

No. 775,023.

PATENTED NOV. 15, 1904.

J. BACE.
SWITCH OPERATING APPARATUS.

APPLICATION FILED JUNE 30, 1904.

NO MODEL.

2 SHEETS—SHEET 1.

FIG. 1.

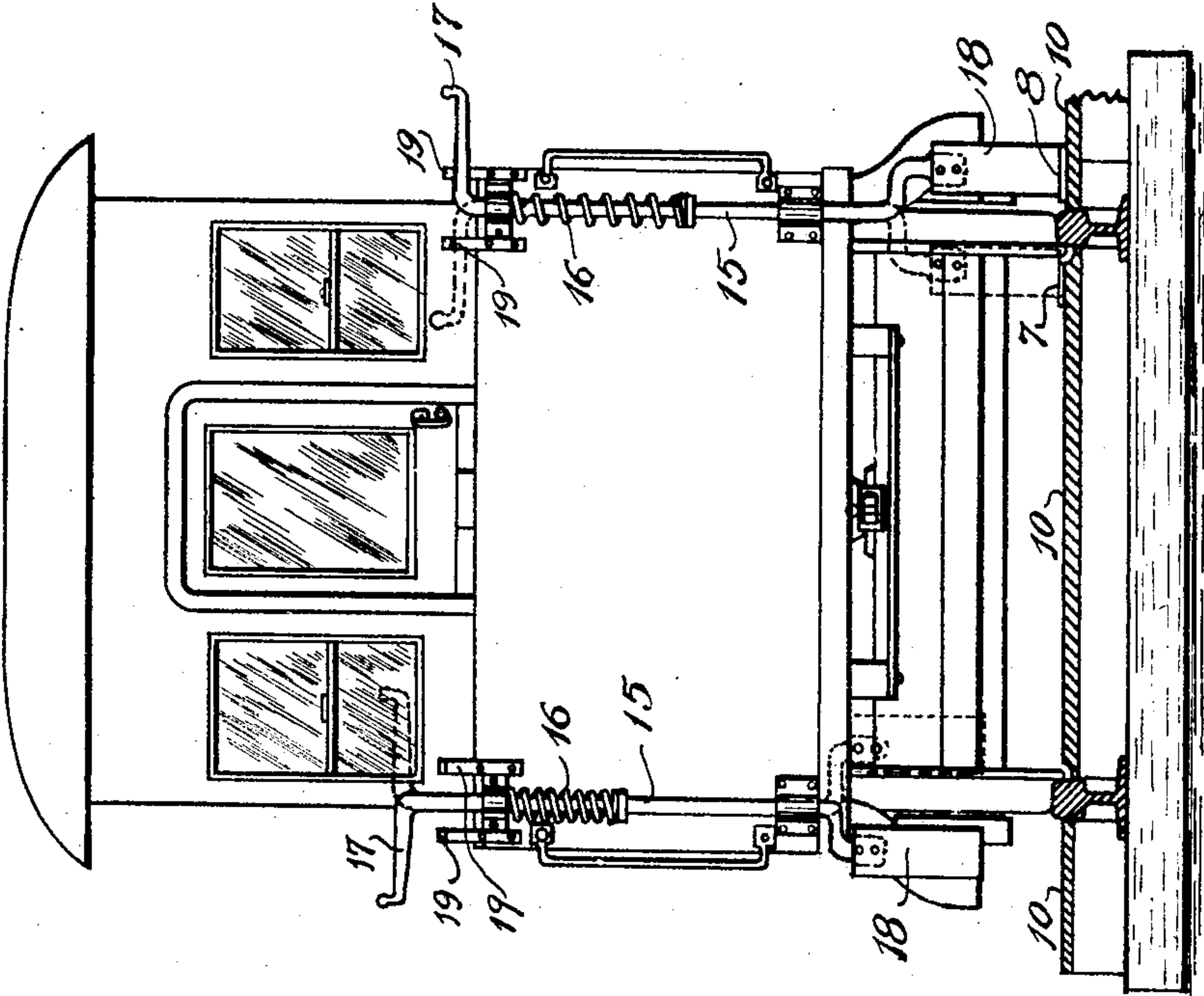
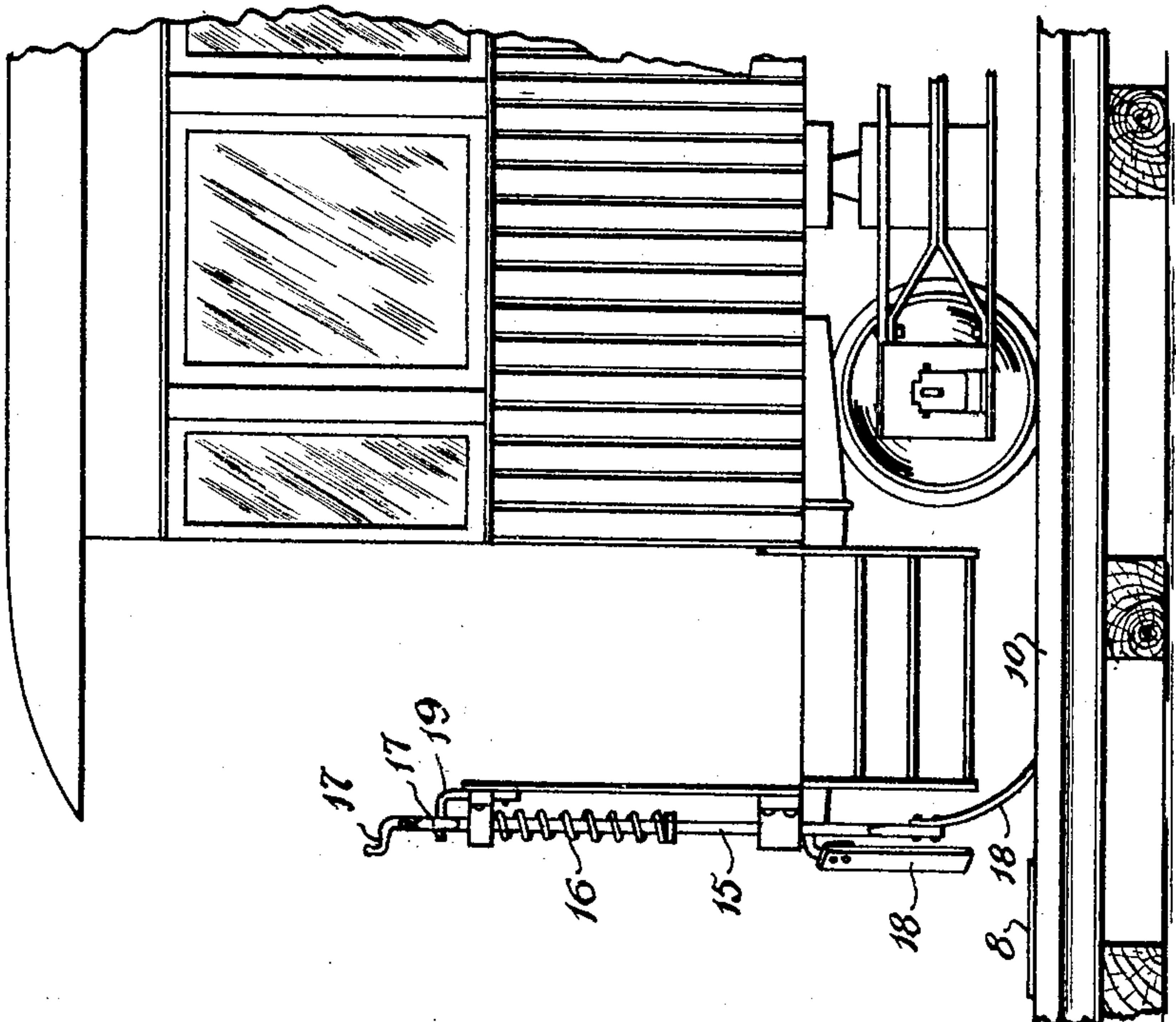


FIG. 2.



WITNESSES

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Frederic J. Shaw

INVENTOR

John Bace
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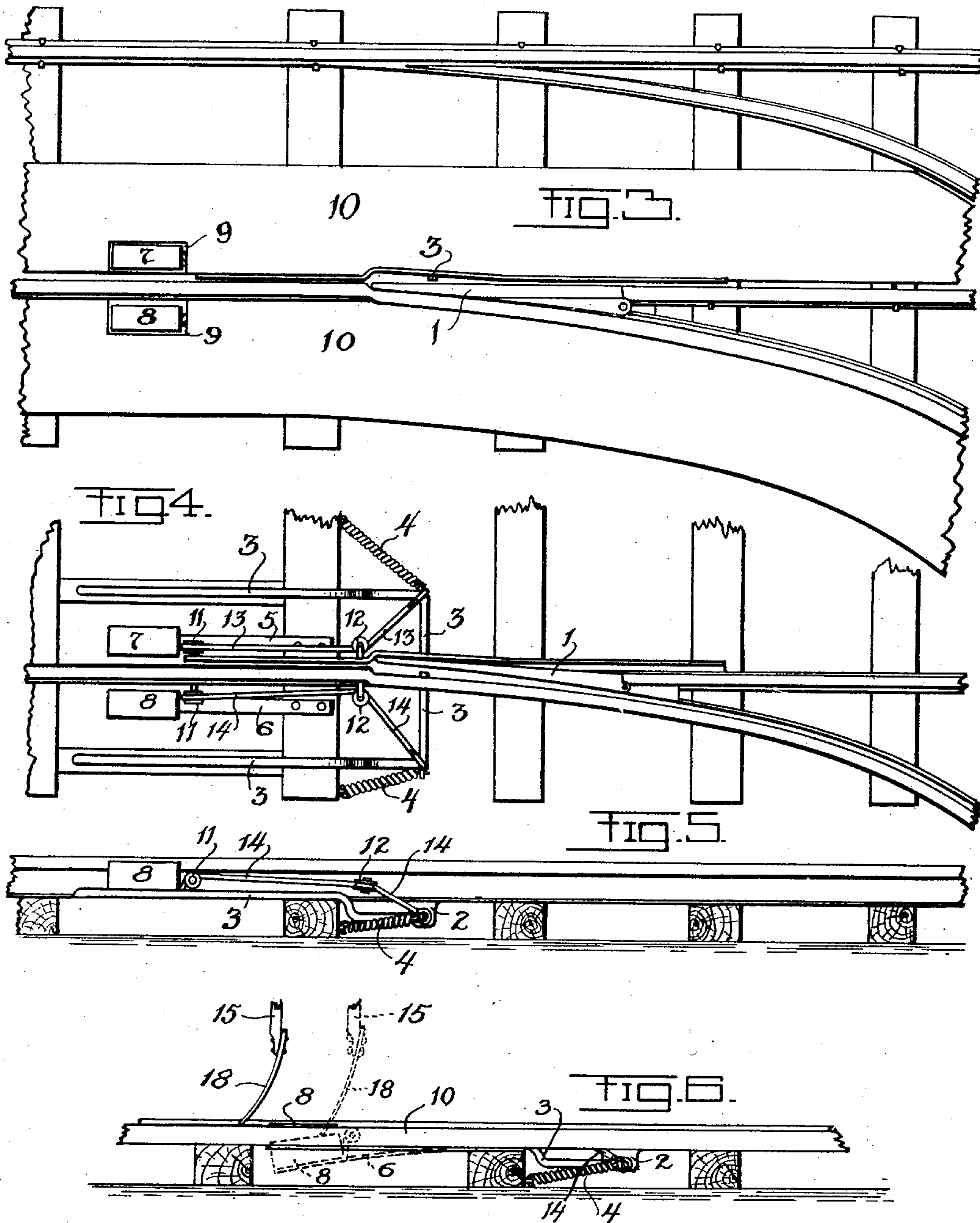
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W. S. Windsor
Frederick Johnson

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UNITED STATES PATENT OFFICE.

JOHN BACE, OF TACOMA, WASHINGTON.

SWITCH-OPERATING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 775,023, dated November 15, 1904.

Application filed June 30, 1904. Serial No 214,769. (No model.)

To all whom it may concern:

Be it known that I, JOHN BACE, a citizen of the United States of America, residing at Tacoma, in the county of Pierce and State of Washington, have invented certain new and useful Improvements in Switch-Operating Apparatus, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to tongue-switches which may be thrown from the approaching car, and has for its objects to provide a mechanism secured to the car by means of which a right or left hand switch may be thrown to either side; second, to provide a mechanism in front of each switch which is adapted to be operated by the mechanism on the car and which will throw the switch to the side desired. I attain these objects by the devices illustrated in the accompanying drawings, in which—

Figure 1 is a front view of the car equipped with the operating mechanism. Fig. 2 is a side view of the front end of said car. Fig. 3 is a plan of the switch. Fig. 4 is a similar view in which the road-planks have been removed to reveal the mechanism. Fig. 5 is a side view thereof, and Fig. 6 is a similar side view showing the way the operating mechanism on the car operates the switch mechanism.

Similar numerals of reference refer to similar parts throughout the several views.

The lower edge of the tongue 1 of an ordinary tongue-switch is provided with the depending lug 2, as shown in Fig. 5, which is adapted to be engaged by the push-rods 3, which terminate on each side thereof. These rods 3 I prefer to form with a right-angled bend in them and having their free ends close to the lug 2 of the switch, their other end being secured to the ties or to the longitudinal pieces, as shown. They are so secured in place as to allow a perfectly free movement of the free end thereof. The rods 3 are held away from the lug 2 by the side springs 4, secured to the tie. To one of the ties are secured the long flat springs 5 and 6, placed parallel with and on each side of the switch-rail and adapted to have their free ends depressed. To the free ends of these springs 5 and 6 are secured

the blocks 7 and 8, respectively, which project upward through the holes 9 in the planking 10, which is placed on each side of the switch-rail. The pulleys 11 are secured to each side of the rail close to the blocks 7 and 8, and the pulleys 12 are fastened to the rail near the point of the switch.

The cables 13 and 14 are respectively secured to the blocks 7 and 8 and pass over the pulleys 11 and 12 and are secured to the rods 3 in a suitable position thereon. Thus if either one of the blocks 7 or 8 is depressed the corresponding rod 3 will push the point of the tongue to the other side of the switch.

To each side of the front end of the car and directly above the rails are secured the vertical rods 15 in such manner that they may be rotated and also moved vertically, being kept normally in a raised position by the springs 16, as shown on the left side of Fig. 1. The upper ends of these rods 15 are provided with handles 17, by means of which they may be turned and depressed. The lower ends are bent in the same direction as the handles and are provided with the stiff flat spring-pieces 18, extending downward. These springs 18 are adapted to be pushed down by the handles 17 on each side of the rails, and as the car moves forward they will bend backward, as shown in Fig. 2. When the spring 18 reaches the block 7 or 8, it is sufficiently strong to depress it, and thus to move the switch-tongue. The keepers 19 are provided in any suitable place to retain the spring 18 down against the action of the spring 16 and to keep the handle 17 from turning backward when the spring is depressed. I have shown the keepers as engaging the handle itself, though it is not necessary that they should be placed there, but could be put near the bent part of the rod.

What I claim, and desire to secure by Letters Patent, is—

1. In a switch-operating apparatus, the combination with the switch-tongue, of depressible blocks supported on each side of the rail near said tongue, rods movably supported near said tongue on each side thereof and each adapted to move the tongue, flexible connections from said blocks to said rods whereby

the rod and tongue are moved when either one of said blocks is depressed, and means secured to the car whereby either one of said blocks may be depressed.

- 5 2. In a switch-operating apparatus, the combination with the switch-tongue, of depressible blocks supported on each side of the rail near said tongue, rods movably supported near said tongue on each side thereof and
10 each adapted to move the tongue, flexible connections from said blocks to said rods whereby the rod and tongue are moved when either one of said blocks is depressed, a vertical depressible rod secured to the car directly over
15 the rail and having an offset at its lower end, a flat spring secured to said offset and adapted to be depressed into contact with one of the said blocks, a handle secured to said vertical rod whereby said offset and spring may be
20 swung to either side of the rail, and keepers adapted to engage said handle to retain and hold it in said depressed position.

3. In a switch-operating apparatus, the combination with the switch-tongue, of depressible blocks supported on each side of the 25 rail near said tongue, means connected to each of said blocks for moving said tongue when the block is depressed, a vertical depressible rod secured to the car directly over the rail and having an offset at its lower end, a flat 30 spring secured to said offset and adapted to be depressed into contact with one of said blocks, a handle secured to said vertical rod whereby said offset and spring may be swung to either side of the rail, and keepers adapted 35 to engage said handle to retain and hold it in said depressed position.

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

JOHN BACE.

Witnesses:

M. H. COREY,
WILLIAM E. WINDSOR.