

C. C. CLARK.
Car-Brake.

No. 160,083.

Patented Feb. 23, 1875

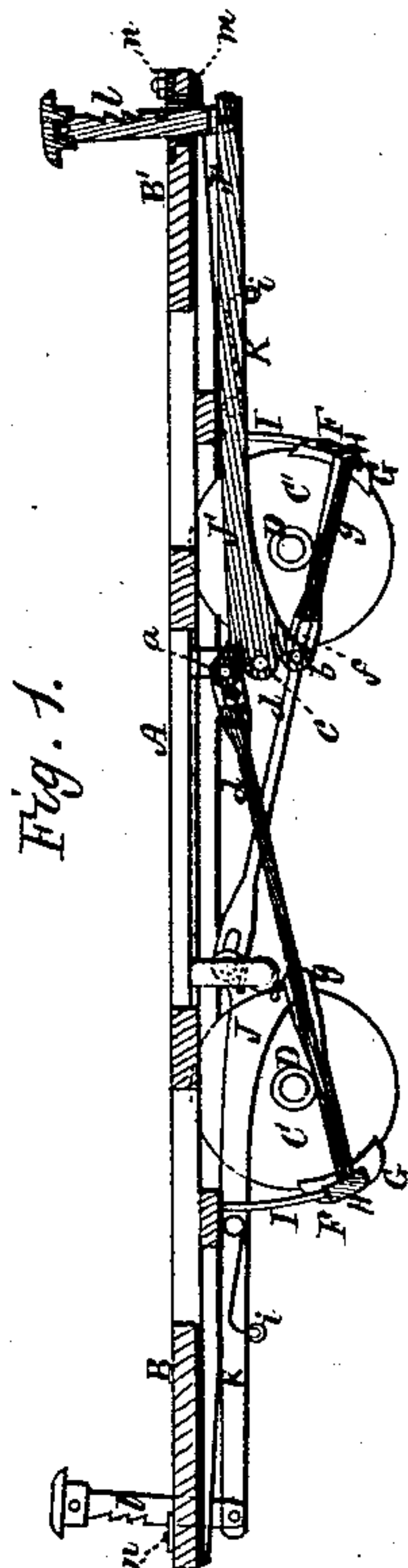


Fig. 1.

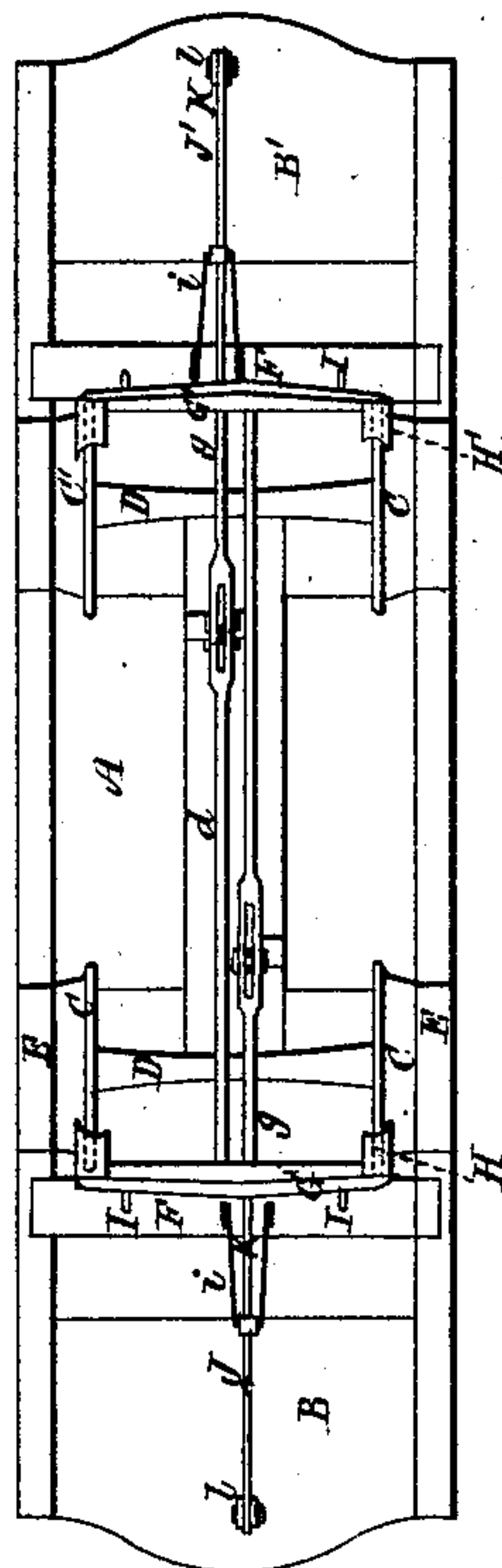
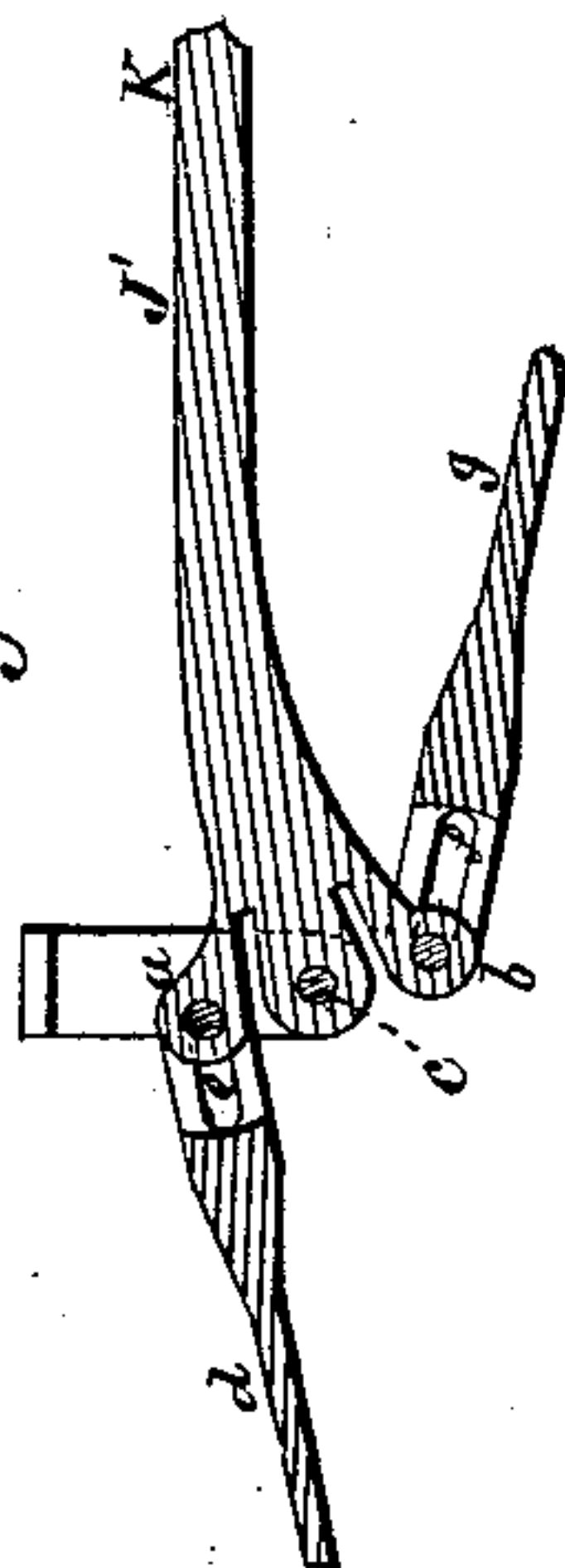


Fig. 2.

Fig. 3.



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CHARLES C. CLARK, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN CAR-BRAKES.

Specification forming part of Letters Patent No. **160,083**, dated February 23, 1875; application filed January 22, 1875.

To all whom it may concern:

Be it known that I, CHARLES C. CLARK, of Boston, Suffolk county, Massachusetts, have invented certain Improvements in Brake-Operating Mechanism for Railway-Cars, of which the following is a specification:

This improvement relates to means whereby the driver, through the medium of his foot, is enabled to apply or set the brakes by the weight of his body transmitted through or erected upon a pair of levers, arranged one at each end of the car, and each operating independently of the other upon both brakes or sets of brakes.

The drawings accompanying this specification represent, in Figure 1, a vertical and longitudinal section, and in Fig. 2 an under-side view, of a horse-railway car embodying my improvements. Fig. 3 is a horizontal section of the foot-rest and its lock, to be explained.

In these drawings, A is supposed to represent the flooring of a horse-railway car, the two end platforms being shown at B B', the wheels of the car at C C', &c., the axles at D D, the housings supporting the latter at E E, &c., and the brakes at F F', the cross-beam of such brakes being shown at G G', and the shoes or rubbers of such brakes at H, the said beams being suspended from the flooring by spring-rods I I, &c., and the whole being arranged in manner as now generally practiced in the manufacture of railway-cars of this class.

In carrying my invention into practice I employ two bent levers, J or J', of equal length, form, and power, such levers being composed of a long bar, K, whose inner end terminates in two short arms, *a* *b*, disposed one upon each side of its fulcrum *c*, the said bar K being arranged horizontally below the flooring A, and pivoted by the fulcrum *c*, before named, to said flooring, as shown in Fig. 1 of the accompanying drawing. The upper arm *a* of each lever J is pivoted to one end of a long rod, *d*, by a pin-and-slot connection, *e*, the opposite end of said rod being in turn attached in an adjustable manner to the beam of that brake which is most remote from the fulcrum of the lever to which the rod is attached. The lower arm *b* of each lever J is pivoted by a pin-and-slot connection, *f*, to

the inner end of a second rod, *g*, the outer end of this last-named rod being attached in an adjustable manner to the brake-beam nearest the fulcrum of the lever. The outer end of each lever or bar J is raised to its highest point by a spring, as shown at *i*, or by a weighted lever or any suitable device, and the outer extremity of each lever J is pivoted to the lower end of an upright bar or foot-rest, *l*, which rises through an aperture in the platform to such a height as will enable the driver, by depressing it, to apply the brakes, each foot-rest being formed upon its front edge with saw-teeth, which act in conjunction with a plate, *m*, affixed to the platform to maintain the brakes in contact with the wheels and relieve the driver of the labor should the car be stopped for any length of time. The two levers J and their accessories are duplicates of each other, and are placed one at each platform, in order that the brakes may be applied at both ends of the car, and in order that if one should become useless the other will be available.

The operation of this mechanism is as follows: When a car is to be stopped the driver places his foot upon the bar or rest *l* near him, and by applying his weight to such bar depresses the outer and free end of the lever J or J', and transmits this weight to each brake by the rods *d* and *g*, this movement of one set or pair of levers and connecting-rods having no effect upon the opposite set, owing to the pin-and-slot connections *e* and *f*.

In order to lock each foot-rest *l* in its highest or inactive position and guard against mischievous setting of the brakes, I dispose upon the upper side of each platform B B, and immediately adjacent to each foot-rest, a thin plate or dog, *n*, which is confined to the platform in such manner as to be capable of a short sliding movement thereupon, this dog being formed with an oblique step, *o*, which, when advanced, intercepts the foot-rest and enters a notch cut horizontally into such rest. By removing the dog *n* from contact with the foot-rest the latter is left free to be depressed by a person's foot, but when the dog is pushed inward and intercepts the foot-rest the latter is locked.

This form of brake mechanism is applica-

ble to any class of horse-railway cars, and may be applied to them very expeditiously and without requiring alterations in them. It is simple and comparatively inexpensive in construction, and not subject to disarrangement.

I am aware that a treadle or lever adapted to be depressed by the foot has been used to operate a brake mechanism on railway-cars, and this I do not claim, broadly.

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

1. The combination of the twin levers J J', provided with the foot-rest *l*, and pivoted to the car-floor, with the rods *d* and *g*, attached to opposite brakes, substantially as and for the purposes set forth.

2. In combination with the notched foot-rest *l* and platform B, the sliding dog *n*, substantially as and for the purposes stated.

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Witnesses:

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