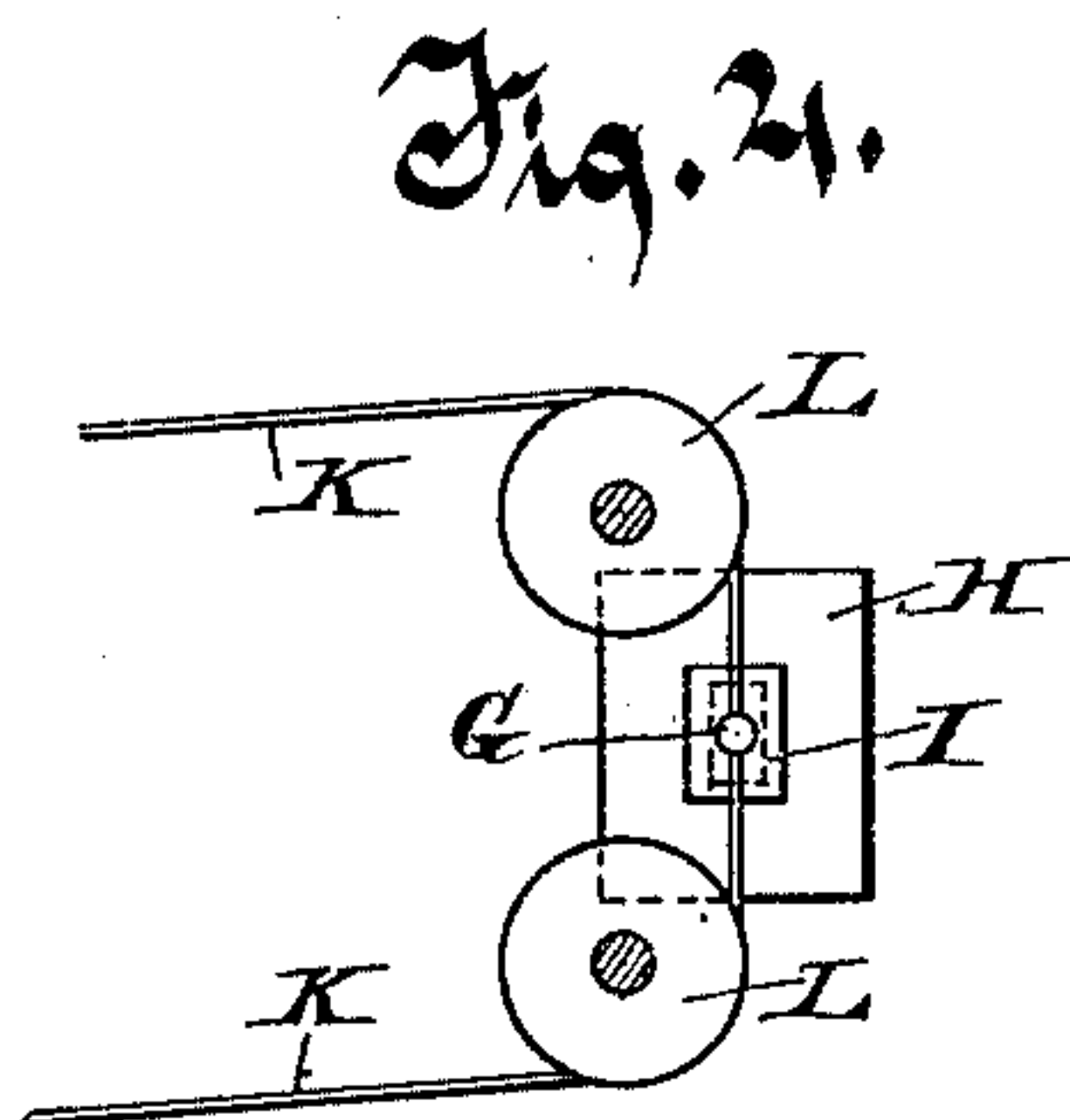
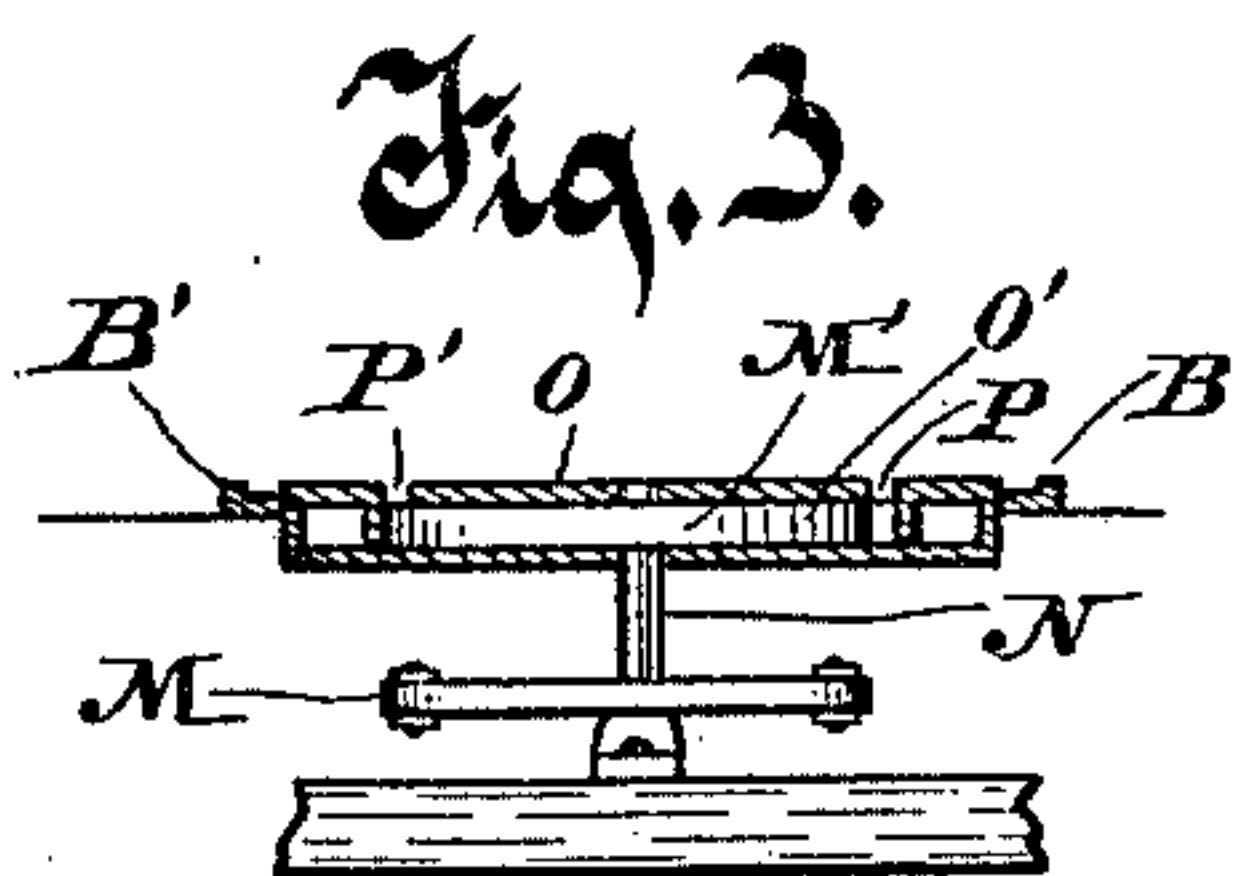
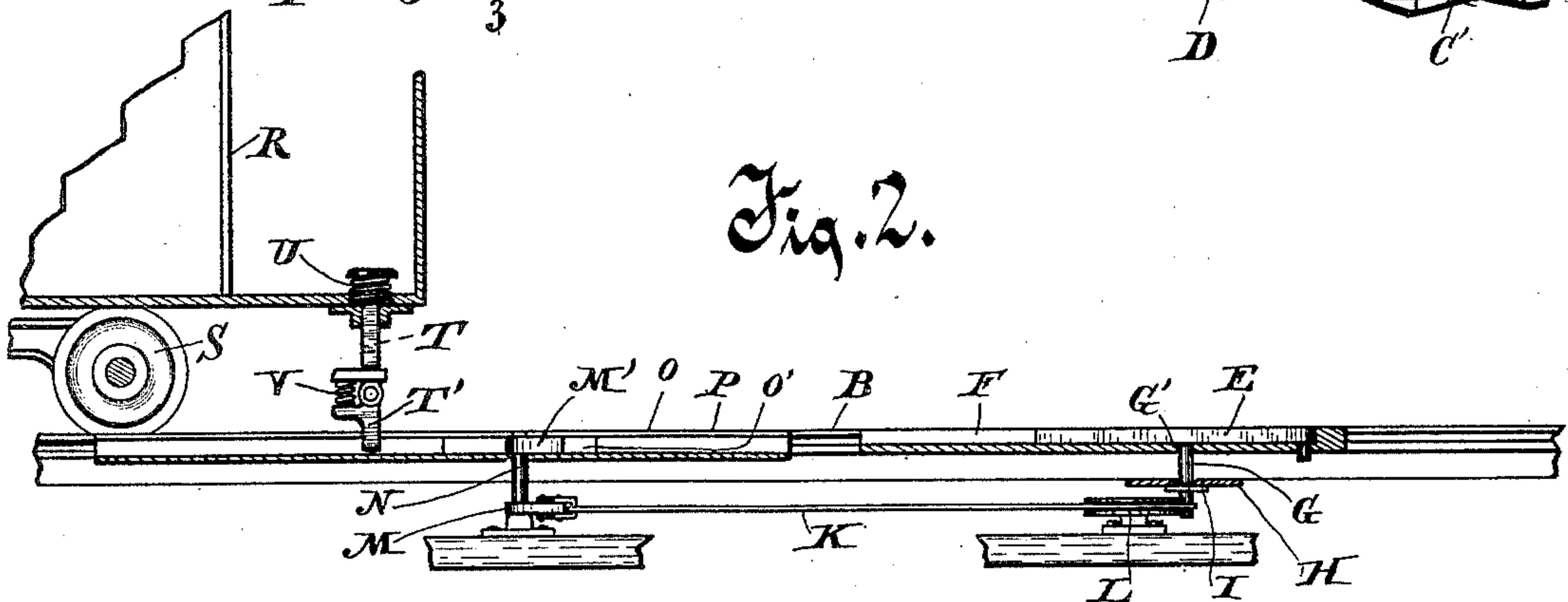
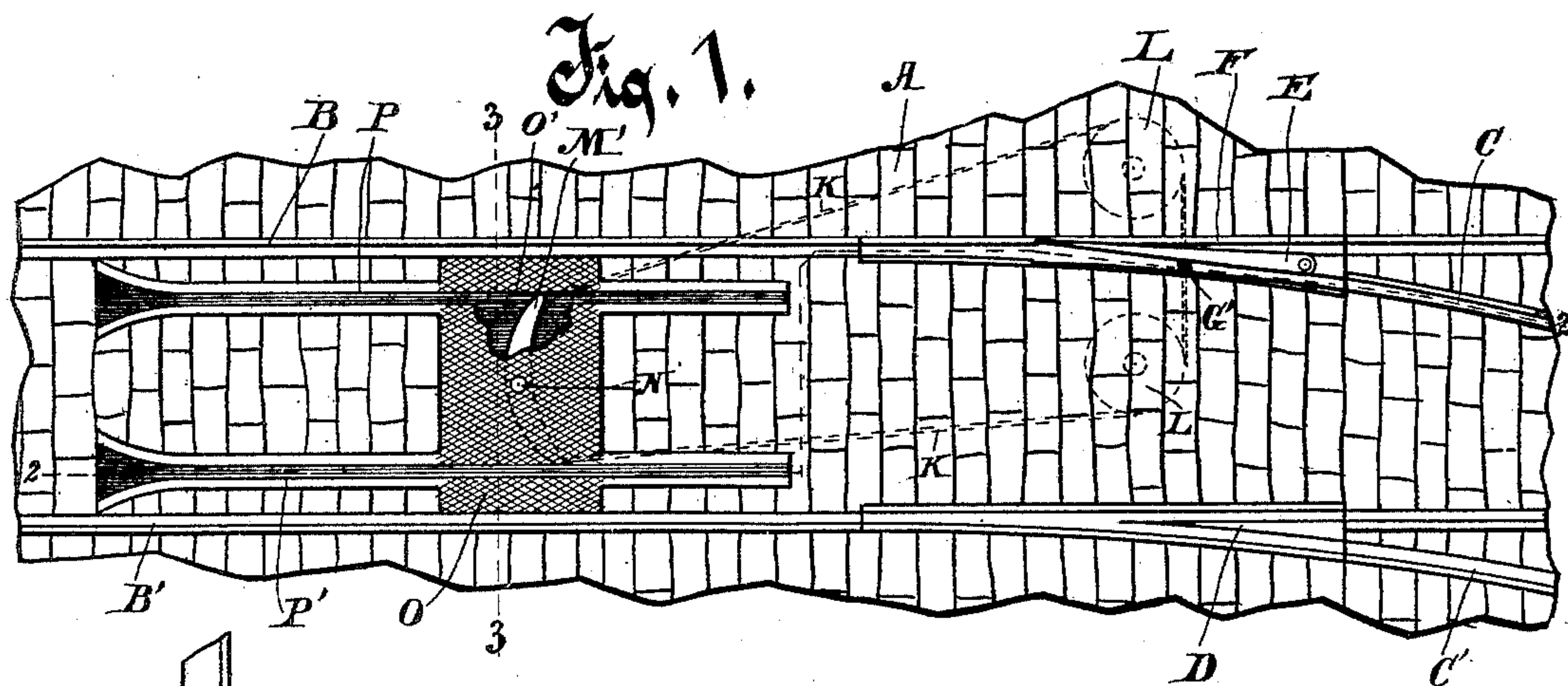


(No Model.)

S. T. MOCK.
RAILWAY SWITCH.

No. 467,948.

Patented Feb. 2, 1892.



Witnesses.
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UNITED STATES PATENT OFFICE.

SAMUEL T. MOCK, OF MILWAUKEE, WISCONSIN.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 467,948, dated February 2, 1892.

Application filed February 21, 1891. Serial No. 382,291. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL T. MOCK, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Automatic Railway-Switches, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention relates to a switch adapted for use in connection with street-railway tracks and with cars moved by any suitable power, the invention consisting in mechanism whereby a short section of one rail of the track is shifted to right or left by the passing car, thereby directing the line of travel of the car.

In the drawings, Figure 1 is a top plan view of a portion of a street with so much of my improved mechanism as is constructed in connection with the street and track thereon. Fig. 2 is a vertical section of the street on line 2 2 of Fig. 1, and showing in connection therewith a fragmentary portion of a car in vertical section provided with means for operating the switch. Fig. 3 is a transverse vertical section on line 3 3 of Fig. 1. Fig. 4 is a plan of a fragmentary portion of my improved device.

A is the street pavement.

B B' are the two rails of the car-track, and C C' are the two rails of the branch track. An integral frog D is put in at the junction of the rail C' and B', and a section or short movable rail E is pivoted on a plate F, which plate F is advisably constructed integral with the rail B. The movable rail E is pivoted near the end of the rail C, and so as to form a continuation thereof, but at a little distance from the rail B, the free end of the rail E being made narrow and being arranged to swing against and into a recess therefor in the rail B or to be swung away from the rail B, as desired. When the free end of the rail E is in the recess in the rail B, the rail C is thereby made practically continuous with the rail B, and a car having wheels provided with flanges bearing against the inner side of the rail coming on the rail B from the left in Fig. 1 will, as it reaches the switch, be shunted by the rail E onto the track C C'. The rail E is provided with a downwardly-projecting

stud or post G, which passes through a slot G' therefor in the plate F. The post G passes through a slot in the plate H, secured to the stringer or sleeper on which the rails are fixed, which plate thus serves as a guide or ways for the movement laterally of the post. A bearing-plate I, affixed to the post G, bears against the plate H and steadies the movement of the post. Flexible chains or cords K K, attached to the post G, run to right and left therefrom, respectively, about the pulleys L L, axled on arbors fixed on a suitable frame, and thence to the respective ends of a lever M, fixed medially on a shaft N, journaled at its lower end in a suitable frame and at its upper end in a plate O, fixed in the pavement between the rails of the track. The top surface of the plate O is flush with the surface of the pavement, and the plate is provided with a horizontal chamber O', in which a lever M' is located, which lever M' is secured rigidly medially to the shaft N. Longitudinal channels P and P' are formed in the plate O, which channels are located at a little distance from and inside of the rails B and B' and intersect the chamber O' in the plate O, and are preferably made to extend longitudinally to some little distance beyond the plate on both sides of it. These channels may conveniently be formed of metal cast with the plate and are as deep as the chamber O' and are advisably flared at their ends presented to the car coming toward the switch. These channels P P' are formed to receive therein an arm depending from the car, and the lever or cross-bar M' is of such length and so arranged that one end of it will be in one of the channels P P', while the other end is swung away from the other channel. The front longitudinal edge of the cross-bar M' is advisably curved, so as to present a convex surface to the approaching arm on the car.

The car R is provided with flanged wheels S, adapted to travel on and be guided by the rails of the track. Each car is provided with a depending arm T, normally supported yieldingly by a spring U in such position that the lower extremity of the arm is above and entirely clear of the pavement and track. The lower end T' of the arm T is formed separately from and is hinged to the upper portion of the arm, and is so constructed that by gravity it hangs

perpendicularly below the upper portion of the arm. A spring V, inserted at the rear of the joint connecting the two parts of the arm between flanges projecting severally from the upper and lower parts, is adapted to hold the lower part T' normally but yielding in position, and so that it will enter a channel P' and engage and swing the cross bar or lever M' out of the channel, and thereby shift the movable rail E. The spring V permits the lower part T' of the arm to swing rearwardly when it strikes any object offering a substantially greater resistance than is offered by the lever M', and thus obviate the breaking or straining of the mechanism.

The cars are each provided with an arm T, so located as to be forced down and enter the channel P' or P to engage and swing the cross-bar M' and shift the movable rail E, as the car is desired to run on the branch track or on the main line. The arm T' is forced down into the channel P as the car moves forwardly by the foot of the driver or attendant placed on the top of the arm and forcing it downwardly against the resistance of the spring U.

No claim is herein made for the devices described and claimed in my former application, Serial No. 372,283, filed November 22, 1890, which application was allowed January 26, 1891.

What I claim as new, and desire to secure by Letters Patent, is—

1. In an automatic railway-switch, the combination of a plate, as O, located flush with the pavement between the tracks and longitudinal channels cut therein, with a cross-bar or lever M', located below the surface of the plate and so arranged that one extremity will project into one of the longitudinal channels, and a shifting rail to which the cross-bar is connected by suitable means, substantially as described.

2. In an automatic railway-switch, the combination, with the railway-track and a movable switch-rail, of a plate, as O, located between the tracks in front of the switch and

flush with the pavement, a chamber in the plate, channels passing transversely through the plate and intersecting the chamber, an oscillating cross-bar located in the chamber and so arranged that one extremity will project into one of the channels, and suitable devices connecting the cross-bar with the movable rail in such manner that the oscillation of the cross-bar will shift the rail, substantially as described.

3. In an automatic railway-switch, the combination, with a main track and a branch track, of a rail pivoted at the end of the inner rail of the branch track, a post projecting from the pivoted rail through a slot into a chamber below, chains secured to the rail-post and running about laterally-arranged pulleys to the ends of a swinging cross-bar, the cross-bar pivoted medially between the rails in a chamber in front of the switch, longitudinal channels substantially parallel with the rails intersecting the chamber in which the cross-bar is located, the cross-bar being constructed and arranged to be oscillated and extend into one or the other of the channels, and arms supported on a car running on the track, which arms are adapted to be thrust severally by an attendant on the car into one of the channels and into engagement with the cross-bar, substantially as described.

4. In combination with an automatic railway-switch, a car, a depending arm T, a supporting-spring U, and a swinging lower extremity T', substantially as described.

5. In combination with an automatic railway-switch, a car, a vertically-moving spring-supported arm T, a thereto-hinged part T', and a spring V, interposed between flanges on the two parts of the arm, respectively, substantially as described.

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

SAMUEL T. MOCK.

Witnesses:

C. T. BENEDICT,
ANNA V. FAUST.