

(No Model.)

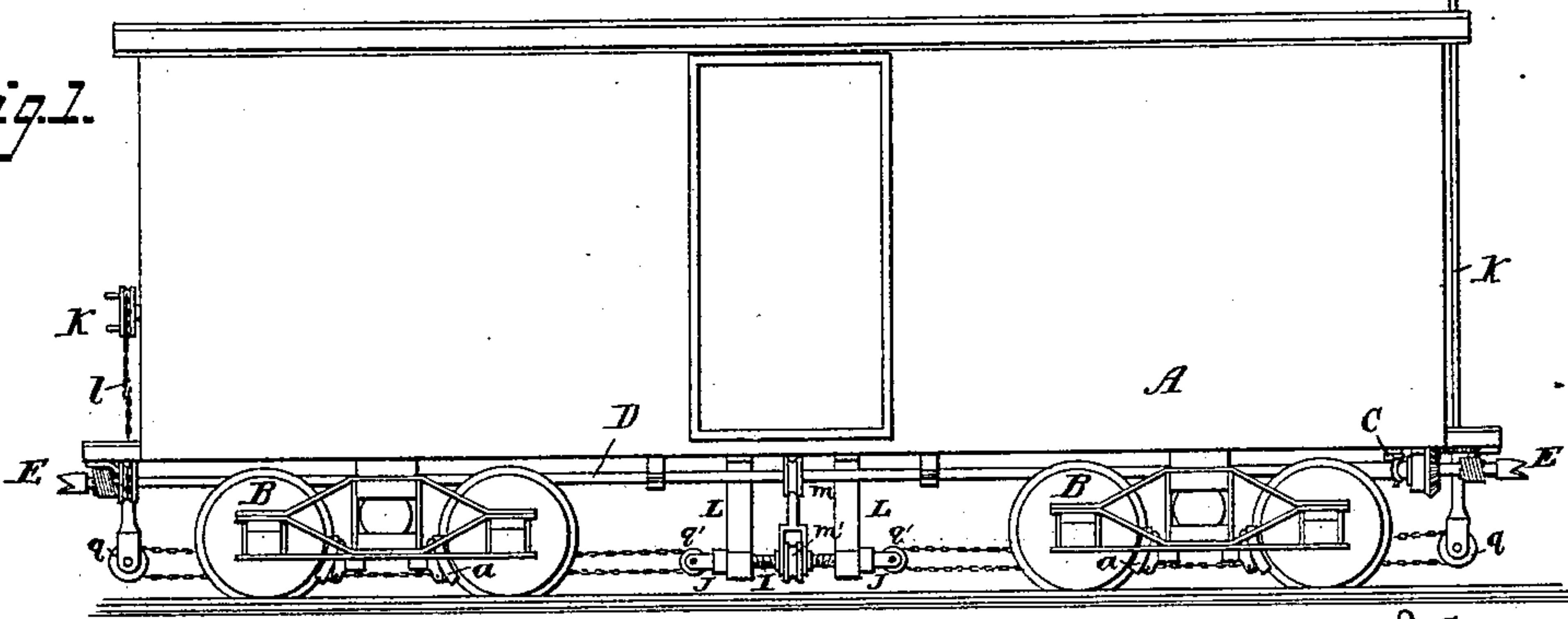
J. D. MILLER.

CAR BRAKE.

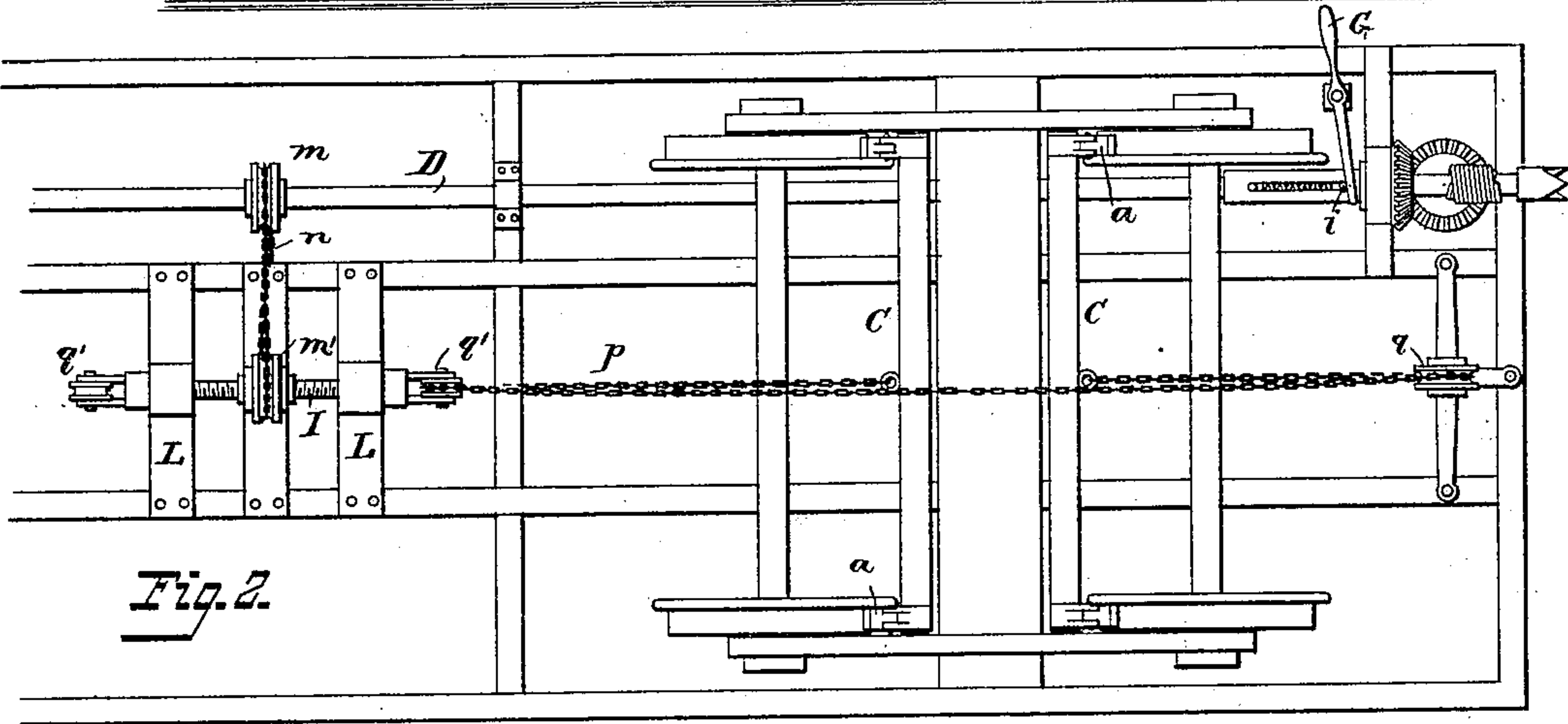
No. 282,748.

Patented Aug. 7, 1883.

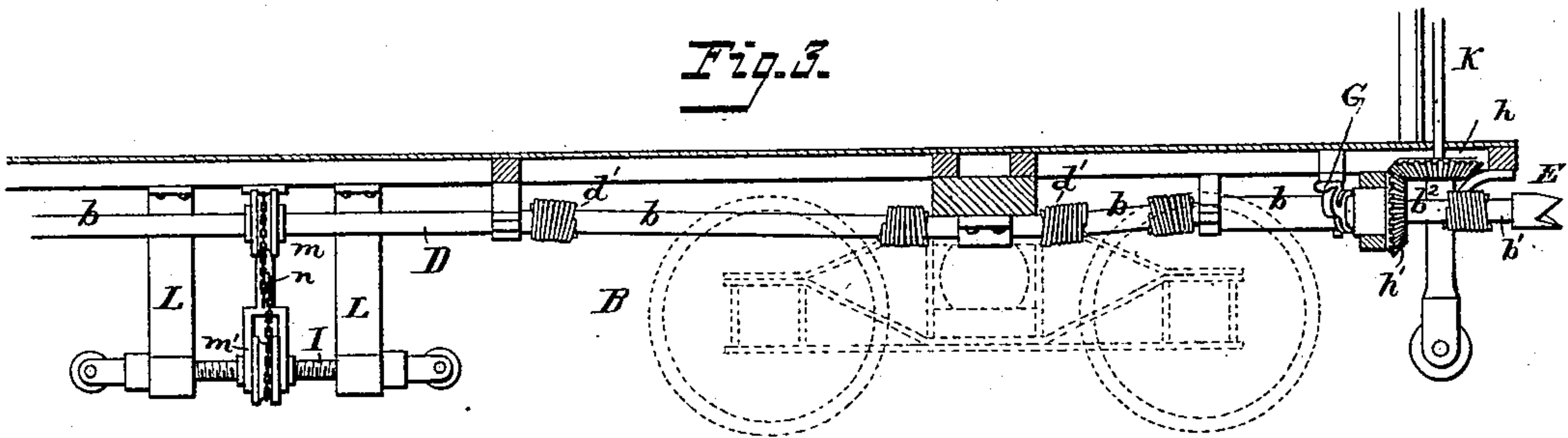
*Fig. 1.*



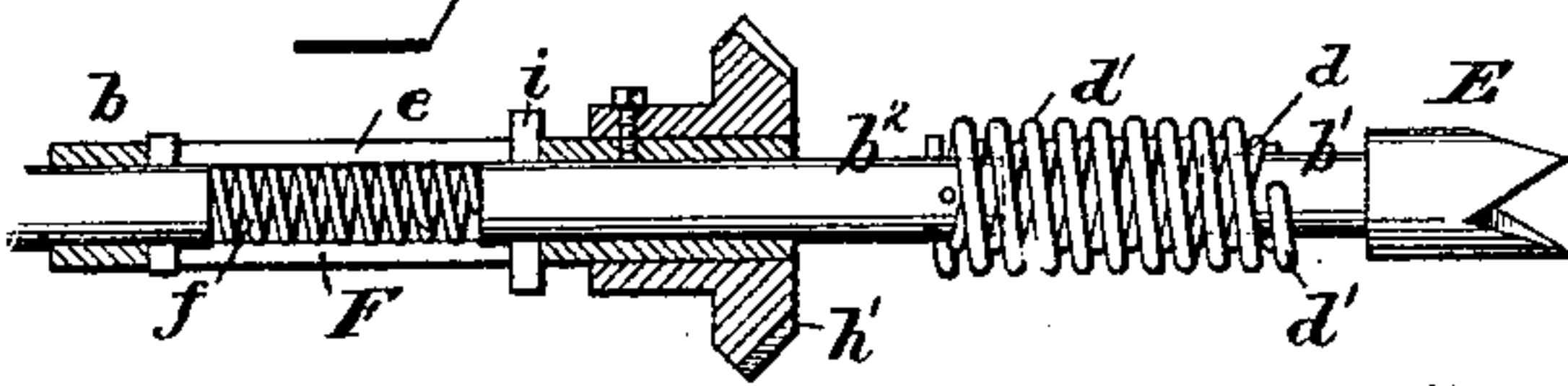
*Fig. 2.*



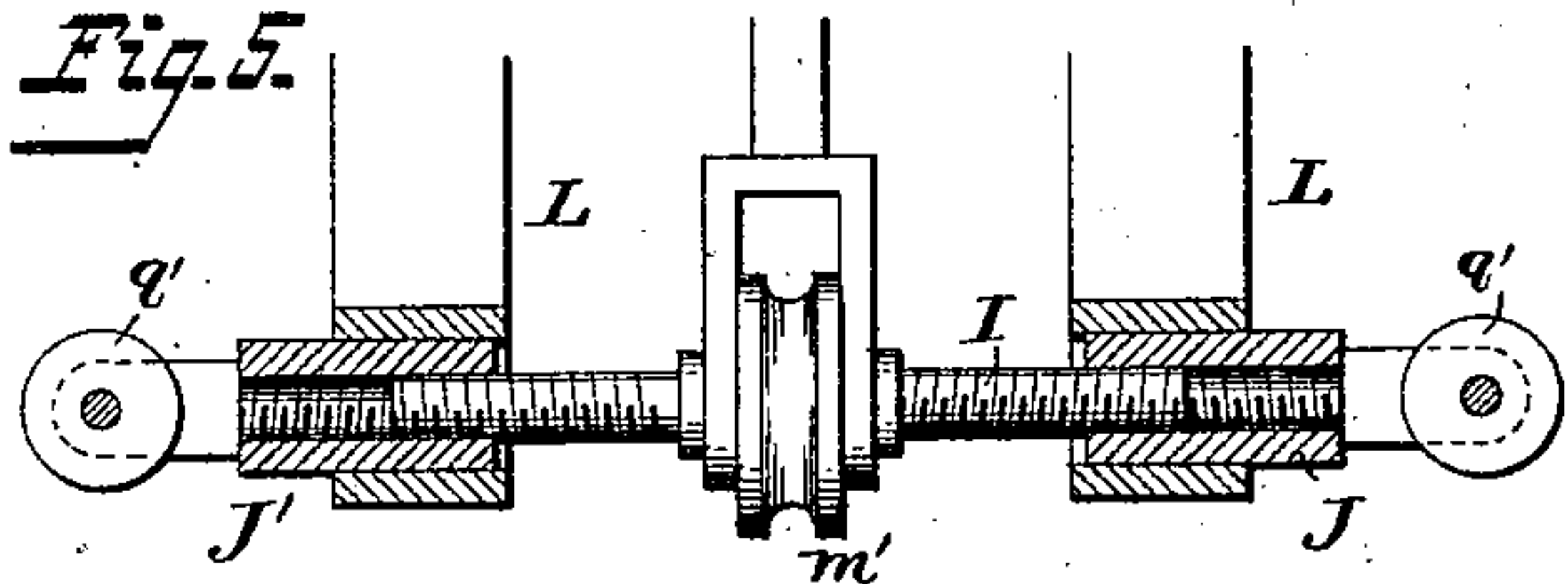
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



Attest:

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# UNITED STATES PATENT OFFICE.

JACOB D. MILLER, OF YORK, ASSIGNOR TO HIMSELF, AND JACOB BROAD-  
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## CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 282,748, dated August 7, 1883.

Application filed November 25, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, JACOB D. MILLER, of York, York county, Pennsylvania, have invented certain Improvements in Car-Brakes, of which the following is a specification.

My invention is a car-brake constructed, as fully described hereinafter, so that the brakes on each car can be applied separately by hand, and all the brakes in the train can be simultaneously applied from any single source of motion.

In the drawings, Figure 1 is a side elevation of a freight-car with my improved brake. Fig. 2 is an inverted plan of part of the car enlarged. Fig. 3 is a longitudinal section of Fig. 2. Fig. 4 is a detached section of the end of the shaft and coupling. Fig. 5 is a detached section of the counter-shaft and adjuncts.

The brake appliances, which I shall now describe, are those which are upon a single car, adapted to be operated by hand, but also adapted to couple automatically with those of adjacent cars, so that power applied to turn the shaft of one car will rotate the entire line of shafts.

A is the body or platform of a car. B B are the trucks, provided with the usual suspended brake-beams, C C, carrying the shoes *a*. Beneath the car extends a longitudinal shaft, D, composed of sections *b*, connected by universal couplings. The coupling device preferred consists of a coiled spring, *d*, inclosing the adjacent ends of the two sections to be united, and an external coiled spring, *d'*, also connected to said sections, but wound in a different direction, so that when one of the sections is turned one of the springs will be wound tightly, while the other is loosened. By this means motion is transmitted from one section to the other with but little loss of motion, while the sections may be set at an angle to each other to make the shaft conform to the structure of the car.

To each end of the shaft D is coupled, by the coupling described or any other, a short section, *b'*, carrying a head, E, notched to fit the like head upon the end of the shaft carried by the adjacent car, so that when the two

are brought together the shafts will be temporarily coupled.

To maintain the heads E in contact under the varying movements of the cars, a section, *b''*, of the shaft D is provided with a sleeve, F, having a slot, *e*, to receive a pin, *i*, projecting from said section *b''*, the sleeve F being secured to the end of the adjacent section of the shaft, and a coiled spring, *f*, thrusting the section *b''* outward. A forked lever, G, bearing upon the pin *i*, serves to throw back the section *b''* when the head E is to be drawn inward. The lever G may be operated from the side of the car or from any other position.

The shaft D is connected in any suitable manner so as when rotated to apply or release the brakes, and is operated from a vertical shaft, K, through the medium of gears *h h'*, or from a hand-wheel, K', through the medium of a chain, *l*, or in any other suitable manner.

One means of applying the brake by the rotation of the shaft is illustrated in the drawings, and consists in driving from the shaft, by means of pulleys *m m'* and a chain, *n*, a counter-shaft, I, having reversed threads upon its ends fitting nuts J J', sliding in brackets L, suspended from the car. A rope or chain, *p*, connected at the ends to the beams C C, passes around a stationary pulley, *q*, and around a pulley, *q'*, carried by one of the nuts J, so that when the latter is drawn inward by turning the shaft I each beam will be forced toward the wheels, so as to apply the brakes.

It will be apparent that the chain *p* and pulleys, arranged as described, may be applied where other draft devices are used.

I claim—

1. The combination of the shaft D, heads E, connected to sliding and revolving sections of the shaft, and springs *f*, whereby both the head-sections are thrown outward, substantially as set forth.

2. The combination of the shaft D, heads E, springs *f*, and devices for retracting said heads, as specified.

3. The combination of the shaft D, screw counter-shaft I, driven from the shaft D, and

sliding nuts fitted to the shaft I, and connected to the brake-chains, substantially as set forth.

4. The combination, with the two brake-
- 5 beams of a car-truck, of a chain, *p*, connected at each end to one of said beams, stationary pulley *q*, and pulley *q'*, connected to the brake device, substantially as set forth.

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

J. D. MILLER.

Witnesses:

CHARLES E. FOSTER,  
WILLIAM PAXTON.