

(No Model.)

2 Sheets—Sheet 1.

C. W. MUNSON.

RAILWAY SWITCH POINT CONTROLLING APPARATUS.

No. 586,797.

Patented July 20, 1897.

Fig. 1

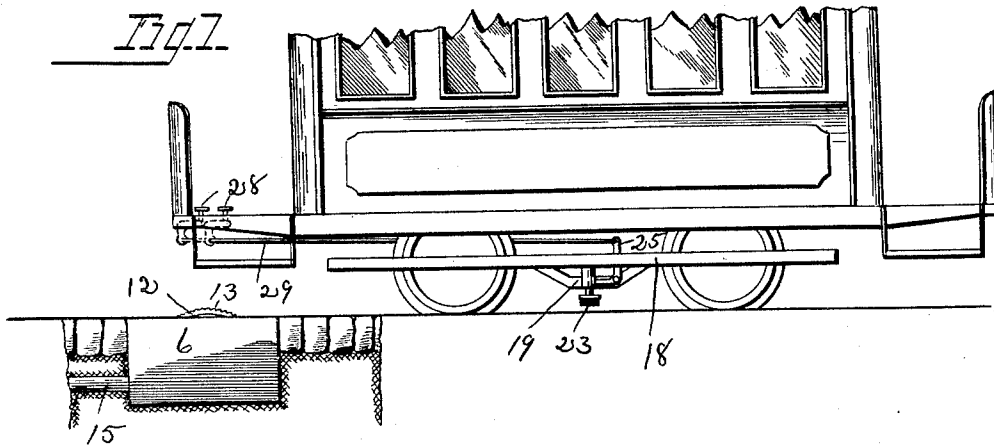


Fig. 2

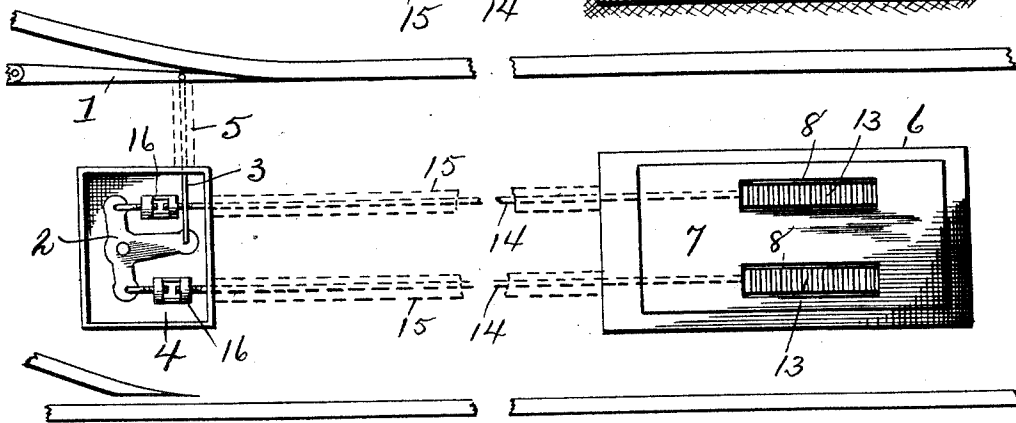
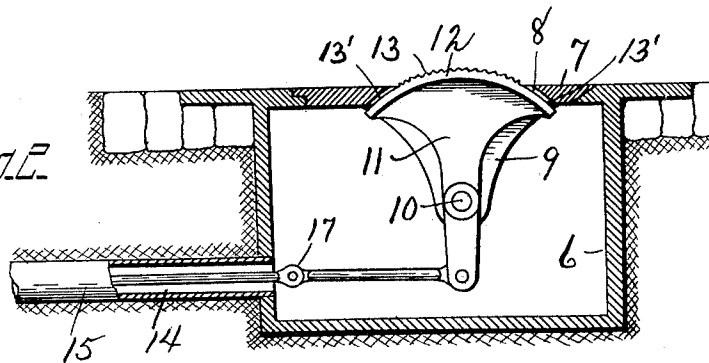


Fig. 3

WITNESSES

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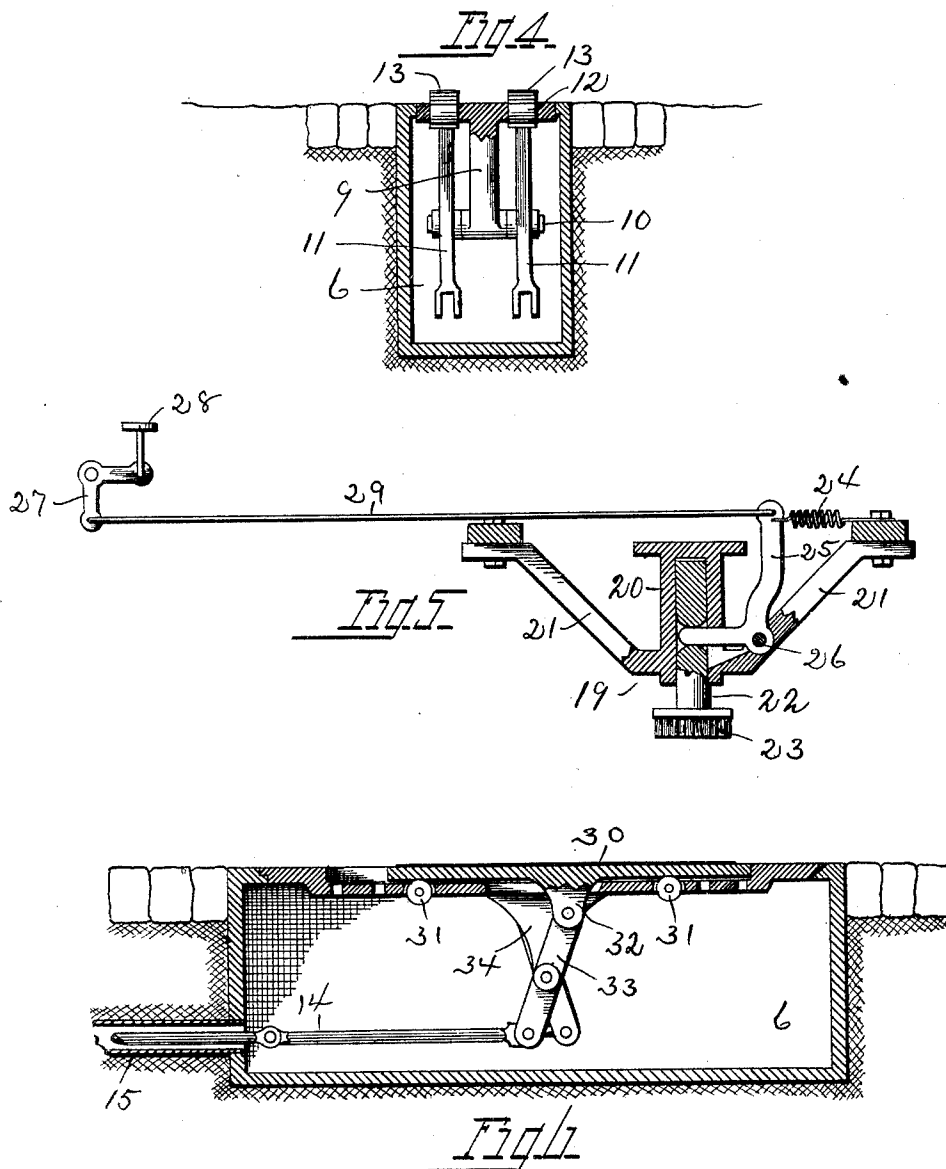
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UNITED STATES PATENT OFFICE.

CORYDON W. MUNSON, OF TOLEDO, OHIO.

RAILWAY-SWITCH-POINT-CONTROLLING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 586,797, dated July 20, 1897.

Application filed June 26, 1896. Serial No. 596,991. (No model.)

To all whom it may concern:

Be it known that I, CORYDON W. MUNSON, of Toledo, county of Lucas, and State of Ohio, have invented certain new and useful Improvements in Railway-Switch-Point-Controlling Apparatus; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form part of this specification.

My invention relates to a railway-switch-point-controlling apparatus having for its object to provide a device located between the rails of a track substantially flush with the road-bed and connected with a switch-point which is operated to throw the switch in the direction desired by means of frictional contact with devices located upon a car and under control of the operator thereon.

The invention consists in the parts as hereinafter shown, described, and claimed.

In the drawings, Figure 1 is a side elevation of a section of track and a car provided with my improved switch-controlling mechanism. Fig. 2 is a detail view of the friction-lever, showing its connections and the housing therefor. Fig. 3 is a plan view of the road, showing the switch-point thrown to lead the cars onto the main track. Fig. 4 is a sectional elevation taken at a point indicated by lines *x x*, Fig. 2. Fig. 5 is a detail view, partly in section, of the mechanism located upon the car. Fig. 6 is a sectional elevation of a modification illustrating a friction-plate and its connections.

1 designates the switch-point, which is connected with a double bell-crank lever 2 by means of a rod 3. Lever 2 is suitably housed in a box 4, located between the rails of the track, and the rod 3 is also housed below the surface of the road-bed by means of a conduit 5. (Shown in dotted lines, Fig. 3.)

6 designates a box located between the rails of the track and sunk beneath the surface of the road-bed, which is arranged forward of the switch-point and at some little distance there-to and is provided with a removable cover 7. Cover 7 is formed with two longitudinal slots 8, located at each side of its transverse cen-

ter, and depending therefrom between the slots 8 is an arm 9, which forms a bearing for a transverse shaft 10. Journaled upon said shaft at each end thereof and held from lateral movement by the arm 9 are levers 11. Each lever and its connections being similar a description of one will suffice for both. Levers 11 are provided at their upper ends with a head in the form of a segment of a circle, as at 12, the upper end of the circular portion of the head being roughened, as at 13, the outer ends 13' being preferably smooth, the ends of the slot being preferably of a contour of the portion 12 of the lever 11 and at a slight distance therefrom. Connecting the lower ends of the levers 11 and the transverse ends of the double bell-crank lever 2 are the rods 14, which are suitably housed in conduits 15, which connect the boxes 4 and 6, respectively. Interposed upon the rods 14 within the box 4 is a turnbuckle 16 or other mechanism by which means tension may be put upon the rods 14, the rods being formed with a joint, as at 17, whereby when the top 7 is raised the mechanism carried thereby can be lifted with the same, which allows cleaning of the box. It will thus be seen that a movement of the levers 11 is transmitted to the double bell-crank lever through the medium of the rods 14, and consequently to the rod 3 and to the switch-point, the direction of movement of the switch-point being determined by which lever 11 is operated.

I will now proceed to describe the mechanism located upon the car for frictionally actuating the levers 11. Secured to the truck-frame 18 is a casting 19, which comprises a tubular depending standard 20 and suitable braces 21 by which to strengthen the casting. Arranged within the bore of the tubular standard 20 is a plunger 22, having secured upon its lower end a brush 23. The standard is held in a normally-raised position by a spring 24, connected to a bell-crank lever 25, pivoted at 26, the opposite end of the lever engaging with the plunger. By mounting the casting 19 and its connections upon the truck-frame the action of the plunger and brush is always positive, as they have no vertical movement.

Arranged beneath the platform and pivotally secured thereto is a bell-crank lever 27,

one end of which carries a rod having a foot-treadle 28, arranged above the platform in convenient reach of the operator, the opposite end of the bell-crank lever 27 and the upper end of the bell-crank lever 25 being connected by a rod 28, whereby when the foot-treadle 28 is depressed through the medium of the bell-crank levers 27 and 25 and the rod 29 the plunger 22, and consequently the brush 23 carried thereby, is depressed. Brush 23 is formed, preferably, of stiff metal bristles, which, contacting with the roughened surface of the upper end of the lever 11, provide a frictional engagement therewith sufficient to move the lever 11 and consequently throw the switch-point, it being understood that there are two foot-treadles, two tubular standards 20, and consequently plungers 22 and brushes 23, each being in a position to contact with one of the levers 11 and throw the switch-point in opposite directions.

It will be seen that should an obstruction—such as dirt, snow, or ice—be interposed between the switch-point and the rail the frictional engagement of the brush with the upper surface of the lever 11 is of such character as to throw the switch-point as far as is possible, and that the brush will slide over the upper end of the lever 11 when the obstruction is reached, which would prevent breakage of the different parts.

It will thus be seen that I have provided a switch-point-throwing apparatus which is adapted to cars using any kind of motive power, either steam, electricity, cable, or other power, which is effective in operation, of few parts, therefore not liable to get out of order, and inexpensive in construction.

In Fig. 6 is shown a modification which is of a different construction from that already described, which I wish to be understood to be the preferred construction and which I am of the opinion can be carried by my generic claim to the novel feature of the frictional

contact between the devices upon the car and the devices connected with the switch-point, and which consists in a longitudinal movable plate 30, mounted upon antifriction-rollers 31, journaled in the top of the box, there being depending lugs 32, depending from each plate 30, and a lever 33, journaled centrally to a depending lug 34, integral with the top of the box, one end pivotally secured to the lug 32 and the opposite end to the rod 14, connected to the double bell-crank. The operation of this device is identically the same as has been heretofore described—to wit, the brush 23, contacting with the upper surface of one of the plates 30, which are roughened, moves the plate longitudinally, due to the frictional engagement of the brush with the plate, and consequently throws the switch-point, the direction of the throw of the point depending upon which one of the plates is moved by the frictional brush.

What I claim is—

1. In a railway-switch-point-controlling apparatus, a plate located between the tracks and connections therewith and with the switch-point, said plate having a movement longitudinally of the tracks, a car having friction devices thereon for engagement with the plate to move the plate therewith by frictional contact having a resiliency to release the plate when the switch-point is thrown.

2. In a railway-switch-point-controlling apparatus, a switch-point, a friction-plate, an intermediate mechanism, means for moving the friction-plate comprising adjustable friction-brushes upon the car for engagement with the friction-plate.

In testimony that I claim the foregoing as my own I hereby affix my signature in presence of two witnesses.

CORYDON W. MUNSON.

Witnesses:

WILLIAM WEBSTER,
MAUD SCHUMACHER.