

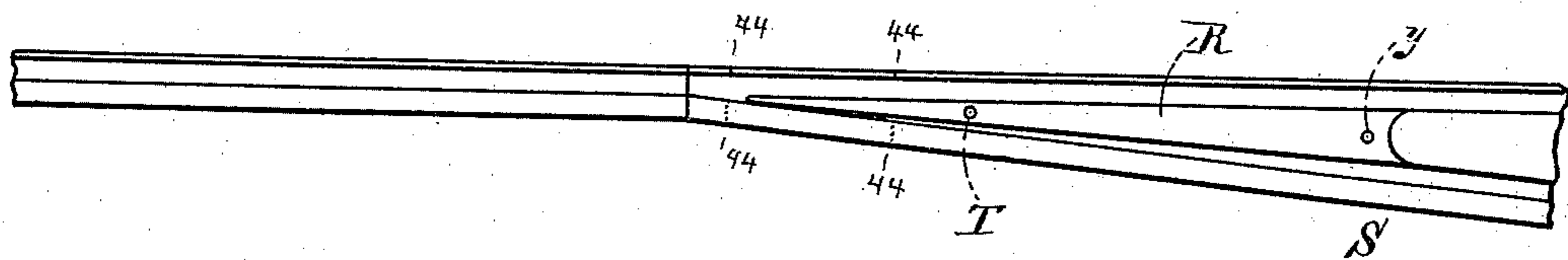
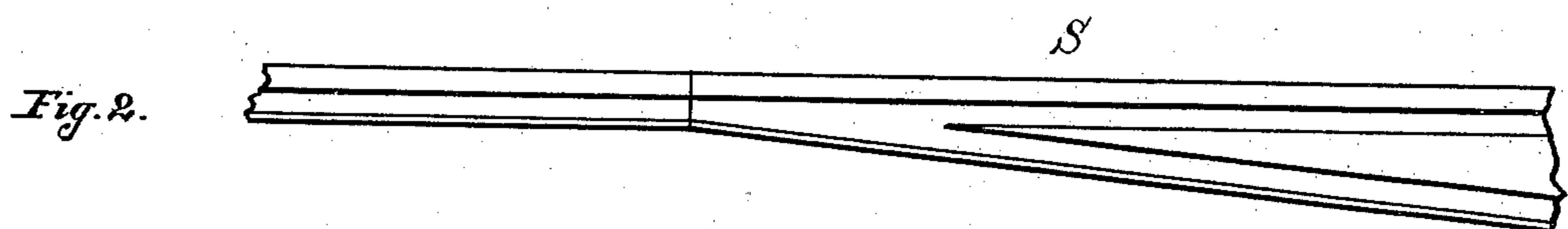
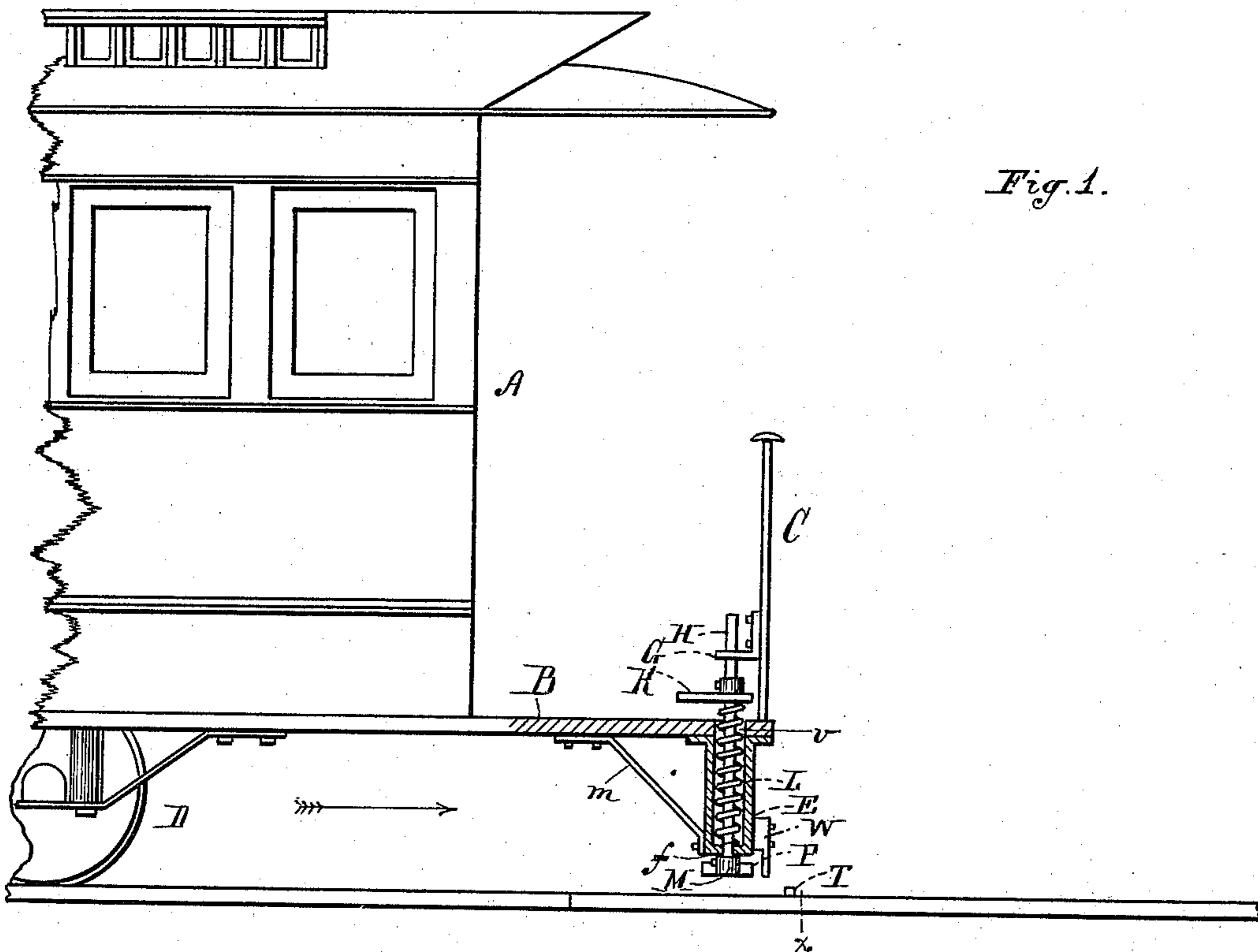
(No Model.)

2 Sheets—Sheet 1.

S. B. SABENS.
RAILWAY SWITCH.

No. 385,141.

Patented June 26, 1888.



Witnesses:
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C. M. Quincy.

Inventor:
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Attys.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 4.

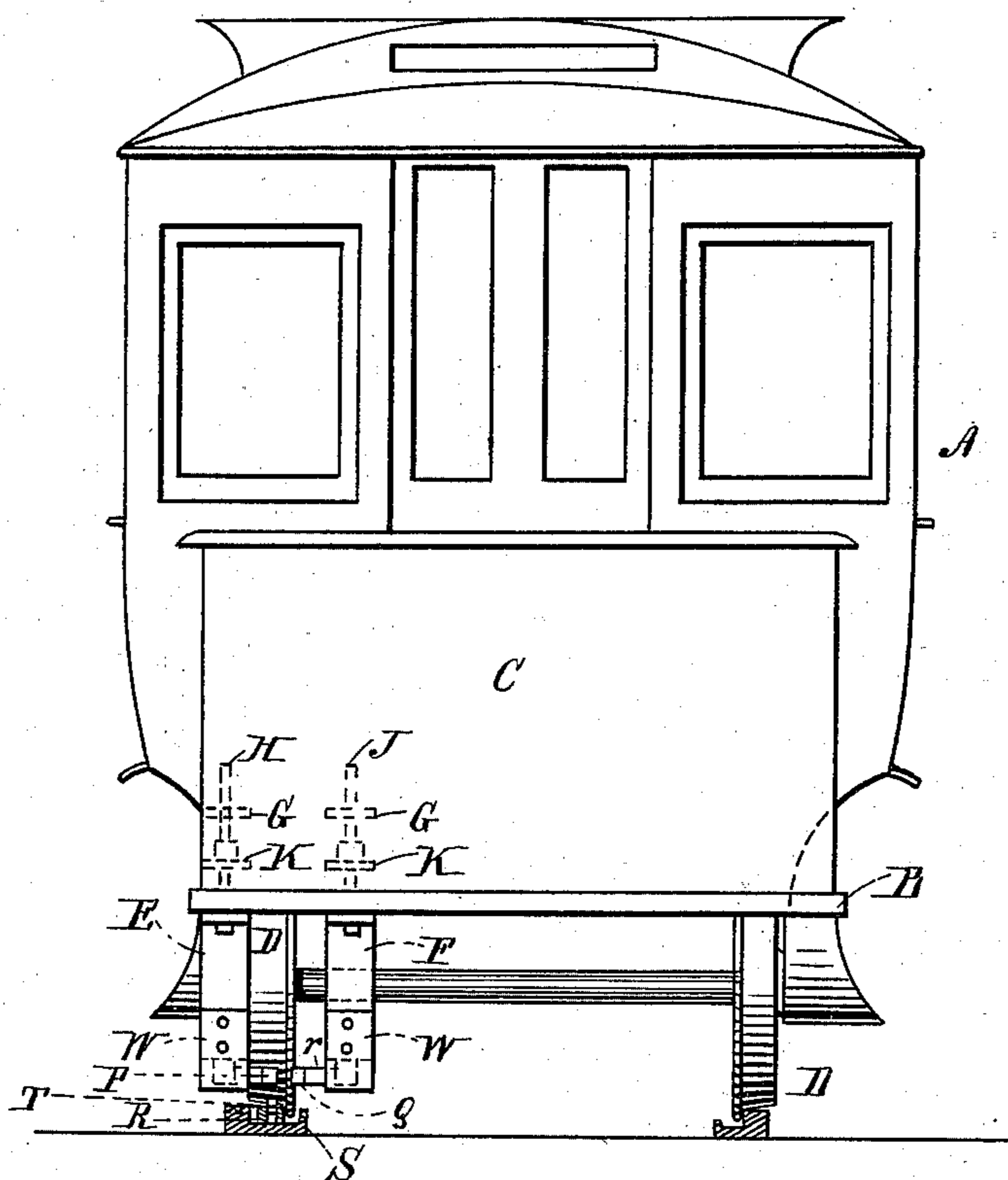


Fig. 5.

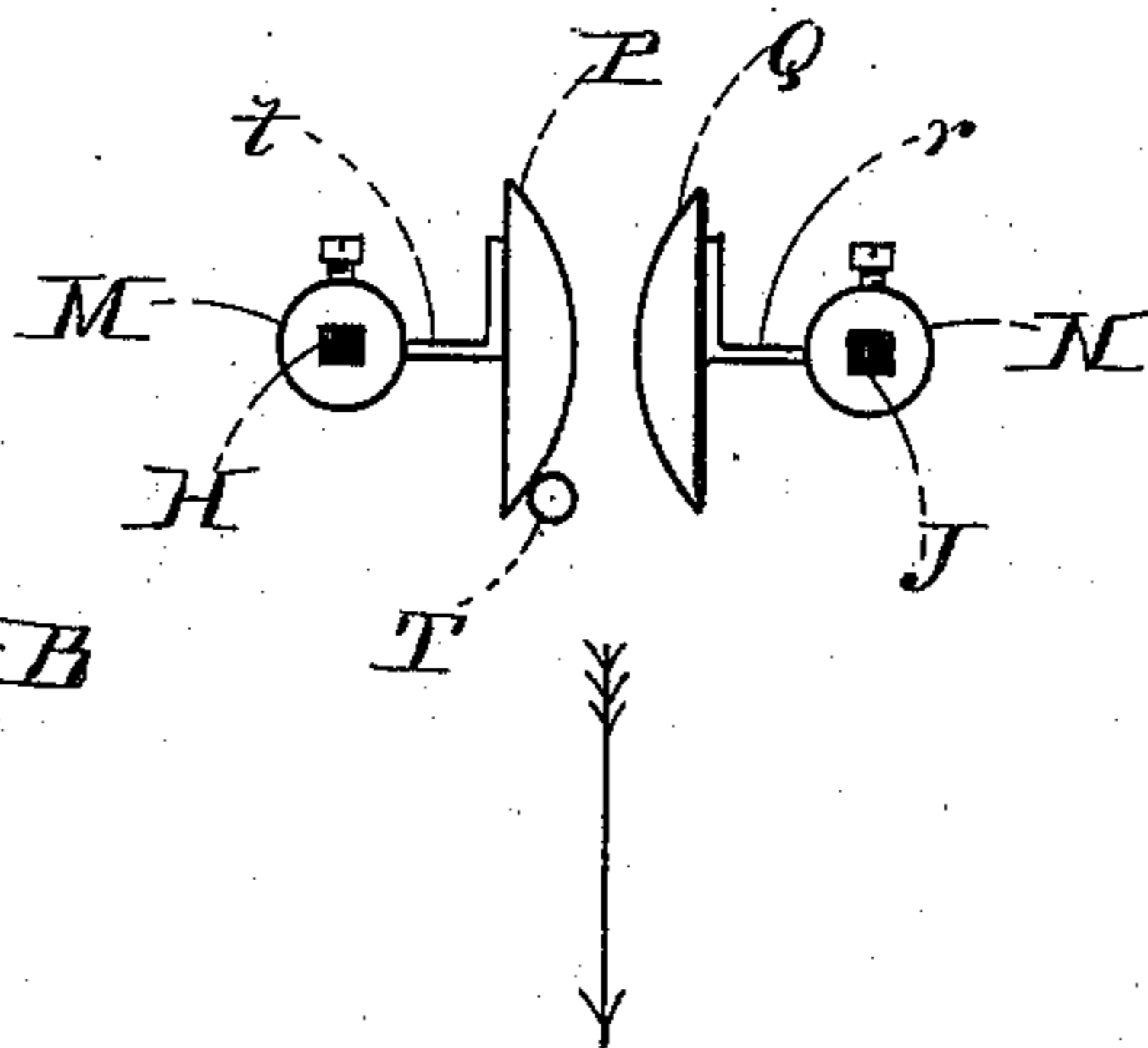
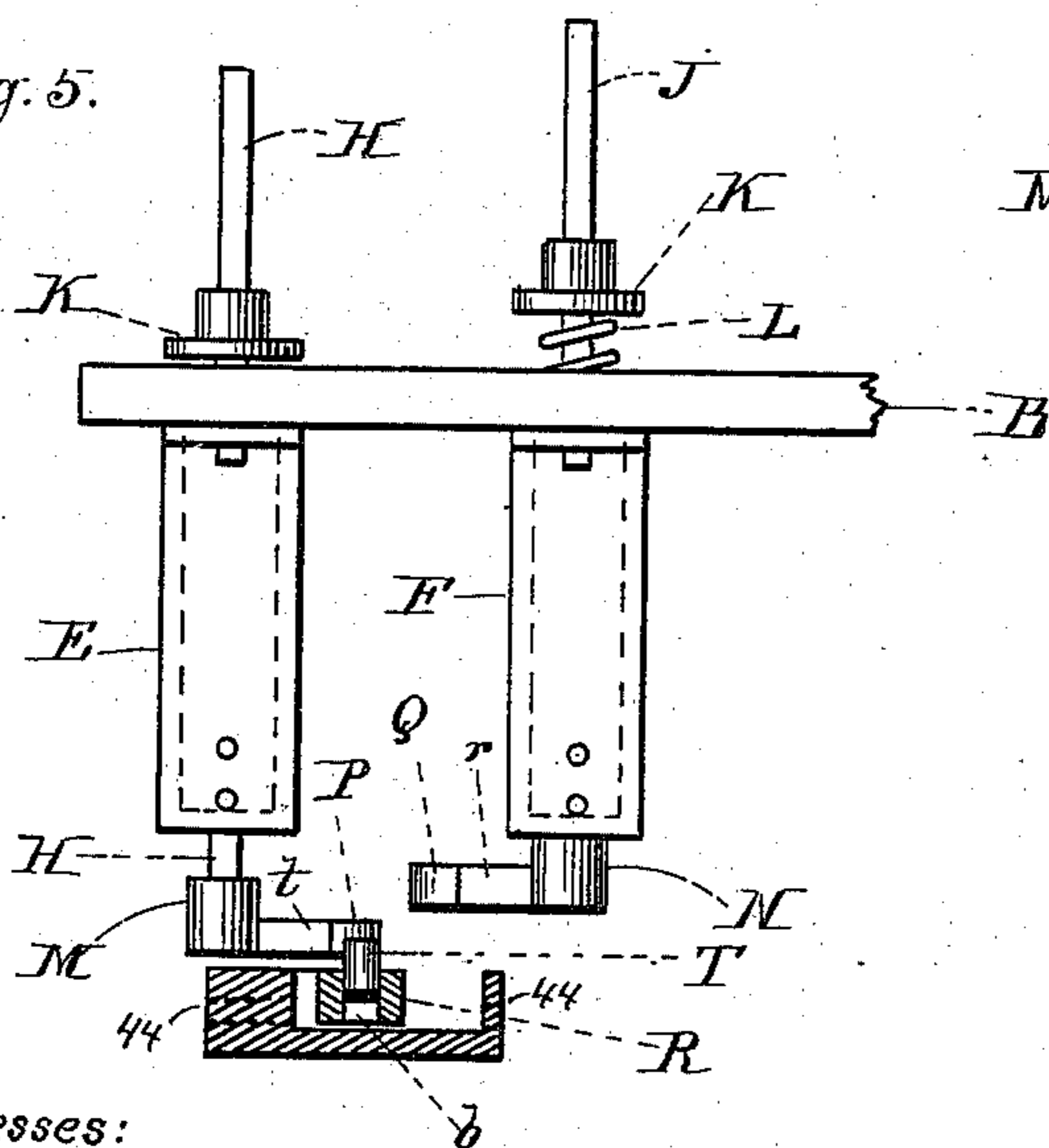


Fig. 6.

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UNITED STATES PATENT OFFICE.

STEPHEN B. SABENS, OF NEW BEDFORD, MASSACHUSETTS.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 385,141, dated June 26, 1888.

Application filed January 13, 1888. Serial No. 260,615. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN B. SABENS, of New Bedford in the county of Bristol, State of Massachusetts, have invented a certain new and useful Improvement in Railway-Switches, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of a car and switch embodying my improvement, certain parts of the car being shown in section and a portion represented as broken off; Fig. 2, a top plan view of the switch; Fig. 3, a vertical longitudinal section of a portion of the switch-tongue, the stud and its spring being shown in side elevation; Fig. 4, an end elevation of the car and vertical transverse section of the switch, taken on the line *x* in Fig. 1; and Figs. 5 and 6, views showing certain details of construction.

Like letters and figures of reference indicate corresponding parts in the different figures of the drawings.

In operating horse-railways the cars are usually switched by means of tilting tables on which the horses step, or by switchmen stationed at the switches, and who move the switch-tongues by hand. By the former method the speed of the car has to be reduced to a minimum and the horses turned to the right or left sufficiently to bring one of them onto the table at the side of the track, in accordance with the direction in which it is desired to switch the car—a performance which cannot be successfully accomplished at all times on account of passing teams, carriages, &c. The tables are also expensive to construct and keep in order. It is also very expensive to employ special switchmen for switching the cars.

My invention is designed to obviate these difficulties and objections; and to that end I make use of means which will be readily understood by all conversant with such matters from the following explanation:

In the drawings, A represents the body of the car, B the platform, C the fender, and D

the trucks, these parts being all of the form and construction found in ordinary horse cars, excepting as hereinafter specified.

Projecting vertically from the lower front portion of the platform B, at one side of its center, there are two brackets, E F, which are suitably braced, as shown at *m*, and immediately over said brackets, a short distance above the platform, B there are two horizontally-arranged brackets, G, secured to the inner face of the fender C. A hole, *v*, is formed in the platform B, beneath each of the brackets G, a vertically-arranged rod, H, being disposed in one of said holes and a like rod, J, in the other, said rods being fitted to slide or work in said brackets.

Secured to each of the rods H J, a short distance above the platform B, and projecting inward over said platform, there is a treadle or foot-piece, K, and disposed around each of said rods there is a stout coiled spring, L, one end of which abuts against the treadle G and the other against a shoulder, *f*, on the lower end of the bracket E, said spring acting expansively to force the rods upward and keep their lower ends elevated above the track when not depressed by the treadles, as hereinafter described.

Attached to the lower end of the rod H there is a collet, M, and to the lower end of the rod J a collet, N, and projecting horizontally from the collet M, in the direction of the rod J, there is an elastic arm, *t*, provided at its outer end with the plano-convex head P, the collet N being provided with a corresponding elastic arm, *r*, which projects in the direction of the rod H, and is provided at its outer end with a corresponding head, Q. The tongue R of the switch is pivoted at *y* in the track S, said tongue being chambered near its forward end, as shown at *b*, for the reception of the spring *d*, the rear end of which is secured to the tongue within said chamber. Holes are formed in the sides of the track S, opposite the tongue R, as shown by the dotted lines 44, for the passage of rocks, gravel, &c., which might interfere with the working of said tongue.

A vertically-arranged hole leads from the forward end of the chamber *b* upwardly through the tongue R, and fitted to work in said hole there is a stud, T, the lower end of which is

secured to the forward end of the spring *d*, said spring acting to keep the upper end of said stud elevated above the plane of the track when not depressed by the wheel, as hereinafter described.

A guard, W, is secured to the lower end of each of the brackets E, in front of the heads P Q, to prevent the lower ends of the rods H J and the arms *t r* and heads P Q from being accidentally broken or injured by coming into contact with obstructions on the track or road-bed.

In the use of my improvement, when the car is moving in the direction indicated by the arrow, if, now, it is desired to switch it to the left, the driver, standing on the platform B, places his foot on the treadle K of the rod J and forces said rod downward until the head Q is brought into position to strike the stud T on its left-hand side, and thereby swing the free end of the tongue R to the extreme right switching the car to the left. If the car is moving in the direction of the arrow and it is desired to switch it to the right, the driver will force down the rod H until the head P strikes the stud T on its right-hand side and forces the tongue R to the extreme left, thereby switching the car to the right.

In case the switch is accidentally moved in the wrong direction, it can be remedied by backing the car and moving the switch-tongue as the car recedes, the crescent-shaped heads on the arms *t r* permitting this to be readily accomplished by the driver without leaving the platform.

The object of making the arms *t r* elastic is to enable the heads P Q to pass the stud T when the tongue R is for any reason prevented from swinging—as, for instance, by rocks or gravel falling into the track S at the sides of said tongue or from ice forming therein.

The object of mounting the stud T on the spring *d* is to enable the wheels D of the car to depress said stud, and thereby pass over it readily; also, to prevent the wheels of vehicles from injuring the stud in passing it, or the stud from interfering with or impeding travel.

I do not confine myself to using the flat

spring *d* for projecting the stud T through the tongue R, as any spring adapted to perform the same function may be employed.

Having thus explained my invention, what I claim is—

1. The tongue R, pivoted to the track S and provided with the depressible stud T, in combination with a car adapted to run on said track and its companion track, and provided with means whereby the driver of the car may cause an attachment thereof to engage said stud and move said switch-tongue to switch the car, substantially as described.

2. The car A, having the platform B, provided with the fender C, the rod H, fitted to work vertically in said platform and provided with the spring L, treadle K, elastic arm *t*, and head P, the rod J, fitted to work vertically in said platform and provided with the spring L, treadle K, elastic arm *r*, and head Q, said heads being arranged adjacent to each other, in combination with the tongue R, pivoted to the track S and provided with the stud T and spring *d*, substantially as set forth.

3. The tongue R, pivoted to the track S and provided with a hole for a stud, in combination with a stud, as T, inserted in said hole, and a spring, as *d*, for said stud, substantially as set forth.

4. In a device of the character described, the combination of the car A, provided with the platform B, the rod H, provided with the spring L and treadle K, the pivoted tongue R, provided with the yielding stud T, and an elastic arm mounted on the lower end of said rod, the outer end or head of said arm being adapted to strike the stud T in the pivoted tongue R as said car passes over the tracks and swing said tongue to switch the car, substantially as set forth.

5. The guard W, in combination with the bracket E, platform B, head P, arm *t*, and rod H, substantially as described.

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