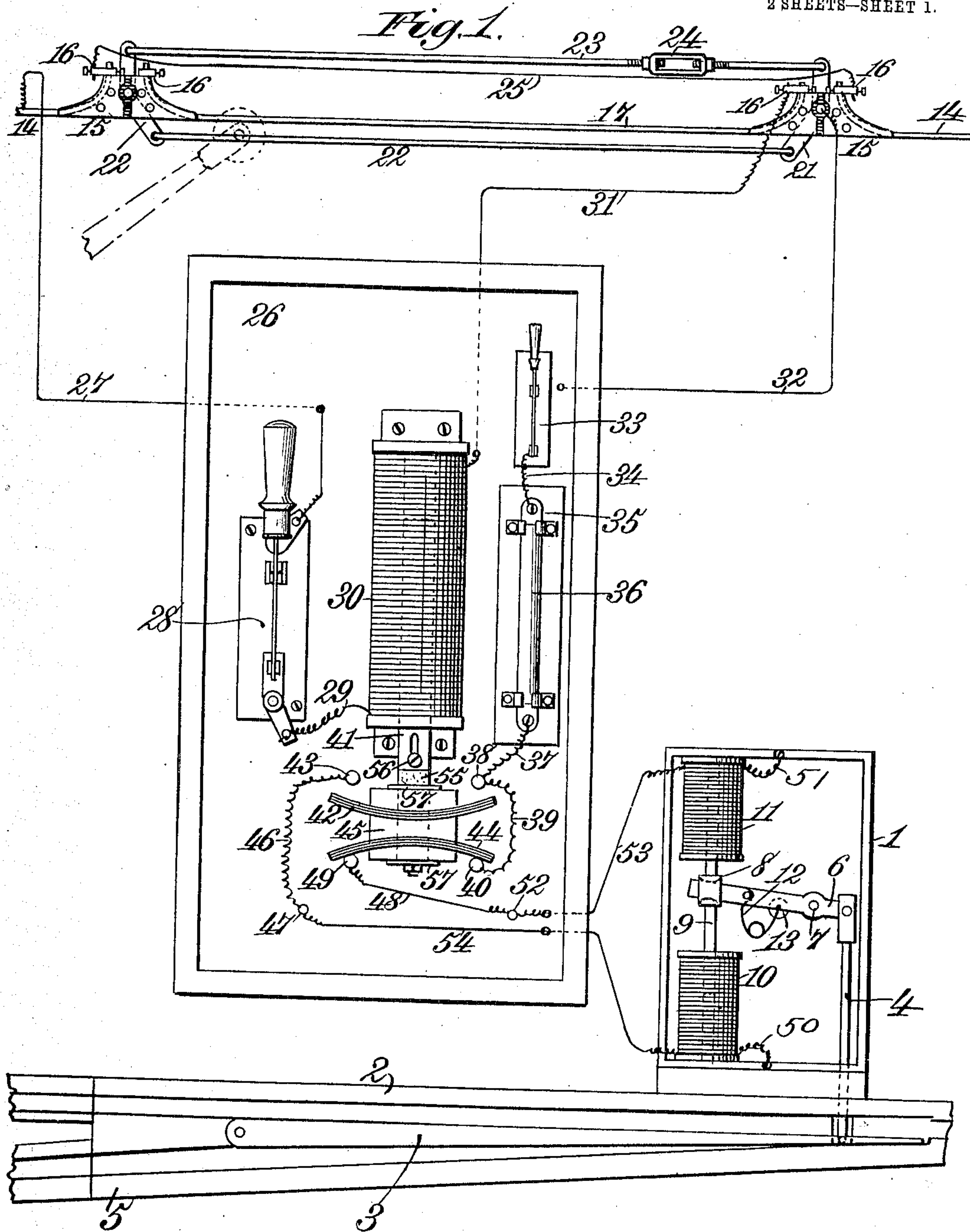


No. 872,197.

PATENTED NOV. 26, 1907.

J. A. POSEY.  
ELECTRIC SWITCHING DEVICE.  
APPLICATION FILED MAR. 3, 1906.

2 SHEETS—SHEET 1.



Witnesses.  
Robert Everett,  
J. B. Keeler

Inventor:  
James A. Posey.  
By James L. Noris.  
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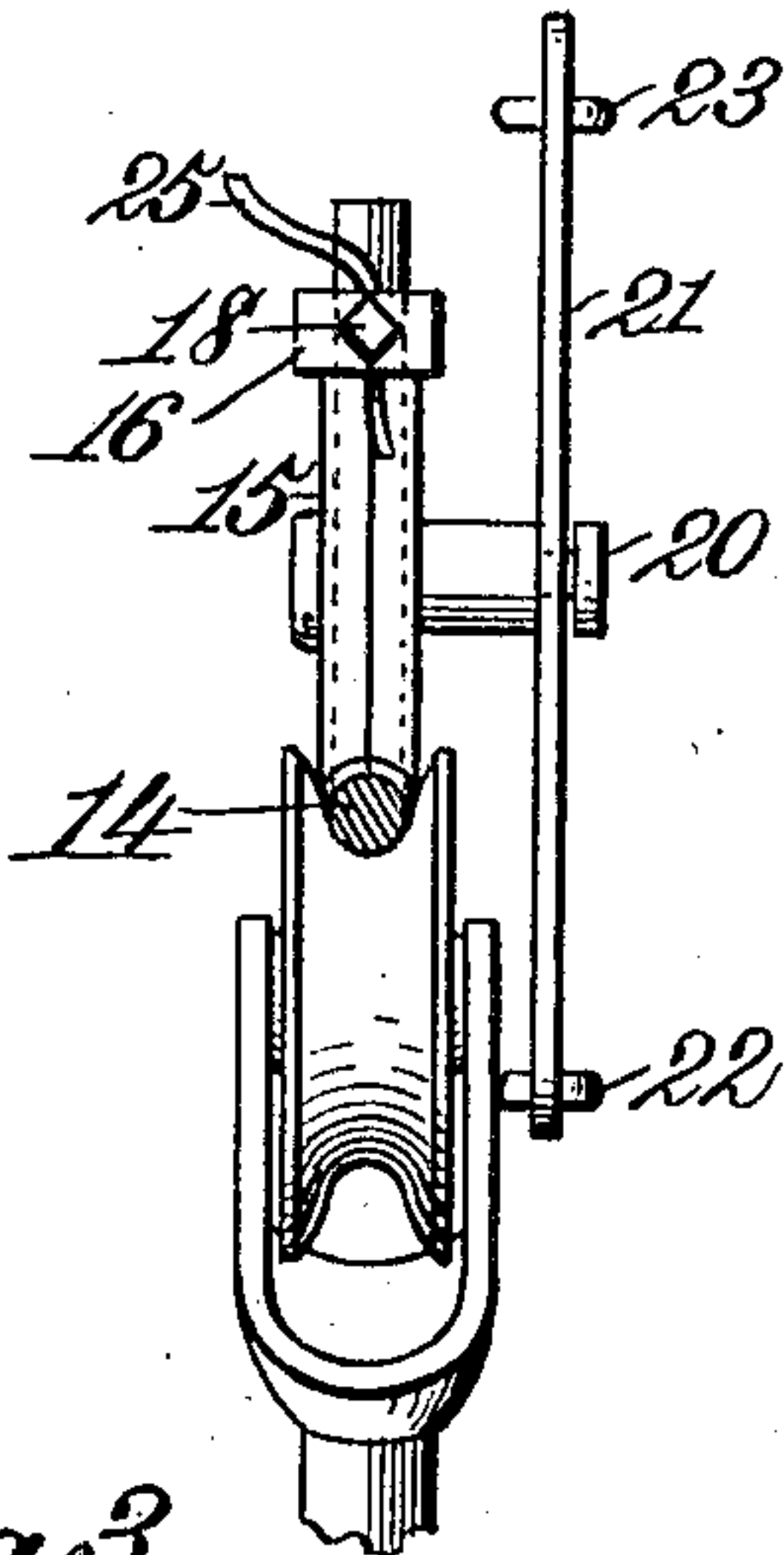
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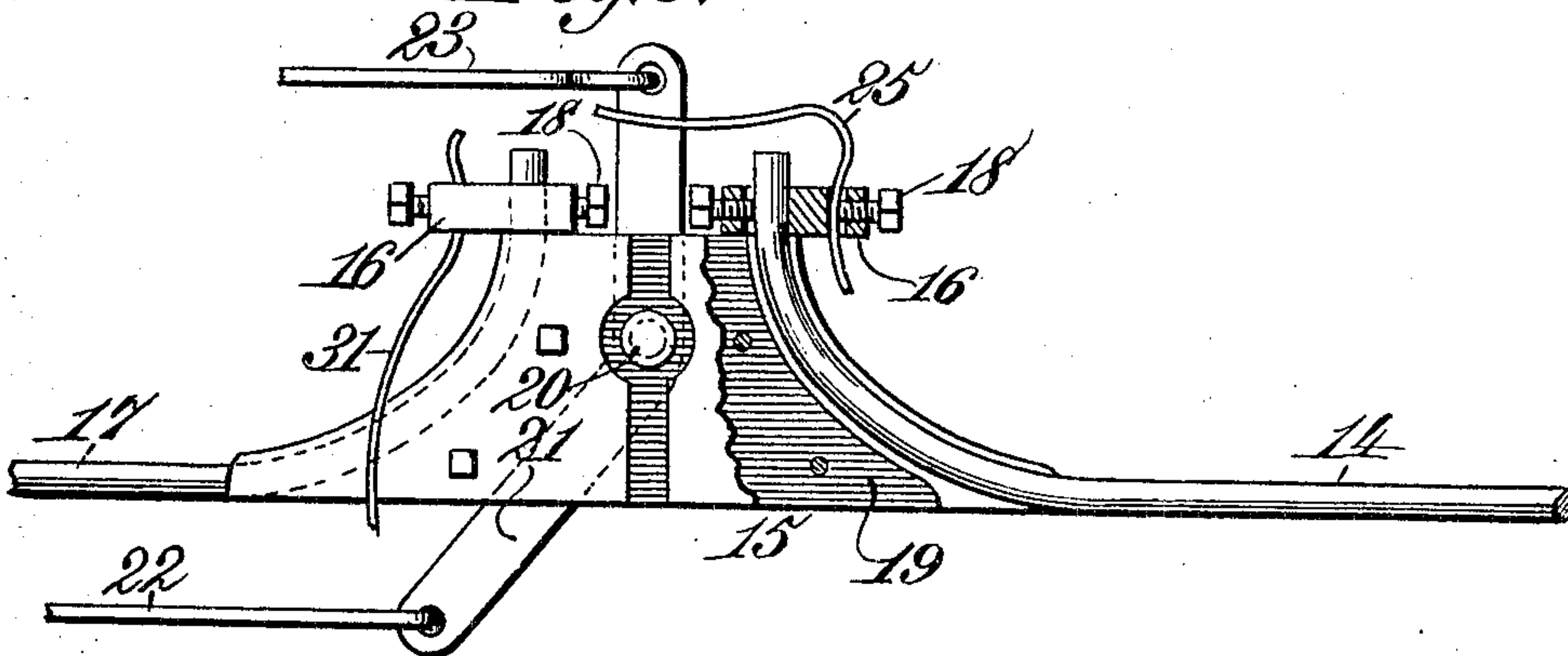
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2 SHEETS—SHEET 2.

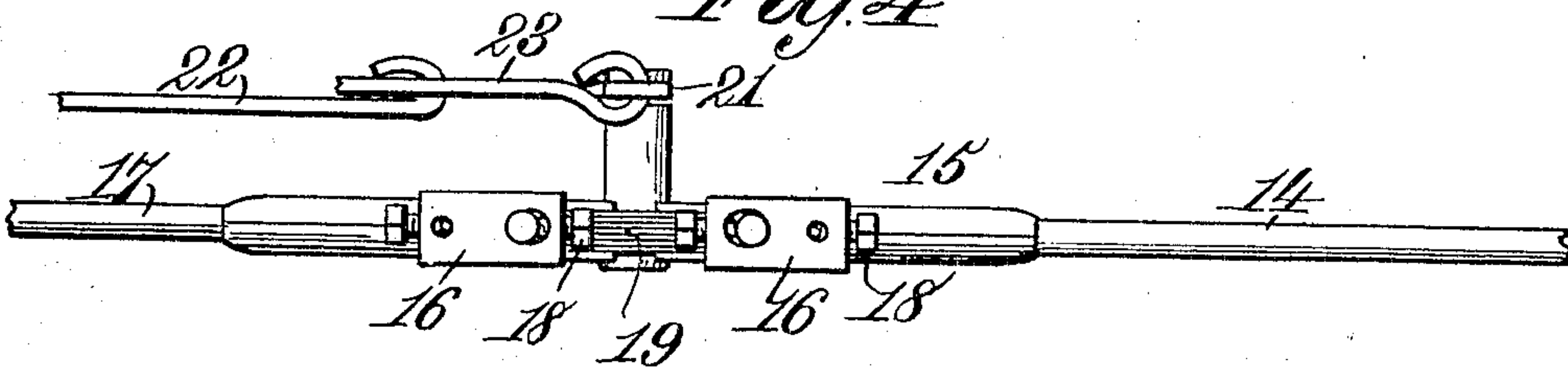
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



Witnesses.  
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# UNITED STATES PATENT OFFICE.

JAMES A. POSEY, OF MIDLOTHIAN, TEXAS, ASSIGNOR TO POSEY AUTOMATIC SWITCHING COMPANY, OF DALLAS, TEXAS, A CORPORATION OF DELAWARE.

## ELECTRIC SWITCHING DEVICE.

No. 872,197.

Specification of Letters Patent.

Patented Nov. 26, 1907.

Application filed March 3, 1906. Serial No. 304,059.

*To all whom it may concern:*

Be it known that I, JAMES A. POSEY, a citizen of the United States, residing at Midlothian, in the county of Ellis and State of Texas, have invented new and useful Improvements in Electric Switching Devices for Railways, of which the following is a specification.

This invention relates to certain improvements in electric switching devices for railways, and consists of improvements in simplifying the electrical operation of railway switches.

The special object and advantages will be fully explained in the following description, and the invention will be more particularly pointed out in the appended claims.

In the accompanying drawings:—Figure 1 is a diagrammatic view of the parts connected. Fig. 2 is an end elevation of the contact-making device and trolley wheel. Fig. 3 is a side elevation of the contact-making device. Fig. 4 is a top plan view of the same.

Similar characters of reference indicate corresponding parts throughout the several views.

The invention consists of the herein described electric devices which are actuated by the trolley wheel of a passing car for throwing the switch tongue for railways and for certain controlling means of the electric power. The motorman of a car can, by the electrical controlling means, operate the magnets in the iron box at will so that they will actuate the lever to turn the switch tongue in the desired direction. The switch throwing magnets and levers are contained in the iron box 1 which is placed against the guard rail 2, on the opposite side of which lies the pivoted switch tongue 3 of ordinary construction for switching a car to a branch track. A switch tongue bar 4 is connected to the switch tongue 3 for the purpose of causing the car to travel from the main line rail to the branch line rail 5 when the motorman so desires. The tongue bar 4 is pivotally connected to the end of magnet lever 6 which is fulcrumed on a pedestal 7 and loosely connected through a slotted nut 8 with the plunger bar 9 of magnets 10 and 11. One end of spring 12 is secured to a pedestal

13, the other end being secured to lever 6 at the under side thereof and said spring assumes such a position as to cause the same to press in the direction in which the lever is thrown, thereby holding the switch tongue firmly against the rail.

Means are provided for energizing the magnets 10 and 11; and if magnet 10 is energized, its plunger 9 will be drawn inward and pull the end of lever 6 in slotted nut 8 towards magnet 10. If magnet 11 is energized, plunger 9 will be drawn into magnet 11 and away from magnet 10, reversing the operation of lever 6, as shown in Fig. 1. The means is provided for energizing magnets 10 and 11 by the trolley wire contact device. The trolley wheel of the car is transferred from the trolley wire; and contact making wires are provided for making contact with the trolley wheel. The trolley wire 14 is severed and the ends are inserted upward through a groove in the brass shoe clamp attachments 15, the same having interposed a fiber-insulating slip 19 between the two flat sides of each shoe 15, it being secured by rivets or bolts through the said side and the fiber, which consists of one solid sheet, and trolley wire 14 is secured at the ends with the clamp 16 and thumb-screw 18. The opposite ends of the shoe clamps 15 are grooved to insert wire 17, the terminals of which are fastened with nuts 18. The two brass clamps 15 are held together by the fiber slip 19 extending between the said brass plates 15 from wires 14 and 17. In this instance I have shown the clamps 15 alike, but if found desirable the same may be varied.

Through the fiber slip 19 are placed insulated bolts 20 on which are equalizing fulcrums for bars 21, the lower ends of which have attached thereto a copper wire 22. At the upper ends of bars 21 is attached a tie rod 23 with a turn buckle 24 for the purpose of keeping taut the said copper wire 22. The continuous current is led through wire 25 secured in brass nuts 16 clamping trolley wire 14.

The switching of the current is accomplished by a circuit changer, which may be contained in a box 26 located at any convenient place; for instance, on a pole which supports the guy wire of the trolley wire. Wire



27 is attached to trolley wire 14 and to switch 28. A wire 29 continues the flow of electricity to magnet 30, and the wire 31 completes the connection between magnet 30 through nut 18 to copper wire 17. The trolley wheel passing over wire 17 with the current off, forms a connection through the trolley wheel, communicated by side of the harp, to wire 22, to bar 21, to the bolt 20, to which is connected wire 32 which leads to switch 33. The wire 34 leads from switch 33 to fuse block 35, which is provided with a 500-volts non-arcing fuse 36 having a contact post 38. The wire 37 connects with contact post 38, and wire 39 connects contact post 38 with contact post 40. During the operation the contact arm 44 carried by the armature 41 will remain in contact with the said post 40 and post 49, notwithstanding the current is flowing through magnet 30. The reason for this is, that the magnet 11 does not draw sufficient current to energize magnet 30; hence the device stands in this position, connecting post 40 to post 49 through arms 44, from post 49 over wire 48 to post 52, thence over wire 53, energizing magnet 11. As soon as the trolley wheel has passed the contact making device shown in Fig. 1, due to the car's own momentum, the motorman turns the controller to start the current through the car motor and proceeds on the main line.

If the motorman wishes to direct his car to the branch line he simply leaves the controller in position, current on; and this now being the case the magnet 30 is grounded through the motor on the car,—therefore, the motor draws sufficient current to energize magnet 30, drawing the armature 41 in the said magnet 30, bringing contact arms 42 in contact with posts 38 and 43; and in this case the current is fed to the car motor through wire 27 to magnet 30 and through the same over wire 31 to wire 17 on the trolley device.

The wire 17 takes the place of the trolley wire 14; therefore, the current operating magnet 10 turning the switch tongue 3 is transferred by the trolley wheel from wire 17 to wire 22, through bar 21, bolt 20, over wire 32 to switch 33, thence over wire 34 to block 35, through fuse 36, over wire 37 to post 38. The current energizing magnet 30 draws upward armature 41 and connects contacting arm 42 with post 38 through the said contacting arm 42. The current is communicated to post 43 and from the same over wire 46 to post 47, over wire 54 to magnet 10. The contacting arms 42 and 44 are carried by core armature 41 of the magnet 30, the same being connected to a brass block 45 and insulated from core armature 41 by a fiber core 55 running through block 45 and attached to the end of armature by a screw 56 with fiber washers 57 at top and bottom of said block

45, so that there will be no electrical connection between brass block 45 and armature 41.

The non-arcing fuse 36 is employed to prevent short-circuiting trolley wire 14 in case of accidental interruption of the electric circuit between fuse 36 and the operating magnets 10 and 11 or the grounding of the current. The contacting arms 42 and 44 for making contact with the metal posts 38, 43, 40 and 49 stand normally in contact with the said posts 40 and 49. The contacting arms 42 and 44 are slightly elastic so that the contact will be certain. The terminal wires leading to magnets 10 and 11 may be grounded by wires 50 and 51 made to connect in any suitable manner to iron box 1.

The lower ends of bars 21 slope inward towards one another to make wire contact 22 shorter than the connection along wire 17. The object of shortening the wire connection 22 is to create a blank at the end of wire connection 17 to give time for energizing the magnet 30 before the magnet 10 in box 1 is energized when the controller is on, and the current passing through the car motor. Also, when the trolley wheel is passing off the other end of the current shifting device a blank is created and the magnet 10 in box 1 is dead before the magnet 30 is dead. It is evident that should no blank be created at the commencement and the close of the operation, there would be burning contacts at contacting arms 42 and 44 with metal posts 38 and 43 and posts 40 and 49 at each commencement and close of contact making.

It will be apparent that the wire 17 can be substituted with a flat iron bar or other suitable construction if found desirable, thereby overcoming the necessity of the tie-rod 23 with the turn-buckle 24.

It is to be understood that I may make such changes, variations and modifications in the construction as come properly within the scope of the claims hereunto appended without departing from the spirit of my invention.

Having thus described the invention, what is claimed is:

An electric switching device comprising a contact making device having clamps for connection with the terminals of a severed wire forming a main circuit, a wire having the same potential of the main circuit and in connection with the clamps, and arranged in line with the said main circuit, a continuous current carrying wire carried by the said clamps and in electrical connection with the main circuit, depending bars carried by the clamps and insulated therefrom, a current transferring wire having its ends connected to the respective bars and arranged below and in parallelism with the first mentioned wires, means for tensioning the current transferring wire, a circuit changer having

electrical connection with the main circuit  
and the wire having the same potential as  
the latter, and switch throwing mechanism  
in electrical connection with the circuit  
5 changer for controlling the same, said circuit  
changer also having electrical connection  
with the current transferring wire.

In testimony whereof I have hereunto set  
my hand in presence of two subscribing wit-  
nesses.

JAMES A. POSEY.

Witnesses:

W. W. MAJOR,  
ED. F. AYCOCK.