

D. WETSEL.
Brakes for Coal-Cars.

No. 139,097.

Patented May 20, 1873.

Fig. 1.

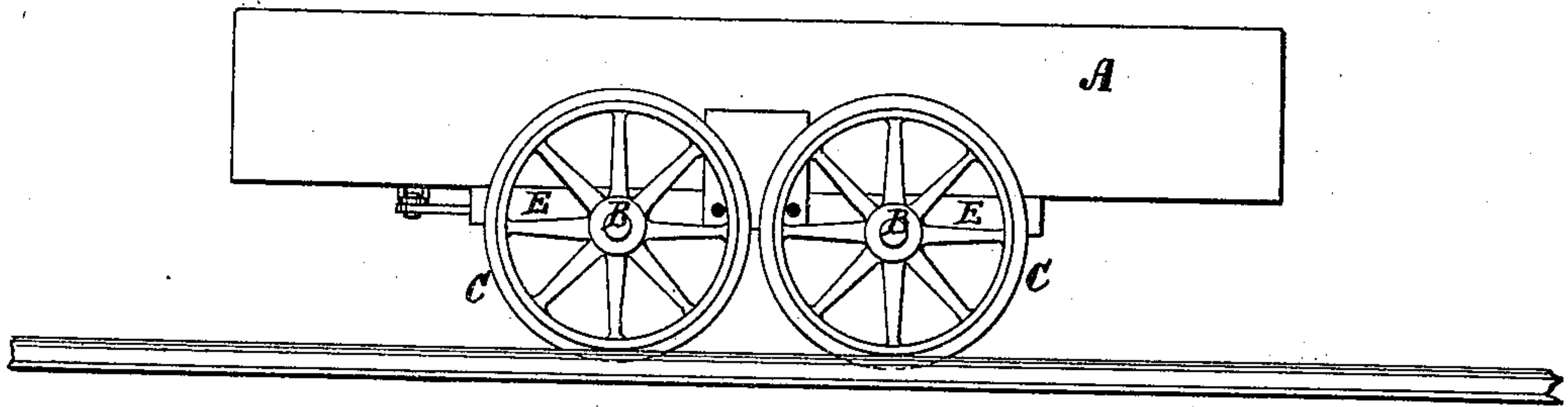


Fig. 4.

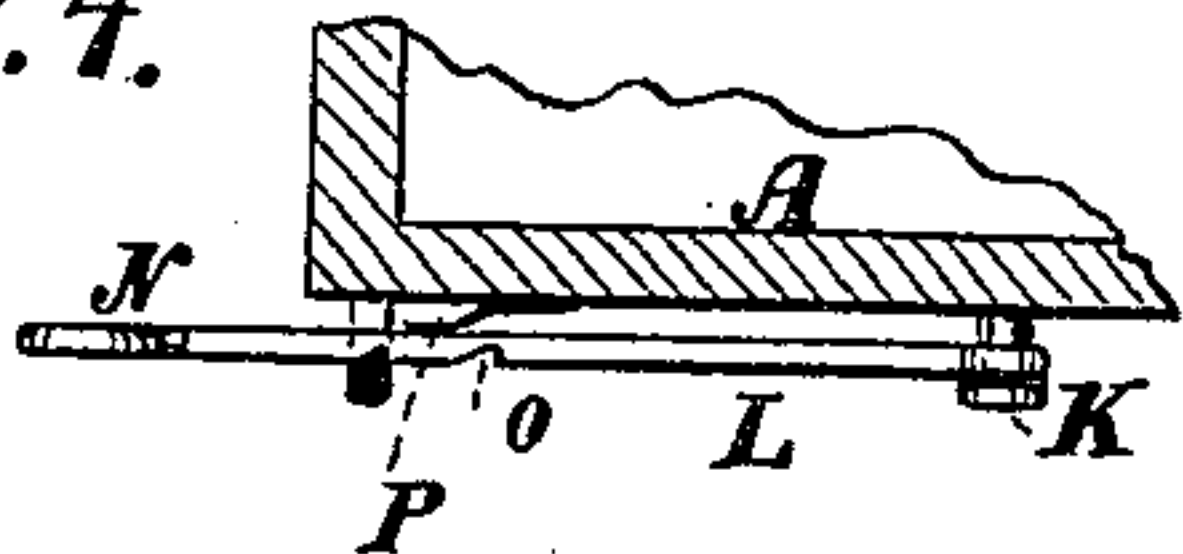


Fig. 2.

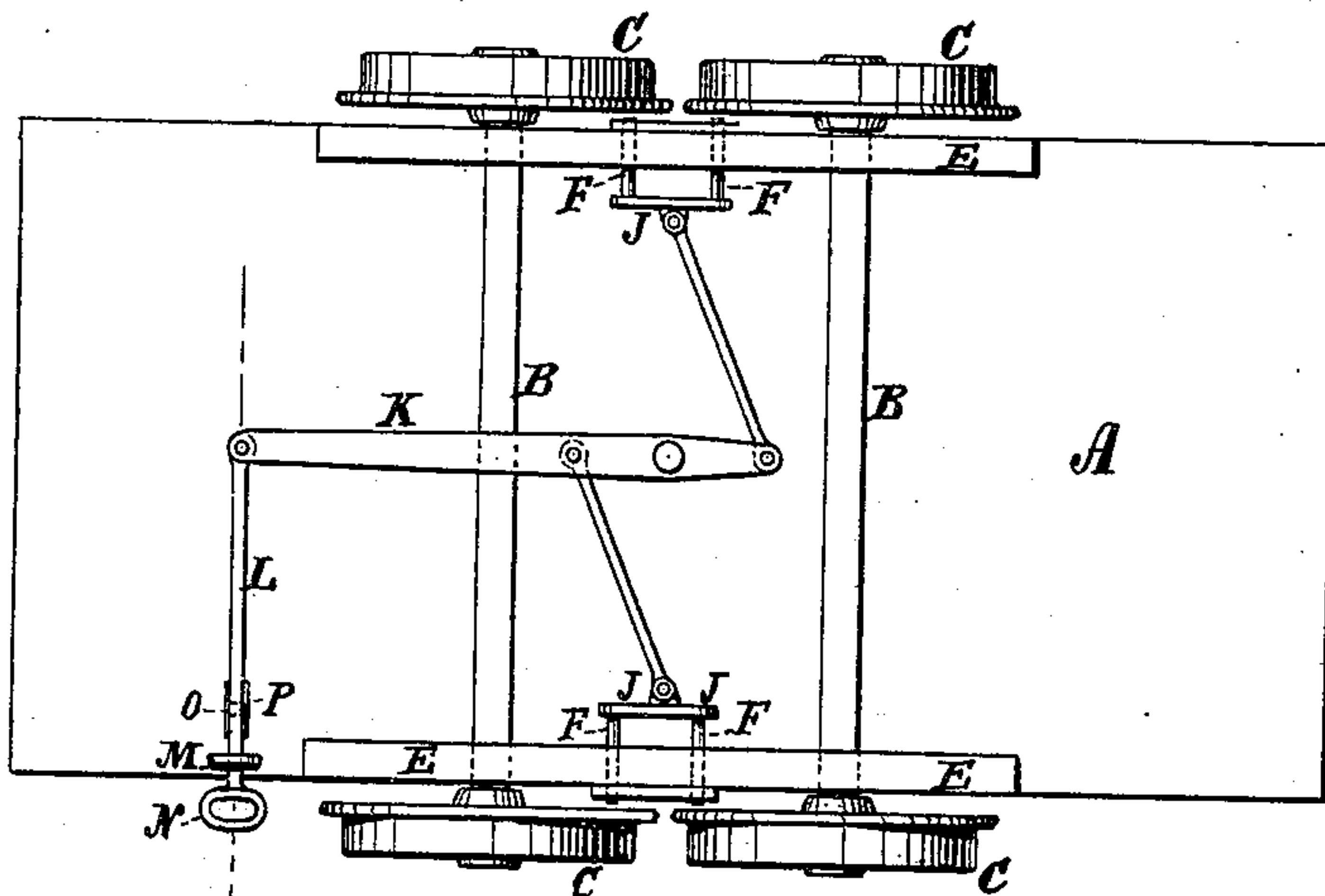
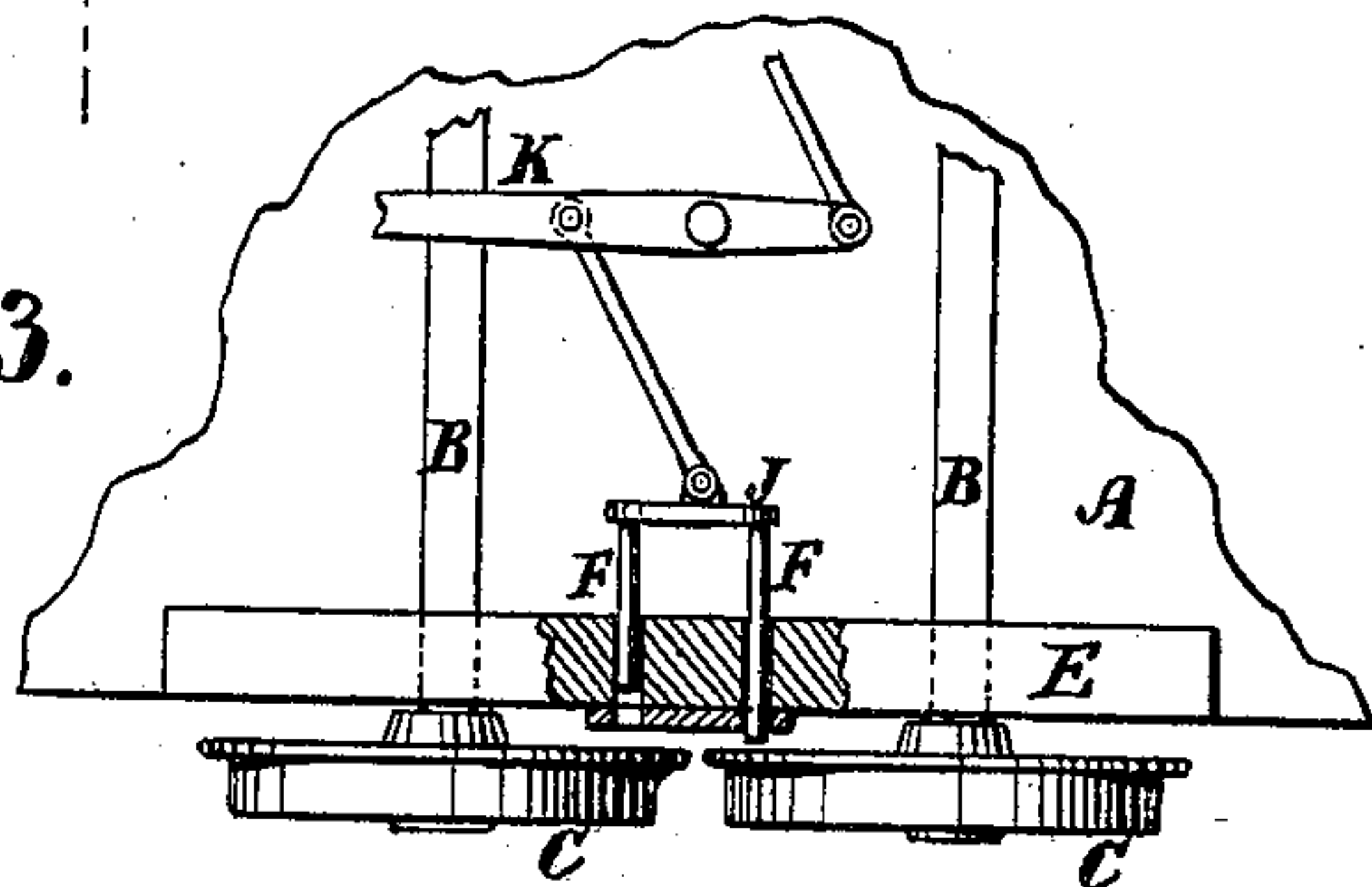


Fig. 3.



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UNITED STATES PATENT OFFICE.

DAVID WETSEL, OF MORRIS, PENNSYLVANIA.

IMPROVEMENT IN BRAKES FOR COAL-CARS.

Specification forming part of Letters Patent No. **139,097**, dated May 20, 1873; application filed April 12, 1873.

To all whom it may concern:

Be it known that I, DAVID WETSEL, of Morris, in the county of Tioga and State of Pennsylvania, have invented a new and Improved Brake for Coal-Wagons, of which the following is a specification:

The coal cars or wagons used in the mines for drawing the coal to the elevators or other places where it is to be discharged have sometimes to be dumped endwise and sometimes sidewise, according to circumstances. The boxes are of necessity mounted directly on the axles, without any intervening frame, so that the wheels and axles are turned with the box when dumping. This prevents the application of brakes of any of the ordinary arrangements to the wheels for controlling the cars on descending grades, as they would be broken by the weight of the loaded cars when turned over for dumping, and the projecting parts would interfere with the turning of the cars. For these reasons, the only means now in use for braking the cars on descending grades are bars or rods, called "sprags," passed through the wheels under the box, so as to lock them against turning, the sprags extending through both wheels of one axle. These sprags are distributed along the road wherever there are steep grades requiring them, and they are put in the wheels and taken out by the attendants specially provided for the purpose. They have to be carried up the grades for use again after having been used in descent of the cars. Large quantities are provided in extensive mines, and sometimes a considerable force of men and boys is employed for no other purpose but to look after them, put them in, and take them out of the wheels, which the drivers cannot well attend to without neglecting their legitimate duties. Many times the sprags are not to be found when a train is ready to descend a grade, and serious and damaging accidents occur to the drivers, mules, and cars in attempts to descend without the brakes.

Now, I propose to avoid the necessity of employing these sprags, and the special attendants required for them, also the accidents, delay, and trouble incident to them, by the arrangement of short sliding bars or rods on the under side of the box, suitably arranged, and

provided with mechanism whereby they can, by the movement of a pull-rod, which the driver can attend to without detriment to his other duties, be thrown out from under the box, and thrust between the spokes of the wheels to lock them, in the same manner that they are now locked by the aforesaid sprags.

Figure 1 is a side elevation of a car with my improved brake apparatus applied. Fig. 2 is a plan of the bottom; and Fig. 3 is a plan of a portion of the bottom, with a part sectioned, showing a modification of the stops or rods to adapt the stops of each side of a car for locking one wheel or two. Fig. 4 is a section of Fig. 2 on the line *x x*.

A represents the box of the car; B, the axles; and C, the wheels. The box is arranged directly on the axles, and fastened to them or strong cleats or bars E, in which the axles are secured. The wheels turn loosely on the axles. F represent stop bolts or rods for locking the wheels, in the manner of the sprag-rods above described, which I propose to arrange under the bottom of the car-box, to slide forward and back through the cleats or beams F, or any other suitable support; but instead of long rods extending from one side to the other of the car, I make them short, using separate rods for each side, so that I can work the rods for both sides by a lever between them, and, for convenience, I attach the two bolts for the two wheels of one side of the car to a head-piece, J, or make a kind of forked bolt with two prongs, so that they can both be conveniently worked together; and, for working them, I connect the head-pieces J on the part corresponding to the handle of the fork, when they are arranged in that way, to a lever, K, taking care to so arrange the connections relatively to the fulcrum of the lever that by one movement of the lever it will throw the bolts of both sides out and lock the wheels all at once, and the reverse movement of it will withdraw them and release the wheels. To actuate the lever, I have a pull-and-push rod, L, extending from the end of the arm of the long lever to the side of the box through any suitable guide, M, with a ring, N, in the end by which to actuate it. This rod will be so arranged that when the locking-rods are withdrawn it will only project from the sides

of the box sufficiently to be taken hold of to pull it out, so that it will not be injured by the turning of the car over sidewise for emptying it, nor will it interfere with the turning of the car.

As it is sometimes desirable, when the grades are not very steep, to only lock two wheels of a car, I will have one of each of the pairs of locking-bolts longer than the other, so that, by forcing them out part way only, I can lock two wheels, and, by forcing them as far as they will go, lock the whole. To hold them in either position, the rod L may have two catches, O, and a spring, P, for holding it to maintain the locking-bolts in either position.

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

1. A pair of bolts, F F, rigidly attached to the head-piece J, to slide through a beam, E, one to pass between the spoke of a front and the other of a rear wheel, substantially in the manner and for the purpose described.

2. A lever, K, connected with two pairs of wheel-locks, F F J, by rods pivoted on different sides of its fulcrum, to lock all four of the wheels, in the manner and for the purpose set forth.

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