

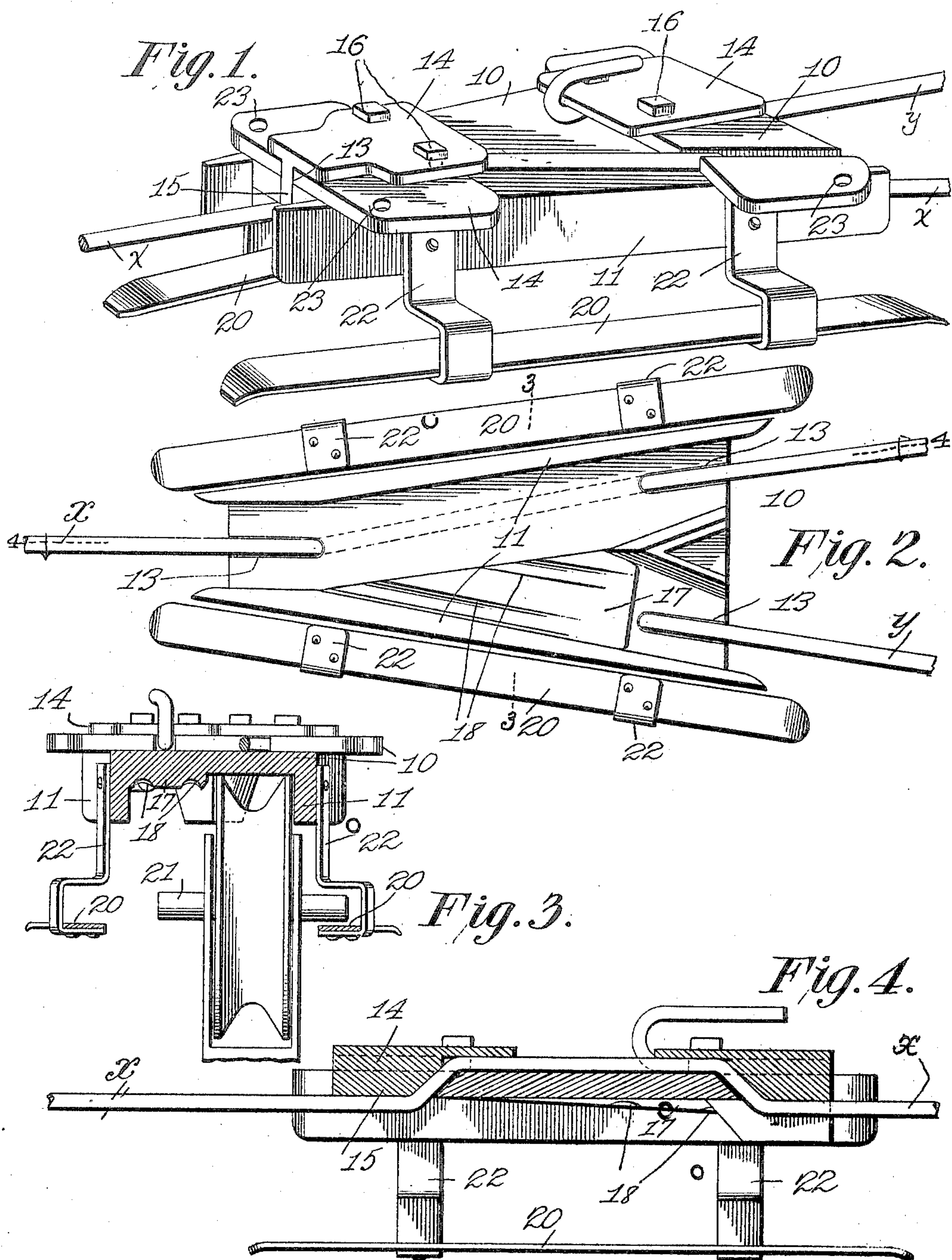
No. 817,368.

PATENTED APR. 10, 1906.

B. E. GREEN.
OVERHEAD TROLLEY SUPPORT AND SWITCH.

APPLICATION FILED SEPT. 28, 1904.

2 SHEETS—SHEET 1.



Witnesses
E. J. Stewart
J. E. Parker

Byron E. Green, Inventor
by *C. A. Snow & Co.*
Attorneys

No. 817,368.

PATENTED APR. 10, 1906.

B. E. GREEN.
OVERHEAD TROLLEY SUPPORT AND SWITCH.

APPLICATION FILED SEPT. 28, 1904.

2 SHEETS—SHEET 2.

Fig. 5.

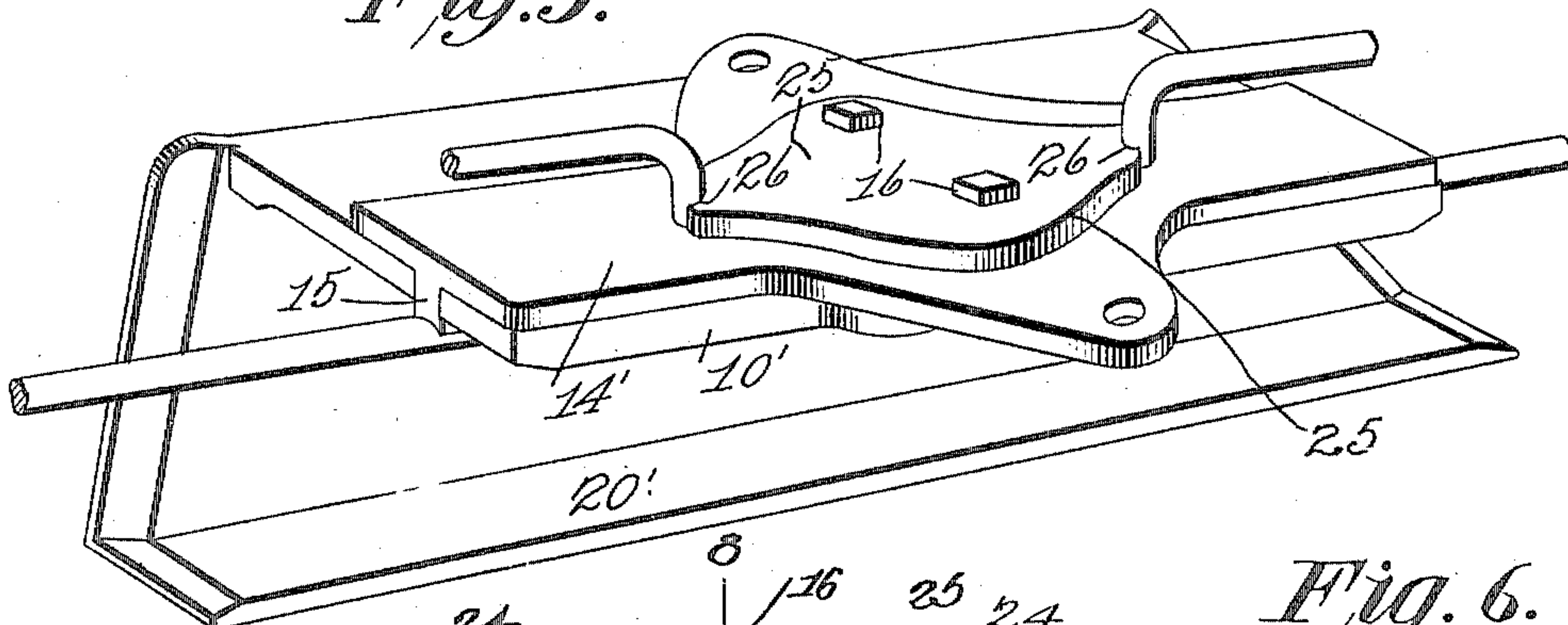


Fig. 6.

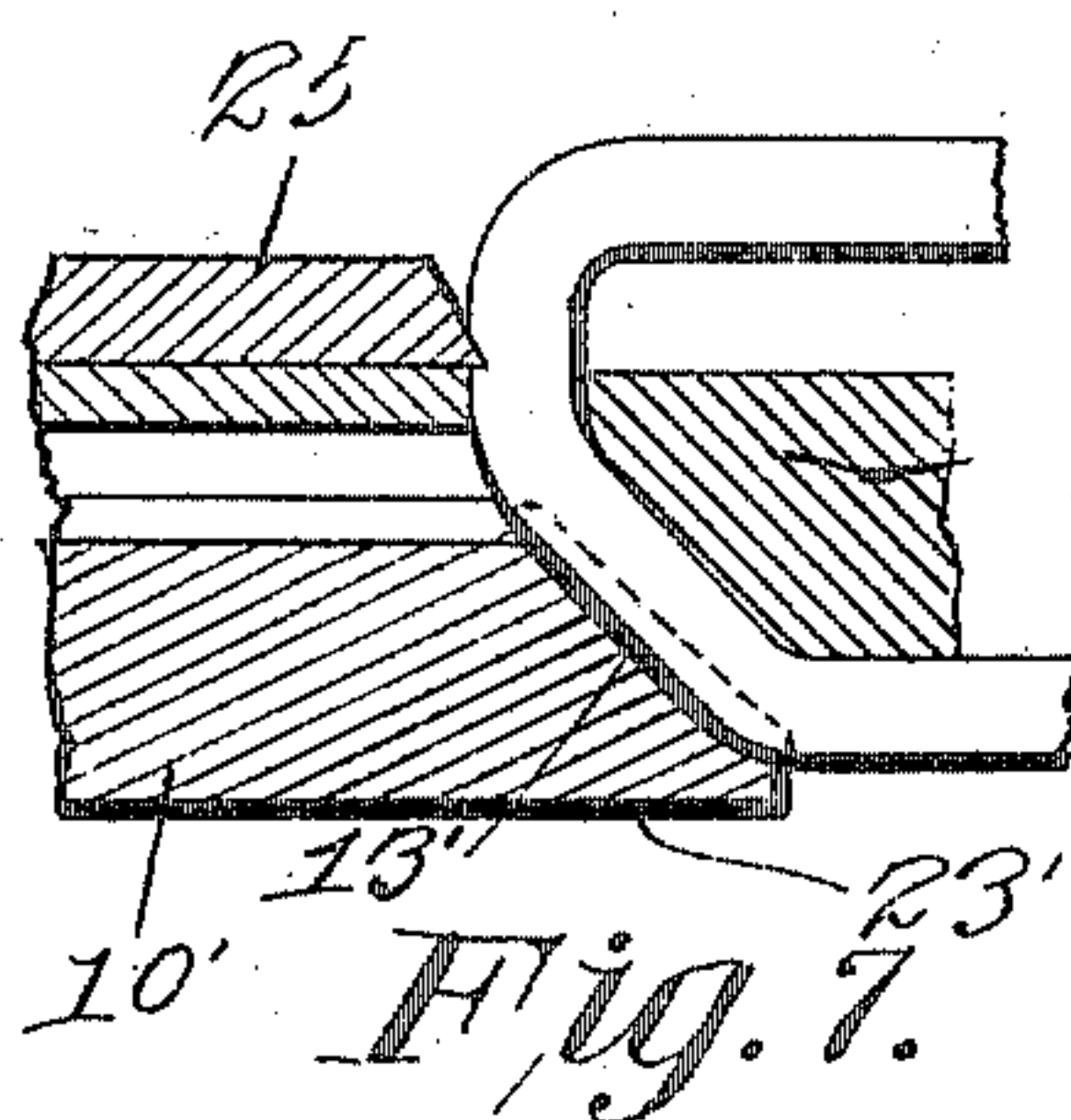
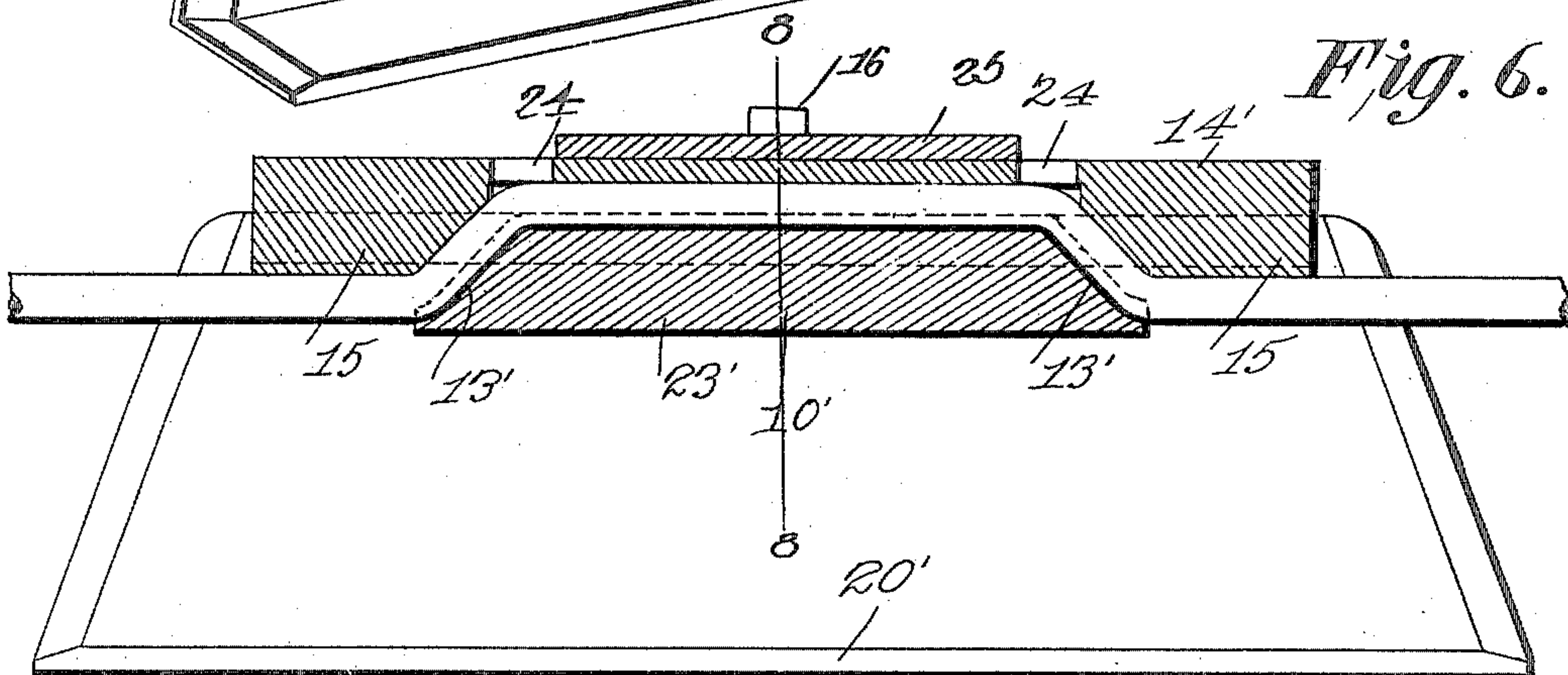


Fig. 7.

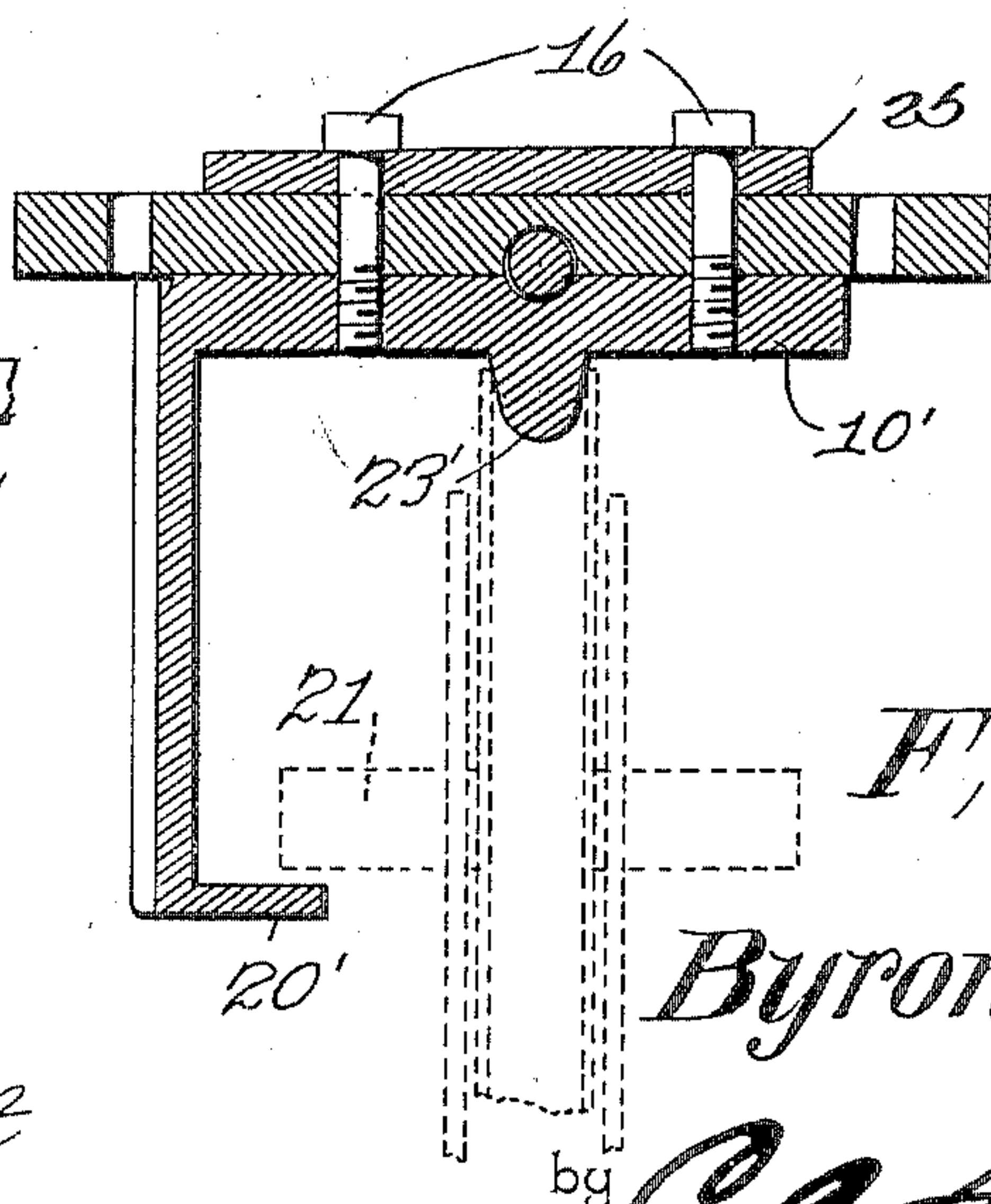


Fig. 8.

Witnesses

E. J. Stewart
Jno E. Parker

Byron E. Green,

Inventor

C. A. Snow & Co.

Attorneys

UNITED STATES PATENT OFFICE.

BYRON EMERY GREEN, OF ILION, NEW YORK.

OVERHEAD-TROLLEY SUPPORT AND SWITCH.

No. 817,368.

Specification of Letters Patent.

Patented April 10, 1906.

Application filed September 28, 1904. Serial No. 226,366.

To all whom it may concern:

Be it known that I, BYRON EMERY GREEN, a citizen of the United States, residing at Ilion, in the county of Herkimer and State of New York, have invented a new and useful Overhead - Trolley Support and Switch, of which the following is a specification.

This invention relates to overhead construction-work of trolley-lines.

One object of the invention is to provide a novel means for clamping or connecting the trolley-wire to an overhead member in the form of a hanger, support, or switch in such manner as to avoid the necessity of soldering.

A further object of the invention is to provide a device of this character which may also be used for splicing the adjacent ends of trolley-wire sections without intertwisting the wires or soldering them.

A still further object of the invention is to provide means whereby the trolley is held from jumping from the wire when it comes into contact with a trolley-wire support, switch, or like member.

A still further object of the invention is to provide a trolley-switch in which the trolley will be accurately guided in the proper direction.

With these and other objects in view, as will more fully hereinafter appear, the invention consists in certain novel features of construction and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, size, and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, Figure 1 is a perspective view of a trolley-switch embodying the invention. Fig. 2 is an inverted plan view of the same. Fig. 3 is a transverse sectional elevation of the switch on the line 3 3 of Fig. 2. Fig. 4 is a longitudinal sectional elevation of the same on the line 4 4 of Fig. 2. Fig. 5 is a perspective view illustrating the application of the invention to a trolley-wire support and showing the manner in which splicing of the trolley-wire may be effected. Fig. 6 is a longitudinal sectional elevation of the same, illustrating a trolley-wire running through the support. Fig. 7 is a view of a portion of the structure illustrated in Fig. 5, showing the manner of making a

splice. Fig. 8 is a transverse sectional elevation of the trolley-wire support on the line 8 8 of Fig. 6.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

The essential features of the invention may be embodied in devices of different class employed in overhead construction-work, and in the present instance two of such members are shown, Figs. 1 to 4 illustrating the application of the invention to overhead switches, while Figs. 5 to 8, inclusive, illustrate the application of the invention to supports proper.

The switch includes a horizontally-disposed plate 10, approximately V shape in general plan and provided along its convergent edges with pendent flanges 11, the inner edges of the flanges, near the point of convergence, being disposed in parallel relation, as shown in Fig. 2.

The main-line wire *x* is continuous, as shown more clearly in Fig. 2, while the branch wire *y* terminates at the switch.

The end portions of the plate 10 are cut away to form elongated recesses 13, that extend inward from the ends of the plate, and the wire is passed through these recesses and runs along over the top of the plate, as shown in Fig. 1. In order to confine the wire in place, clamping-plates 14 are used, and there may be a separate clamping-plate adjacent to each recess, or all of the clamping-plates may be connected together, as shown, for instance, in Figs. 5 and 6. Each clamping-plate 14 is provided with a pendent tongue 15, that extends down into the recess 13, the inner end of the tongue and the adjacent wall of the recess being inclined at a point where they engage with the wire, so that there will be no abrupt bend in the latter. The clamping-plates are comparatively broad and are provided with openings for the passage of screws 16, which are tapped into threaded openings formed in the top of the plate, and when screwed down the plates will firmly clamp and hold the wire. The main-line wire, as shown, is extended continuously through the switch, but the branch-line wire is bent up over the inner end of the clamping-plate, as shown in Figs. 1 and 4, the clamping-plate thus serving as a splicing member and firmly holding the end of the wire without the necessity of soldering the same in place.

In order to permit the direct crossing of

the trolley-wheel, the lower surface of the plate is provided with an auxiliary block 17, which may, if necessary, be formed integral with said plate. One edge of the block is so
 5 arranged as to form one wall of the channel in which the trolley-wheel is guided along the main-line wire, and thus prevents accidental displacement of the trolley-wheel. In passing from the branch line y to the main line x
 10 the flanges on the trolley-wheel will ride in grooves 18, formed in said guiding-block, and thence rise into contact with the under side of the plate.

In switches and similar devices employed
 15 in overhead work there is always danger of the trolley-wheel jumping from the wire or the switch when it comes into contact with the latter, and to prevent this guard-flanges 20 are employed, these flanges being arranged
 20 under the extended axle 21 of the trolley-wheel, as shown more clearly in Fig. 3. The guard-flanges 20 in the present case are shown in the form of metallic strips connected by hangers 22 to the side flanges 11, and
 25 they are of such length that the axle 21 will be in position above them before the trolley-wheel leaves the wire, and in moving from the wire into contact with the main body of the switch the trolley-wheel will be held
 30 from displacement.

The switch is supported in the usual manner, as by guide-wires leading to suitable openings 23, formed in ears that are cast on the main plate.

35 In applying the invention to trolley-wire supports the main plate 10' of the support is of a construction somewhat similar to that shown in Fig. 1; but the under side of the plate is provided with a pendent rib 23', that
 40 forms practically a continuation of the wire and enters the peripheral groove of the trolley-wheel. The wire, however, is led up through end recesses 13', formed in the ends of the plate, and is confined in place by
 45 clamping members 14', that are securely held in position by screws 16. The construction shown in Figs. 5, 6, and 7 illustrates, further, a modification of the construction of the guard-flanges 20. The flanges 20' in this in-
 50 stance are shown as forming an integral part of the support, and they are made on one or on both sides of the main plate.

In order that the device may be used for

splicing ends of adjacent sections of wire, the clamps 14' are provided with openings 24, 55 which ordinarily are not of any use when the support is attached to an intermediate portion of the wire. When the splice is to be made, however, the ends of the wires are passed up through the openings 24 and then 60 bent in the manner shown in Figs. 5 and 7. An auxiliary plate 25, having wire-receiving recesses 26 at its opposite ends, is then secured in place by means of the screws 16. The walls of the recesses 26 are preferably 65 tapering in such manner as to form sharp edges that will bite into the wire, and thus insure good electrical contact.

In stringing trolley-wires the wire is usually stretched loosely for a considerable 70 length—say one thousand feet—and thence hauled taut by a tackle, after which the hangers are properly connected, usually by solder, and always by solder where a splice is necessary. This operation occupies considerable 75 time and is much more expensive than with a device of the character shown in the present instance, where it is merely necessary to place the main plate under the wire, so that the latter will enter the recesses therein, and 80 then place the clamp in position and turn the screws 16 tightly home. The operation may be accomplished more quickly at minimum expense and without the necessity of employing specially-skilled labor. 85

Having thus described the invention, what is claimed is—

An overhead-trolley fixture comprising a main plate having at its ends wire-receiving recesses provided with inclined inner walls 90 against which bear bent-up portions of the trolley-wire, and means carried by said plate for clamping a continuous wire and also wire ends to the latter, said clamping means including tongue members registering in said 95 recesses and having inclined portions adapted to engage said bent-up portions of the trolley-wire.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in 100 the presence of two witnesses.

BYRON EMERY GREEN.

Witnesses:

GRACE WASHBURN,
 FRANK WASHBURN.