No. 850,660. PATENTED APR. 16, 1907.

A. M. LEWIS.

RAILWAY FROG SWITCH.

APPLICATION FILED JULY 9, 1906.

2 SHEETS—SHEET 1.

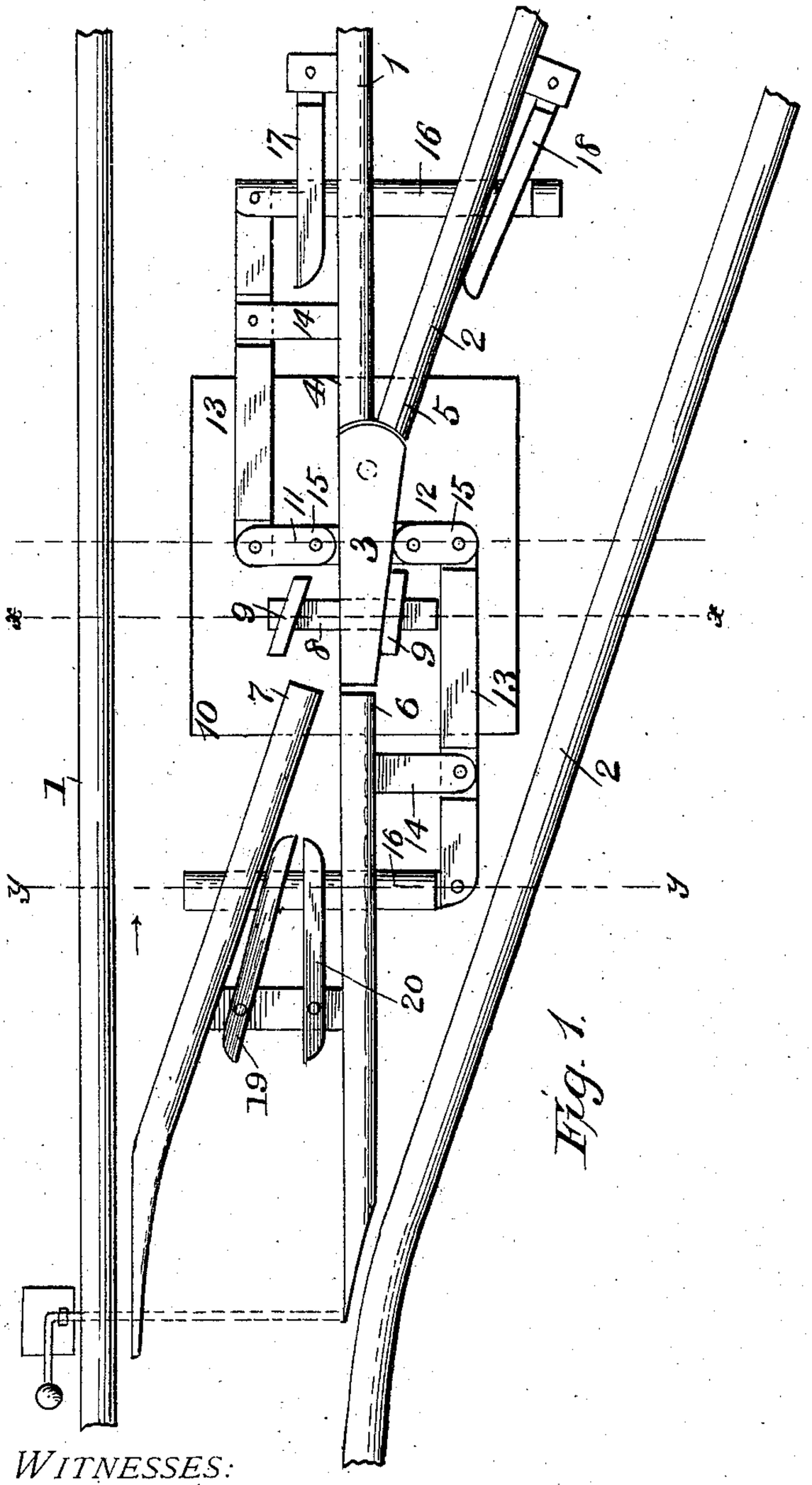



Fig. 1.

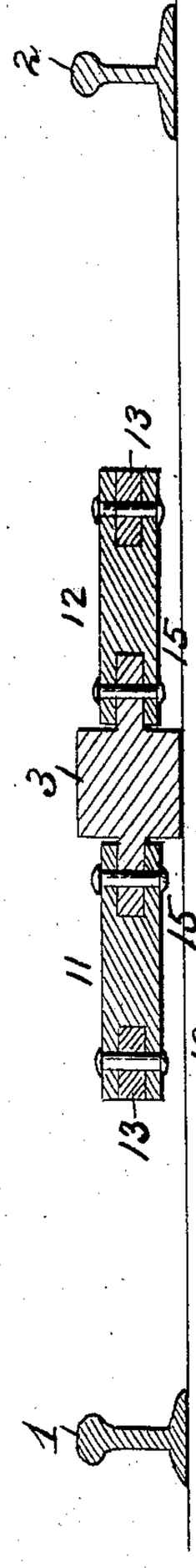



Fig. 2.

WITNESSES:

H. T. McKeen

J. H. Mister

INVENTOR:

Allie M. Lewis,

BY Lewis Bagger & Co.,

Attorneys.

No. 850,660. PATENTED APR. 16, 1907.

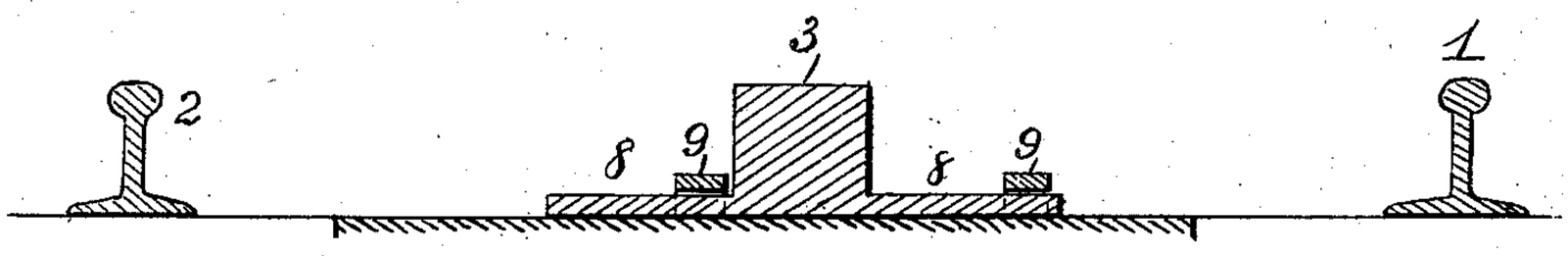
A. M. LEWIS.

RAILWAY FROG SWITCH.

APPLICATION FILED JULY 9, 1906.

2 SHEETS—SHEET 2.

Fig. 3.



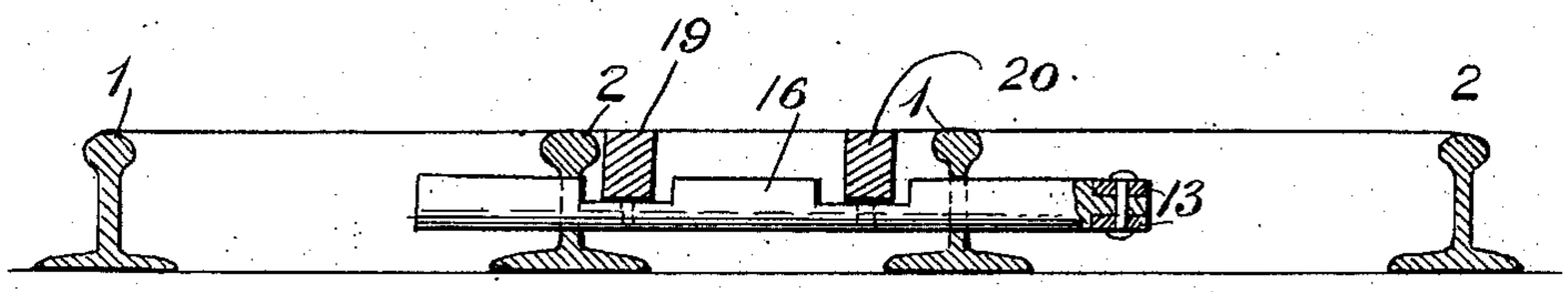




Fig. 4.

WITNESSES:

H. T. McKeever

J. M. Meiker

INVENTOR.

Allie M. Lewis

BY Lewis Bagger & Co.

Attorneys

# UNITED STATES PATENT OFFICE.

ALLIE M. LEWIS, OF TERRE HAUTE, INDIANA.

## RAILWAY FROG-SWITCH.

No. 850,660. Specification of Letters Patent. Patented April 16, 1907.

Application filed July 9, 1906. Serial No. 325,365.

*To all whom it may concern:*

Be it known that I, ALLIE M. LEWIS, a citizen of the United States, residing at Terre Haute, in the county of Vigo and State of Indiana, have invented certain new and useful Improvements in Railway Frog-Switches, of which the following is a specification.

My invention relates to improvements in railway frog-switches. Its object is to provide for automatically shifting or switching the frog or point by the action of the car-wheel in passing either along the main track or the "siding" and to carry out these ends in a reliable and effective manner.

Said invention consists of certain structural features or instrumentalities, substantially as hereinafter fully set forth, and specifically pointed out by the claims.

In the accompanying drawings, illustrating the preferred embodiment of my invention, Figure 1 is a plan view thereof, with the frog set for the main track, with parts broken away. Fig. 2 is a transverse or vertical section produced through the frog and its actuating toggle-lever mechanism. Fig. 3 is a like section taken on the line $x$ $x$ of Fig. 1. Fig. 4 is also a similar view produced on the line $y$ $y$ of Fig. 1.

In carrying out my invention I suitably arrange, in connection with the usual main track 1 and the siding 2, a "frog" 3, preferably of the structural outline shown, being a relatively broad rail-section, with its butt-end suitably pivoted in position and adapted to abut the converging ends of a main-track rail-section 4 and a siding rail-section 5 and to move in an arc touched by corresponding rail-sections 6 7, forming continuations of the main track and siding. Said frog is equipped in its under side with a bar 8, extending laterally therefrom in each direction through keepers or guides 9, secured, preferably, to a base-plate 10, itself bolted in place.

A practically toggle-lever arrangement of parts 11 12 is herein employed for actuating the frog or point member, having its levers 13 13, which are suitably pivoted upon fulcra or bars 14 14, outstanding from the main-track rail-sections 4 6, loosely connected or jointed to the opposite sides of the frog or point member 3 by links or bars 15 15, pivoted to the latter about centrally and to said levers at their relatively inner ends, respectively. The opposite ends of said levers 13 are connected to the diagonally opposite ends of the sliding bars or rods 16 16, arranged to extend and guided through orifices or openings in the rail-sections 4 5 6 7 as the preferable means for that purpose. Alongside of these rail-sections are arranged "shoes" or bevel-ended bars 17 18 19 20, two—17 18—being suitably pivoted to the rail-sections 4 5 to move horizontally and having suitable connection with one of said sliding rods or bars 16 for the actuation of the frog 3 from the flange of the wheel passing over either of the rail-sections 4 5 and the other two bars or shoes 19 20 being suitably pivoted to the base-plate 10 or indirectly thereto and suitably connected to the other sliding rod or bar 16 for the actuation of the frog by the flange of the wheel passing over either of the rail-sections 6 7, as will be more fully apparent later.

A train traveling upon the main track in either direction, it will be noted that even though the frog should be adjusted for the siding it will be automatically shifted or switched in alinement with the main-track rails 4 6 by the action of the wheel-flange with either the shoe 17 or the shoe 20, according to the traveling direction of the train. Also it is observed that a train or engine crossing the main track from the siding the wheel-flange will engage the shoe 18 and automatically shift the frog should it be set for the main track at the point of crossing, and thus insure the requisite uninterrupted passage of the engine or train. Further, a train or engine may pass reversely to the direction just noted or from that of the main track toward and upon the siding and also automatically switch or shift the frog accordingly by the engagement of the wheel-flange with the shoe 19.

The aforesaid arrangement of parts, it is noted, is quite simple and effective in its action for the intended purposes, which are desiderata especially in this class of devices, as will be appreciated.

I claim—

1. A device of the character described, having a pivoted "frog" or switch-point, pivoted bars or shoes arranged laterally of track and siding rails, and a toggle lever or joint arrangement of parts comprising duplicate levers with the relatively inner ends thereof linked to opposite sides of said "frog" or switch-point and the opposite ends of said levers connected to sliding rods or bars actuated by said pivoted bars or shoes.

2. A device of the character described,

having a pivoted switch-point or "frog," pivoted bars or shoes arranged laterally of track and siding rails, duplicate levers about centrally pivoted upon bars outstanding from rail-sections of the track, said levers having their relatively inner ends connected by pivoted links about centrally to opposite sides of said switch-point or "frog," and duplicate rods or bars slidably arranged in apertures or orifices in said track and siding rails and connected to the relatively outer ends of said rods, said pivoted bars or shoes being adapted to actuate and rest upon said sliding rods or bars, near their outer or free ends.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALLIE M. LEWIS.

Witnesses:
CHARLES S. BABB,
MARGARET LAWLOR.