

(No Model.)

J. M. PHILLIPS.
CAR DUMPING APPARATUS.

2 Sheets—Sheet 1.

No. 529,305.

Patented Nov. 13, 1894.

Fig. 1.

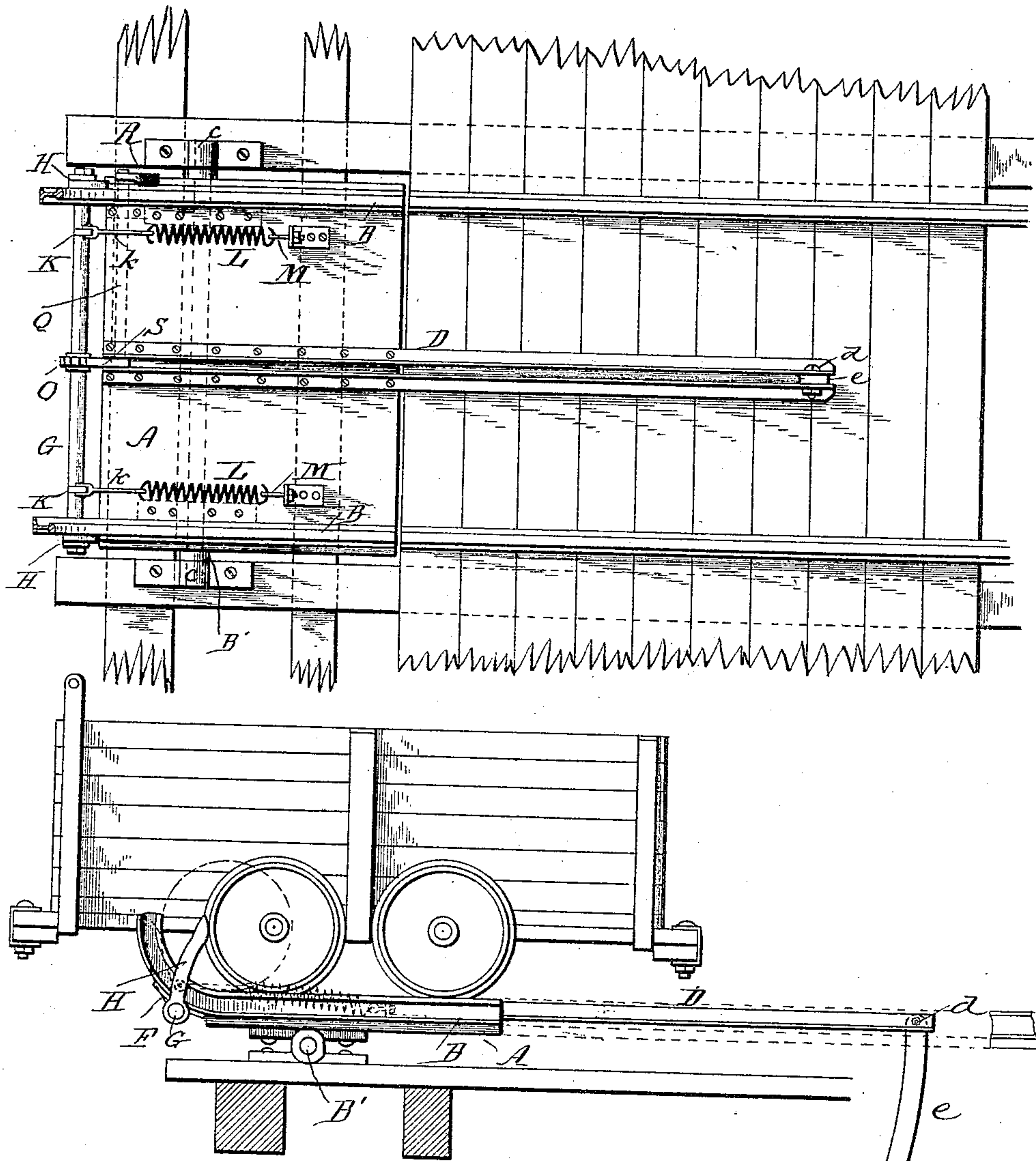


Fig. 2.

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2 Sheets—Sheet 2.

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Fig. 3.

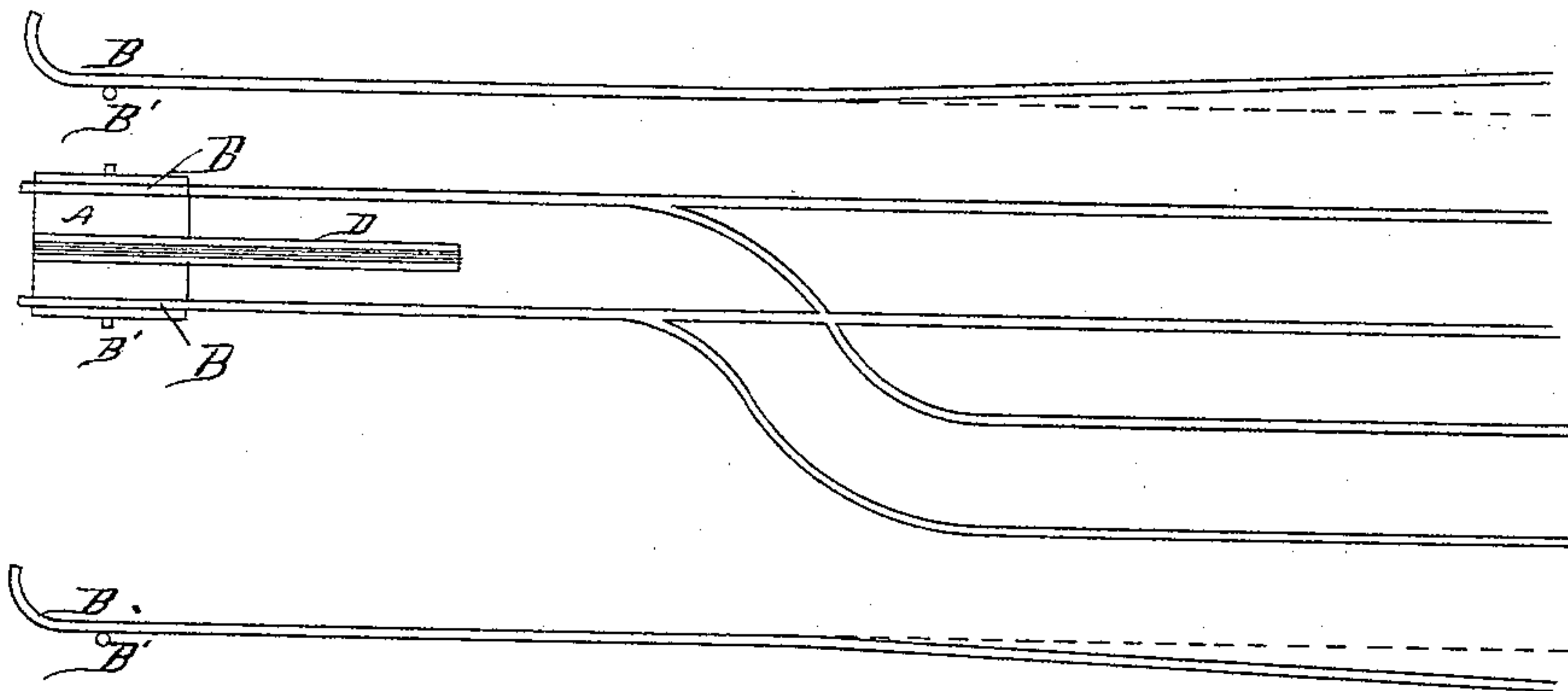
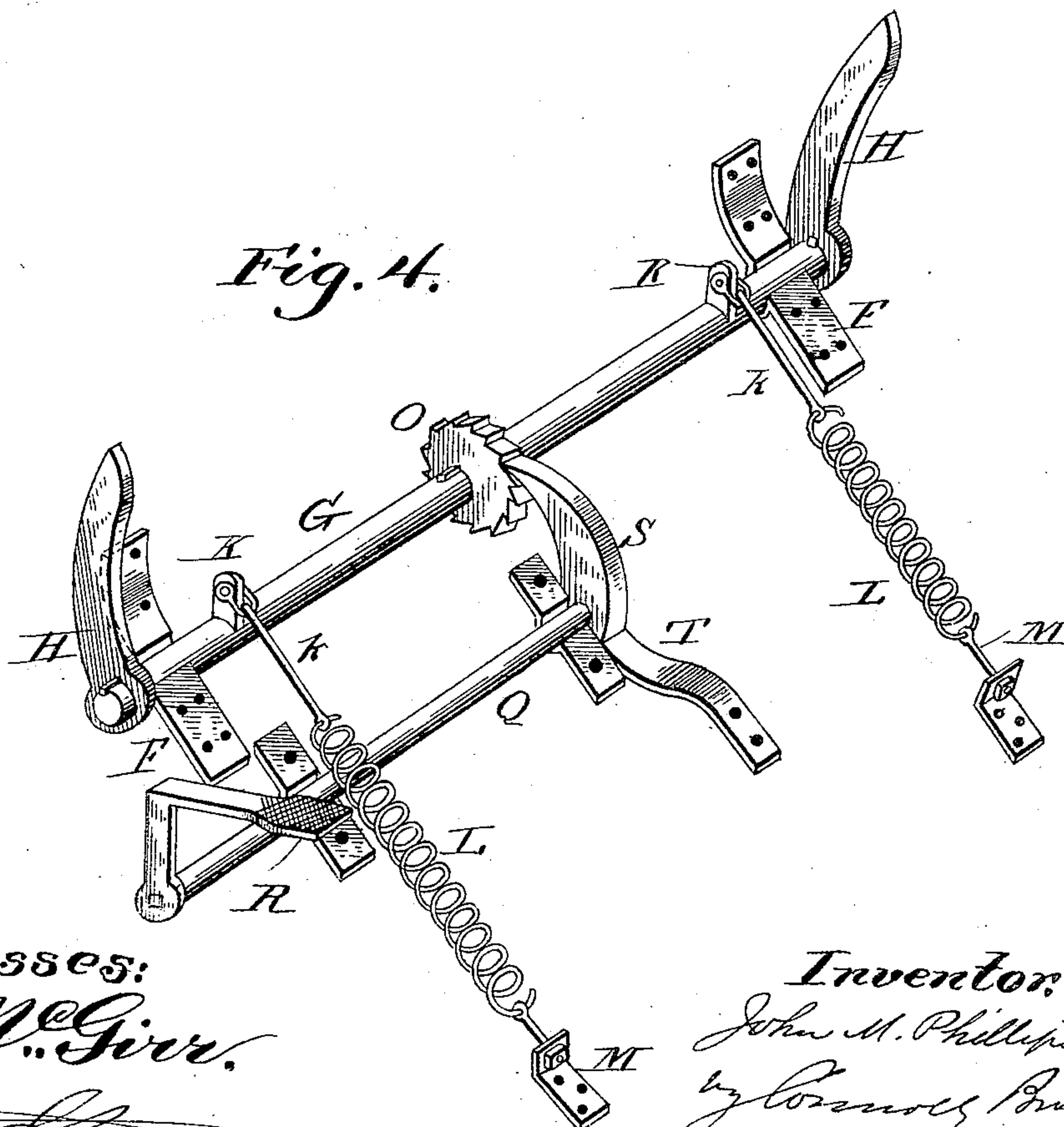


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN M. PHILLIPS, OF CARRICK, PENNSYLVANIA.

CAR-DUMPING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 529,305, dated November 13, 1894.

Application filed July 19, 1894. Serial No. 518,003. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. PHILLIPS, a citizen of the United States, residing at Carrick P. O., in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Car-Dumping Apparatus; 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 appertains to make and use the same.

My invention has relation to car tips or dumping apparatus, on which cars loaded with coal or other material, are dumped and the empty car pushed back on to a return switch out of the way of the next loaded car approaching the tip on the main track.

The object of my invention is to provide simple automatic means for rapidly and economically pushing back the empty car from the tip or tilting section on to the return switch.

The special object of my invention is to provide means, whereby the weight of the loaded car is utilized in setting spring actuated mechanism, which when released by an operator, will act as a motor or propelling power to force the empty car back to the desired position.

With the above objects in view, my invention consists in the novel construction, combination and arrangement of parts herein-after described and claimed.

In the accompanying drawings:—Figure 1 is a plan view of the ordinary car tip, with the push back devices applied thereto. Fig. 2 is a side elevation of the same, showing a car on the tip, and presenting in dotted lines the position of the front wheels when the pushing levers are forced back and the spring mechanism set. Fig. 3 is a diagram illustrating the relative grades of the different track sections. Fig. 4 is a detail view in perspective of the push back mechanism.

In the drawings, A designates the base plate of the tip or tilting track section to which are secured the horn rails B, aligned with the rails of the main track. This tip or tilting section has secured to its under side a transverse shaft or tip axle B' mounted at its outer ends in journal bearings or boxes c, c, which are set on the supporting timbers of the tip.

The brake tongue D is composed of two

angle irons, riveted to the top of the base plate A. To the rear end of said tongue is attached by means of a bolt d the brake friction bar e. The brake which controls the tip or tilting section may be of any approved character, but preferably of the construction shown and described in Letters Patent of the United States No. 254,211.

Journal clips F F secured to the underside of the horn rails B, B support the horizontal transverse shaft G, to the ends of which are keyed the two upright pushing levers H, H, located outside of the horn rails, the flanges of the latter being cut away to allow the levers to lie close enough to the heads of the rails to engage the projecting tread of the front car wheels. Securely attached to the shaft G, are the upright lugs K, K, to which are coupled by means of bolts the jaw rods k, k, which are at their rear ends attached to the retractile springs L, L. The rear ends of the springs are attached to eye bolts M, M, which pass through clips which are secured to the base plate A.

To the shaft G, about midway between its ends, is keyed the ratchet wheel O, with which engages the pawl or dog S, secured to the inner end of a rock shaft Q having its bearings in clips P, P, which are secured to the under side of the base plate A. A tread lever R is secured to the outer ends of the rock shaft Q in such position that it may be reached by the foot of an operator. The pawl or dog S is in engagement with the ratchet wheel until it is desired to release the push back mechanism, and is held in such engagement by a flat retaining spring T, fixed to the bottom of the base plate A, and resting against a shoulder on the base of the dog.

As will be seen when the front wheels of the loaded car strike the top of the two upright levers, H, H, which are turned back from the horns of the horn rails, the levers H are pushed forward, thus revolving the shaft G until the car wheels come in contact with the horns. As the shaft G revolves, the springs L, L are expanded, and the ratchet wheel locked by the dog when they have reached their limit of expansion.

When the car has been dumped by the tilting of the tip, and the latter has resumed its normal position, the operator presses down

the lever R, thus releasing the ratchet wheel and arrested rock shaft, and allowing the springs L, L to contract. This contraction rocks the shaft G, and forces the levers H, H back with such force as to push and propel the empty car back beyond the tip and into the empty track.

Should the loaded car happen to stop before the levers H, H have been pushed far enough forward, the car can be tilted and as it goes forward its weight will push the levers forward to their limit, and sufficiently expand the springs L, L.

If desired the levers H, H can be so arranged that they will be struck by the car axle or body instead of by the wheels, while the other details of the mechanism can be varied in structure and arrangement so as to accomplish the same result without departing from the essence of my invention.

It is to be noted that the springs L, L, not only serve to push the empty car back, but also act as buffers to take up the jar caused by the wheels striking the horn rails, and their use accordingly adds materially to the life of the tip and the structure on which it is mounted.

It is obvious that the car push back mechanism may be used on unloading trestles, piers or other structures without the tilting track section, and is useful and advantageous whenever it is desired to shift cars after unloading in any manner to the return track.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a car dumping apparatus, the combination with the tilting track section, of automatic car pushing or propelling mechanism located thereon, and comprising a rotary shaft

having upright arms arranged and adapted to be moved forwardly by a loaded car, springs connected to said shaft and expansible by the turning of the same, and a ratchet detent and releasing device, by which said shaft is held in position when the springs are expanded and released to allow the springs to contract and effect a propulsion of the car.

2. In a car dumping apparatus, the combination with the tilting track section and the horn rails mounted thereon, of an automatic spring controlled car pushing or propelling mechanism, comprising upright arms or pushing levers H, H, a transverse shaft G upon the ends of which said levers are mounted, a ratchet wheel O keyed on said shaft, retractile springs L, L connected at one end to lugs on said shaft and at the other end to the base plate of the tilting track section, a pawl or dog S engaging with said ratchet wheel, a transverse shaft connected to said dog, and a tread lever mounted on said rails, all being arranged and adapted to operate substantially as described.

3. In a car dumping apparatus having mounted thereon an automatic spring controlled car pushing mechanism, the combination with the horn rails having their outer flanges cut away, of the upright pushing levers H, H and the rotary spring actuated shaft C said levers being adapted to lie close to the horn rails and within the recessed portions thereof when pushed forward, substantially as described.

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

JOHN M. PHILLIPS.

Witnesses:

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JOHN P. CHESROWN.