

No. 743,885.

PATENTED NOV. 10, 1903.

E. J. KING.
SPRING POINT SWITCH.
APPLICATION FILED AUG. 27, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

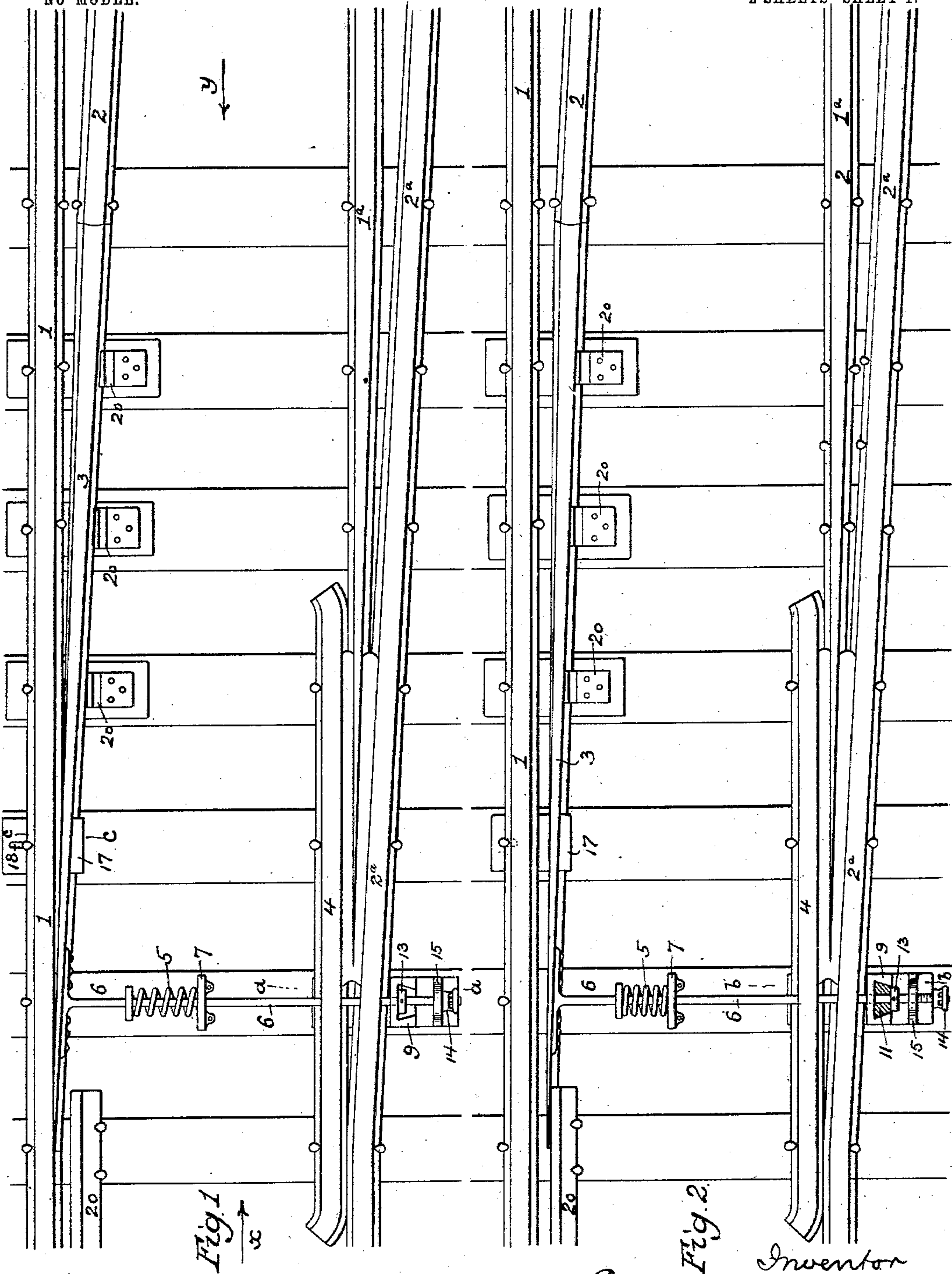


Fig. 1

Fig. 2

Witnesses
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Inventor
Eustachius J. King
by his attorneys
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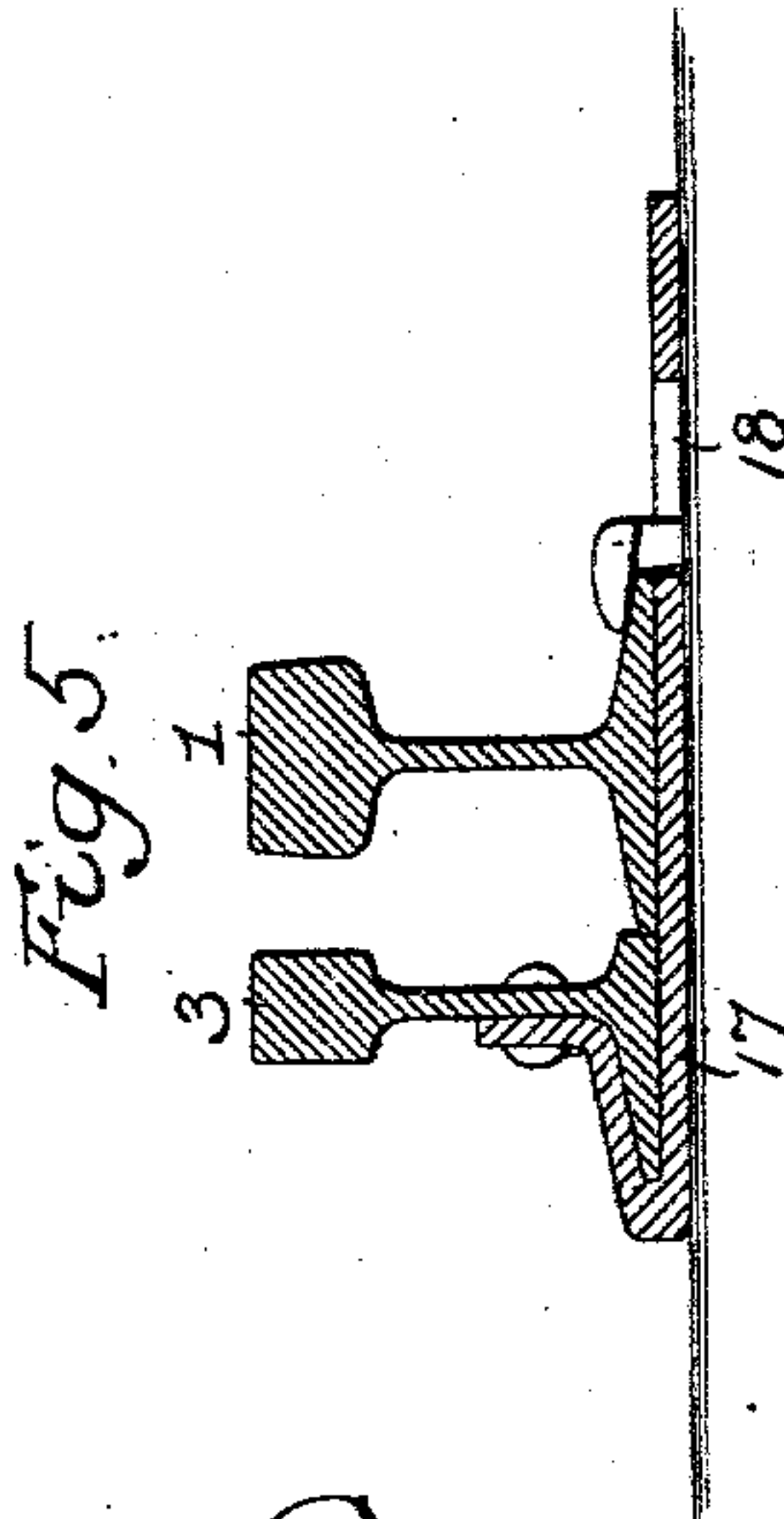
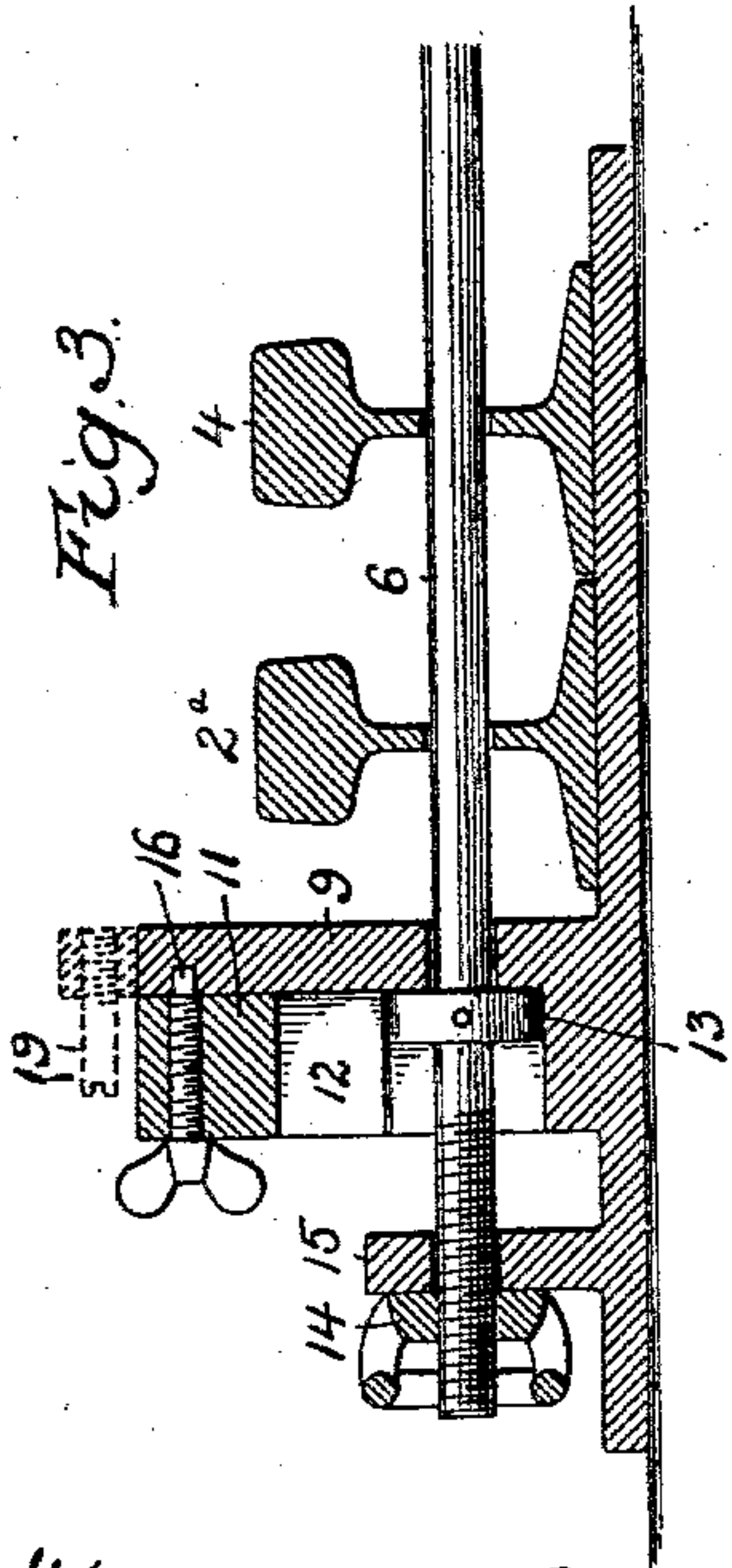
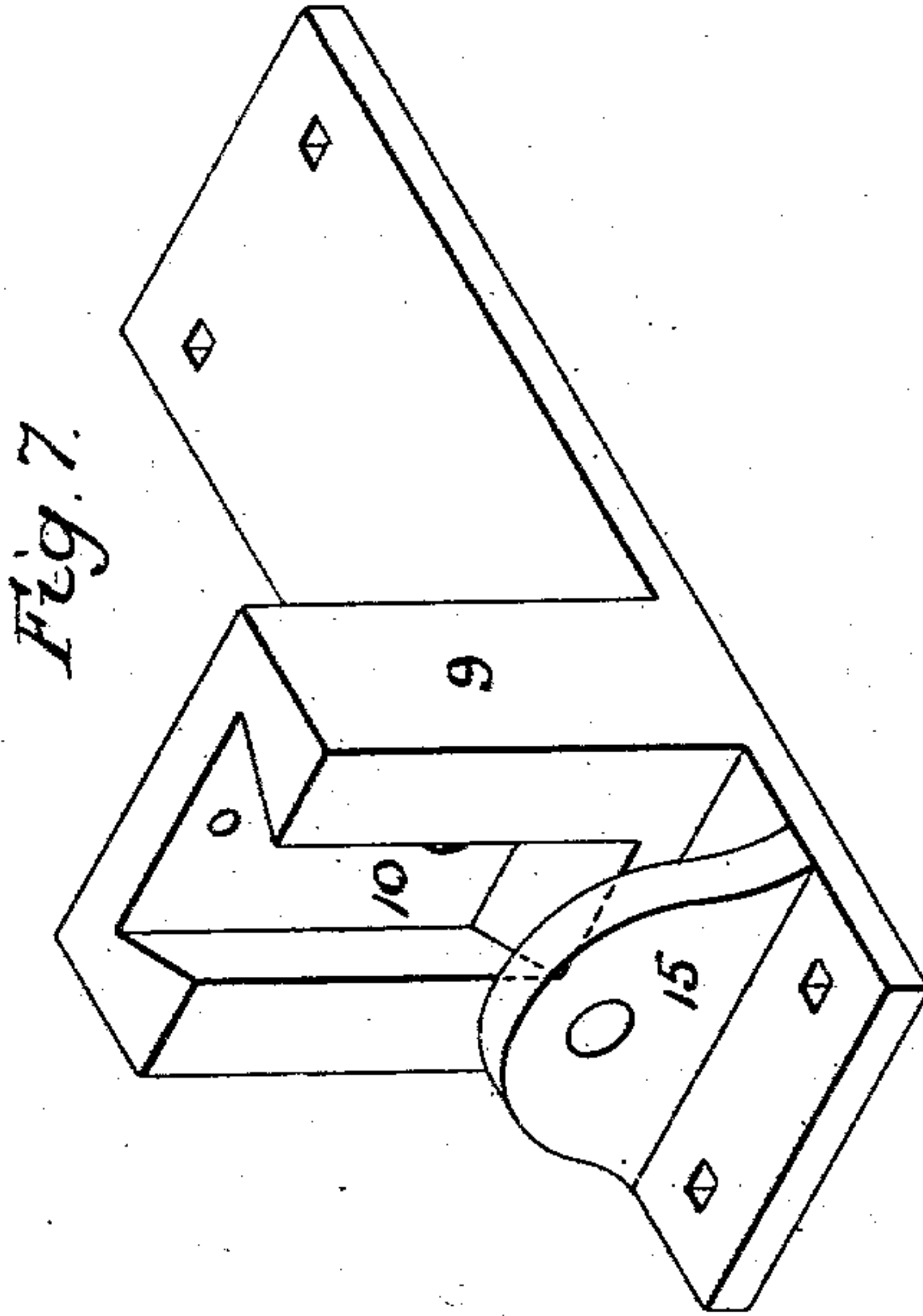
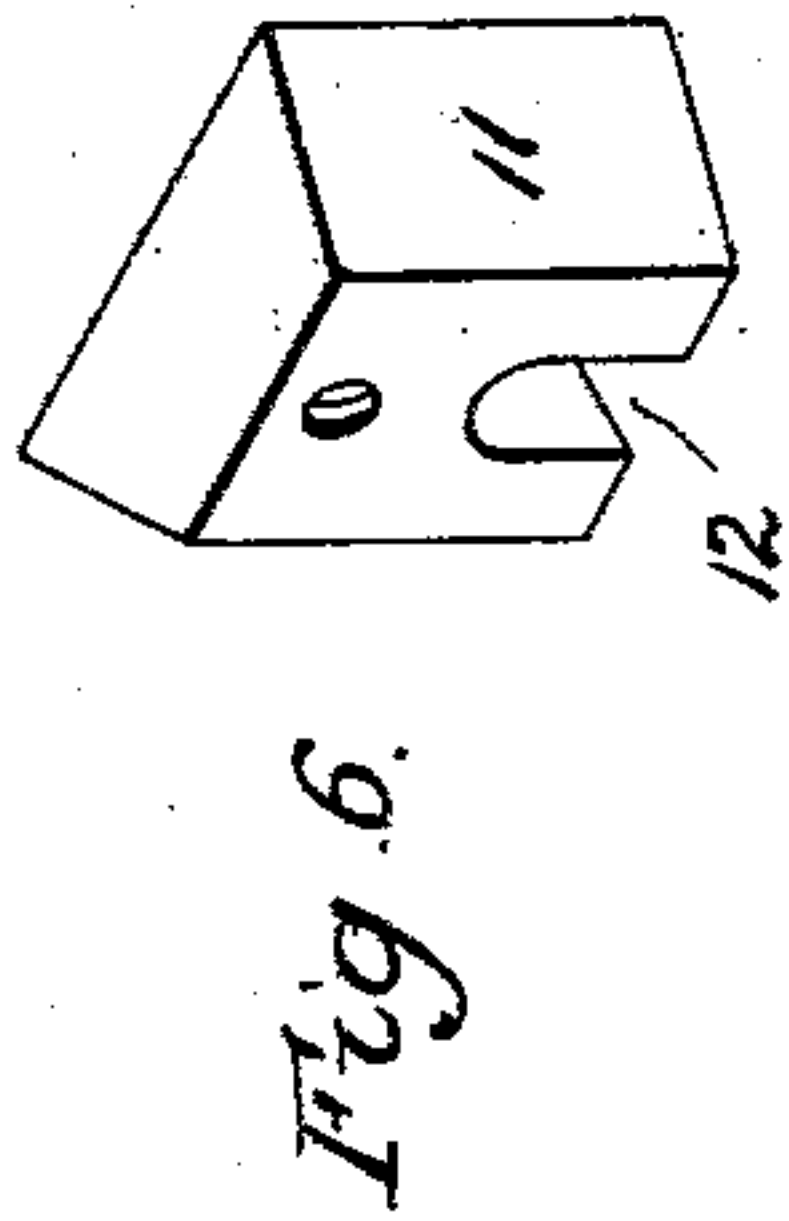
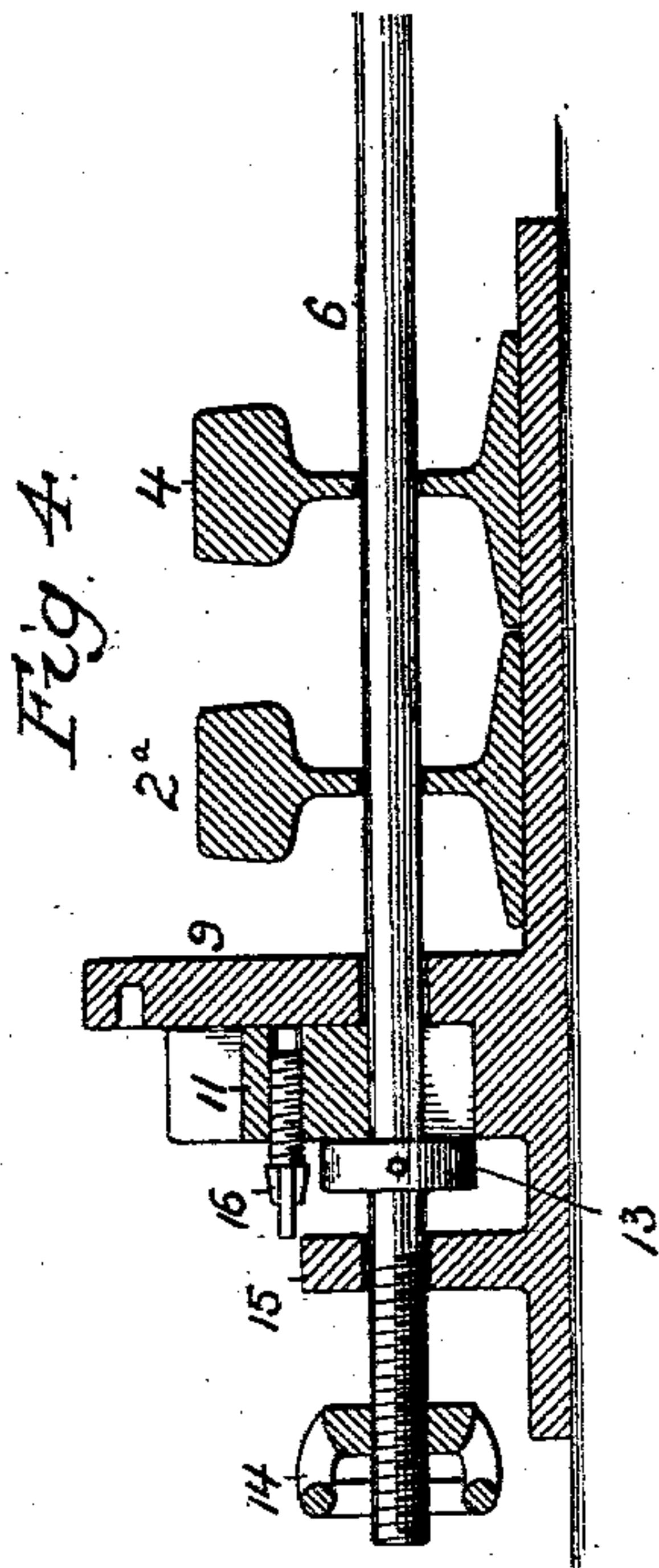
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2 SHEETS—SHEET 2.



Witnesses:—*Eugene B. Copes*
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UNITED STATES PATENT OFFICE.

EUSTACHIUS JOSEPH KING, OF PHILADELPHIA, PENNSYLVANIA.

SPRING-POINT SWITCH.

SPECIFICATION forming part of Letters Patent No. 743,885, dated November 10, 1903.

Application filed August 27, 1903. Serial No. 170,969. (No model.)

To all whom it may concern:

Be it known that I, EUSTACHIUS JOSEPH KING, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Spring-Point Switches, of which the following is a specification.

My invention consists of certain improvements in that class of railway-switches or turnouts known as "spring-point" or "spring-tongue" switches, the object of my invention being to so construct such a switch that when the point or tongue is moved to the open position by the passage of a locomotive or car along the main-line track from the back of the switch or turnout it will remain in the open position until reset by hand, so that the drilling of cars back and forth on the main track past the switch or turnout will not be interfered with. The device may be so adjusted, however, that the spring-point can, except when it is desired to have it operate in the manner above described, operate in the ordinary manner—that is to say, close automatically as soon as the wheels of the locomotive or car have passed it.

In the accompanying drawings, Figure 1 is a plan view of sufficient of a spring-point switch to illustrate my invention, the switch being shown in the closed position. Fig. 2 is a similar view showing the switch open. Fig. 3 is a sectional view, on an enlarged scale, on the line *a a*, Fig. 1. Fig. 4 is a similar section on the line *b b*, Fig. 2. Fig. 5 is a section on the line *c c*, Fig. 1; and Figs. 6 and 7 are perspective views of portions of the device.

In Fig. 1 of the drawings, 1 1^a represent the rails of the main track; 2 2^a, the rails of a siding or turnout; 3, the spring point or tongue of the switch, and 4 a frog located at the intersection of the main-line track and the rail 2^a of the switch or turnout. A spring 5 acts upon a rod 6, with which the point 3 is provided, said spring having a normal tendency to hold the point in contact with the inside of the main-line rail 1, so that the switch is normally set for the siding to a locomotive or car approaching it in the direction of the arrow *x*, while a locomotive or car approaching it in the direction of the arrow *y* will open the spring-point of the switch as the flange

of the wheel passes between said point and the main-line rail 1. Stops 20 limit the opening movement of the spring-point and brace the same, so as to prevent it from being injured or displaced by the lateral pressure of the wheel-flanges thereon. This is the usual construction of spring-point switches, and the purpose of my invention is to provide the spring-point with an automatic locking device which will when desired retain the point in the open position until it is released by hand, so that cars can be drilled freely back and forth on the main track past the switch or turnout.

In that embodiment of my invention shown in the drawings the rod 6 is continued through the abutment 7 for the spring 5 and passes through transverse openings in the frog-rail 4 and switch-rail 2^a and also through a vertical slot in the face of a locking-box 9, which is suitably mounted upon one of the cross-ties on the outside of the switch-rail 2^a and has formed in it a recess 10, with dovetailed side walls, this recess serving for the reception and guidance of a vertically-sliding locking-bolt 11, which is dovetailed, so as to fit the dovetailed walls of the recess and has formed in it a vertical slot 12 for the reception of the rod 6. Formed on or carried by the rod 6 is a flange or collar 13, which when the spring-point is closed serves to support the locking-bolt 11 in the elevated position shown in Fig. 3 of the drawings. When, however, the switch-point 3 is pushed open, the collar 13 is moved outwardly, and its support is thereby removed from the locking-bolt 11, which falls between the collar and the inner face of the box 9, and thus serves to retain said collar in its projected position, and thereby lock the spring point or tongue of the switch in its open relation to the rail 1 of the main track. (See Figs. 2 and 4.) As the spring which acts upon the point 3 is usually a comparatively heavy one, considerable force will be needed in order to release the locking-bolt 11 from the pressure of the collar 13 when it is desired to lift said locking-bolt and again close the switch, and for this reason I thread that portion of the rod 6 which extends outwardly beyond the collar and adapt to this portion of the rod a nut 14, provided with a handle, whereby it may be readily turned. When

this nut is screwed up upon the rod 6, so as to bear against a lug 15 on the base-plate of the box 9, it will still further retract the rod, and thereby release the locking-bolt 11 from the pressure of the collar 13. Hence said locking-bolt can be raised, and when the nut 14 is backed off the switch-point is permitted to assume its normal or closed position. A bolt, pin, or other suitable supporting means—such, for instance, as shown at 16 in Fig. 3—may be employed for holding the locking-bolt in the elevated position when it is desired to work the switch under normal conditions—that is to say, without automatically locking it in the open position after it has been moved thereto.

In order to prevent any raising of the spring-point of the switch, I secure to the same a plate 17, such as shown in Fig. 5, which plate passes beneath the main rail 1 and is thereby prevented from rising, a slot 18 in the plate serving to receive the spike whereby the rail is secured to the tie, while at the same time it permits the desired lateral movement of the plate with the point 3.

A screw-stud 19 or other suitable stop may be applied to the locking-box 9 in order to prevent the lifting of the locking-bolt 11 therefrom, as shown in Fig. 3.

While I prefer to form the locking-rod as an extension of the spring-rod 6, it will be evident that the said locking-rod can be connected to any other desired part of the spring-point without departing from my invention.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. The combination of the spring-point of a railway-switch having connected thereto a rod with collar thereon, a locking-box, and a sliding bolt therein normally supported by

said collar but free to drop into locking position when such support is removed, substantially as specified.

2. The combination of the spring-point of a railway-switch, a rod connected to said spring-point and having a collar thereon, a locking-box having a chamber with undercut walls and a similarly-undercut locking-bolt, vertically guided in said chamber and normally supported by said collar, but free to drop in front of the same and lock the switch in the open position after it has been moved thereto, substantially as specified.

3. The combination of the spring-point of a railway-switch with a rod connected to the point and having a collar thereon, a locking-box having a bolt for engaging said collar and holding the switch in the open position, and a nut applied to a threaded portion of the rod and serving to retract the same so as to release the locking-bolt from the pressure of the collar, substantially as specified.

4. The combination of the spring-point of a railway-switch, with an automatic locking-bolt for retaining the same in the open position, and means for holding said locking-bolt out of operative position, substantially as specified.

5. The combination of the spring-point of a railway-switch, with a locking-box having an automatic locking-bolt for retaining the point in the open position, and means for preventing the withdrawal of said bolt from the locking-box, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EUSTACHIUS JOSEPH KING.

Witnesses:

F. E. BECHTOLD,
WILL. A. BARR.