

J. C. FITZGERALD.
OVERHEAD SWITCH.
APPLICATION FILED JUNE 6, 1910.

967,869.

Patented Aug. 16, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

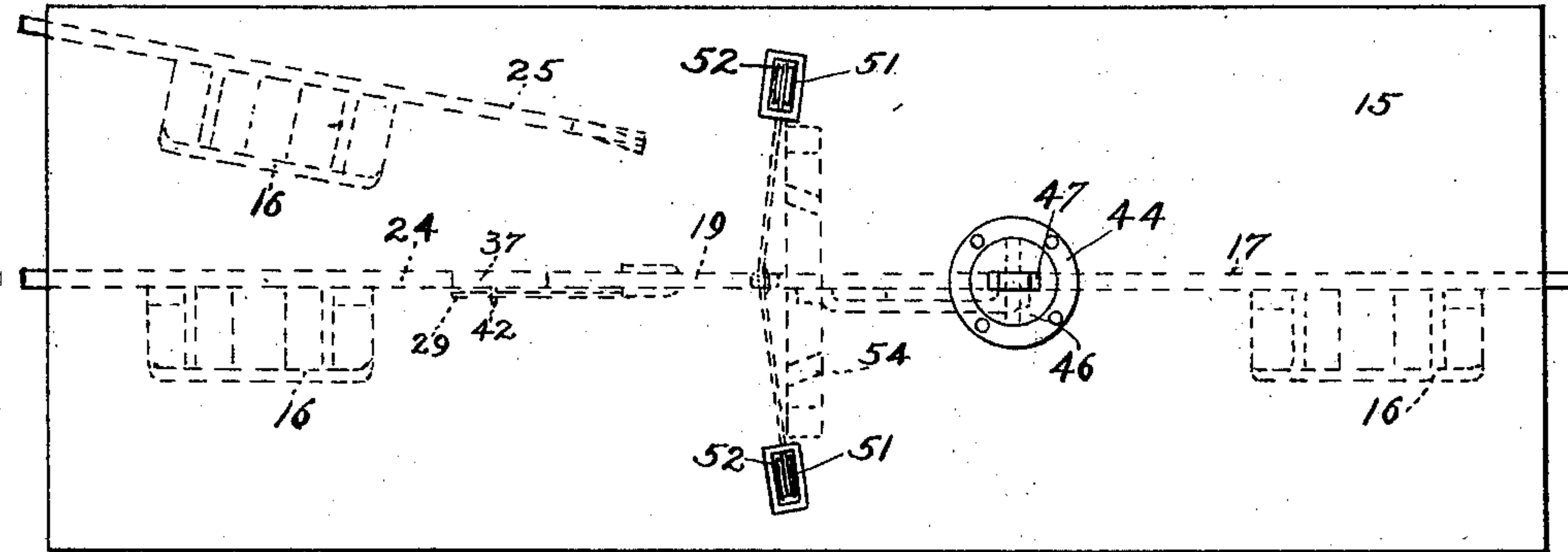


Fig. 2.

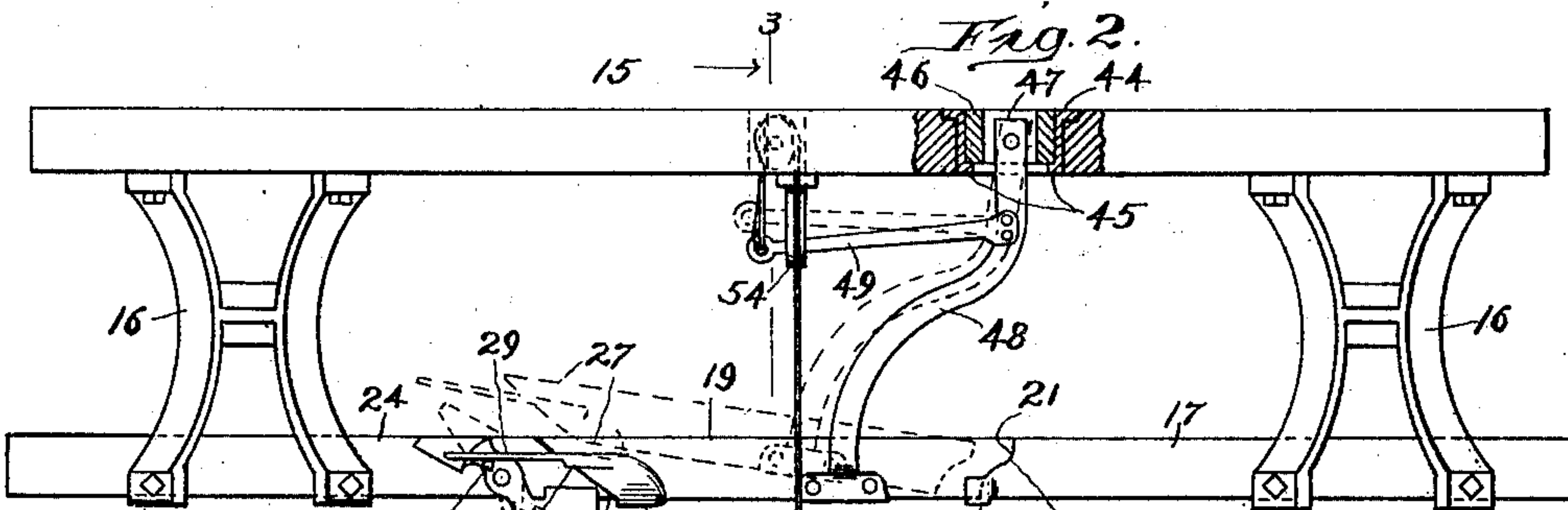


Fig. 3.

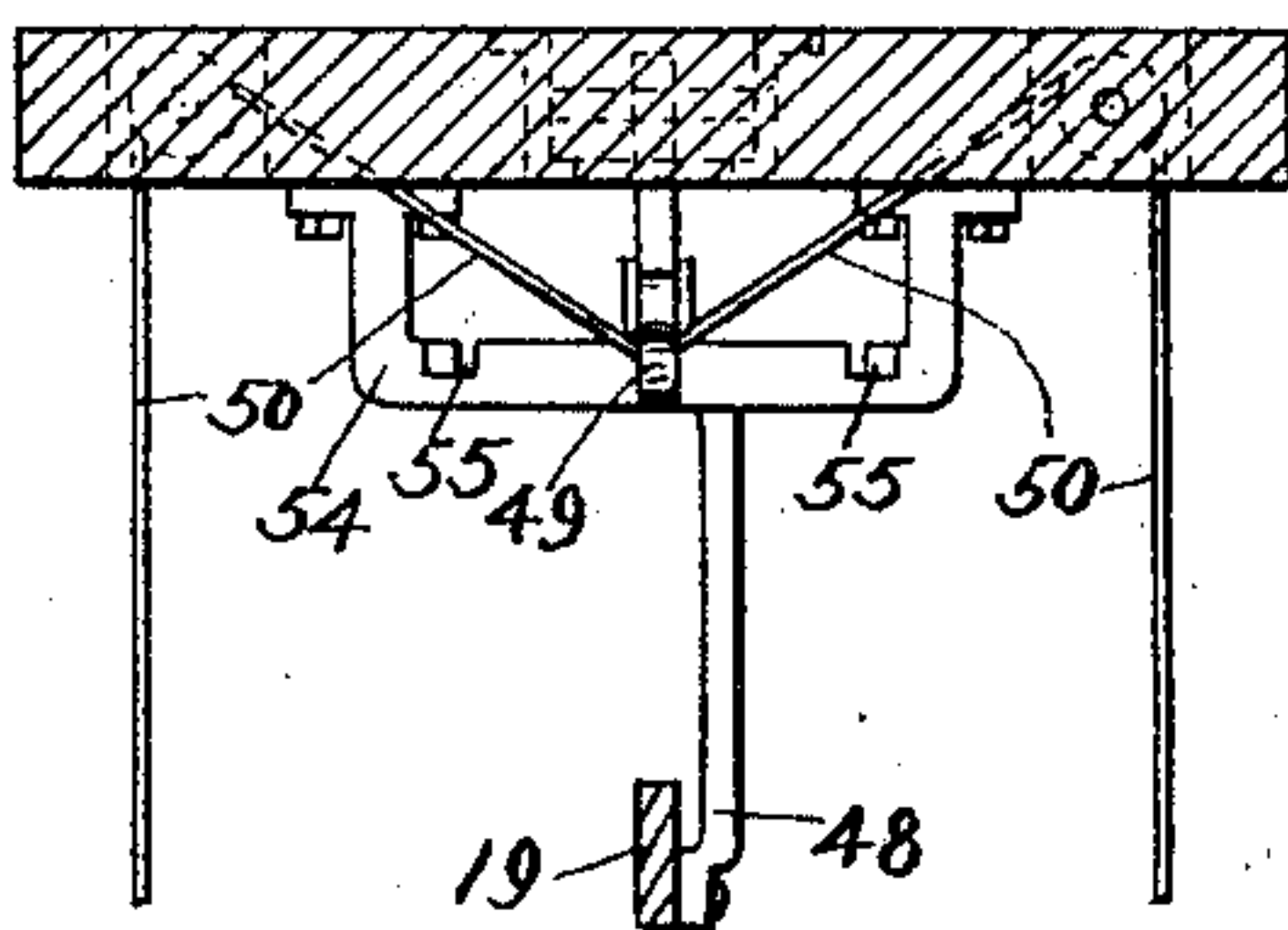


Fig. 4.

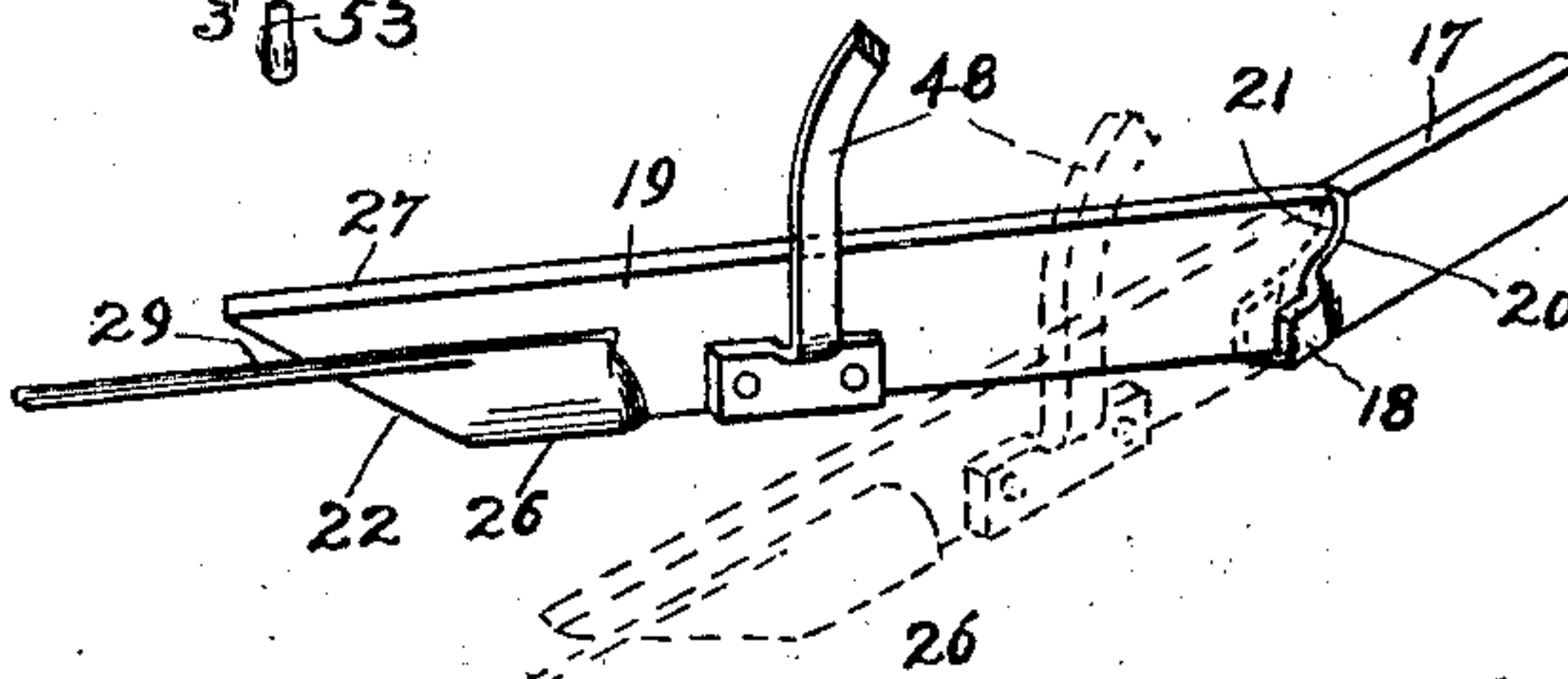


Fig. 5.

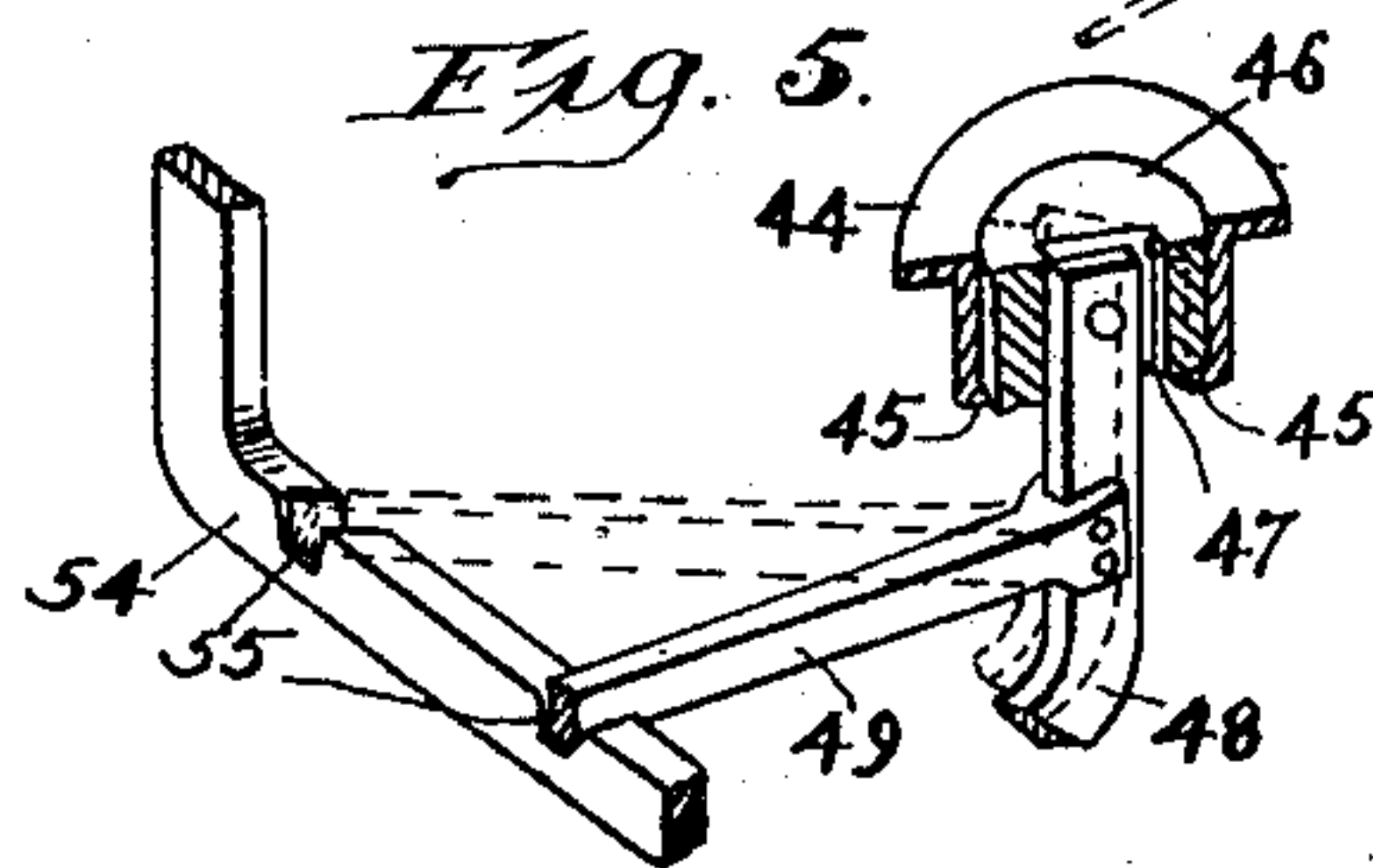
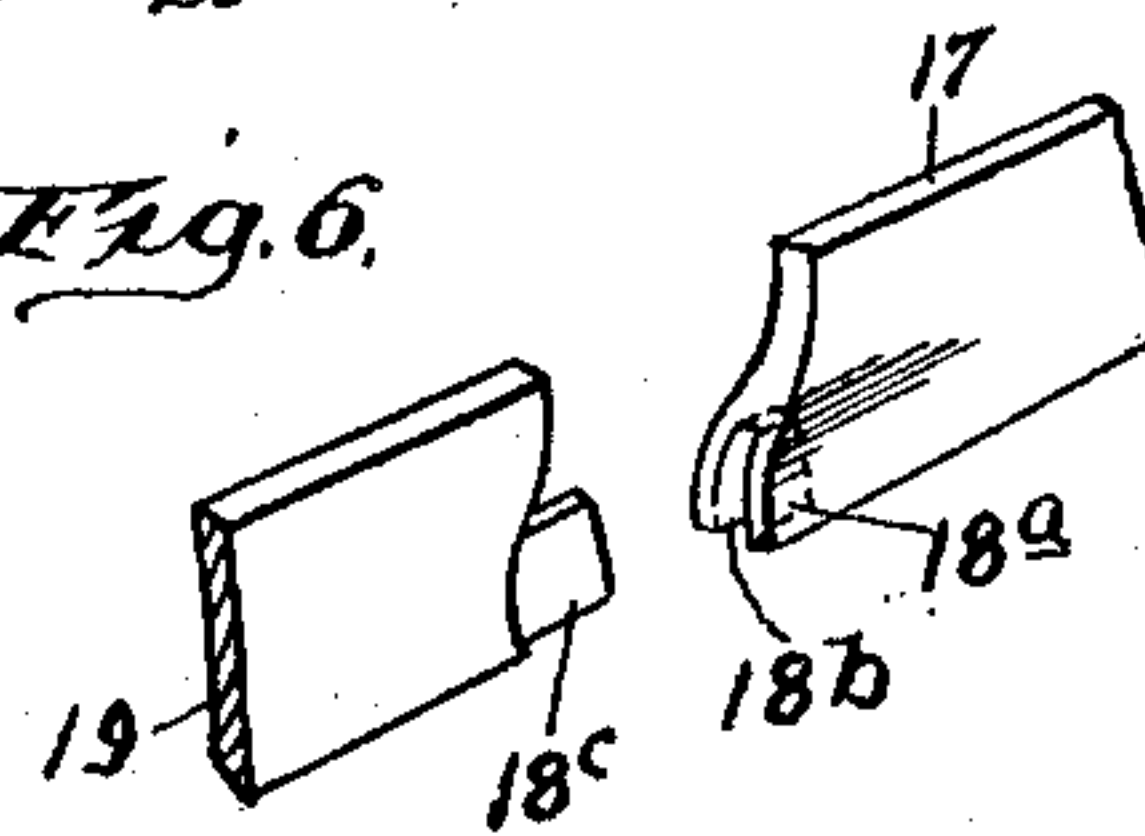


Fig. 6.



Witnesses:

Chas. E. Gorton.
J. E. Hansen.

Inventor:

Jeremiah C. Fitzgerald.

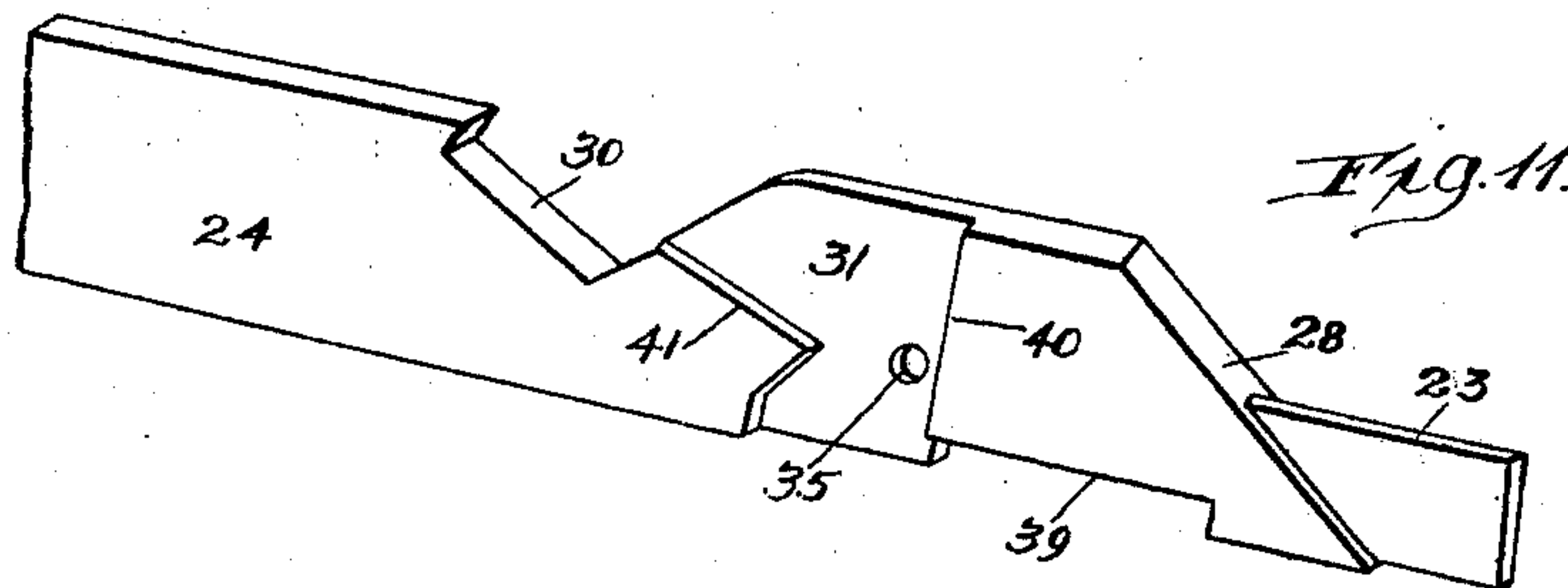
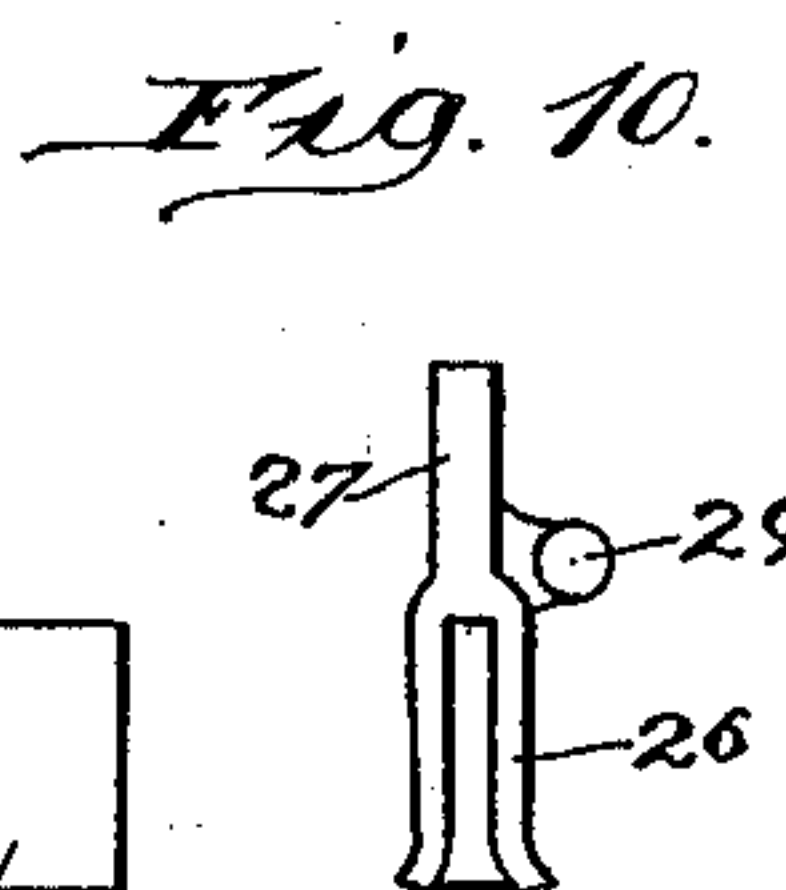
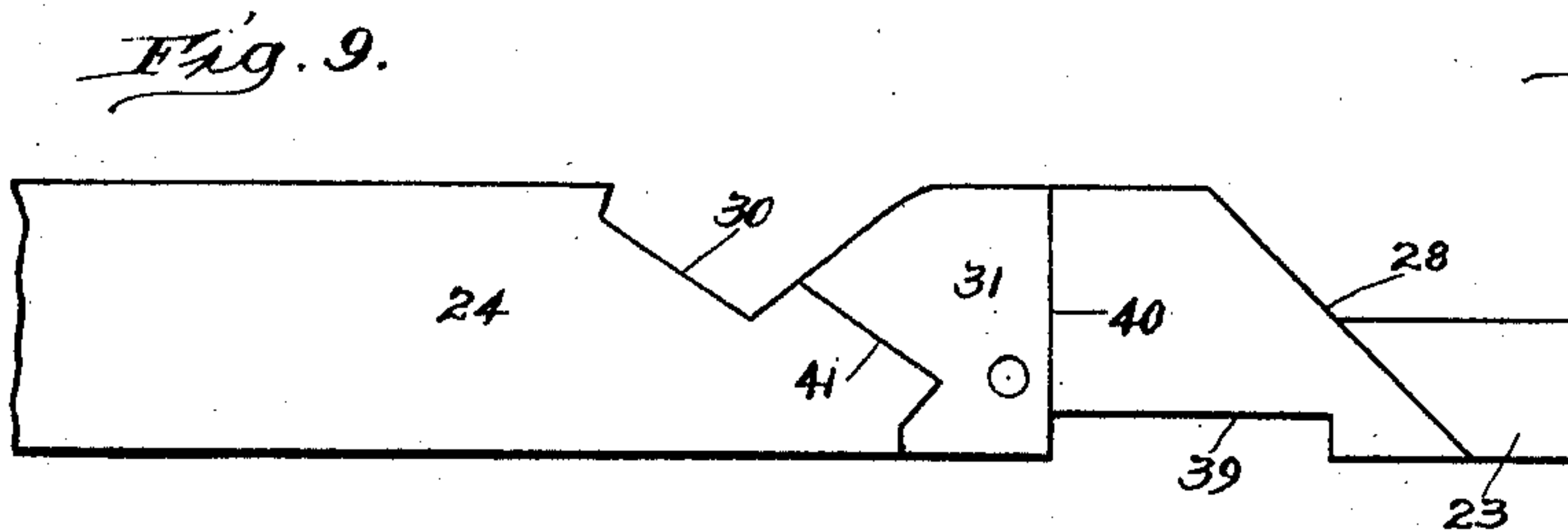
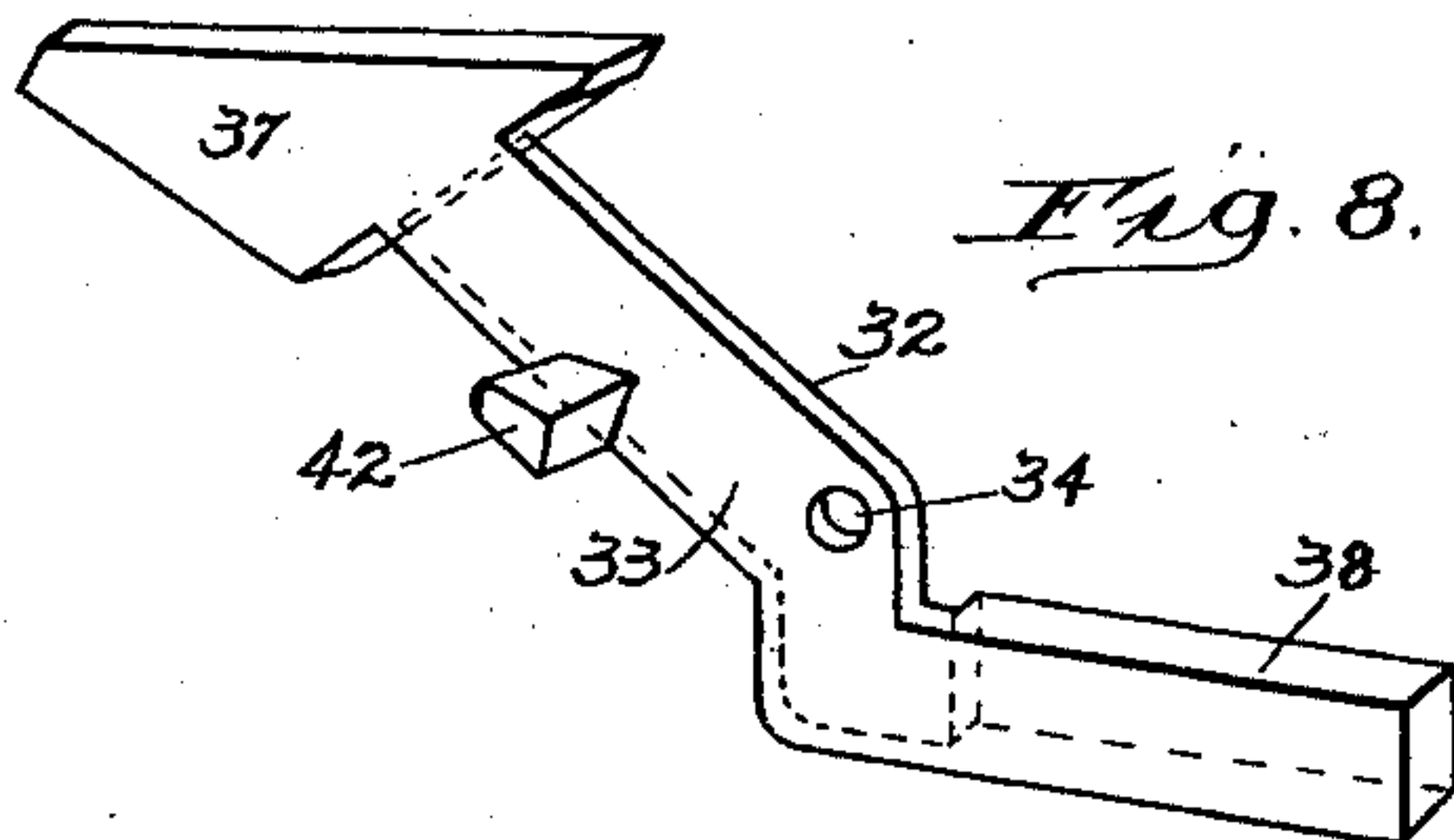
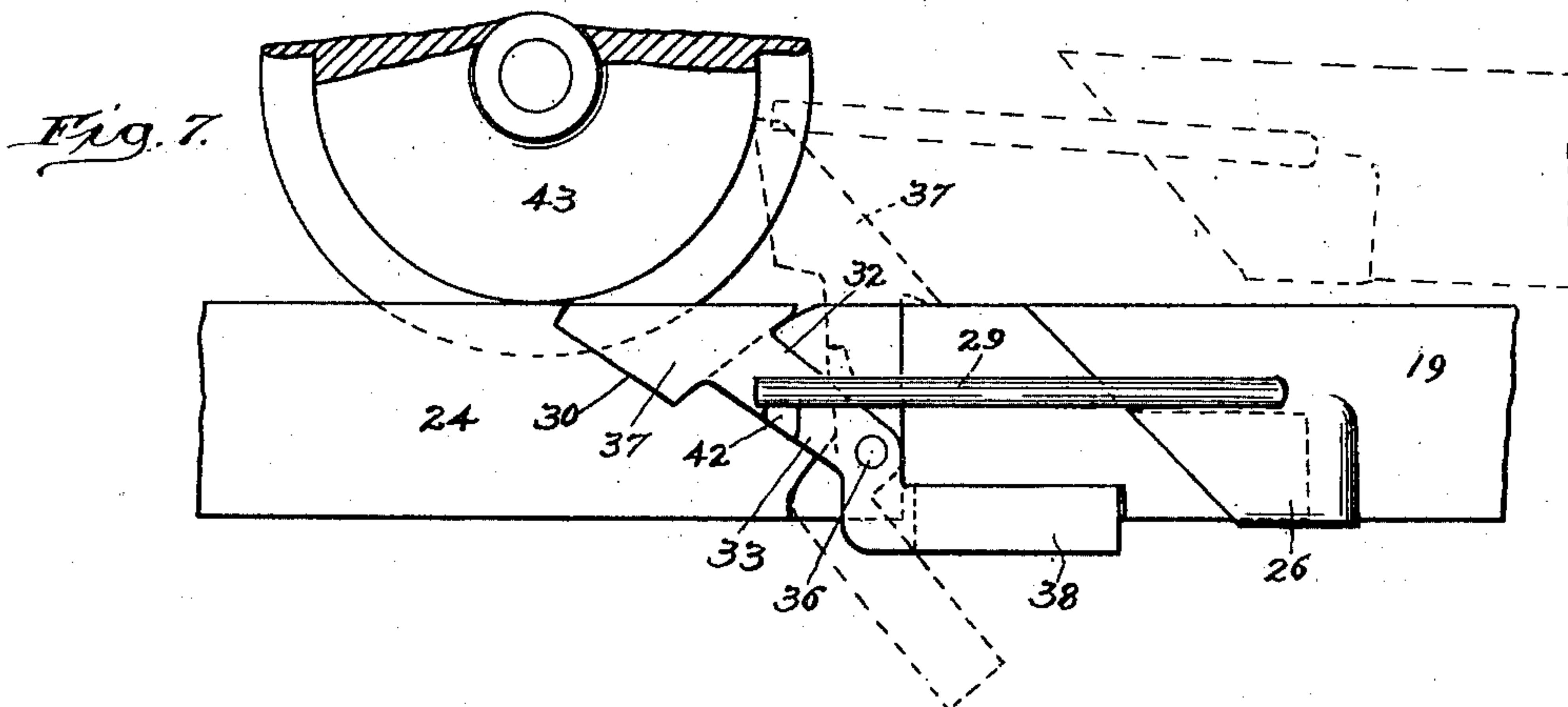
By Chas. C. Pittman
Atty.

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2 SHEETS—SHEET 2.



Witnesses:

Chas. E. Gorton.
J. E. Hansen

Inventor:

Jeremiah C. Fitzgerald

By *Chas. E. Gorton*
Atty.

UNITED STATES PATENT OFFICE.

JEREMIAH C. FITZGERALD, OF DE KALB, ILLINOIS, ASSIGNOR TO SMITH MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

OVERHEAD SWITCH.

967,869.

Specification of Letters Patent.

Patented Aug. 16, 1910.

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To all whom it may concern:

Be it known that I, JEREMIAH C. FITZGERALD, a citizen of the United States, residing at De Kalb, in the county of Dekalb and State of Illinois, have invented certain new and useful Improvements in Overhead Switches, of which the following is a specification.

This invention relates to a switch for elevated-carrier-systems, such as are commonly employed for wheeled carriers or cars used for conveying various kinds of material such as grain, silage, hay, litter, ore, coal, et cetera, from one point to another, and it consists in certain peculiarities of the construction, novel arrangement and operation of the various parts thereof, as will be hereinafter more fully set forth and specifically claimed.

The principal object of the invention is to provide a switch having such construction and arrangement of its parts that they may be assembled in their operative positions and the switches carried in stock, to the end that each can be shipped as a unit, and bodily secured in the proper position to an elevated support, so as to connect the main track section to the branch track sections of an elevated track, yet, if so desired, the parts of the switch can be used in connection with a permanently erected or stationary support in conjunction with the above-named type of tracks.

A further object of the invention is to provide a switch of such construction that the switch member will unite the main track section and the branch track sections in such a way that a smooth surface will be provided for the travel of the car or carrier, as well as, in such a manner that the switch member may be locked in its operative position.

Another object of the invention is to provide means whereby the carrier will be prevented running off any one of the branch track sections when it is open or not in connection with the switch section of the track, the said means being such, that the operation of moving the switch section or member from one branch track section to another will permit a stop to be automatically projected in the path of the carrier when on an open branch track.

Various other objects and advantages of

the invention will be disclosed in the subjoined description and explanation.

In the accompanying drawings which serve to illustrate the invention,—Figure 1, is a plan view of a switch embodying the invention, showing it equipped with two branch tracks; Fig. 2, is a view partly in side elevation and partly in section thereof; Fig. 3, is a cross-sectional view taken on line 3—3 of Fig. 2, looking in the direction indicated by the arrows; Fig. 4, is a perspective view of a portion of the main track section and the switch member, illustrating said member by continuous lines in the act of being moved from the dotted line position to connect with a branch track section; Fig. 5, is a fragmental perspective view of the bearing for the hanger of the switch member, and a part of the keeper or locking bar; Fig. 6, is a detached perspective view of a portion of the main track section and a part of the switch member, showing a modification in their construction; Fig. 7, is a view in side elevation of a portion of the switch member and a part of one of the branch track sections, showing the manner of connecting the two and illustrating by continuous lines the position the gravity dog or stop will occupy when the switch member and branch track member are united, and by dotted lines the positions of the parts when the switch member is being removed from one of the branch track sections and the dog or stop impinging the wheel of the carrier to prevent it running off the open end of the branch track section; Fig. 8, is a detached perspective view of the gravity dog or stop; Fig. 9, is a view in side elevation of a portion of one of the branch track sections or rails; Fig. 10, is a front end view of the switch member; and Fig. 11, is a perspective view of a portion of one of the branch track rails.

Like numerals of reference, refer to corresponding parts throughout the different views of the drawings.

The reference numeral 15, designates a support which may be made of any suitable size, form and material, but preferably of an ordinary plank or board of a convenient portable size and rectangular in shape as shown. To the lower surface of the support, and near one end thereof, is suspended by means of a hanger 16, preferably of the

twin or double type, an independent track section 17, which is adapted to aline with or to have its outer end suitably connected to the main track rail, (not shown) when the device is used as a portable switch, but when the parts of the switch are mounted on a stationary or permanent support, the section 17, may be a portion of the main track rail. The inner end of the section 17, is provided at its lower portion with a flared channeled extension 18, in which a portion of one end of the switch member 19, will fit and operate.

As shown in Figs. 2, and 4, the rail section 17, is provided at its end and above the extension 18, with a curved recess 20, to coact with a similarly shaped projection 21, at the end of the switch member 19, and on the upper portion thereof. The front portion of the switch member 19, or that portion thereof opposite the rail section 17, is formed with a recess 22, in its lower portion to receive a projection 23, on the lower portion of one of the branch track sections or rails 24, or 25, which sections or rails are suspended from the support 15, by means of hangers 16, and so that they will converge slightly at their inner ends. The lower front portion of the switch member 19, is provided with an enlargement 26, having a channel which opens downwardly and is for the purpose of receiving a portion of the projection 23, with which each of the branch track sections is provided. The upper portion of the switch member 19, is provided with an extension 27, which is adapted to fit in a recess 28, in the upper portion of the inner end of each of the branch track sections, which recesses correspond in size and shape with the extension 27, so that when the switch member is alined with either of the branch track sections, a close joint and smooth surface will be provided for the travel of the wheels of the carrier. The switch member is also provided at its front end with a longitudinally extended finger 29, to coact with a lug or projection on each of the gravity dogs or stops with which each of the branch track sections are provided near their ends adjacent to the switch member.

Referring now to Figs. 7, to 11, inclusive, the numeral 24, designates the inner portion of one of the branch track sections, which sections are counterparts of one another and as shown, each has an angular recess 30, in its upper edge some distance from the recess 28, at the inner end thereof. Between the recesses 28, and 30, each of the branch track sections is provided on one of its sides with a recess 31, for the operation of the shank 32, of the gravity dog or stop, which is designated as a whole by the numeral 33. Each of the shanks 32, is provided with an opening 34, to register with an opening 35,

in each of the recesses 31, of the branch track sections where the dog 33, is pivotally secured by means of a pivot 36, extended through said openings. The shank 32, of each dog, is provided at its upper end with an angular head 37, of a size and shape to correspond with the angular opening 30, in each of the branch sections and the lower portion of each of the shanks 32, is provided with an enlarged extension 38, to give weight to the lower portion of the dog. This enlargement is formed on one side of the shanks 32, so that it will extend under its branch track section, and when the head 37, is held in the recess 30, will rest in a recess 39, formed in the lower edge of the branch section between the recess 31, and projection 23, on the inner portion of said section. By this arrangement, it will be understood that the portion of the shank between the weight 38, and head 37, will be countersunk in its branch section or in other words, will operate in the recess 31, thereof. As shown, the recess 31, in each of the branch sections, is provided with a vertical wall 40, and an inclined wall 41, on the latter of which the lower portion of the shank 32, will rest when the head 37, is held in its recess by the finger 29, on the switch member and the upper portion of the shank will rest against the former, when the finger 29, is moved out of engagement with the lug or projection 42, with which each of the shanks 32, is provided on one of its sides. When thus released, it will be understood that as the weight 38, is greater than that of the head and shank of the dog, the same will be caused to assume the position shown by dotted lines in Figs. 2, and 7, of the drawings, thus placing the head 37, in the path of the wheel 43, thereby furnishing a stop to prevent the carrier running off the open end of the branch section. Located in a suitable opening in the support 15, and preferably at a point directly above the junction of the main track section 17, and the switch member 19, is a socket or sleeve 44, which has at its lower end inturned projections 45, on which the lower end of a collar 46, rests, which collar is provided with a vertical socket 47, to receive the upper portion of a hanger 48, which is pivotally connected at its upper end to the said collar and within the socket thereof. The collar 46, is swiveled in the socket or sleeve 44, and has vertical as well as rotary movement therein. The lower portion of the hanger 48, is secured to the switch member 19, and is off-set therefrom so as not to interfere with the passage of the carrier. Secured to the upper portion of the hanger 48, and extended forwardly therefrom, is an arm 49, which is connected at its front end to a cable 50, which is extended over a pulley 51, journaled in suitable openings 52, in

the support 15, on each side of said arm and may have at each of its depending ends a handle 53, to be grasped when it is desired to move the switch member 19, from one of the branch track sections to another. Secured to the lower surface of the support 15, in front of the hanger 48, and transversely with respect to, and under the front portion of the arm 49, is a keeper 54, which has in its upper surface a number of recesses 55, for the reception of the arm 49, when it is moved from one branch section to another, thus affording means to assist in locking the switch member in place on said sections.

While I have shown the support 15, as being equipped with but two branch track sections for the convenience of illustration, yet it is apparent that any number of such sections may be employed, and for this reason the keeper 54, is shown with more than two recesses for the reception of the arm 49, on the hanger of the switch member.

In Fig. 6, is shown a modification in the construction of the main track section 17, and the switch member 19, which consists in providing the inner end of the section 17, on its lower portion with an enlargement 18^a, having a channel 18^b, open at its lower portion to receive a projection 18^c, on the adjacent end of the switch member 19, and at the lower portion thereof. When this construction is employed, the projection 18^c, on the switch member is fitted in the recess 18^b, from below, instead of being located therein from above, as in the construction shown in Fig. 4, and above described.

From the foregoing, and by reference to the drawings, it will be readily understood and clearly seen that when the parts are assembled as shown in Figs. 1, and 2, of the drawings, the carrier may pass over the sections 17, 19, and 24, in either direction, but when it is desired to transfer the carrier from the main track or section 17, to another branch track, say 25, this may be done by pulling down on the cord or cable 50, which will elevate the front portion of the switch member 19, thus releasing the finger 29, from the lug or projection 42, on the shank of the dog, which, by reason of the gravity of the enlargement 38, will cause the head to rise so as to be projected into the path of the wheel 43, of the carrier, as is clearly shown in Figs. 2, and 7, of the drawings. In the operation of placing the switch member in position so as to connect it with any one of the branch sections, it is apparent that the finger 29, will contact with the lug or projection 42, on the dog, and as the weight of the switch member 39, is greater than that of the enlargement 38, on the dog, the head of the latter will be caused to be seated in the recess 30, of the branch track section, on which it is desired that the carrier shall travel. It is obvious that the dogs on the

other branch track sections which are not connected to the switch member, will be held in their raised positions so as to act as stops for the carrier, should it be located on one of said open branch sections.

It will be evident from the above description that the switch is susceptible of considerable modification without material departure from the principles and spirit of the invention, and for this reason I do not desire to be understood as limiting myself to the precise form and arrangement of the several parts of the device as herein set forth in carrying out my invention in practice.

Having thus fully described my invention what I claim as new and desire to secure by Letters-Patent is—

1. In an overhead switch, the combination with an elevated support, of a main track section and a plurality of branch track sections suitably supported on the support, and a switch member detachably connected to the main track section and pivotally mounted on said support for bodily vertical and slight longitudinal movement and adapted to be swung laterally at one of its ends from one of the branch track sections to another.

2. In an overhead switch, the combination with a portable support adapted to be secured in an elevated position, of a main track section and a plurality of branch track sections suitably supported on said support, and a switch member detachably connected at one of its ends to the main track section and pivotally suspended from the said support for bodily vertical and slight longitudinal movement and adapted to be swung laterally at one of its ends from one of the branch track sections to another.

3. In an overhead switch, the combination with an elevated support, of a main track section and a plurality of branch track sections suitably supported on said support, a switch member adapted to connect the main track section with the branch track sections, a hanger secured at one of its ends to the switch member and mounted at its other end on the said support for swinging as well as rotary movement, and means to raise and shift the position of one end of the switch member from one branch track section to another.

4. In an overhead switch, the combination with an elevated support, of a main track section and a plurality of branch track sections suitably supported on said support, a switch member adapted to connect the main track section with the branch track sections, a hanger secured at one of its ends to the switch member and mounted at its other end on said support for swinging as well as rotary movement, an arm secured at one of its ends to the upper portion of said hanger and extended substantially horizontally there-

from, and means connected to said arm to raise and shift the position of one end of the switch member from one branch track section to another.

5. In an overhead switch, the combination with an elevated support, of a main track section and a plurality of branch track sections suitably supported on said support, a switch member adapted to connect the main track section with the branch track sections, an upwardly extended hanger secured at its lower end to the switch member and mounted at its other end on the said support for swinging, rotary and slight vertical movement, and means to raise and shift the position of one end of the switch member from one of the branch track sections to another.

6. In an overhead switch, the combination with an elevated support, of a main track section and a plurality of branch track sections suitably supported on said support, a switch member adapted to connect the main track section with the branch track sections, an upwardly extended hanger secured at its lower end to the switch member and mounted at its other end on the said support for swinging and rotary movement, an arm secured at one of its ends to said hanger and extended longitudinally with respect to the switch member therefrom, a keeper having recesses in its upper surfaces located beneath said arm and secured transversely to the support, and means connected to the arm to raise and shift the position of one end of the switch member from one of the branch track sections to another.

7. In an overhead switch, the combination with an elevated support, of a main track section and a plurality of branch track sections suitably supported on said support, a switch member adapted to connect the main track section with the branch track sections, an upwardly extended hanger secured at its lower end to the switch member, a collar mounted on the support for rotary movement, the upper end of said hanger pivotally secured in said collar, an arm secured at one of its ends to said hanger, a keeper having recesses in its upper surface located below the arm and secured transversely to the support, and means connected to said arm to raise and shift the position of one end of the switch member from one of the branch track sections to another.

8. In an overhead switch, the combination with an elevated support, of a main track section having a channel in the lower portion of one of its ends and a plurality of branch track sections suitably supported on the support, a switch member mounted on the support for pivotal and vertical movement and having on the lower portion of its end adjacent to the main track section a projection to fit in the said channel and

adapted to have its other end swung laterally to aline with the different branch track sections.

9. In an overhead switch, the combination with an elevated support, of a main track section and a plurality of branch track sections suitably supported on said support, a switch member adapted to aline with the branch track sections, and a gravity actuated dog pivotally secured to each of the branch track sections and having one of its ends adapted to lie flush with the upper surface of the track section when the switch member is connected thereto and to be raised above the track section when the switch member is disconnected from the branch track section.

10. In an overhead switch, the combination with an elevated support, of a main track section and a plurality of branch track sections each having a recess in its upper surface and suitably supported on said support, a switch member adapted to aline with the branch track sections, a gravity actuated dog pivotally secured to each of the branch track sections and having at one of its ends a head to fit in said recess so that the upper surfaces of said head and section will aline, and means on the switch member to depress and hold said head in its lowered position.

11. In an overhead switch, the combination with an elevated support, of a main track section and a plurality of branch track sections each having a recess in its upper surface near its end adjacent to the main track section, a switch member adapted to aline with the branch track sections and having a finger projecting from its end adjacent to the said sections, a gravity actuated dog pivotally secured to each of the branch track sections and having a laterally disposed projection to engage said finger and provided at its upper end with a head to fit in said recess when the dog is depressed and to project above the branch track section when released.

12. In an overhead switch, the combination with an elevated support, of a branch track section suitably supported on said support, a gravity actuated dog mounted on said section and having one of its ends adapted to rise above the section to obstruct the passage of the car wheel while said section is open, and means to automatically remove the upwardly projecting portion of the dog from the path of the carrier when the switch member is moved in alinement with the said branch track section.

JEREMIAH C. FITZGERALD.

Witnesses:

CHAS. C. TILLMAN,
J. E. HANSEN.