

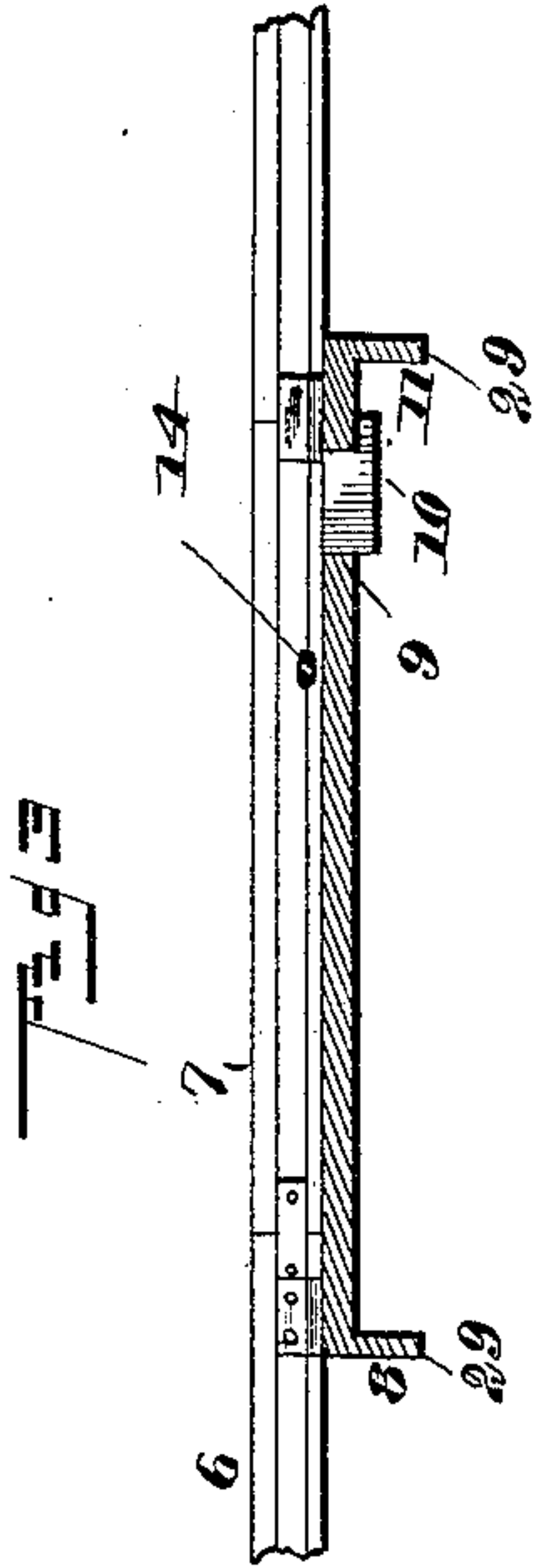
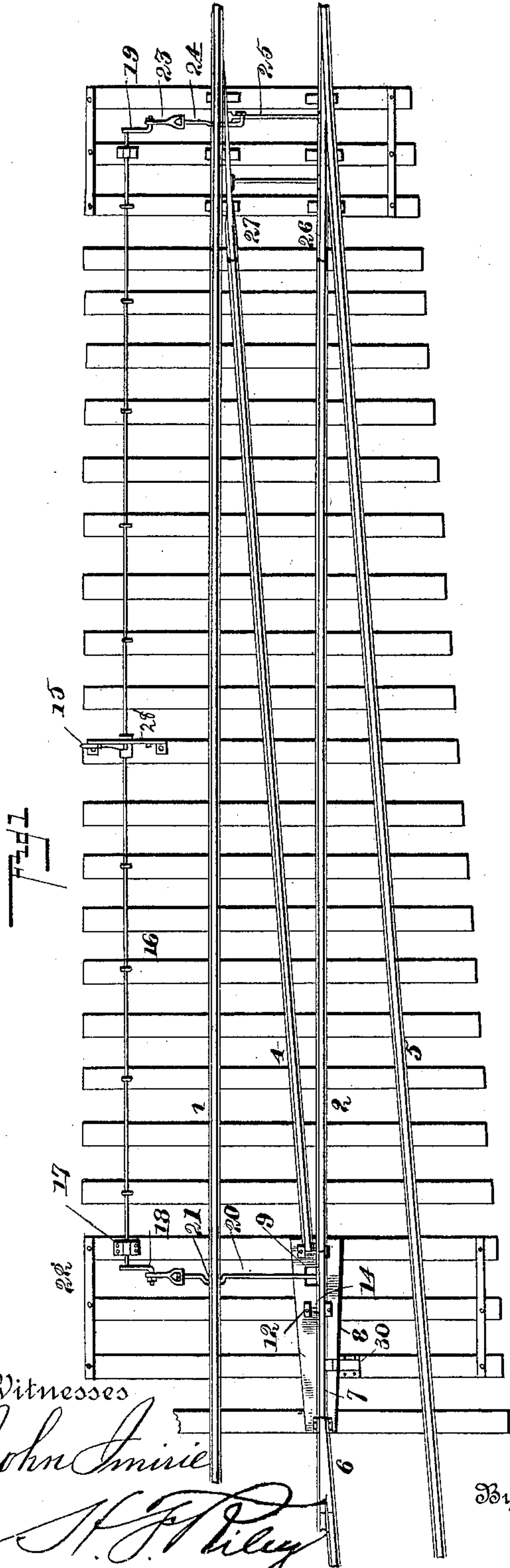
(No Model.)

2 Sheets—Sheet 1.

C. H. HOBSON.
SWITCH.

No. 437,156.

Patented Sept. 23, 1890.



Witnesses

John Amie
H. F. Wiley

Inventor

Charles H. Hobson

By *his* Attorneys

C. A. Snow & Co.

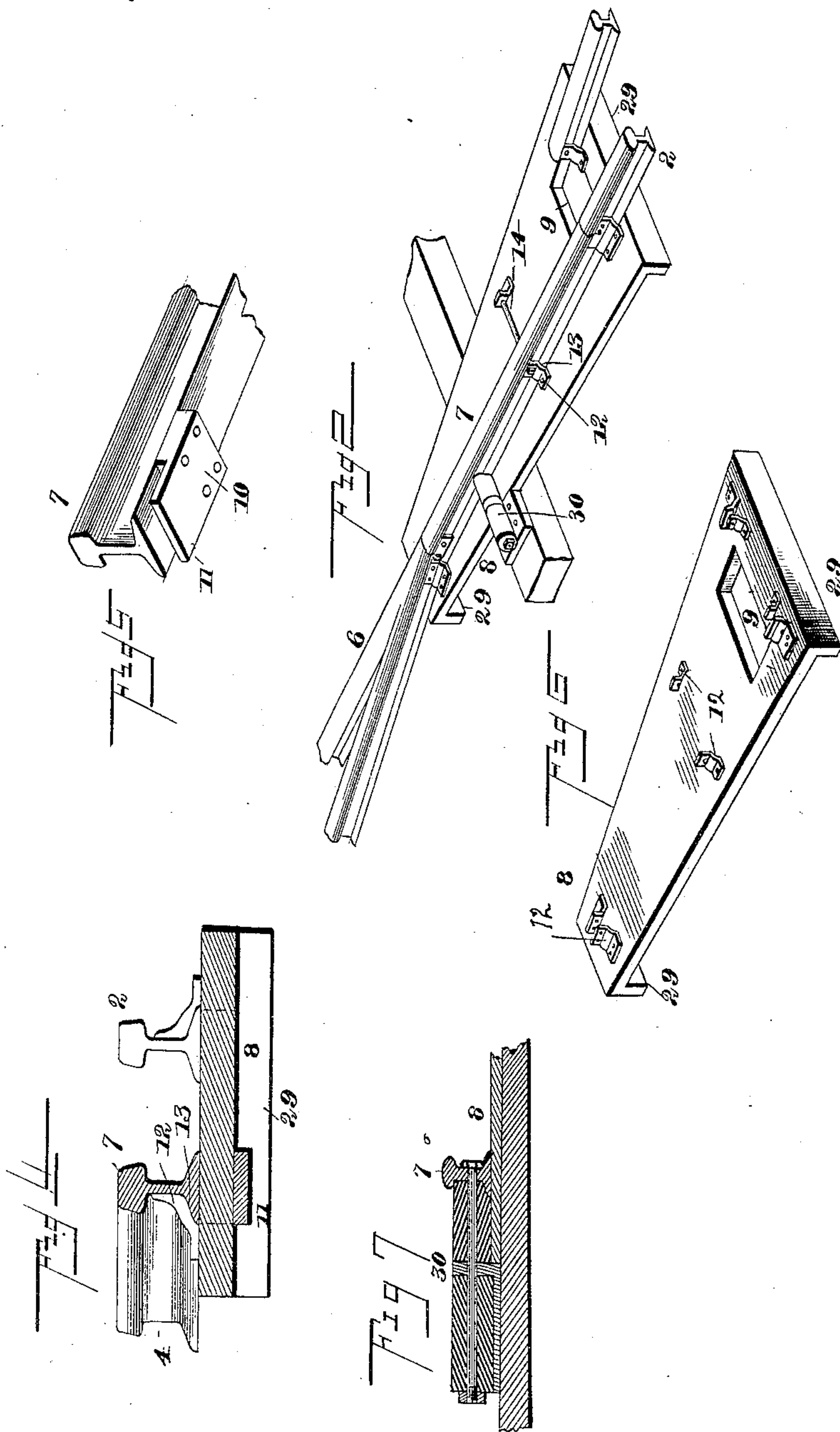
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UNITED STATES PATENT OFFICE.

CHARLES H. HOBSON, OF MOUNT CARMEL, PENNSYLVANIA, ASSIGNOR OF
ONE-HALF TO WILLIAM CURNOW, OF SAME PLACE.

SWITCH.

SPECIFICATION forming part of Letters Patent No. 437,156, dated September 23, 1890.

Application filed March 18, 1890. Serial No. 344,406. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. HOBSON, a citizen of the United States, residing at Mount Carmel, in the county of Northumberland and State of Pennsylvania, have invented a new and useful Switch, of which the following is a specification.

The invention relates to improvements in switches.

10 The object of the present invention is to provide a switch of simple and economic construction which will dispense with the frog ordinarily employed, and which will be capable of ready and positive preparation.

15 The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

20 In the drawings, Figure 1 is a plan view of a switch and operating mechanism constructed in accordance with this invention. Fig. 2 is a detail view of the frog. Fig. 3 is a vertical longitudinal sectional view. Fig. 4 is a transverse sectional view of the same. Fig. 25 5 is a detail perspective view of the frog-rail. Fig. 6 is a similar view of the base-plate, showing the chairs and the connecting-rods. Fig. 7 is a detail sectional view.

30 Referring to the accompanying drawings, 1 and 2 designate the main rails, which are spiked to ties in the ordinary manner, and 4 and 5 are similar rails of a line crossing the main line. The adjacent converging rails 2 and 4 are connected at their point of crossing 35 by a point 6, to the end of which is hinged by fish-plates and bolts a frog-rail 7, that is adapted to be moved laterally to align with the main-line rail 2 or the rail 4 beyond their point of crossing to connect said rails 2 and 4 and perform the function of a frog and dispense with the latter. The frog-rail 7 is 40 mounted upon a base-plate 8, which is suitably secured to the ties and arranged beneath the said frog-rail and the ends of the point 6 and the rails 2 and 4, and is slightly triangular in shape, and is provided near its larger end with a rectangular opening 9, in which is arranged a plate 10, that is secured to the 45 lower face of the free end of the switch-rail,

and is provided with a lip or flange 11, that is formed by rabbeting the plate 10, and is adapted to engage the lower face of the base-plate and prevent the said frog-rail 7 moving vertically and becoming displaced. The plate 55 10 is arranged a sufficient distance from the end of the frog-rail to enable the lip to obtain a firm hold upon the lower face of the base-plate, and the adjacent tie is recessed to receive the said plate 10 to enable it to move 60 freely.

The base-plate is provided at each end with depending flanges 29, that are seated in recesses of the adjacent ties, and the ends of the point 6 and the rails 2 and 4 are bolted to the 65 base-plate, and this will prevent the parts interfering with the frog-rail 7 when expanding and contracting under heat and cold.

The base-plate is held normally in alignment with the main rail by a spring-connection 30 when it is not locked in its other position, and it is provided upon each of its sides 70 with a series of chairs 12, that are suitably secured to the plate and have their inner or opposed faces conforming to the configuration of the sides of the frog-rail 7 to enable the latter to fit snugly against them and be supported thereby. 75

Each pair of chairs is connected by a rod or pin 14, that is provided at one end with a 80 head and has its opposite end threaded and adapted to receive a nut, and it passes through perforations in the chairs and the frog-rail and prevents the latter rising from the base-plate. 85

The frog-rail 7 may be hinged to the extremity of the point 6, or, if desired, can be pivoted to the base-plate; but the former manner of securing the rail is preferable.

The switch is operated by a lever 15, that 90 is clamped to a rock-shaft 16, that is mounted in suitable bearings 17, located near the ends of the tie 3 and at one side of the track.

The rock-shaft is provided at its ends with crank-arms 18 and 19, the former of which is 95 arranged opposite the free end of the frog-rail, and is connected therewith by a rod 20, that has one end perforated and secured upon the threaded end of the crank-arm 18 by a nut, and the other end is suitably secured to 100

the side of the switch-rail, and the said rod 20 is provided at a point intermediate of its ends with a loop or bend 21, that passes beneath the rail 1 and enables the main body of the rod 20 to be arranged in the same plane as the rails.

The ties adjacent to the crank-arms 18 and 19 are connected by plates or strips of metal 22, that hold the rail adjacent to the operating parts of the switch rigid and prevent the switch being injured or broken by the passage of trains.

The crank-arm 19 is connected by means of suitable rods 23 and 24 to a bar 25, that is arranged between the switch-rails 26 and 27 of the rails 4 and 5 and preserves the parallelism of the switch-rails 26 and 27.

The lever 15 is guided in its movements by a curved frame 28, and may be arranged to operate either in a vertical or horizontal plane, and I desire it to be understood that I do not limit myself to the precise details of construction herein shown and described, as I may without departing from the spirit of the invention make minor changes therein.

It will readily be seen that the switch is simple and inexpensive, and that it is positive and reliable in its operation.

What I claim is—

30 1. In a switch, the combination of the base-plate provided with an opening 9, the frog-

rail hinged to the base-plate and having a plate 10 secured to its lower face and arranged in said opening and engaging the base-plate, the chairs secured to the base-plate at the sides thereof and arranged in pairs, the rod passing through the frog-rail and connecting the opposite chairs, the rock-shaft having a crank-arm at its end, the rod 20, secured to the crank-arm and the switch-rail and provided at a point intermediate of its end with a bend or loop 21, and the lever clamped to the rock-shaft, substantially as described.

2. In a switch, the combination of the base-plate provided near one end with an opening 9, the frog-rail hinged at the opposite end of the plate and provided near its free end with a plate 10, arranged in said opening 9 and engaging the base-plate, the chairs arranged in pairs along the base-plate and the rod passing through the frog-rail and connecting the opposite chairs, and the spring-connection 30 for the switch-rail arranged between the rod and the hinge-point, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

CHARLES H. HOBSON.

Witnesses:

E. E. WHITE,
GRANT POTTER.