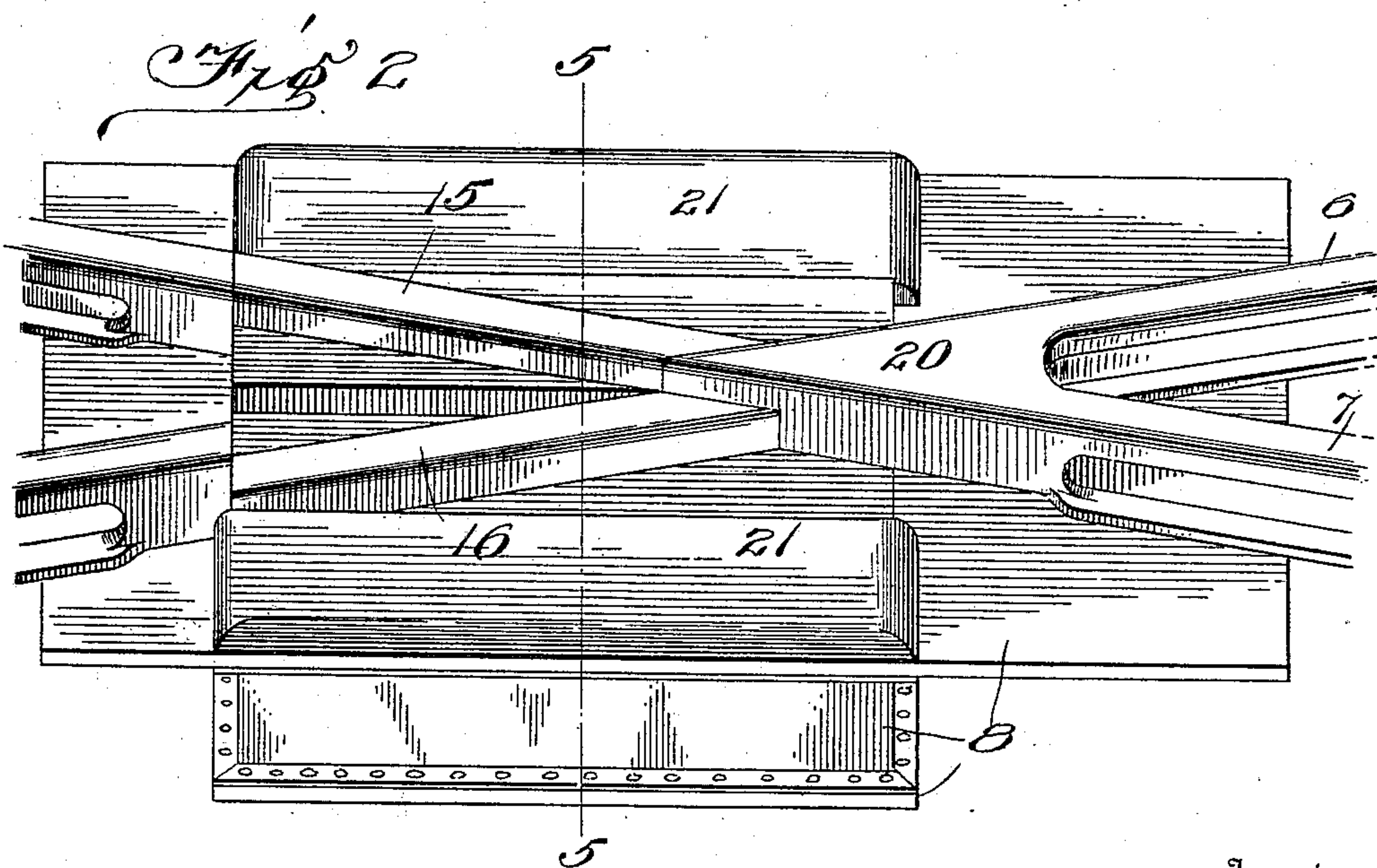
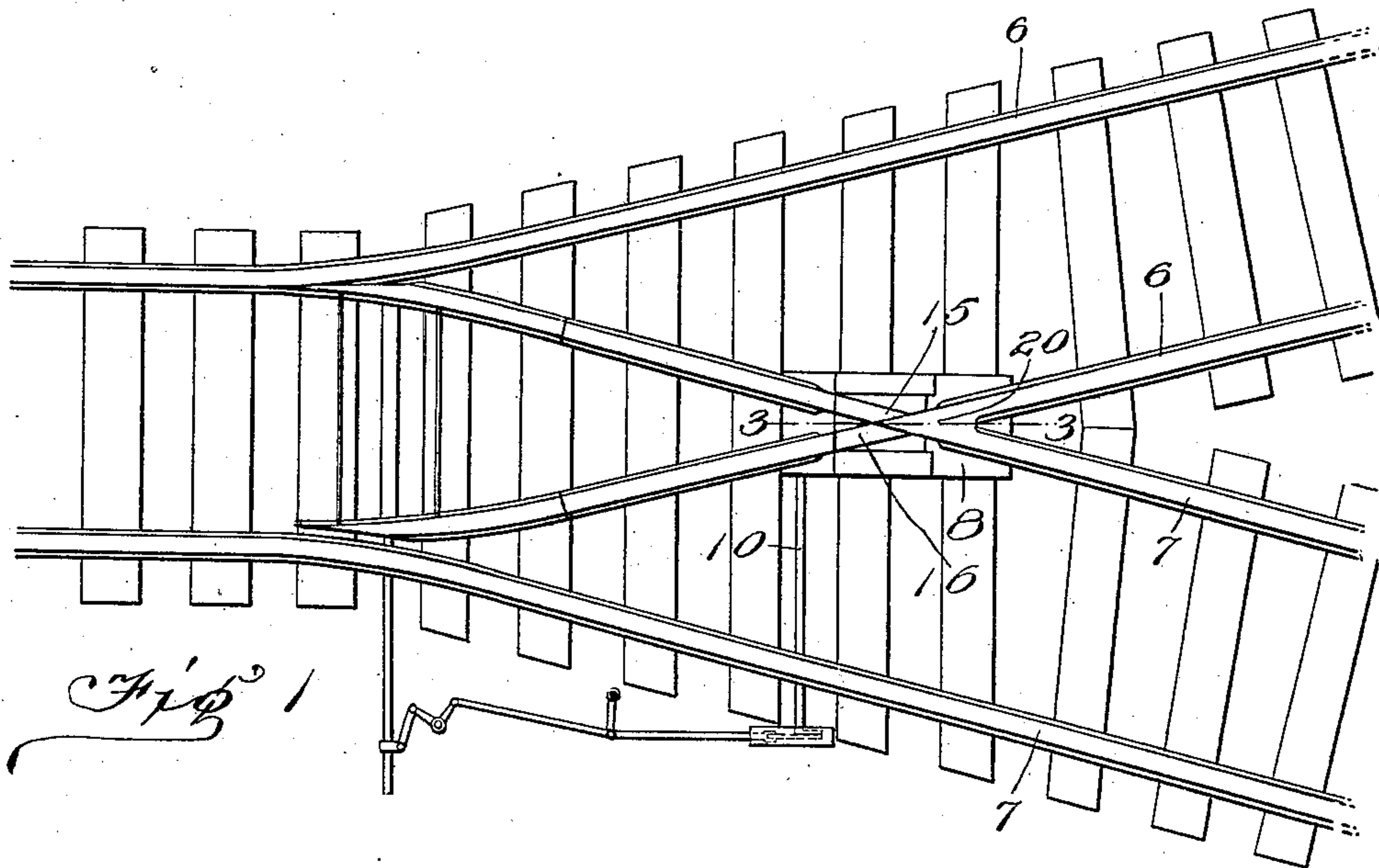


A. L. McMASTERS.
RAILWAY FROG AND SWITCH.
APPLICATION FILED DEC. 9, 1908.

917,737.

Patented Apr. 6, 1909.

2 SHEETS—SHEET 1.



Inventor
A. L. McMasters.

Witnesses
Ed. A. Harris
Arthur H. Halsey

By *Wm. E. Tew*
Attorney

A. L. McMASTERS.
RAILWAY FROG AND SWITCH.
APPLICATION FILED DEC. 9, 1908.

917,737.

Patented Apr. 6, 1909.
2 SHEETS—SHEET 2.

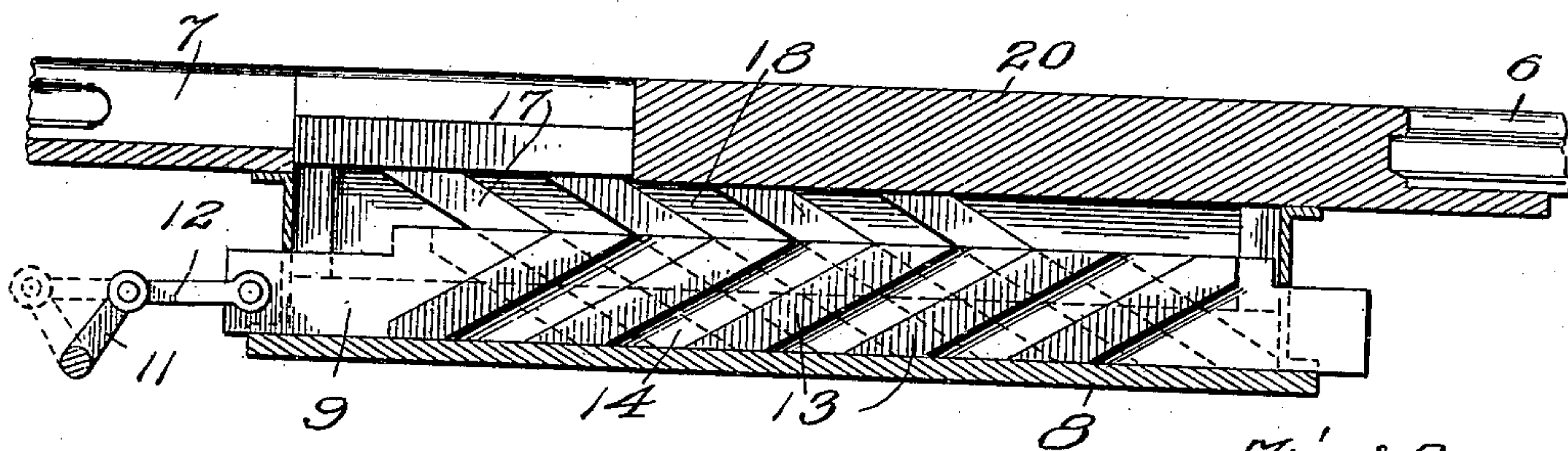


Fig. 3.

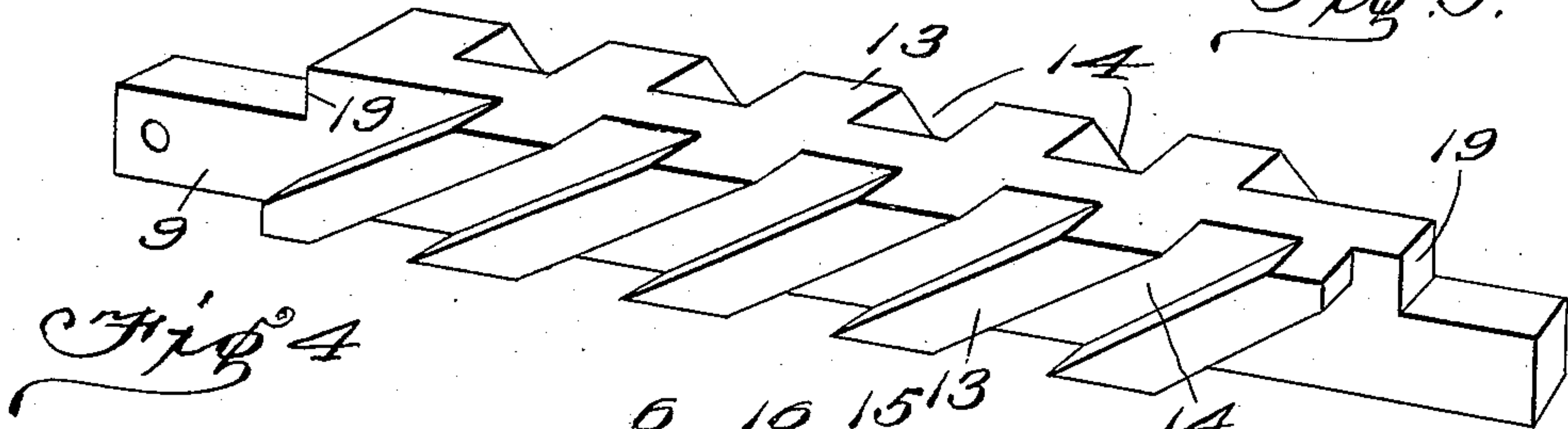


Fig. 4.

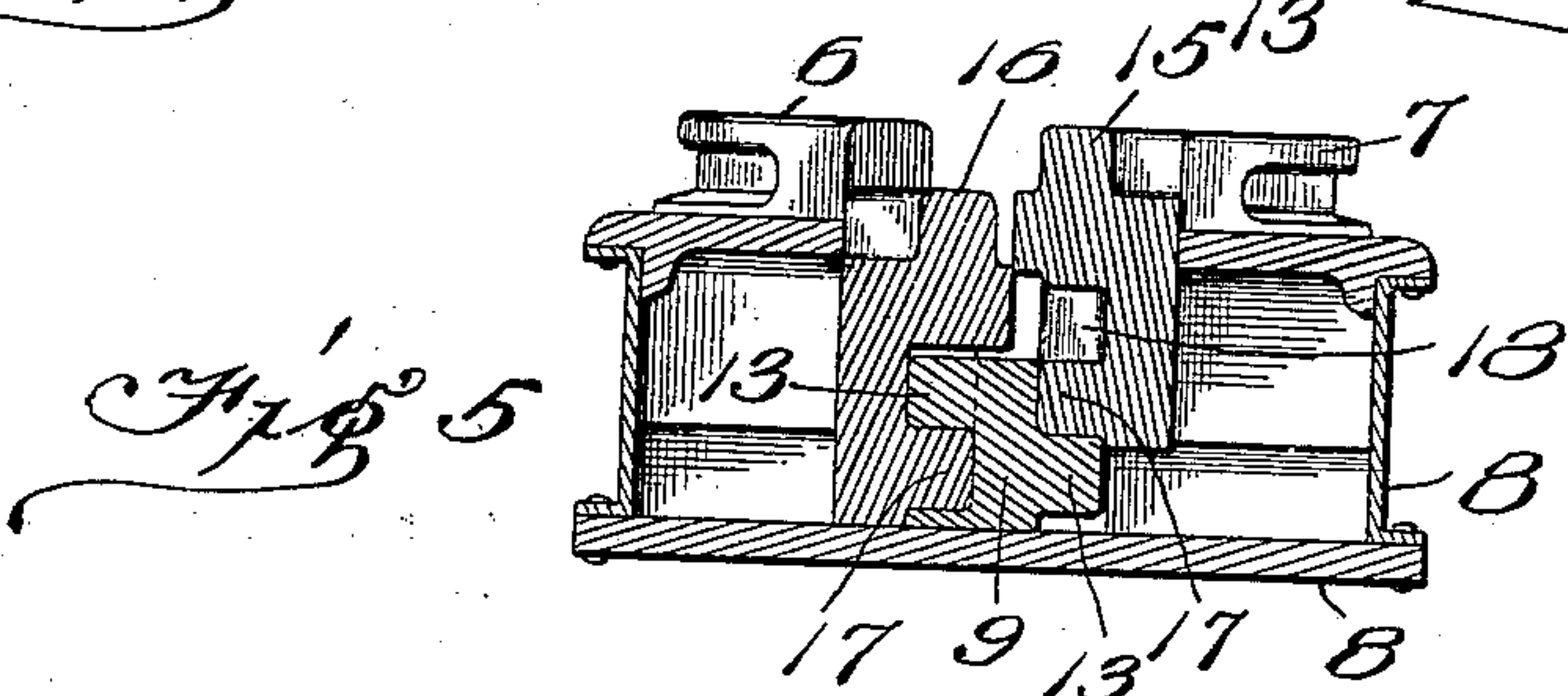


Fig. 5.

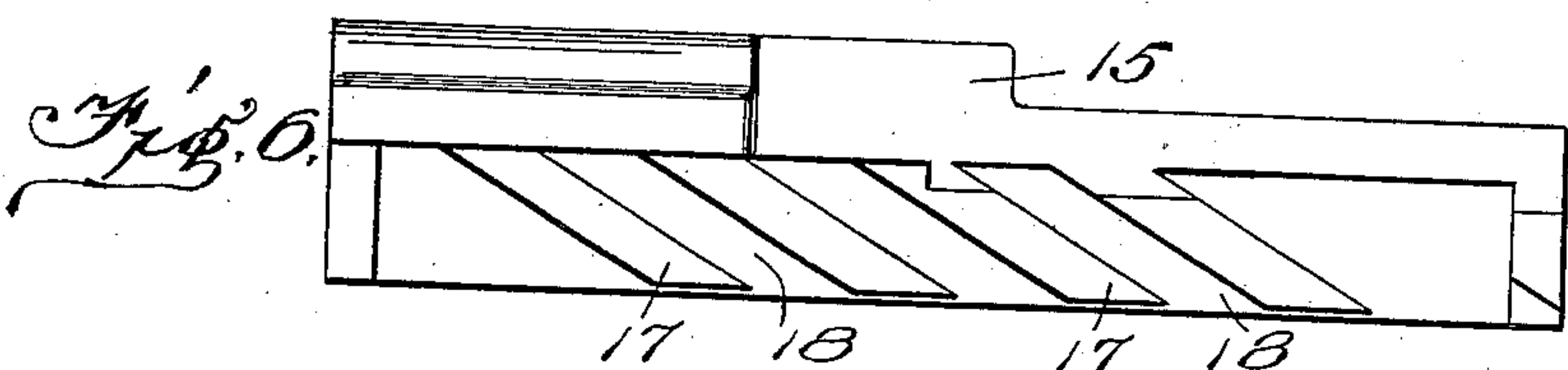


Fig. 6.

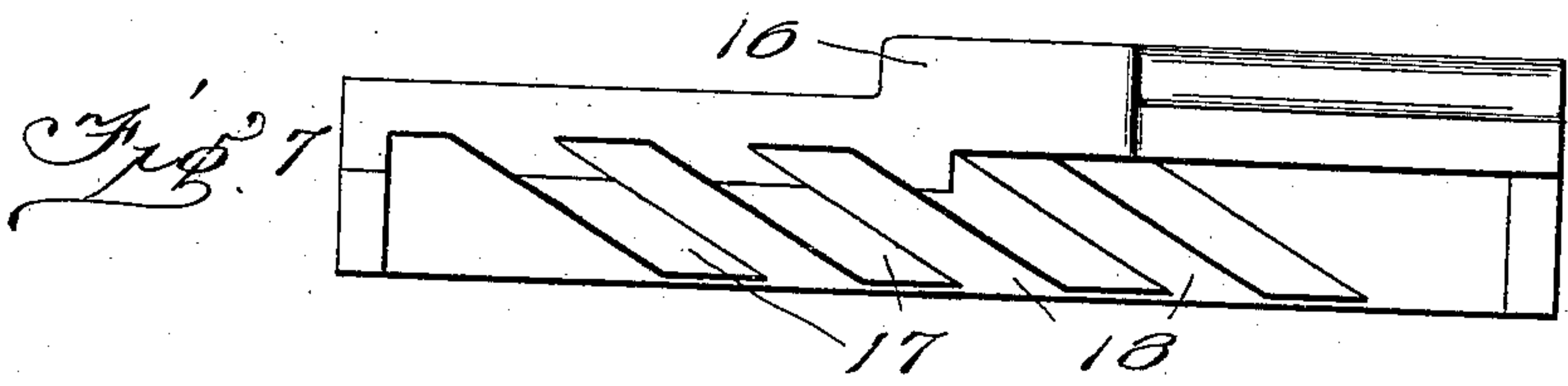


Fig. 7.

A. L. McMasters. ^{Inventor}

Witnesses
Geo. L. Thom
Arthur Wesley

By W. E. Tew

Attorney

UNITED STATES PATENT OFFICE.

ABRAHAM L. McMASTERS, OF CHICAGO HEIGHTS, ILLINOIS, ASSIGNOR OF ONE-HALF TO
JAMES M. STREET, OF CHICAGO HEIGHTS, ILLINOIS.

RAILWAY FROG AND SWITCH.

No. 917,737.

Specification of Letters Patent.

Patented April 6, 1909.

Application filed December 9, 1908. Serial No. 466,709.

To all whom it may concern:

Be it known that I, ABRAHAM L. McMASTERS, citizen of the United States, residing at Chicago Heights, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Railway Frogs and Switches, of which the following is a specification.

This invention relates to railway frogs, and is also applicable to switch-points and derauling points.

The object of the invention is to form an improved device of the kind, as will more fully hereinafter appear.

In use as a frog, the guard rails, rail braces, etc. are dispensed with as unnecessary. When used as a switch-point the tie rods from point to point, and the plates, are omitted as unnecessary. In all cases interference by snow, dirt, and the like is prevented, and the possibility or liability of a foot being caught in the frog or switch at any point is prevented.

The frog or switch section which connects the tracks is movable vertically in a box located under the frog or switch point, and as applied to a frog, one section will move up while the other section moves down, thereby connecting and disconnecting the respective rails, and maintaining the continuity of the rail to be used.

The invention is illustrated as applied to a frog, and referring to the drawings,—Figure 1 is a plan view of the same; Fig. 2 is a perspective view of the frog on an enlarged scale; Fig. 3 is a longitudinal vertical section on the line 3—3 of Fig. 1; Fig. 4 is a detail in perspective of the device for raising and lowering the rail sections; Fig. 5 is a section on the line 5—5 of Fig. 2; Figs. 6 and 7 are side elevations of the rail sections which are raised and lowered.

Referring specifically to the drawings, 6 indicates the rails of one track and 7 the rails of the other with the improved frog located at the junction thereof. Said frog comprises a box 8 within which is a longitudinally slidable member or block 9 which is manually operated by means of the switch shifting devices which may be of any desired type, and which are shown as including a rock shaft 10 with a crank 11 connected to the block by a link 12. The block slides on the bottom of the box.

On opposite sides the block is provided

with inclined ribs 13 with grooves 14 therebetween, these ribs being oppositely inclined on the respective sides of the block. The shifting or movable rail sections 15 and 16, shown in Figs. 6 and 7, are operated by this block. They are located side by side in the box and work through an opening in the top thereof, being movable up and down, and being guided in their movement by the ends of the box. These rail sections have ribs 17 and grooves 18 which correspond in position and arrangement to the ribs and grooves in the shifting block 9, so that the ribs on the block will fit in the grooves on the rail sections, and said ribs being oppositely inclined, the direction of movement of the rail sections will be opposite, that is, one will be raised and the other will be lowered when the block 9 is shifted lengthwise in either direction. The ribs on the block act as wedges to lift or lower the rail sections.

The block resting on the bottom of the box provides a firm or sufficient support for the rail section in use, that is, in raised position, and although there is of course a tendency to shift the block in consequence of the weight on the rail section, the ordinary latch devices of the switch will be sufficient to resist this tendency, producing a solid support for the rail section. The shifting block 9 is provided with shoulders 19 which stop against the ends of the box, to limit the movement of the block and consequently the movement of the rail section, the same result, however, being produced by the contact of the rail section on one side with the bottom of the box, at the limit of its downward movement.

The heads of the rail sections 15 and 16 are arranged at an angle to each other in line with the opposite sides of the frog point 20, as clearly shown in Figs. 1 and 2, and the ends of the rail sections being beveled to form a close joint with the frog point. The adjacent faces of the lower part or base of the rail sections 15 and 16 are, however, parallel where the block 9 fits between the same, in order that the ribs and grooves may at all times be engaged for the purpose of lifting and lowering the connecting rails. The top of the box is strengthened by thickened portions 21 to form a substantial lateral support for the movable sections and prevent the same from separating as well as to guide the same to proper position.

110

In consequence of the structure described the respective rail sections 15 and 16 will, when the block 9 is shifted, raise or lower according to the direction of movement of said block, and one section will connect the frog point and the appropriate rail, the other section will drop sufficiently to allow the wheel flanges to clear the same, thereby forming a continuous rail or track; and the same when the opposite movement take place. The operating parts being inclosed in a box cannot readily become fouled by dirt, or the like, and the up and down movement of the shifting sections cannot be prevented by any ordinary accumulation of snow, ice or dirt, the wedge action of the shifting block providing a powerful force for operating the frog. In Fig. 1 the frog is shown operatively connected to ordinary switch-points, and moving in unison therewith to connect the appropriate tracks.

In addition to its use in a frog, the principle of the present invention may be applied to a switch-point or a derail point. For use in connection with a switch-point, each of the points consists of a section which is raised and lowered by means of a sliding block, with engaged ribs and grooves inclined to give the necessary movement, the direction of inclination of ribs on the respective blocks being opposite, so that the point on one side will be raised and the point on the other side will be lowered, simultaneously. A derail point will simply require a box beside one of the rails, with a point and a shifting block to lift and lower the same when desired.

The invention is capable of modification in various other particulars, within the scope thereof, and no limitation is implied by reason of the particular structure shown.

I claim:

1. The combination with alined rails, of a rail section located therebetween and adapted

to connect the same, to form a continuous track, the said section being movable up and down to make or break the continuity of the track, and means to raise and lower said section, including a block movable lengthwise beside the section and having an incline engaging said section.

2. The combination with alined rails, of a rail section movable up and down between the same and forming a continuous track when raised, said section having inclined ribs, and a block movable lengthwise beside said section and having inclined ribs engaging said ribs, to raise or lower said section when the block is moved one way or the other.

3. The combination with spaced alined rails, of a box under the space between said rails, a rail section adapted to connect said rails and movable up and down in the box to make or break the continuity of the track, and a block slidable in the box beside the lower part of the rail section, said block and section having inclined projections engaging each other, and constructed to raise or lower the section when the block is moved.

4. The combination with rails located in intersecting lines, of rail sections located beside each other at the intersection and movable up and down to respectively form a continuous track in either line, each section having inclined ribs, the ribs of one section being opposite in direction to those of the other, and a block movable between the sections and having on its sides oppositely inclined ribs engaging the ribs of said sections respectively whereby when the block is moved one section will be raised and the other lowered.

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

ABRAHAM L. McMASTERS.

Witnesses:

J. M. STREET,

WM. J. ROBINSON.