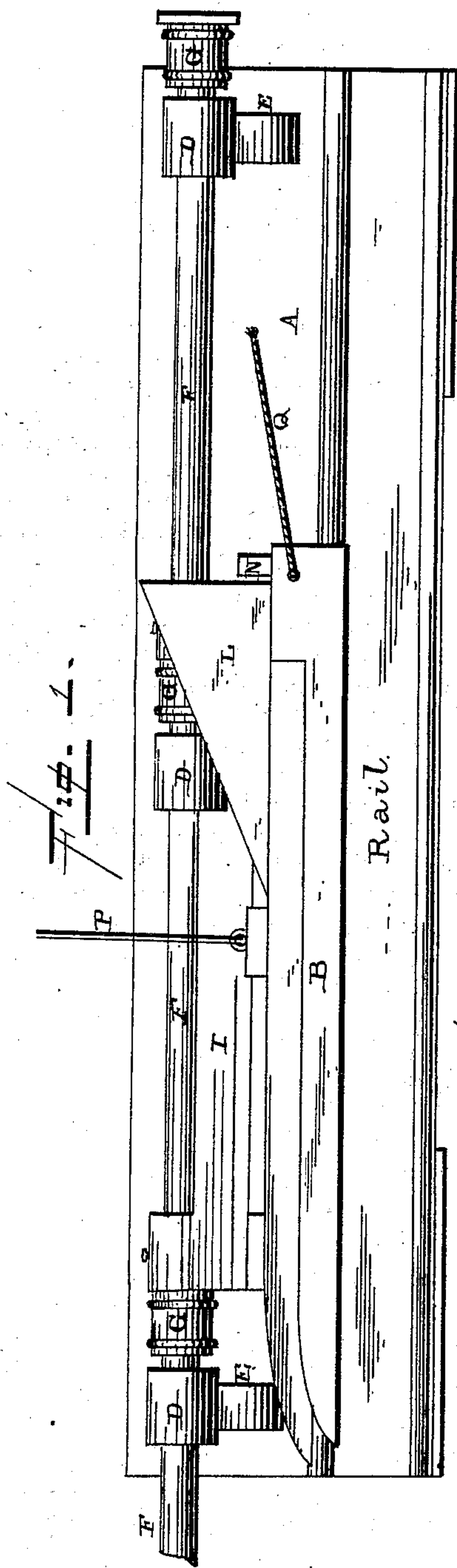
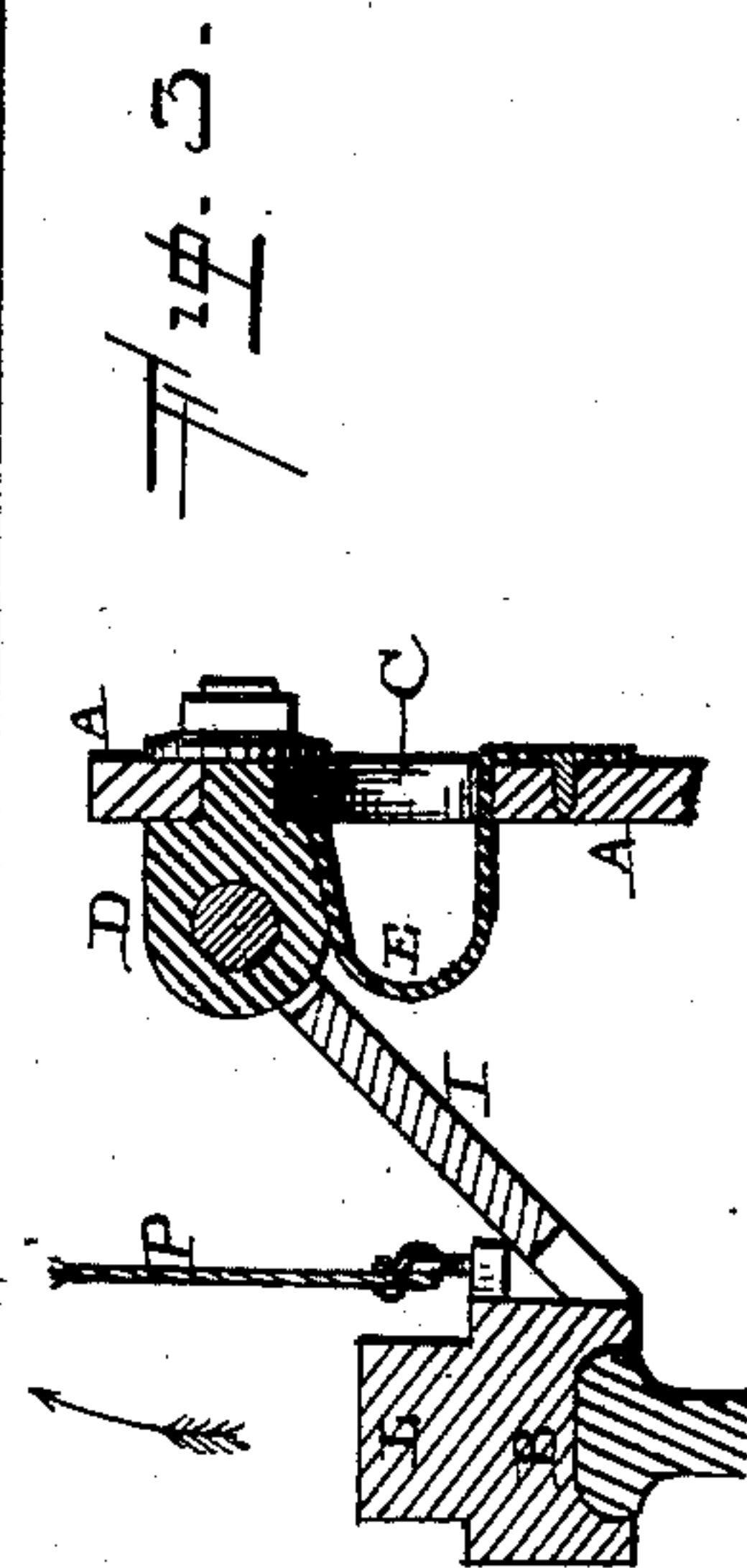
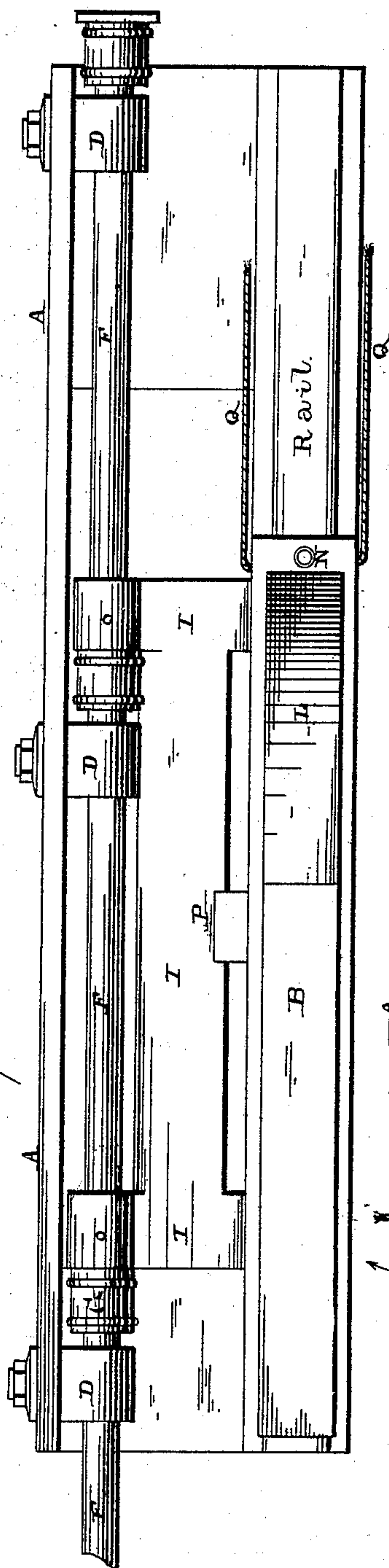


Fig. 2.



— Witnesses. —
Louis F. Gardner
E. D. York,

— Inventor. —
M. M. Clark,
per
F. A. Lehmann, atty

UNITED STATES PATENT OFFICE.

MOSES M. CLARK, OF NEW HAVEN, CONNECTICUT.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 279,914, dated June 26, 1883.

Application filed February 6, 1883. (No model.)

To all whom it may concern:

Be it known that I, MOSES M. CLARK, of New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Surface-Brakes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in surface-brakes for locomotives and railroad-cars of all kinds; and it consists, first, in the combination of a brake which is to be applied directly to the surface of the railroad-rail in front of a wheel of a locomotive or car, and which brake is connected rigidly to a rod held in suitable boxes, and which rod has both a rotary and a lengthwise movement imparted to it by means of the brake; second, in the combination of a surface-brake, a rod or shaft to which it is rigidly attached, suitable springs upon the rod, and vertically-moving spring-actuated boxes for the shaft to fit in, all of which will be more fully described hereinafter.

The object of my invention is to apply a brake to both locomotives and cars which will exert a frictional contact directly upon the rail, and thus stop the movement of a train in much less time than can be done where the brakes are applied directly to the car-wheels.

Figure 1 is a side elevation of my invention. Fig. 2 is a plan view of the same. Fig. 3 is a vertical cross-section.

A represents a suitable frame of any desired construction, which will be secured to each side of the locomotive, in front of the rear driving-wheels, in such a manner that the brake B is suspended directly over the track between the driving-wheels. When applied to a car, it may be suspended in between the wheels of the truck, or in front of them, as may be preferred. I do not limit myself to any particular location in this respect, for the brake will be applied wherever it may be found most desirable. Through this frame are made a number of suitable slots, C, in proportion to the number of boxes D, and these boxes will rest upon the tops of the springs E, so as to keep the boxes always pressed up against the up-

per ends of the slots. These boxes are given a vertical play for the purpose of allowing the shaft F, to which the brake is applied, a vertical movement for the purpose of adjusting the difference between the height of the wheel when off the brake and the wheel when on the brake. As shown in Fig. 3, the curved spring E is fastened to the frame A in the bottom of the slot C, and the upper end of this spring bears against the under side of the box D and holds it pressed up against the upper end of the slot. Passing horizontally through the boxes is the shaft F, which has a suitable rubber or metal spring, G, applied to it for each box, and which shaft has both a rotary and an endwise movement imparted to it by the brake. When the brake is raised and lowered, the rod is turned in its boxes, and when the brake is dropped upon the rail its frictional contact therewith forces the rod endwise through its boxes until the springs G strike against the boxes D and stop it. The springs serve to prevent the sudden application of the brake from stopping the car or locomotive so suddenly as to cause any unpleasant or dangerous effects. Secured rigidly to this shaft F, by suitable arms or frame-work, I, is the brake B, which is to be applied directly to the surface of the track, and upon which the wheel of the locomotive or car will run when the brake is let down in front of it. The rear end of this brake is beveled away, as shown, so that the wheel will run readily upon its top, and upon the front of the brake is made a suitable enlargement or projection, L, for the purpose of preventing the wheel from moving too far. The under side of the brake is made grooved, so as to fit snugly down over the top of the rail, and the front end of the groove will be slightly enlarged, so that its groove will pass over any irregularities in the rail. Passing down through the front end of the brake is a tube, N, which will be connected with the sand-box by means of a flexible tube or hose through which sand will be applied to the rail directly in front of the brake, so as to greatly increase the amount of friction. To still further increase the friction or biting power of the brake, its under surface will be studded with diamond points or any other similar appliances. If so desired, the brake may be con-

connected with a cut-off in the sand box or chamber, so that the very act of lowering the brake will turn on the sand.

This brake is held suspended by means of a wire, cord, or cable, P, which is fastened to its front end and extends forward to the front end of the locomotive-frame, and by a second cord or cable, Q, which extends up into the locomotive-cab. These cords Q may be held by means of a spring or any other suitable device so constructed that when one cord is released the other will be released at the same time, and thus brakes are applied at the same instant upon opposite sides of the locomotive. When the brake is to be used in connection with a car, these cords will extend up to any suitable point in the easy reach and control of the conductor. I do not limit my invention to any precise construction in this regard, because the mere devices for holding and applying the brakes may be varied at will. As soon as the brakes are dropped upon the track in front of the wheels, the wheels run upon their tops and revolve idly around, the pressure of the wheels upon the brakes causing a tremendous friction upon the track, which will cause the cars to stop in much less time than where friction has been applied directly to the wheels of the cars alone.

The springs which will hold the shaft on which the brakes turn may be kept in position by nuts or other suitable devices, so as to have no movement, if so desired.

The top of the brake should be kept greased, in order that the wheel may revolve more easily upon it.

When the train has been stopped by the brake, a backward motion of the train for a few feet frees the brakes, when they may be raised into position again.

Having thus described my invention, I claim—

1. The combination of a friction-brake, with a rod or shaft to which it is secured, the rod having both an endwise and a rotary movement, substantially as shown.

2. The combination of a surface-brake, the rod or shaft to which the brake is secured, and suitable springs which are applied to the rod, substantially as described.

3. The combination of the surface-brake, the rod or shaft to which the brake is secured, and suitable boxes through which the shaft passes, the boxes being placed upon springs and given a vertical movement, substantially as set forth.

4. The combination of the surface-brake, a rod or shaft to which the brake is applied, and which rod or shaft has both a rotary and an endwise movement, suitable springs which are applied to the shaft, boxes in which the shaft moves, and springs placed under the boxes so as to give them a vertical play, and suitable cords for controlling the brake, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

MOSES MARKES CLARK.

Witnesses:

JAMES HALL,
L. F. COMSTOCK.