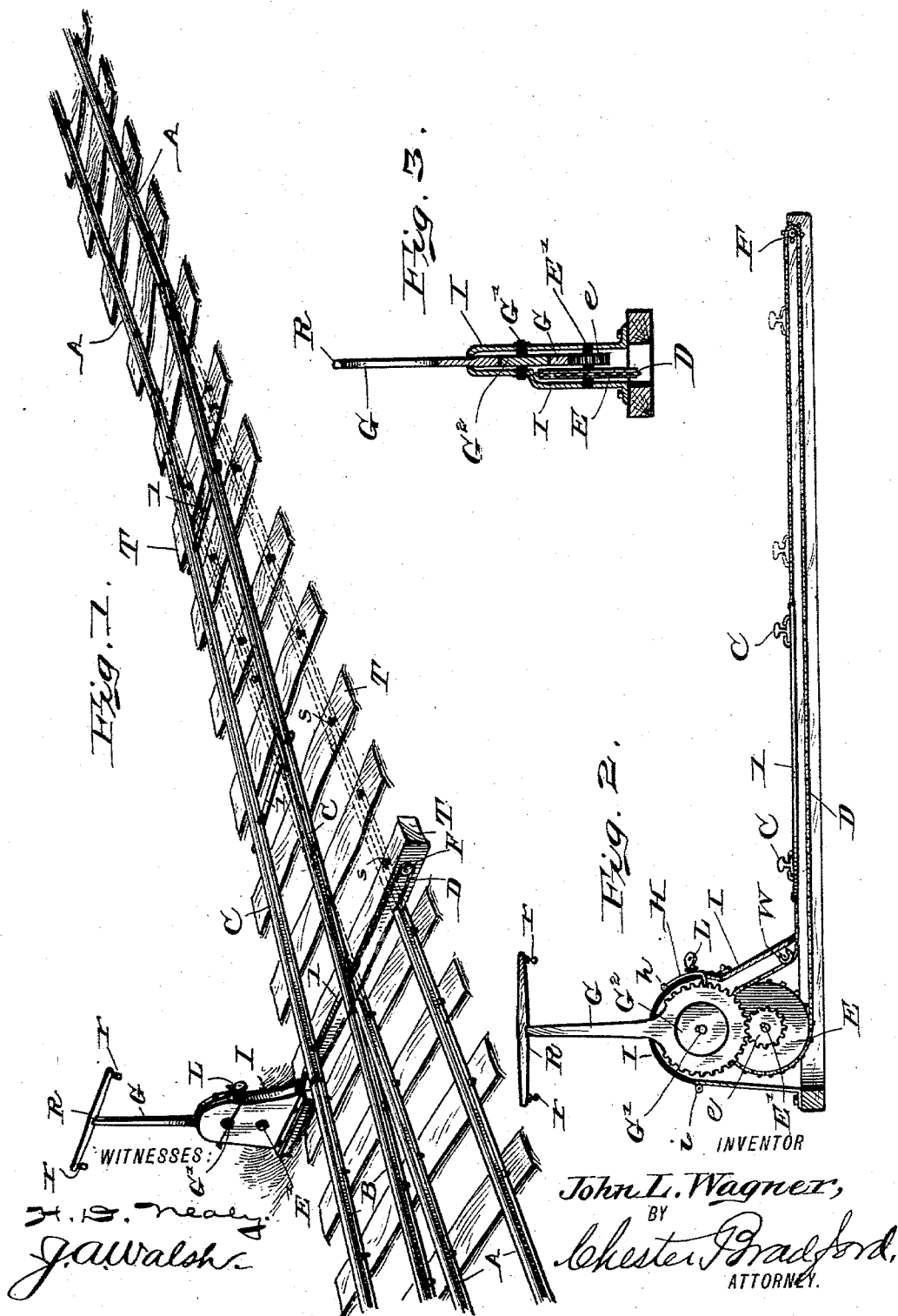


(No Model.)

J. L. WAGNER.
RAILWAY SWITCH.

No. 569,730.

Patented Oct. 20, 1896.



UNITED STATES PATENT OFFICE.

JOHN L. WAGNER, OF TERRE HAUTE, INDIANA.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 569,730, dated October 20, 1896.

Application filed March 10, 1896. Serial No. 582,614. (No model.)

To all whom it may concern:

Be it known that I, JOHN L. WAGNER, 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-Switches, of which the following is a specification.

The object of my said invention is to produce a railway-switch in which all frogs are dispensed with and by means of which the switch-rails can be shifted the full width of a track or, in other words, from one track to another.

A railway-switch embodying my said invention will be first fully described and the novel features thereof then pointed out in the claims.

Referring to the accompanying drawings, which are made a part hereof and on which similar letters of reference indicate similar parts, Figure 1 is a perspective view of a complete railway-switch and fragments of the several track-rails adjacent thereto; Fig. 2, a transverse sectional view across the track, showing the switch mechanism in elevation; and Fig. 3, a vertical sectional view through the casing of the switch-operating mechanism and also through some portions of said mechanism.

In said drawings the portions marked A represent the main-track rails; B, the side-track rails; C, the switch-rails; D, a sprocket-chain for operating said rails; E F, the sprocket-wheels over which said chain runs; G, a lever forming the primary member of the switch-operating mechanism; H, a catch whereby the mechanism may be located in position, and I the switch-casing.

The rails A are the rails of the straight railway-track. The rails B are the rails of an ordinary side-track. The rails C are switch-rails, which are secured in any ordinary manner, usually by spikes, to a tie at the end opposite to that where they may be brought into registry with the side-track rails, but free to slide at other points, so that the end operated directly by the switch mechanism may be shifted from the side-track to the main track, or vice versa. Said rails C are united at various points by the connecting-bars *l*, of which as many as may be desired

are used. At the point which is the limit of the movement of these rails in each direction spikes *s* are driven into the ties T, and the rails C are to be operated by the switch until they come into forcible contact with these spikes on one side or the other, which thus form stops therefor.

The chain D is connected at its ends to the ends of that one of the rail-uniting bars *l* which is nearest the movable ends of the rails C and passes thence around the sprocket-wheels E and F and also under an idle wheel or pulley W. It is the means by which the switch-rails C are shifted from one position to the other. The two positions of these switch-rails are indicated by dotted and full lines, respectively, in Figs. 1 and 2.

The sprocket-wheel E is of comparatively large size and is the driving-wheel by which the chain and switch-rails are driven. It is mounted on a shaft E', which shaft also carries a spur-pinion *e*.

The lever G develops at its lower end into a spur gear-wheel, which meshes with the pinion *e*. It is carried by a shaft G', but is preferably mounted directly on a large disk or washer G², which in the construction shown and preferred is the part carried directly by said shaft, it being desirable to furnish a large bearing for this "gear-lever."

The catch H is mounted on the casing I of the structure by means of a pivot *h*. Its end is hooked inwardly and passes through said casing and engages with the teeth of the gear portion of the lever G, as shown in Fig. 2. When in position, it may be secured thereby by a lock L. The upper part of the casing is hinged at *i*, so that it may be opened when desired.

I have shown on the upper end of the lever G a cross-bar R with hooks *r*, upon which lanterns may be hung.

As will be seen, this construction requires only ordinary railroad-rails, so far as the track is concerned, dispensing wholly with frogs and other special structures and with a considerable amount of rail, while the rails are brought into contact registry in shifting, there being fixed stops *s* at the limit of movement in each direction to prevent further movement of the rails.

Having thus fully described my said invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a railway-switch, the combination, of
5 the usual main and side track rails, a pair of switch-rails united by cross-bars, a switch-stand on one side of the track provided with a casing, a sprocket-wheel journaled in said casing, a pivoted lever with a segmental rack
10 on its lower end which engages with mechanism for operating said sprocket-wheel, an idler-pulley fixed to a suitable point on the other side of the track, and a sprocket-chain mounted on said sprocket-wheel and attached
15 to said switch-rails at each side thereof and running over said idler-pulley between said two attachments, substantially as set forth.

2. The combination, in a railway-switch structure, of the main rails, side-track rails,
20 the switch-rails, a chain connected to said switch-rails and running within a casing over a sprocket-wheel thereon, and thence out and around an idle-wheel, said wheels, a spur-pinion on the same shaft as said sprocket-
25 wheel, a lever mounted on a pivot-shaft in said casing and formed at its lower end into a spur gear-wheel engaging with said spur-

pinion on the sprocket-wheel shaft, the whole being arranged and operating, substantially as set forth. 30

3. The combination, in a railway-switch structure, of the main-track rails, the side-track rails, the switch-rails, a chain connected to said switch-rails and running over sprocket-wheels, said sprocket-wheels, a pinion on the same shaft as the main sprocket-wheel, a lever mounted on a second shaft and having a gear-like end engaging with said first gear-wheel, said shaft carrying said lever having a large disk or washer whereby a large bearing is formed for said lever, a catch pivoted to the casing and adapted to engage with the teeth on the gear end of said lever, and a lock whereby the same may be fastened in position, substantially as shown and described. 35 40 45

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 2d day of March, A. D. 1896.

JOHN L. WAGNER. [L. s.]

Witnesses:

CHESTER BRADFORD,
JAMES A. WALSH.