

No. 770,305.

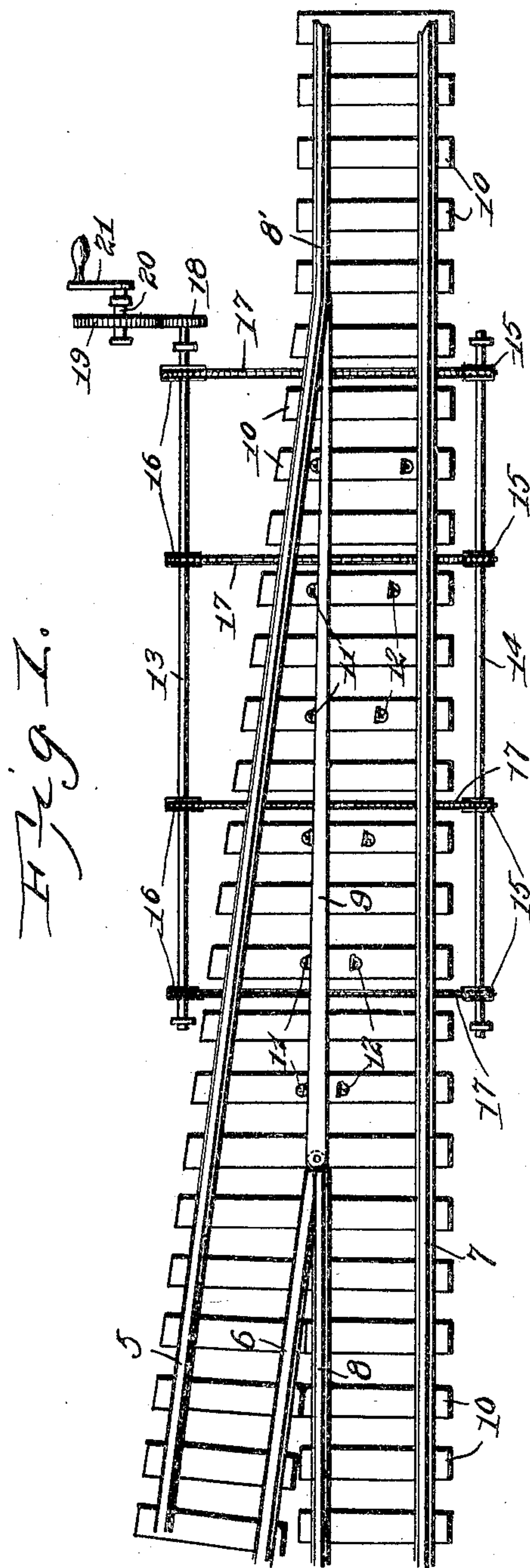
PATENTED SEPT. 20, 1904.

W. L. O'BRIEN.
SWITCH.

APPLICATION FILED JUNE 20, 1904.

NO MODEL.

2 SHEETS—SHEET 1.



Inventor

W. L. O'Brien,

Witnesses

L. Armstrong.

W. C. Key, Jr.

By

Charles C. Chandler

Attorney

No. 770,305.

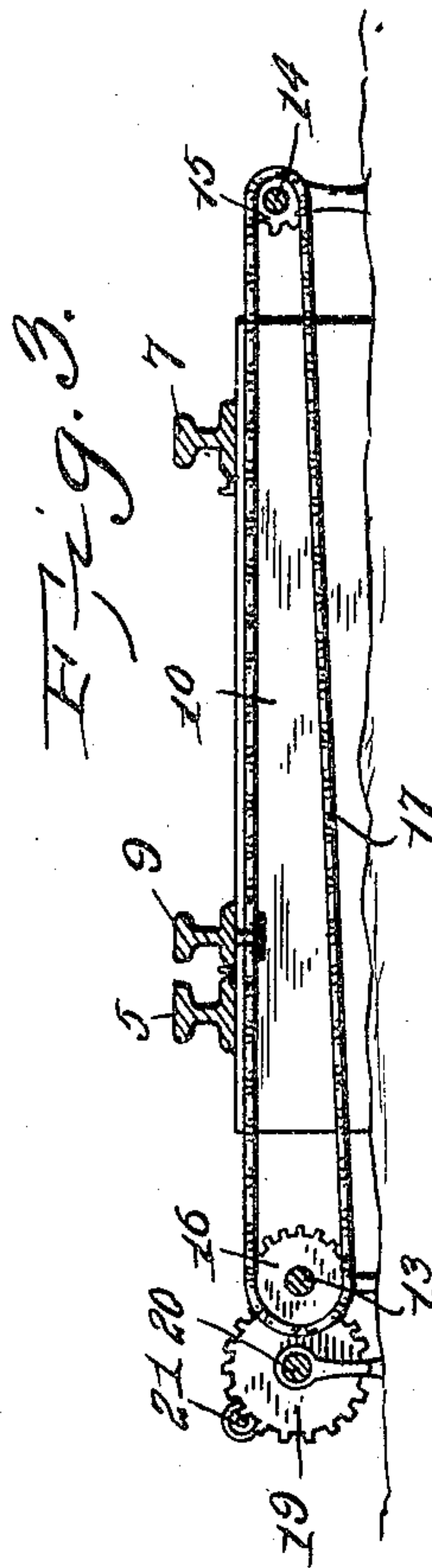
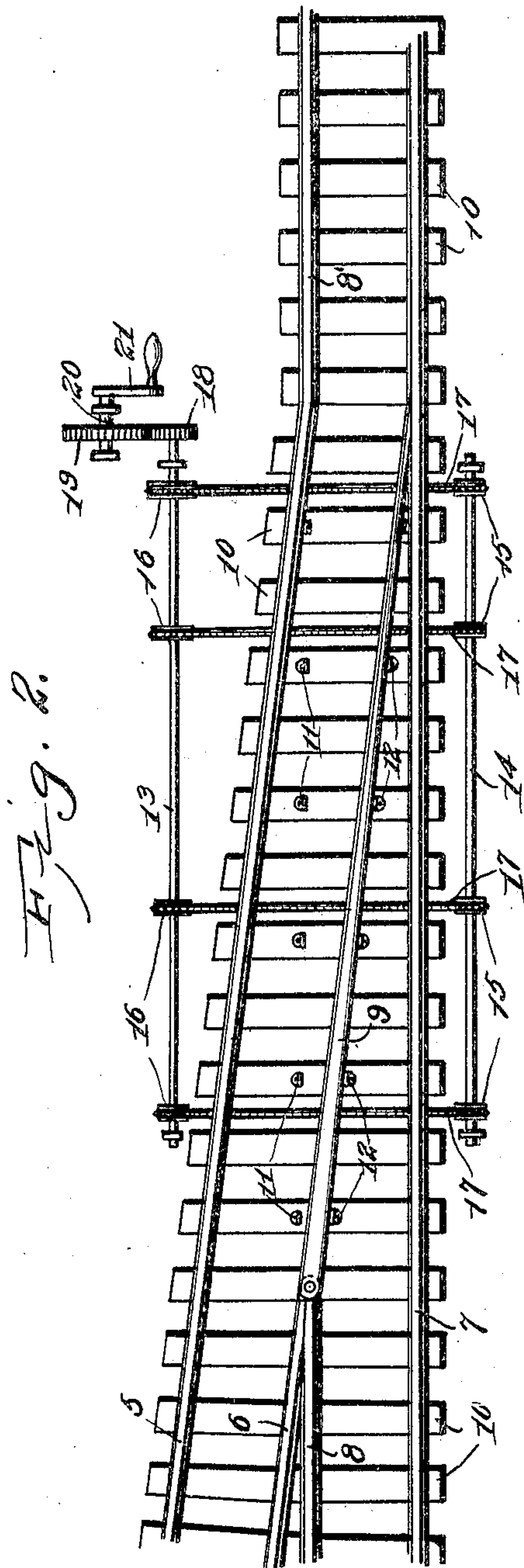
PATENTED SEPT. 20, 1904.

W. L. O'BRIEN.
SWITCH.

APPLICATION FILED JUNE 20, 1904.

NO MODEL.

2 SHEETS—SHEET 2.



Witnesses
L. Armstrong.
W. C. Hayes.

Inventor
W. L. O'Brien,

By *Thomas Chandler*

Attorney.

UNITED STATES PATENT OFFICE.

WILLIAM L. O'BRIEN, OF NEWRIVER DEPOT, VIRGINIA.

SWITCH.

SPECIFICATION forming part of Letters Patent No. 770,305, dated September 20, 1904.

Application filed June 20, 1904. Serial No. 213,387. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM L. O'BRIEN, a citizen of the United States, residing at Newriver Depot, in the county of Pulaski, State of Virginia, have invented certain new and useful Improvements in Switches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to railway-switches; and it has for its object to provide a construction wherein the usual cross-rails and frogs are dispensed with, a further object of the invention being to provide means for shifting the switch-rail and for holding the latter securely in its shifted positions.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a top plan view showing a portion of a railway embodying the present invention. Fig. 2 is a view similar to Fig. 1, showing the switch-tongue in its opposite position. Fig. 3 is a transverse vertical section through the structure shown in Fig. 1.

Referring now to the drawings, there is shown a portion of a railway, including main-track rails and switch-rails. The switch-rails are shown at 5 and 6 leading from one side of the main trackway, the rail at the far side from the switch being shown at 7, while the opposite main-track rail is shown in two sections 8 and 8'. The rails 6 and 8 meet at a sharp angle, and connected at their meeting ends is a switch-tongue 9, which is movable to aline with the rails 8 and 8' or to aline with the rail 6 and lie with its free end against the rail 7. The rails are secured upon ties 10 in the usual manner, while the switch-tongue 9 is slidable upon the ties, the movement of the switch-tongue in opposite directions being limited by the stops 11 and 12, lying at oppo-

site sides of the tongue and secured upon the ties.

At opposite sides of the track are mounted horizontal shafts 13 and 14 in suitable bearings, the shaft 14 having pulleys fixed thereon, while the shaft 13 is provided with winding-drums 16 of different diameters. A chain 17 is passed around each pulley 15 and beneath the rails and is wound several times around the corresponding drum 16. Each of the chains is endless and is attached to the switch-tongue, so that as the shaft 13 is rotated in one direction the chains are moved to correspondingly move the switch-tongue to the corresponding limit of its movement. The reason for making the winding-drums of different diameters is that the points of the switch-tongue to which the chains are attached move different distances.

The shaft 13 is provided with a pinion 18, with which meshes a gear-wheel 19, carried by a crank-shaft 20, having a crank 21 for operating it to shift the switch-tongue.

It will be noted that in the present construction no guard-rails are required.

What is claimed is—

The combination with main-track rails and switch-rails, of a switch-tongue movable with its free end to lie against the main-track rails interchangeably, a shaft at each side of the rails, pulleys carried by one of the shafts, winding-drums carried by the other of the shafts, chains passing round the pulleys and drums and wound upon the latter, said chains being attached each at one side to the switch-tongue, and means connected with the drum-shaft for rotating it.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM L. O'BRIEN.

Witnesses:

R. M. T. HUNTER,
JNO. S. DRAPER, Jr.