

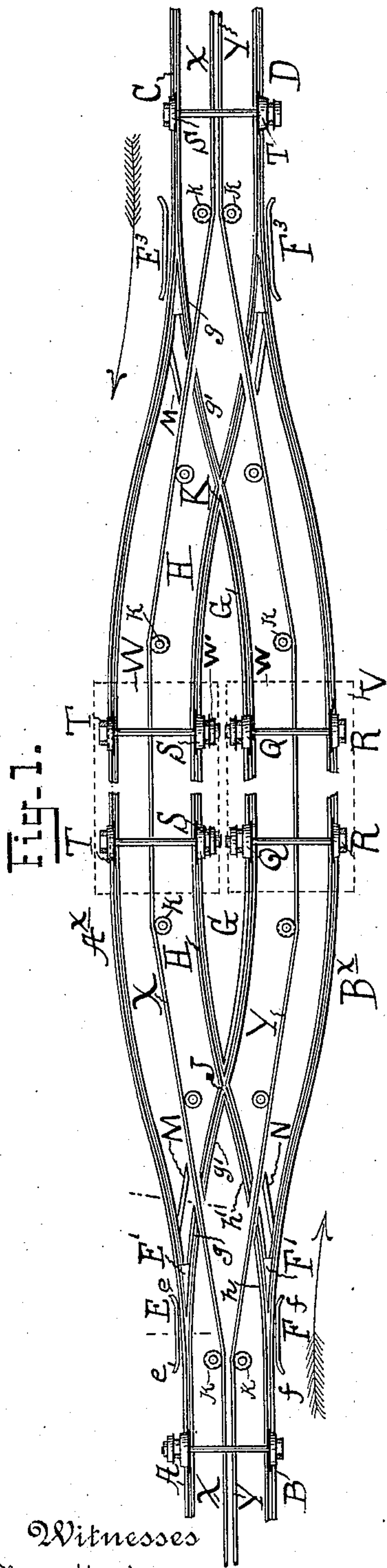
(No Model.)

2 Sheets—Sheet 1.

C. F. PARKER.  
RAILWAY TURNOUT.

No. 577,268.

Patented Feb. 16, 1897.



Witnesses  
Chas. Hanemann,  
Henry V. Brown.



Fig. 2.

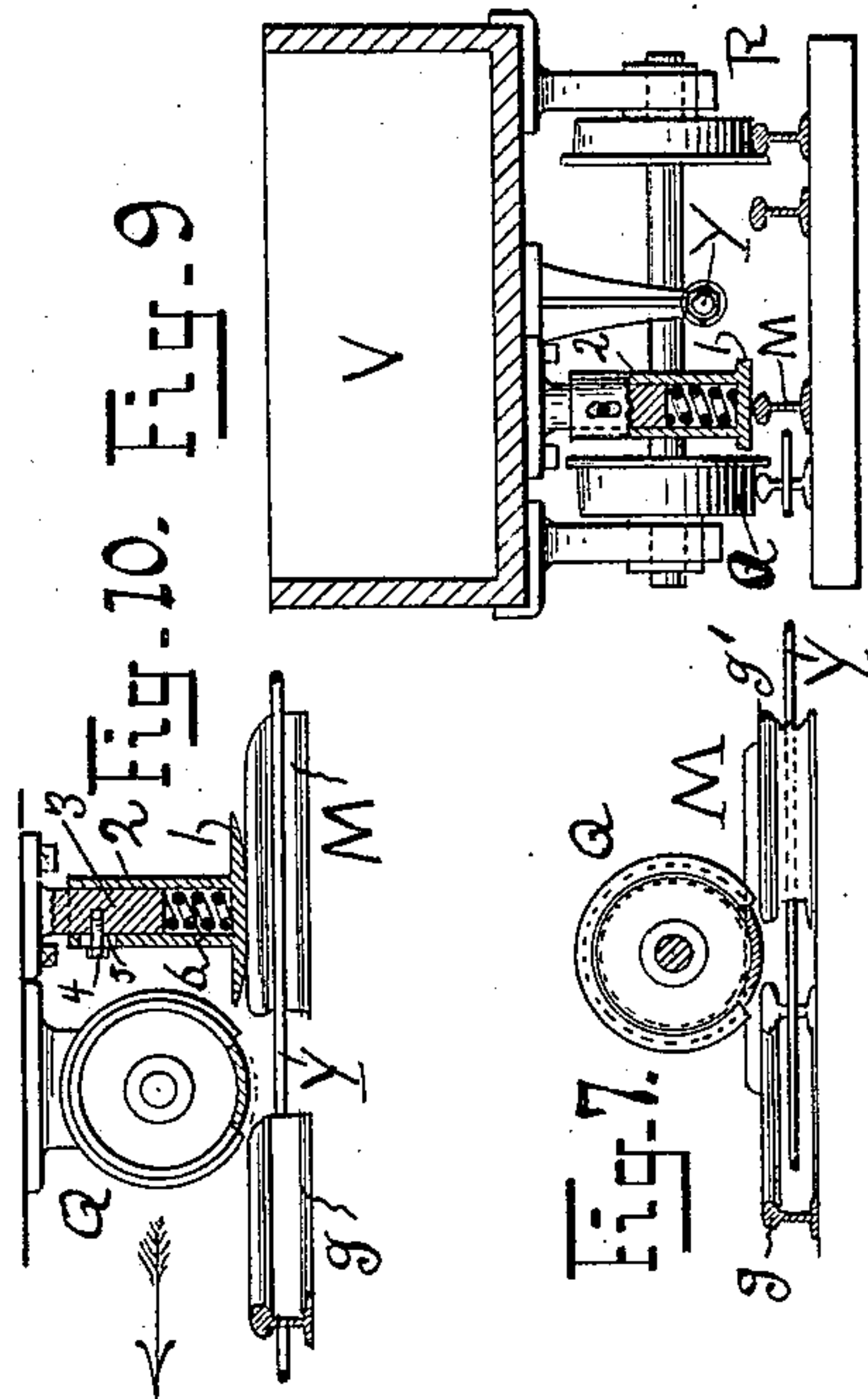


Fig. 3.

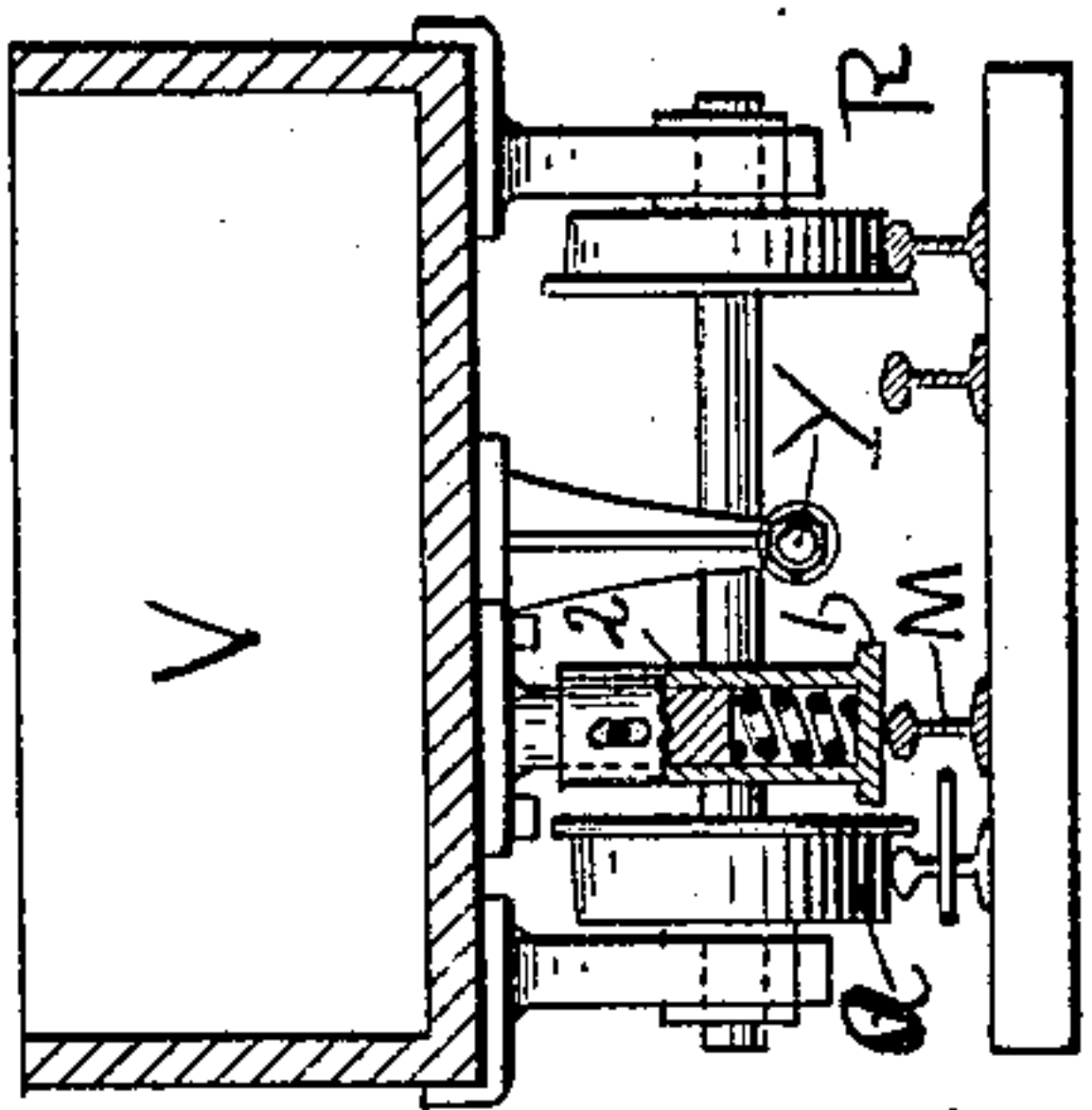


Fig. 4.

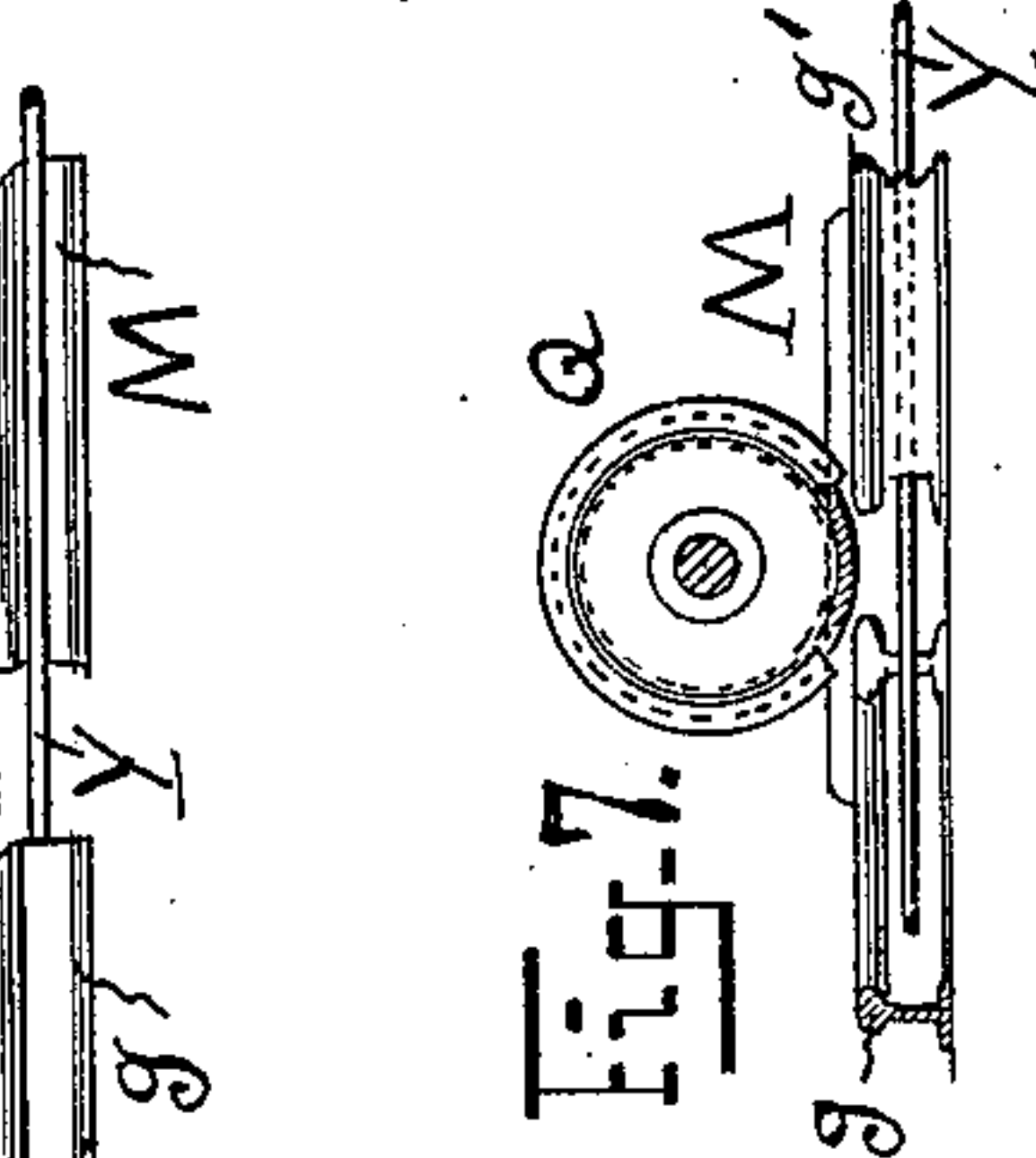
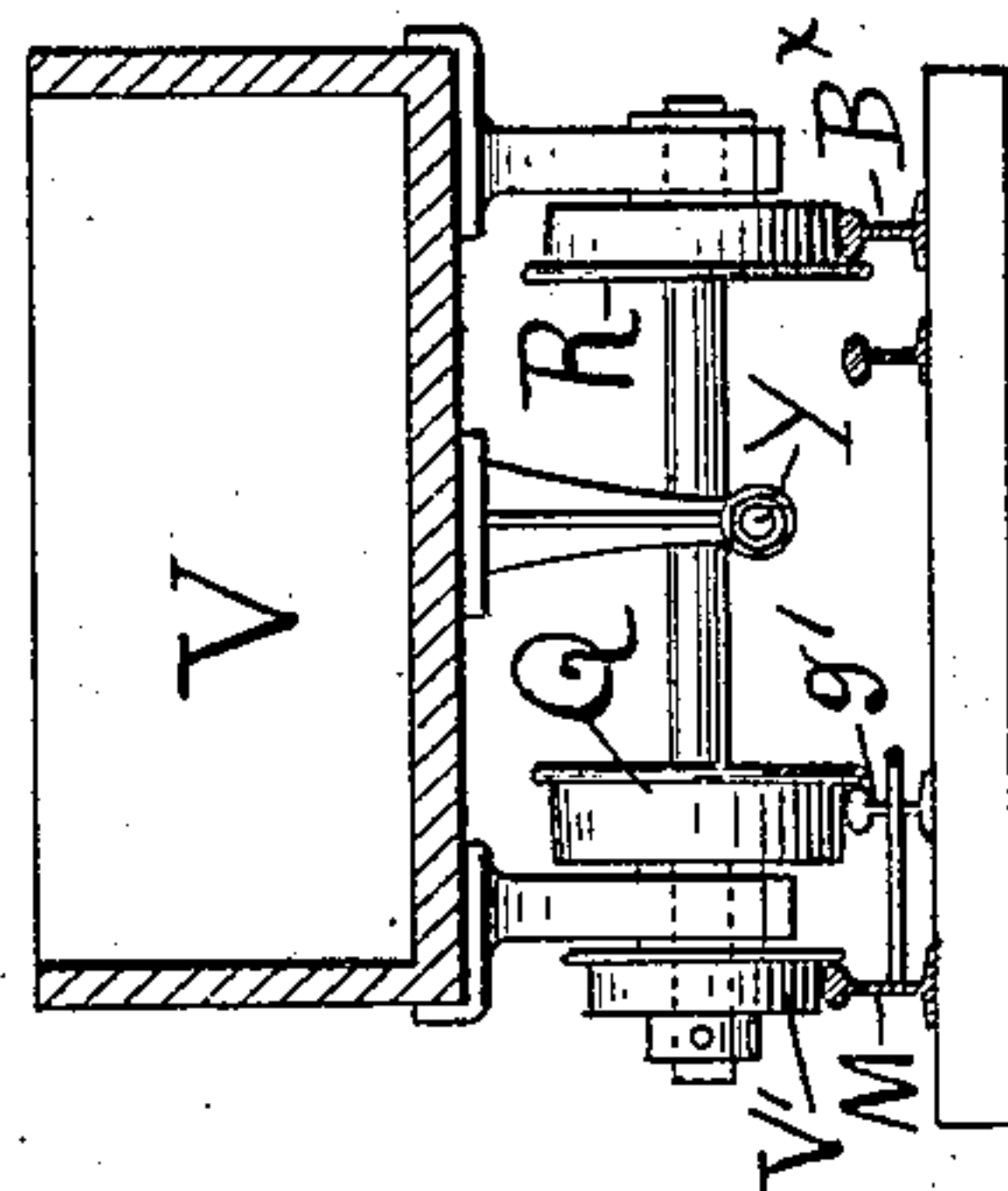


Fig. 5.



Charles F. Parker, Inventor  
By his Attorney  
Walter Brown

(No Model.)

2 Sheets—Sheet 2.

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Fig. 3.

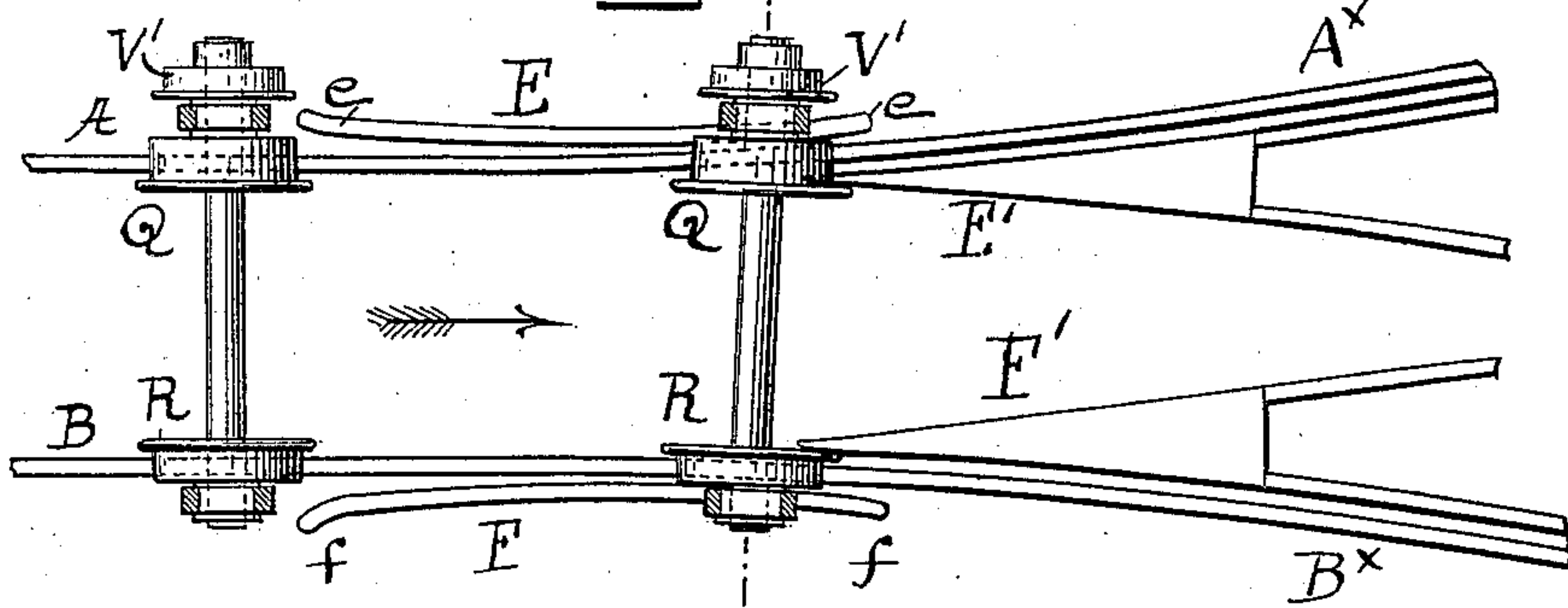


Fig. 11.

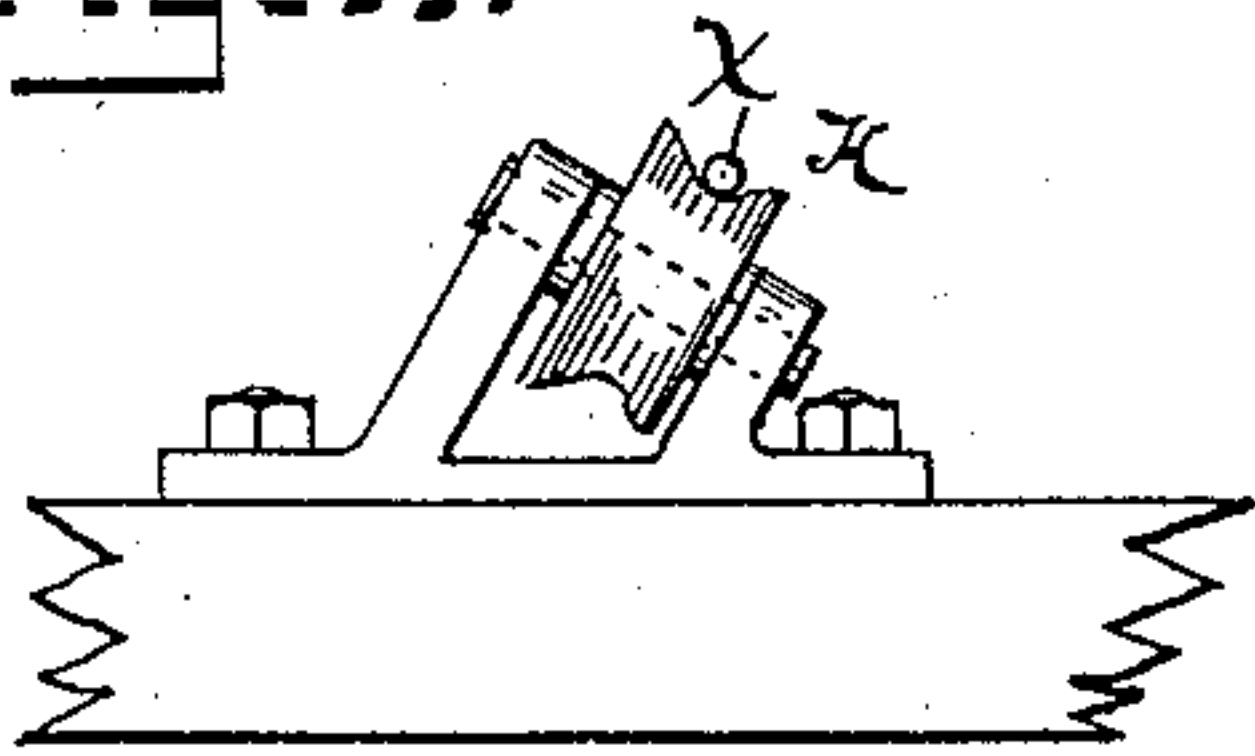


Fig. 4.

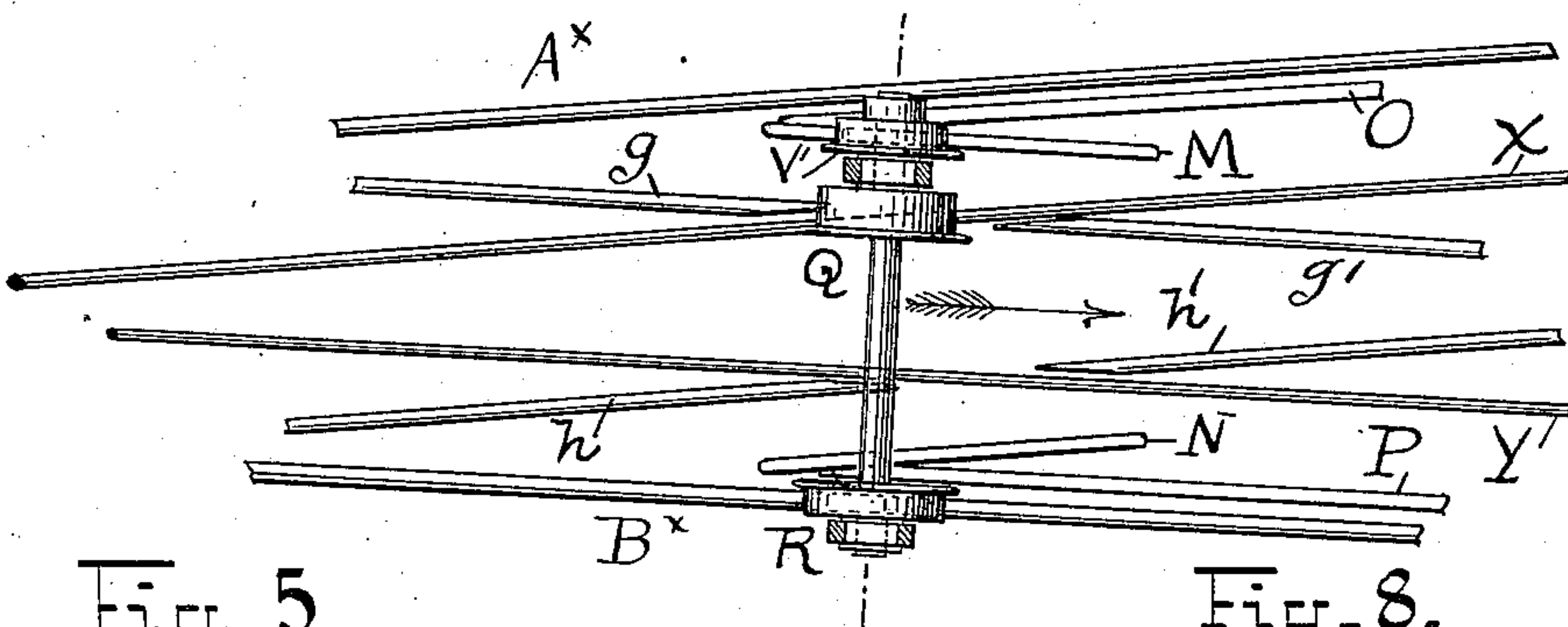


Fig. 5.

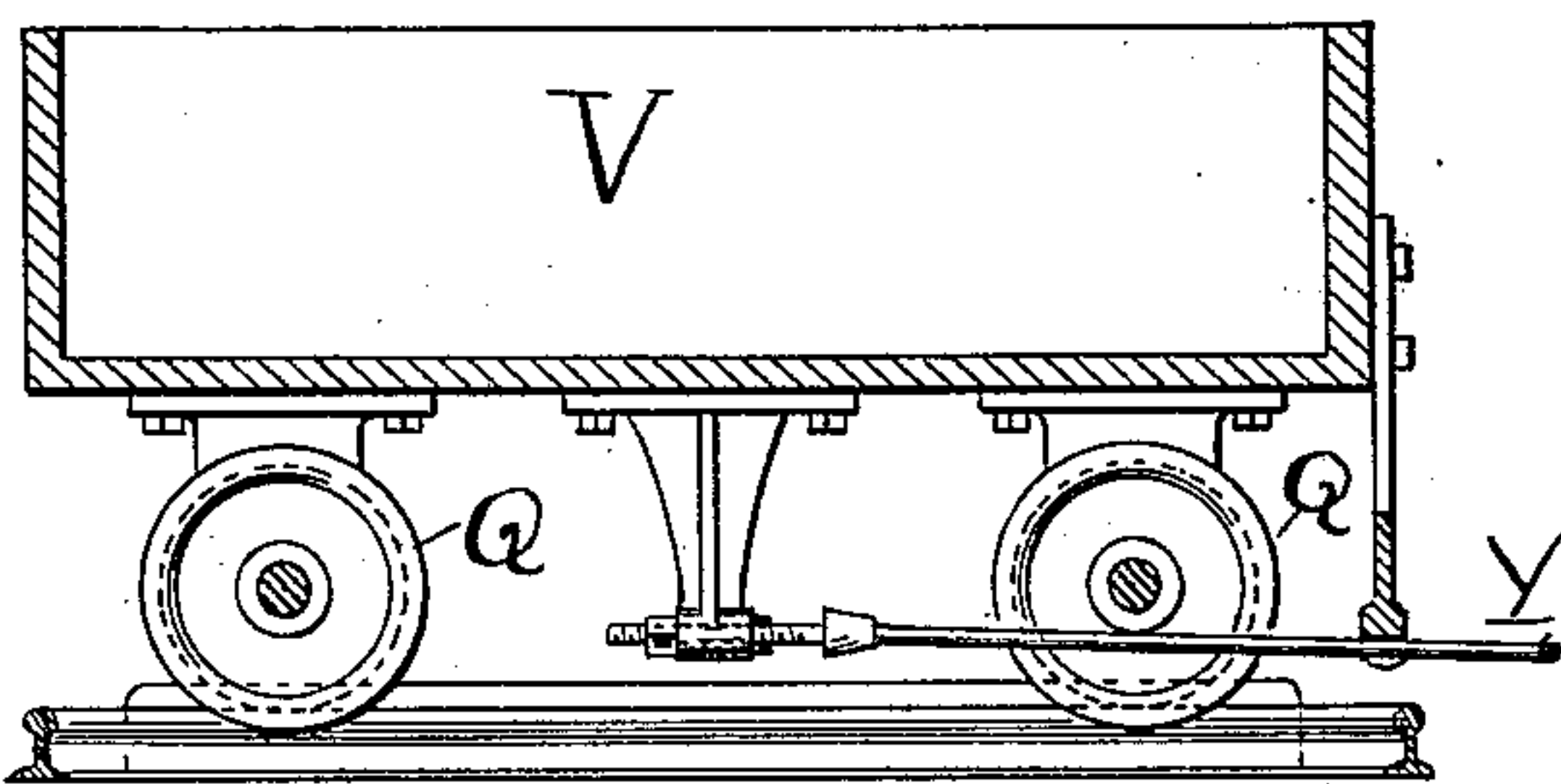
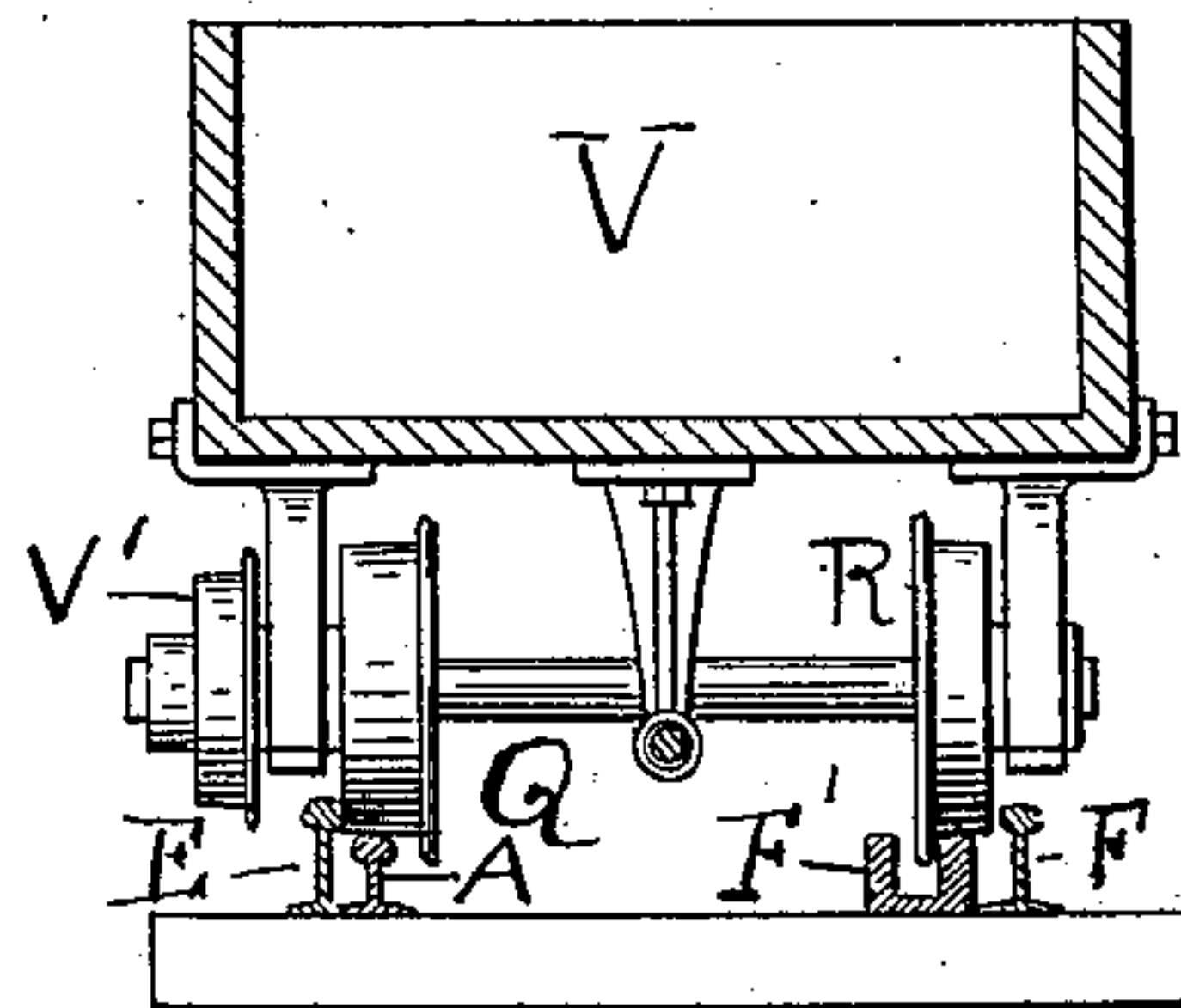


Fig. 8.



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By his Attorney  
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Walter Brown



# UNITED STATES PATENT OFFICE.

CHARLES F. PARKER, OF NEW YORK, N. Y.

## RAILWAY-TURNOUT.

SPECIFICATION forming part of Letters Patent No. 577,268, dated February 16, 1897.

Application filed April 13, 1896. Serial No. 587,424. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES F. PARKER, a citizen of the United States, and a resident of the city of New York, county of New York, and State of New York, have invented certain new and useful Improvements in Railway-Turnouts, of which the following is a specification.

This invention relates to improvements in railway-turnouts; and its object is to provide a turnout with a fixed rail-switch, in combination with proper guiding and supporting devices on the car, so that cars can be safely operated simultaneously in opposite directions on a single-track road. A turnout of this kind is of great importance in certain classes of railway service, especially in connection with cable-roads, for it greatly reduces the first cost of construction, in that it enables the excavations, fills, and other works in connection with the construction of the permanent way to be reduced to a minimum.

In operating a turnout on a cable-railway it is indispensable that the construction shall be such as to enable a car going in one direction to cross the cable of the car going in the opposite direction without interfering with the cable of that other car, and for cheap operation this crossing must also be effected by a fixed motionless switch as opposed to the common movable switch.

My invention accomplishes these ends by a cheap and very effective construction embodying novel features both in the track and the car construction, particularly in the track system, and the combination therewith of devices on the car in addition to the ordinary wheels to support the one car while crossing over the length of the cable which is attached to the other car.

Referring to the drawings which accompany the specification to aid the description, Figure 1 is a broken plan view of a turnout equipped with my invention. Fig. 2 is a broken longitudinal elevation of the same. Fig. 3 is a broken plan view, on a large scale, of the fixed-switch construction. Fig. 4 is a broken plan view, also on large scale, of a simple track construction arranged to carry the car over the cable, but without frogs. The construction shown in this figure is essentially

the same as that shown in Fig. 1. Fig. 5 is a side view of a car to show how the cable may be connected to the car. Fig. 6 is a sectional view of the track and car, indicating how the car is supported over the cable. Fig. 7 is a detail showing a car-wheel on the riding-rail above the cable. Fig. 8 is a cross-section showing a car when being switched. Fig. 9 is a cross-sectional and Fig. 10 a partial side view of a car equipped with a shoe for riding on the riding-rail. Fig. 11 is a detail of one of the pulleys for guiding the cable around the sides of the turnout.

Referring to Figs. 1 to 7, and it being understood that the rails hereinafter mentioned are laid on ties and the road-bed generally constructed in the usual manner, A B are the main rails at end of the turnouts, C D their respective continuations beyond the turnout, and X and Y the branches of the same endless cable, operated in the usual manner. Said rail A is carried around one side of the turnout, as at A<sup>x</sup>, and said rail B around the other side of the turnout, as at B<sup>x</sup>. E F are wing-rails of the usual type, but each a little higher than and outside of its adjacent rail A or B, Fig. 8. Said wing-rails E F are each flared out at the ends, as at *ef*, respectively, in the usual manner, and their purpose is to switch the cars in the direction each is to go, as will be hereinafter explained.

E' F' are frogs of any suitable construction at the junction of the aforesaid rails A B with respectively the inner rails G H of the turnout, J K being the usual frogs at the two junctions or crossings of said rails G H. The branches of the aforesaid cable are guided around their proper sides of the turnout by the inclined idlers *k k*, which turn in boxes arranged as indicated in Fig. 11. Near each end said rails G H each cross, or would cross if continued, one or the other branch X Y of the cable. At the points of crossing the construction is as follows, referring to the left end of rail G, since at all four points the construction is the same: In actual construction there will be a considerable length of the rail G from the frog E' to the cable X, in some cases amounting to several hundred feet, and the angle of the said cable and rail will be more acute than shown in Fig. 1, and about



as seen in Fig. 4. Now from the left of the frogs E' F' to the right of the points of crossing the cable the rails are raised or "shimmed" in any ordinary manner, so that the parts *g g'* of the rail G and the parts *h h'* of the rail H are higher than the branches X Y of the cable. Generally there will be a similar "shimming" of the rails at the other end of the turnouts to bring said rails G H above the cable at the other points of crossing, but in the case of inclined cable-railways, and with a car at each end of the cable, it is necessary to provide for crossing the cable only at the upper end of the turnout, for at the lower end a car never crosses the branch of the cable of the other car, the turnout being at the middle of the incline and the ascending car always being above the lower end of the turnout at the time the descending car arrives at that point.

Between the parts *g g'* the rail G is interrupted, leaving a space, as shown, for the cable X, and between the parts *h h'* of rail H there is a similar interruption to permit the passage of the cable Y. In practice this is a long space, cutting the rail G at a very acute angle, Fig. 4, so that the ends of the parts *g g'* may almost overlap, as indicated. A riding-rail M, Figs. 1 and 4, is fixed, preferably, just outside of the part *g* and higher, so as to support a proper riding device on its car, and thus sustain the car while its wheels on that side are crossing the cable X. At the other end of the turnout there is usually a similar arrangement of parts of the rail G and the riding-rail, as indicated by similar reference-letters, though this is not necessary at the lower end in inclined cable-roads; and there is a similar construction of riding-rails and the rail H where it approaches the cable Y, as indicated by the letters *h h' N*. O P, Fig. 4, are guard-rails which I prefer to place, respectively, near to and inside of the rails A B, and properly positioned with respect to the interruptions in the inner rails H G to obviate any danger of derailment. The rails in Fig. 1 are represented as double rails, which serve the same purpose as the guard-rails O P, but in the construction of the car shown in Fig. 6 such guard-rails are unnecessary.

The branches X Y of the cable are connected with their respective cars V W in any suitable manner, as by bolt and clevis, Fig. 5.

Assuming that car V travels on the rails B<sup>x</sup> G while going around the turnout, then the treads of the wheels Q Q, which run on rails G, are enough broader than the treads of the wheels R R on the other side of the car to project a little outside of the rail A and engage the wing-rail E, whereby the wheels and car are gradually shifted and the flanges of the wheels R are sent into the outer slot of the frog F', and thus the car V is switched to its side of the turnout. When the car V arrives at the other end of the turnout on its return trip, the wing-rail E<sup>3</sup> in a similar manner switches the car to the same side of the turnout. In like manner the broader treads

of the wheels S of car W, traveling on the rail H, combine with the wing-rails F F<sup>3</sup> to switch said car W to its proper side of the turnout, and each car both in going and returning always travels on the same side of the turnout.

To carry car V safely over the branch X of the cable, I provide loose-running idlers V' on the front and rear axles, preferably outside of the main wheels Q Q and of such diameter that they will ride truly on the riding-rail M. The position of said riding-rail M is such that the idlers V' will come upon the riding-rail M before the wheels Q reach the interruption in the rail G. Thus said idlers V' support the car while crossing the cable, running freely at a velocity corresponding to the smaller diameter, and their flanges holding the car safely on the rails until the wheels Q, having crossed over the cable, come on the part *g'* of the rail G. Similar idlers W' on the car W enable that car to safely cross the interruptions in the rail H.

Plainly the essence of my invention in this respect is the combination, with a riding-rail, of an appropriate supporting device on the car, and I can manifestly dispense with the idlers V' W' and use other devices instead. For example, I can substitute shoes for the idler, as shown in Figs. 9 and 10. Each car will have two such shoes on the proper side, according to the course of the car around the turnout, and near opposite ends of the car. They may be advantageously placed inside the main wheels Q R, Fig. 9, and be constructed as follows: The shoes proper, 1, are toboggan-shaped plates of metal equipped or not with bottom flanges, as desired. Midway of the top of said shoes 1 are fixed strong sleeves 2, working on posts 3, that are fixed on the car-body. A bolt 4 in the posts and a slot 5 in the sleeves permit of a certain vertical movement of the sleeves, while strong springs 6, coiled in the sleeves under the posts, normally depress the shoes to their lowest position. When a car is arriving at a cable-crossing, the shoe takes onto the riding-rail, which will be inside or outside of the main rail, according to the position of the shoe, before the wheels come to the interruption in the rail.

The track construction shown in Fig. 4 is in all essential respects similar to that hereinbefore described, except that in place of the so-called "frog-plates" single rails are used, as shown.

Now, having described my improvements, I claim as my invention—

1. The combination in a railway-turnout, of a cable main rails, a fixed rail-switch, a car attached to each end of said cable, a wheel or wheels on one side of the one car and on the other side of the other car and the treads of said wheels being broad enough to project outside of the head of their corresponding outside rail, and a wing-rail on each side of the track outside of the corresponding main



rail and adapted to engage said broader wheel or wheels and switch the car, substantially as described.

2. The combination in a cable-railway turnout, of a cable around the sides of the turnout, cars operated thereby, an interrupted inner rail of the turnout, a riding-rail adjacent to the interruption, and a device on the car independent of the main wheels and adapted to ride on said riding-rail and support the car while crossing the cable, substantially as described.

3. In a railway-turnout system, the combination of an interrupted rail, an auxiliary riding-rail, a car and a device thereon independent of the main wheels and adapted to travel on said riding-rail, substantially as described.

4. In a railway-turnout system, the combination of a cable, main rails interrupted where the cable crosses the rails, an auxiliary riding-rail adjacent to the main rails at said points of interruption, a car attached to each

end of said cable, and idlers on each car adapted to travel on the corresponding riding-rail, substantially as described.

5. In a cable-railway turnout, a fixed switch consisting of the following elements in combination, viz. main rails interrupted where the cable crosses, frogs, a wing-rail adjacent to each of said main rails and having a part not parallel with said main rails, a car attached to each end of said cable, and relatively broader-treaded wheels on opposite sides of said cars adapted to project outside of their corresponding main rails and engage against said wing-rails and thereby switch the car, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 9th day of April, 1896.

CHARLES F. PARKER.

Witnesses:

JOB R. FURMAN,

HENRY V. BROWN.