

No. 694,058.

Patented Feb. 25, 1902.

D. J. GRIFFITHS, H. W. HITZROT & C. W. MOWER.

RAILWAY SWITCH.

(Application filed Sept. 10, 1901.)

(No Model.)

2 Sheets—Sheet 1.

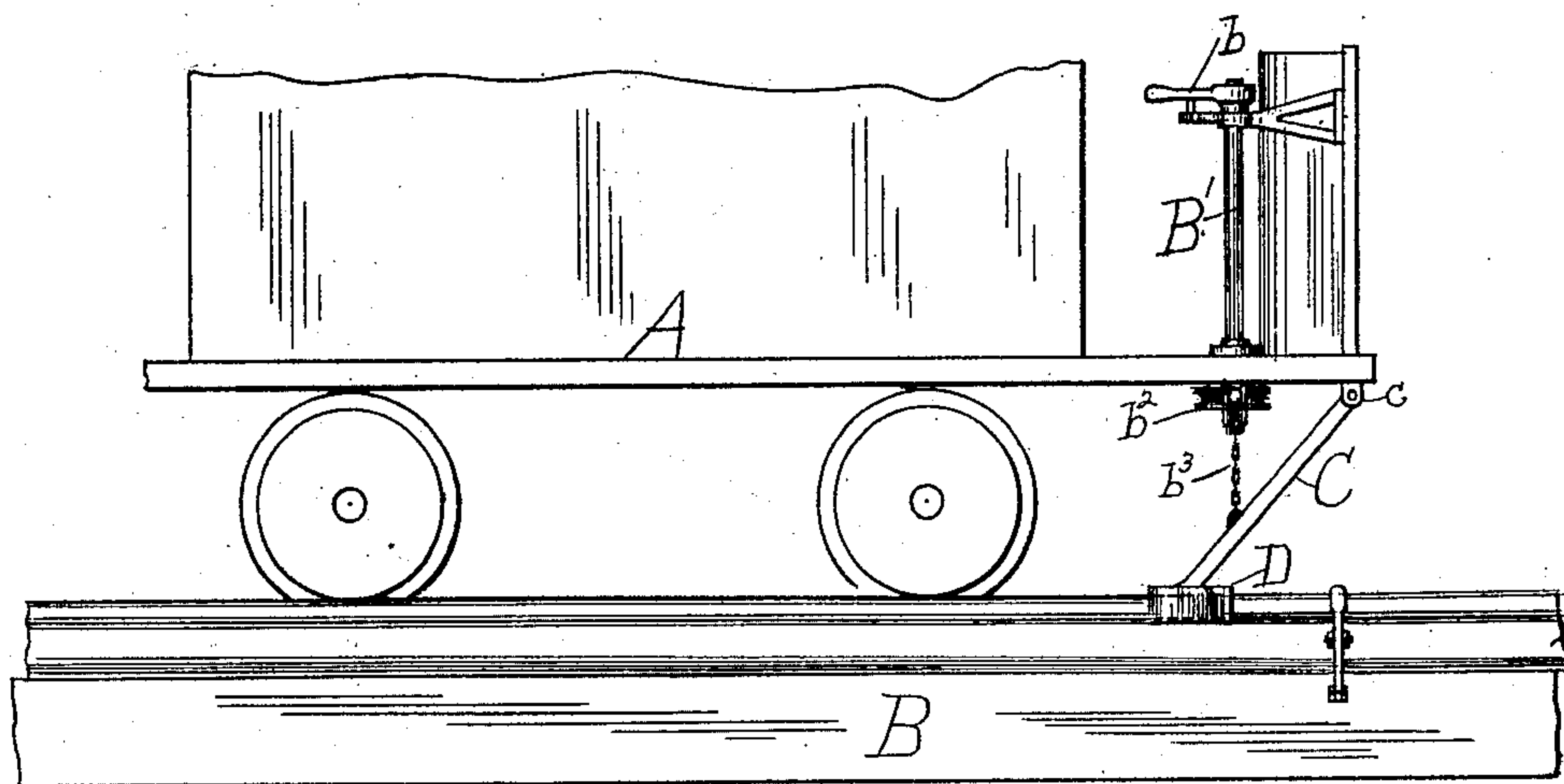


Fig. 1.

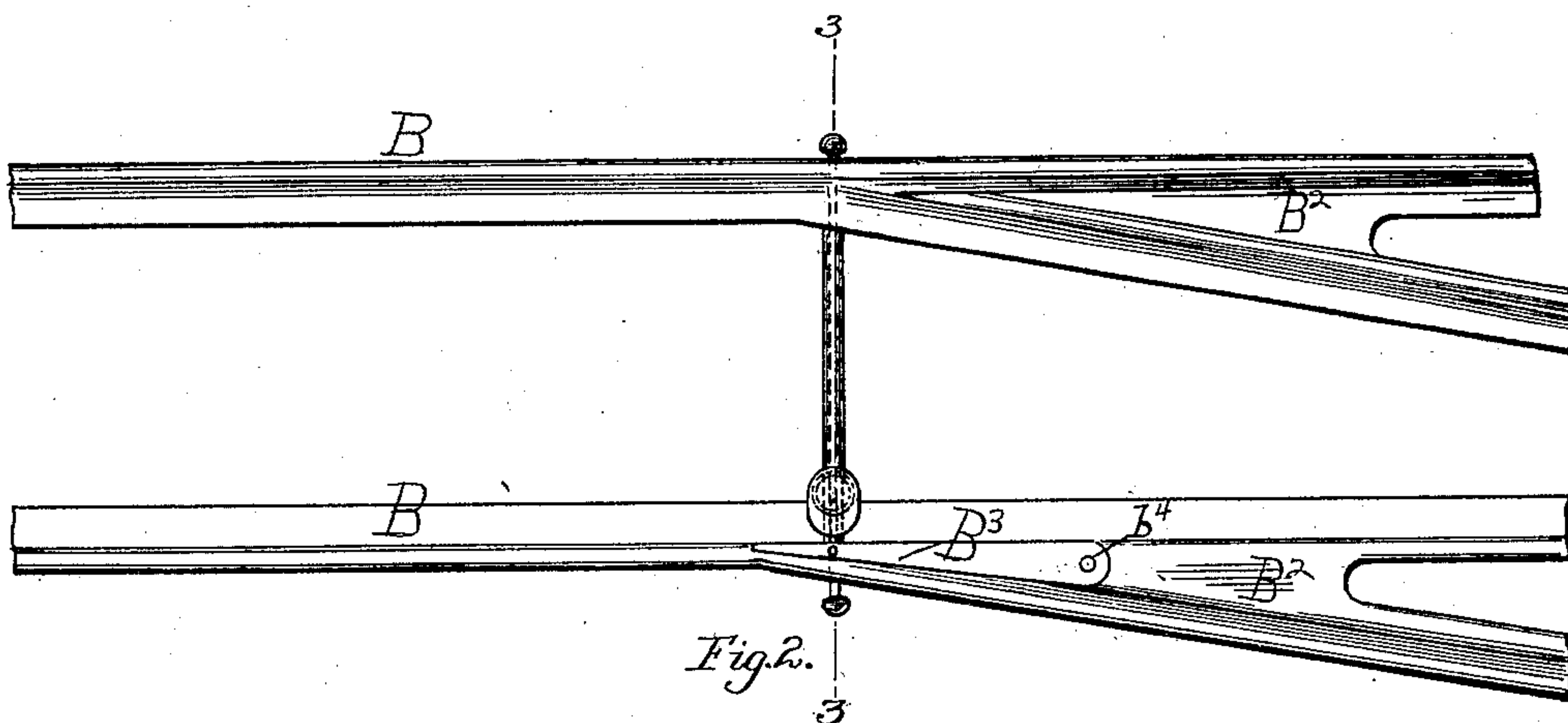


Fig. 2.

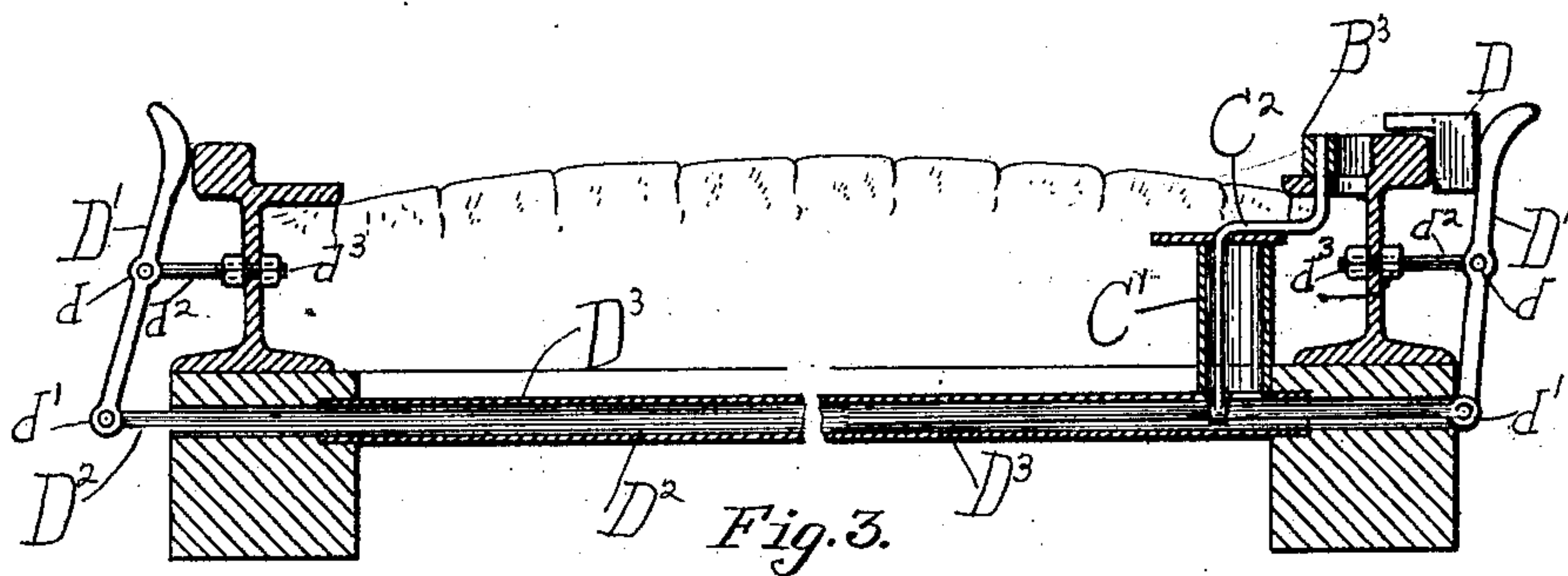


Fig. 3.

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2 Sheets—Sheet 2.

Fig. 4.

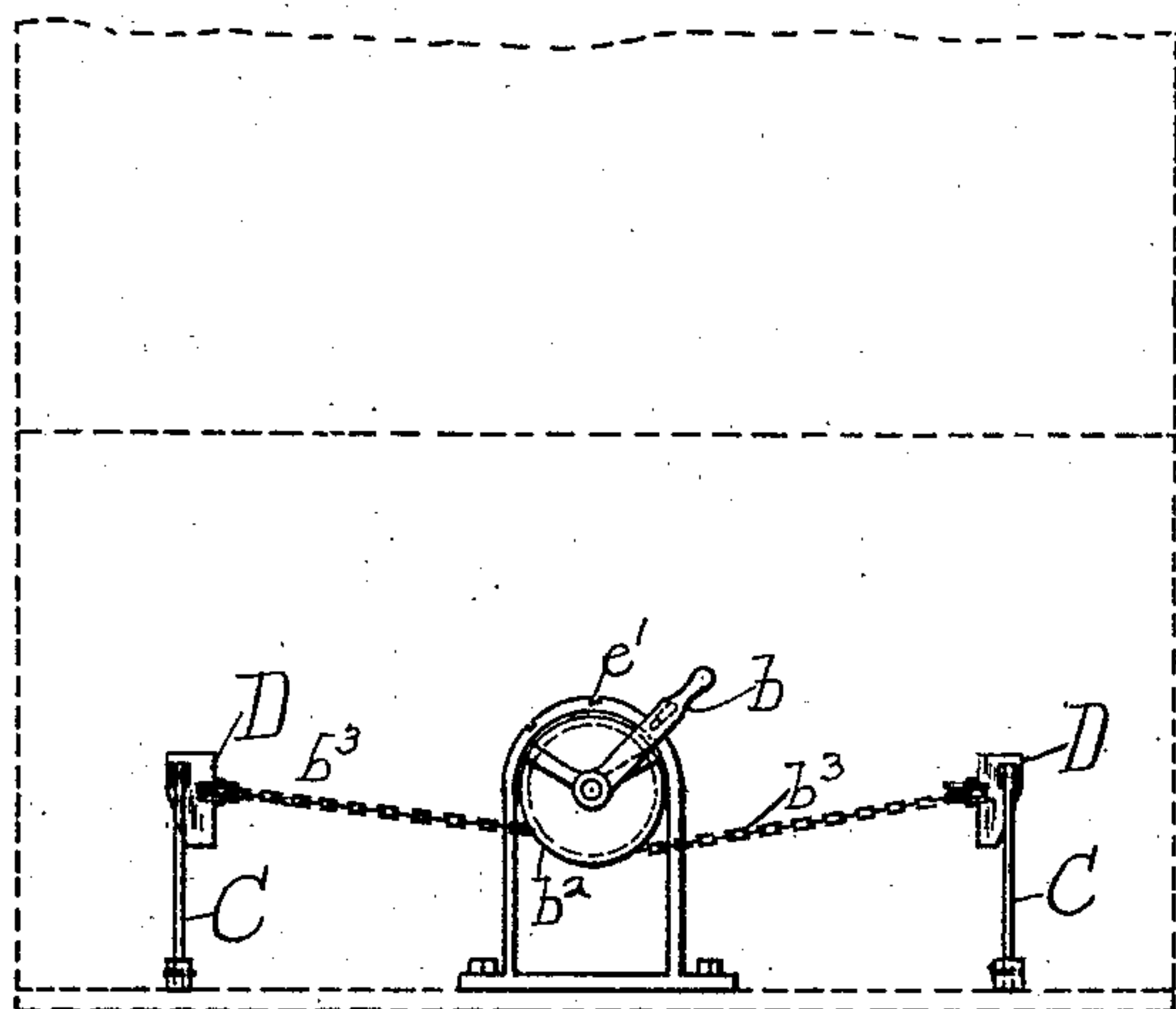
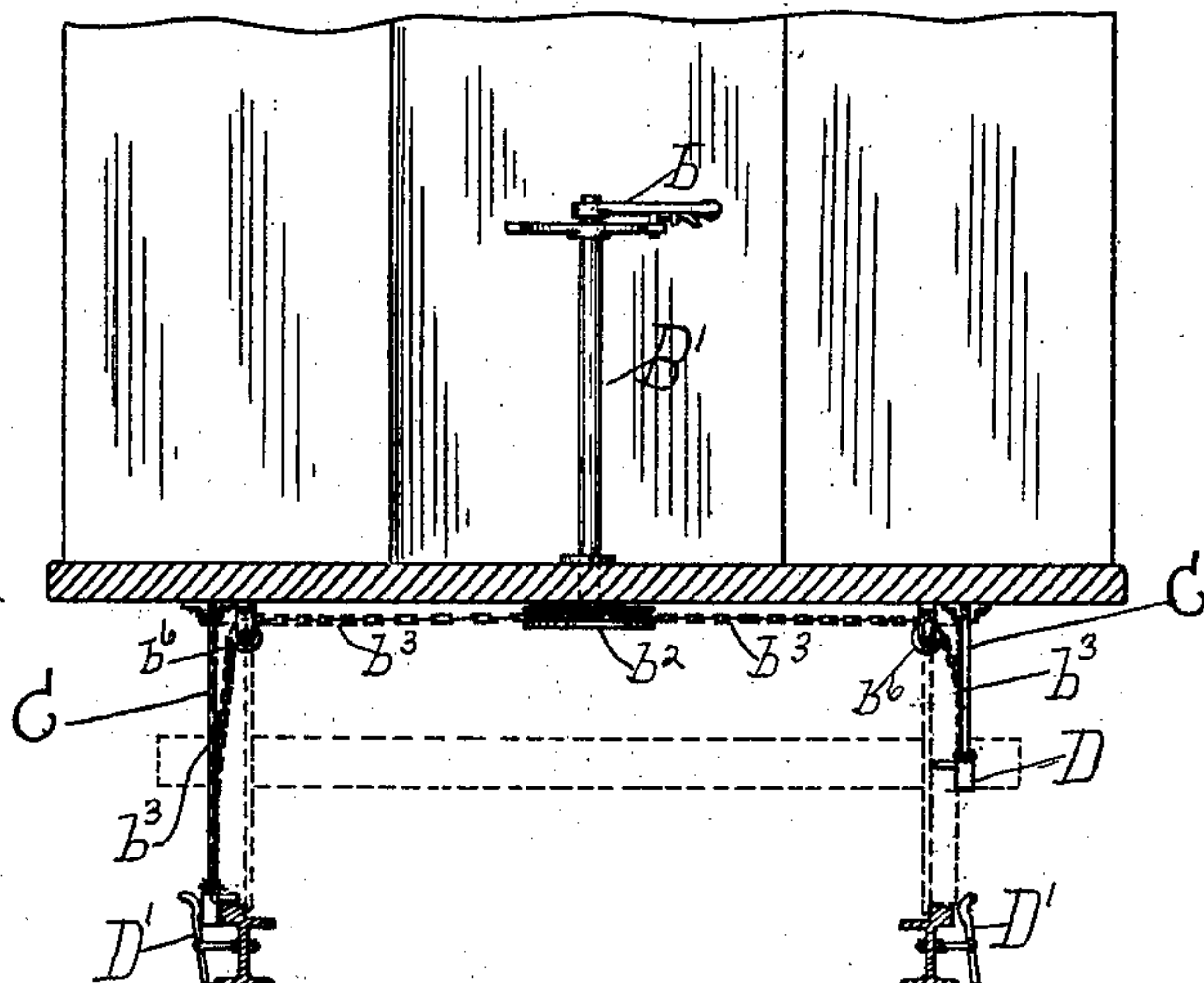


Fig. 5.

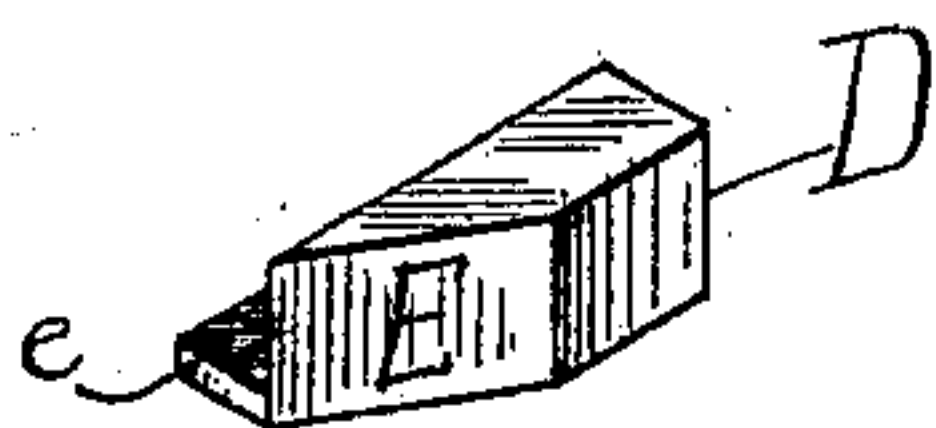


Fig. 6.

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UNITED STATES PATENT OFFICE.

DAVID J. GRIFFITHS, HENRY W. HITZROT, AND CHARLES W. MOWER, OF
McKEESPORT, PENNSYLVANIA.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 694,058, dated February 25, 1902.

Application filed September 10, 1901. Serial No. 74,982. (No model.)

To all whom it may concern:

Be it known that we, DAVID J. GRIFFITHS, HENRY W. HITZROT, and CHARLES W. MOWER, citizens of the United States of America, residing at McKeesport, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Railway-Switches; and we do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

The object of our invention is an improvement on that class of devices used on street-car railways whereby the motorman or driver by moving a lever can throw the switch, without stopping the car. This can be done easily by use of our invention, which will be fully explained in the following specification, in which the accompanying drawings are a part thereof.

Figure 1 shows a side elevation of a street-car with our device attached. Fig. 2 is a plan view of a street-railway switch. Fig. 3 is a cross-sectional view of Fig. 2, taken on the line 3-3. Fig. 4 is a front view of the car, partly in section, showing our device. Fig. 5 is a top view of our invention as shown in Fig. 4. Fig. 6 is a perspective view of the shoe used in our device.

In the drawings, A represents the body of a street-car.

B represents the street-car rails.

B' is a vertical shaft, having at the upper end and suitably attached the handle *b* and at the lower end the pulley-wheel *b*² beneath the car-bed.

*b*³ is the chain used to raise and lower the shoes D to the track when necessary. This chain passes around the pulley-wheel *b*² and then through the pulley-wheels *b*⁶. The ends of this chain are secured to the hangers C, these latter being pivotally secured to the car-body at *c*. The shoes D are rigidly fixed to these hangers C, and thus by means of the chain *b*³ they may be raised and lowered by the movement of the handle *b* on shaft B'.

B² represents the switch.

B³ is the swinging point of the switch, pivoted at *b*⁴. The main object of our invention is to throw this point of the switch, so as to

change the direction of the car. To do this we employ our newly-invented device, which we will now further explain. In this, D' is a lever placed vertically along each side of the track near the switch. It is pivotally connected at *d* to a fulcrum *d*², and the latter is secured to the rail by nuts *d*³. This lever is also pivotally connected to a rod D² at *d*'. This rod is laid in a pipe D³ and extends from side to side, as shown in Fig. 3, or, in other words, extends from the lever D' on one side to D' on the other, where it is secured in like manner.

C' is a vertical pipe made larger than the pipe D³, so as to allow a side movement of the rod C², which is rigidly fixed to the switch-point B³ a short distance from the pointed end. This pipe C' will have a slotted cap for this movement.

This entire switching device under the track should as far as possible be tightly boxed in, so as to avoid the clogging up by dirt, &c.

The shoe D will have an inclined face E, so as to create a wedge-shaped means of entering between the lever D' and the rail. To prevent this shoe from going too far downward, we provide for it a sliding portion *e*. This will rest on the surface or top of the rail and move along on the same. The lever *b* will have the usual means of locking the same as in notches *e*'.

In operation in coming to a switch the operator simply turns the lever so as to throw the proper shoe down on the track, where it enters between the lever D' and the rail, thus opening and throwing outwardly said lever and by the fulcrum *d*² throwing the lower part of the lever laterally, thus moving the switch-point, as has been mentioned.

The shoes D will be of a weight sufficient to drop firmly on the rail and remain in position.

Having thus described and shown our invention, what we claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination of track-rails and a pivoted switch-point, fulcrums projecting outwardly from the track-rails, levers pivoted intermediate their ends to the fulcrums with their upper ends adjacent to the tread-sur-

face of the rails, a rod D^2 connected pivotally to the lower ends of the respective levers, a vertically-extending rod C^2 connected to the rod D^2 and the switch-point, and devices 5 carried by a car on said rails to engage the upper ends of the levers and rock the levers to shift the switch-point, substantially as set forth.

2. The combination of track-rails and a 10 pivoted switch-point, fulcrums projecting outwardly from the track-rails, levers pivoted intermediate their ends to the fulcrums with their upper ends adjacent to the tread-surface of the rails, a rod D^2 connected pivotally to the lower ends of the respective levers, a vertically-extending rod C^2 connected to the rod D^2 and the switch-point, shoes D hinged 15 to a car movable on the track-rails, means

on the car to raise and lower the said shoes from and to the rails, said shoes each having 20 a plate portion e to rest and slide upon the tread-surface of a rail and a wedge-shaped portion E to slide between the outer face of the rail and upper end of said levers, substantially as set forth.

In testimony whereof we have hereunto affixed our signatures in the presence of the 25 subscribing witnesses.

DAVID J. GRIFFITHS.
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Witnesses:

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