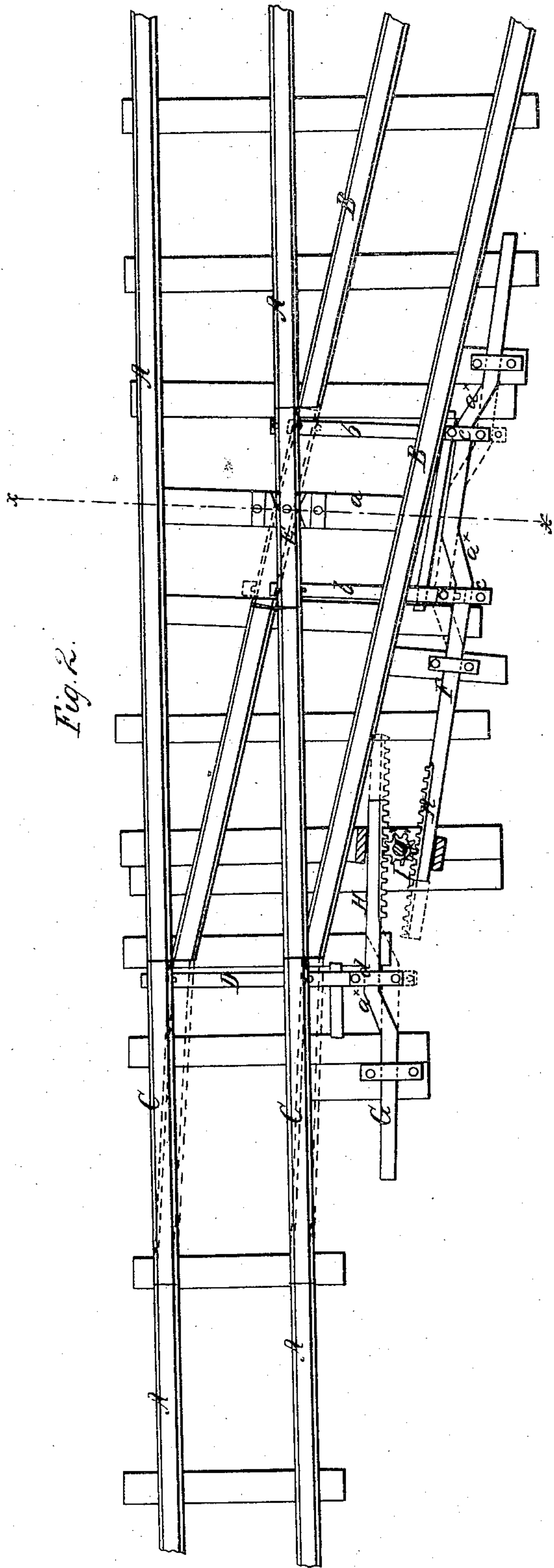
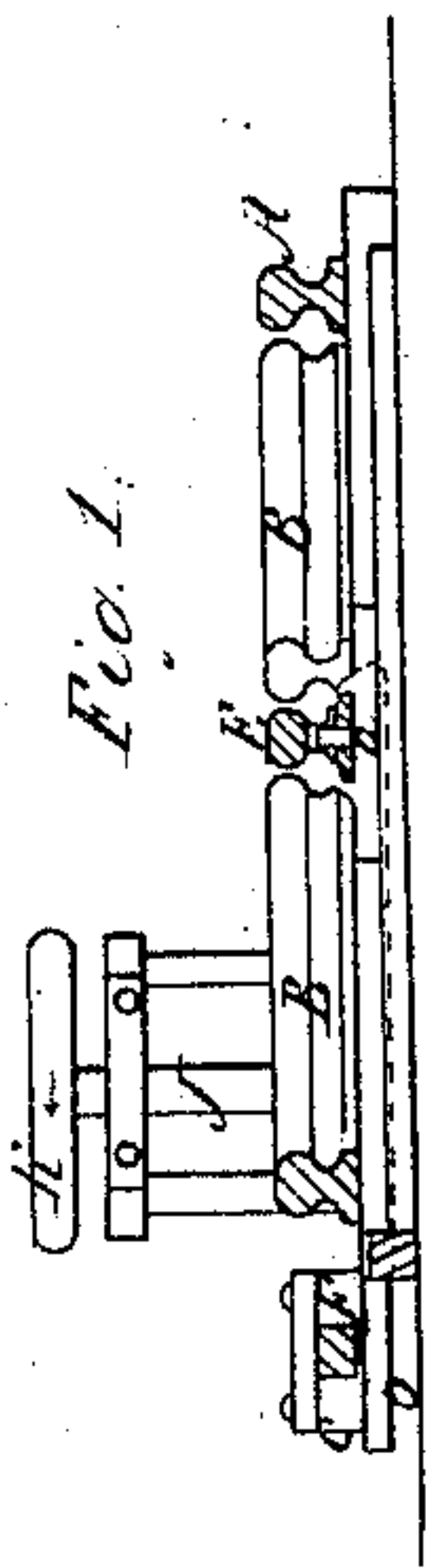


*S. Heywood.*  
*Railroad Switch.*

*N<sup>o</sup> 21,880.*

*Patented Oct. 26, 1858.*



# UNITED STATES PATENT OFFICE.

SIMEON HEYWOOD, OF CLAREMONT, NEW HAMPSHIRE.

## RAILROAD-SWITCH.

Specification of Letters Patent No. 21,880, dated October 26, 1858.

*To all whom it may concern:*

Be it known that I, SIMEON HEYWOOD, of Claremont, in the county of Sullivan and State of New Hampshire, have invented a new and useful Improvement in Railroad-Switches; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a cross-section of my invention taken in the line  $x, x$ , Fig. 2. Fig. 2, is a plan or top view of ditto.

Similar letters of reference indicate corresponding parts in the two figures.

This invention consists in using in connection with the ordinary switch rails a movable frog so arranged that the switch and frog will be operated simultaneously by the movement of a single lever or shaft, and the frog as well as the switch moved in line with the rails over which the train is to pass. By this improvement a continuous track is formed, thereby obviating the objections to the usual stationary frog, to wit, the danger of the cars being thrown from the track and the wear and tear of switches as well as the wheels and running gear generally of the cars in passing over switches.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A, A, represents the rails of a main and B, B, represents the rails of a branch track. C, C, represent switch rails which are connected by a cross-bar D, at one end and pivoted at the opposite ends so that they may as usual be moved laterally in line with either the direct or branch track. The switch rails C, C, are arranged in the usual way and therefore do not require a minute description.

E, represents the frog, which is a straight bar pivoted at its center to a sleeper  $a$ , the frog being allowed to turn freely on its pivot so that it may be thrown in line with either the innermost rail of the direct track, or with the innermost rail of the branch track. This will be understood by referring to Fig. 2, in which the frog is shown in black in line with the rail of the direct track and shown in red in line with the rail of the branch track. The frog E, has a slide bar  $b$ , attached to each end of it and the outer ends of the bars  $b$ , have each a loop  $c$ , formed thereon through which a bar F, passes. The outer end of the bar D, of the

switch rails C, C, has a loop  $d$ , formed on it through which loop a bar G, passes. The two bars F, G, have each a rack H, attached and a pinion I, gears into the racks of both bars, said pinion being between the two racks and on the lower end of a shaft J, which has a hand wheel K, on its upper end.

The bars F, G, are not straight, they are of curved or bent form as shown clearly at  $a^x$ , in Fig. 2, so that when moved longitudinally through their loops  $c, c, d$ , they will actuate respectively the switch rails C, C, and the frog E.

From the above description of parts it will be seen that by turning the shaft J, the bars F, G, will be moved by the pinion I, and racks H, simultaneously toward and from each other and it will also be seen that the switch rails C, C, and frog E, will be moved simultaneously in consequence of the curved or bent portions  $a^x$ , working through the loops  $c, c, d$ . The curved or bent portions  $a^x$  of the bars F, G, are placed in such relation to each other as to throw simultaneously the switch rails C, C, and the frog E, in line with the same track.

By this invention a continuous track is obtained and cars will pass as easily and smoothly over the frog and switch as over other portions of the track. The usual stationary frog is liable to throw the cars from the track as they do not form a connection, but leave a break or recess which causes concussions, injuring the wheels and jarring the whole running gear. The usual stationary frogs are also subjected to great wear and require to be frequently renewed. By my invention these objections are obviated.

I am aware that movable frogs have been used and are now in general use especially in city roads, but so far as I am aware they have in all cases been used separately or detached performing the office of a switch rather than that of the original stationary plate which was known by the term of frog. I therefore do not claim separately any of the parts shown; but,

I do claim as new and desire to secure by Letters Patent,

The arrangement and construction of the bent or curved bars F, G, having racks H attached, and operated by a pinion J, as and for the purposes herein shown and described.

SIMEON HEYWOOD.

Witnesses:

P. C. FREEMAN,  
GUMNER PUTNAM.