No. 673,590. Patented May 7, 1901.

C. B. VOYNOW & V. ANGERER.

RAILWAY SWITCH.

(Application filed Jan. 24, 1901.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

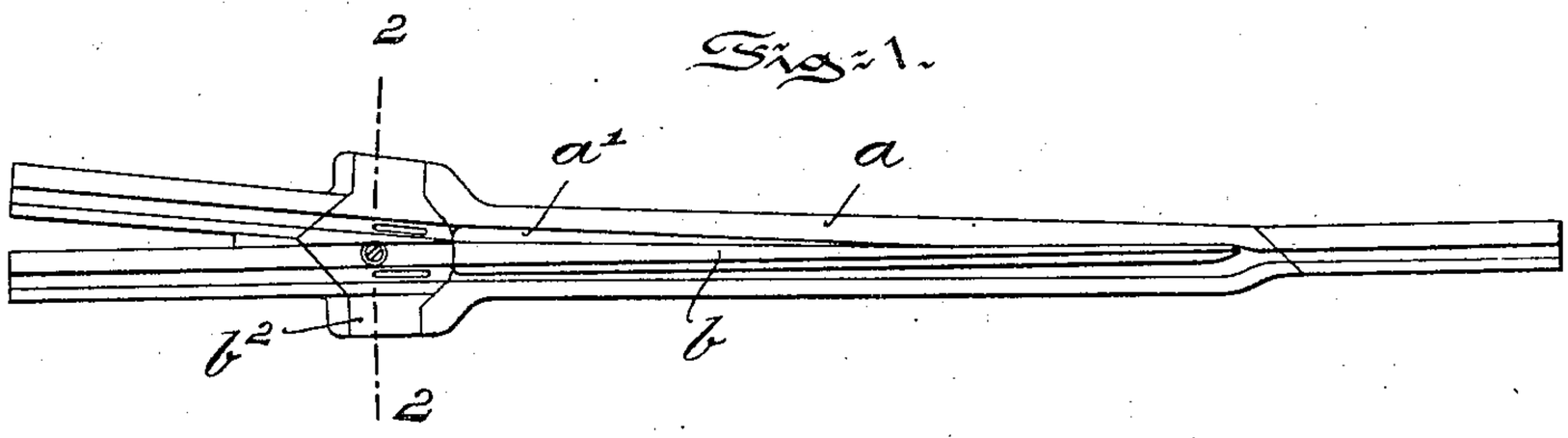


Fig. 2.

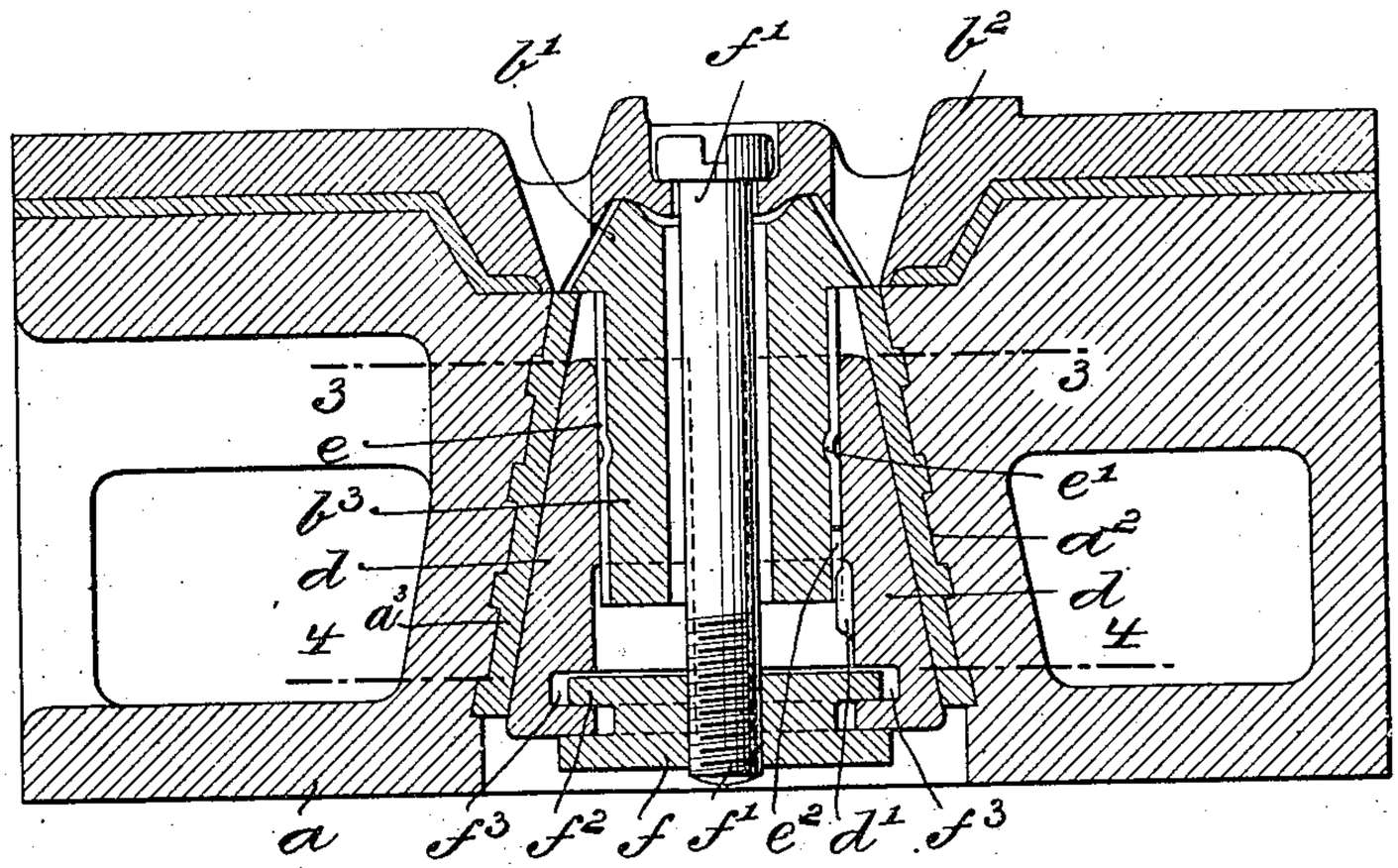


Fig. 3.

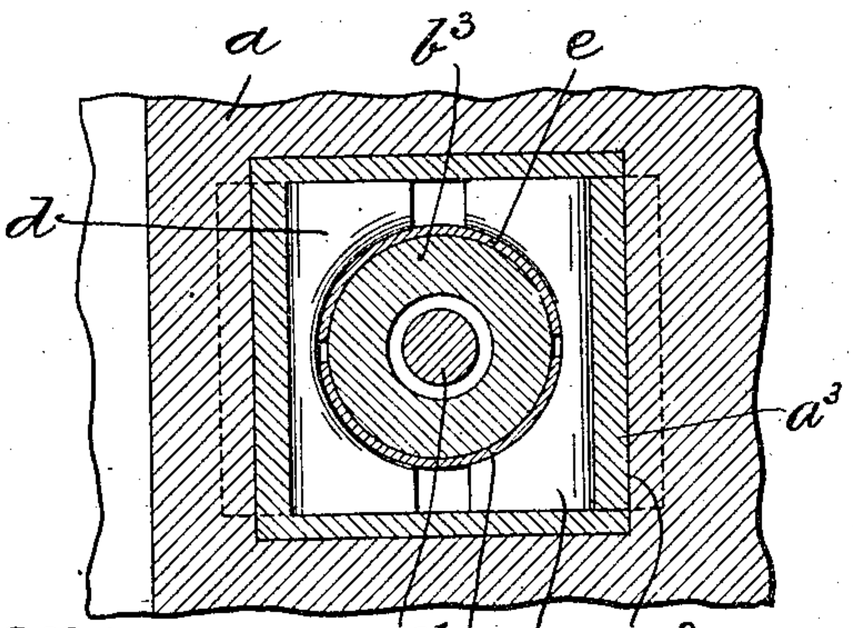
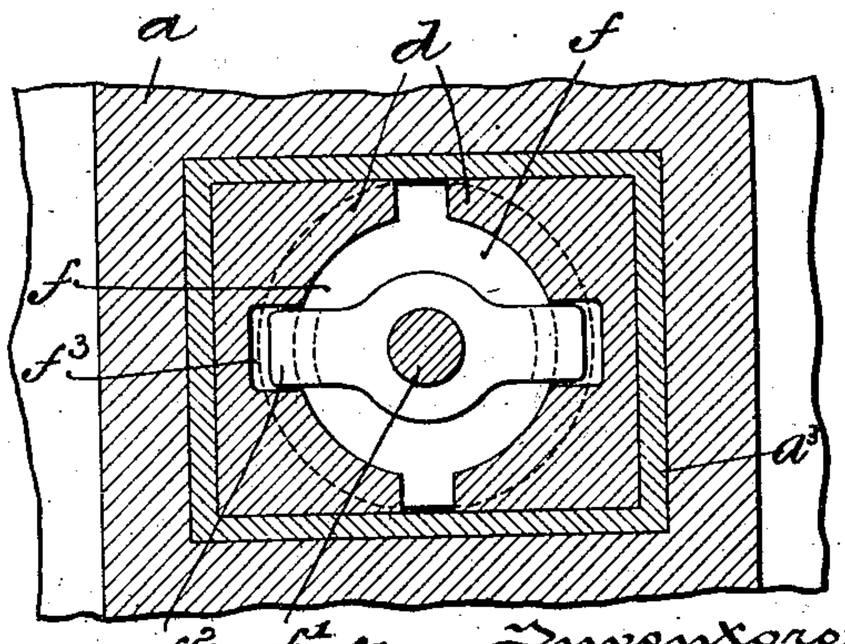


Fig. 4.



Witnesses: f¹ e d a²
Wilhelm Voigt
Thomas M. Smith

Inventors:
Victor Angerer and Constantine B. Voynow.
By J. Walter Douglass
Attorney.

No. 673,590. Patented May 7, 1901.

C. B. VOYNOW & V. ANGERER.

RAILWAY SWITCH.

(Application filed Jan. 24, 1901.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 5.

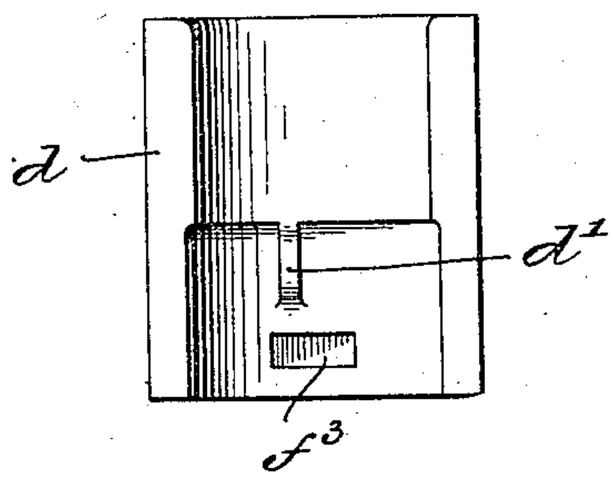


Fig. 6.

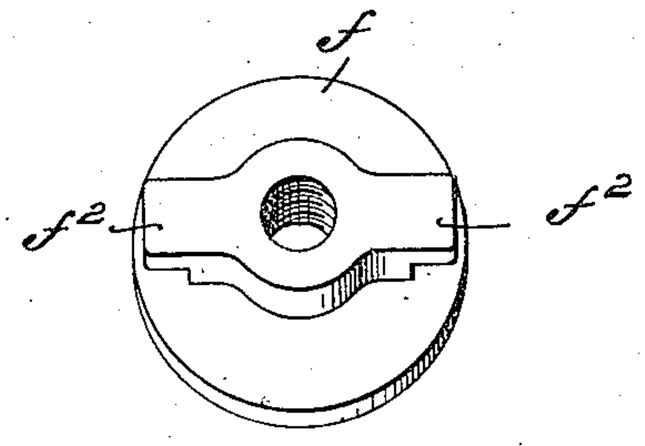


Fig. 7.

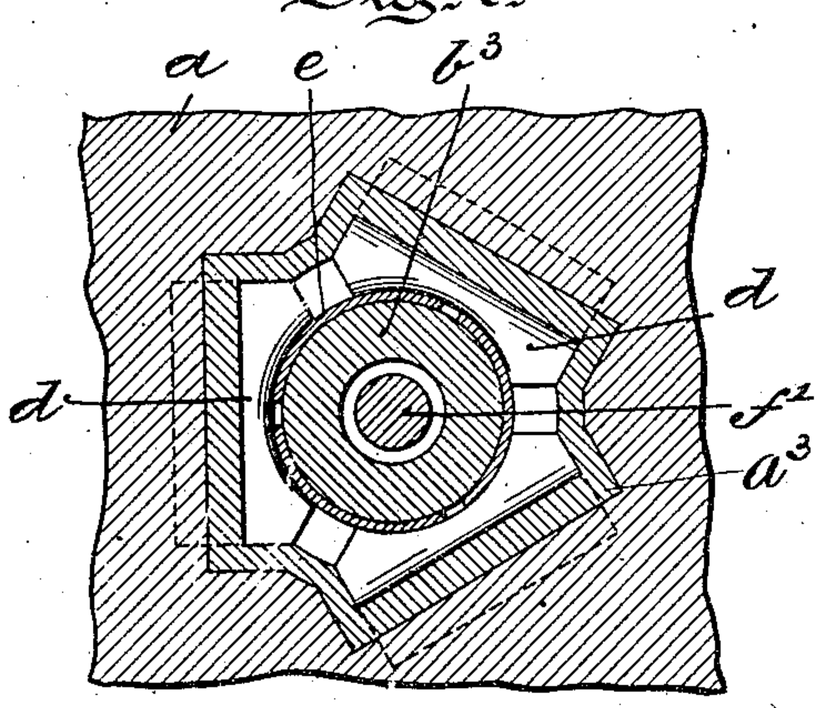


Fig. 8.

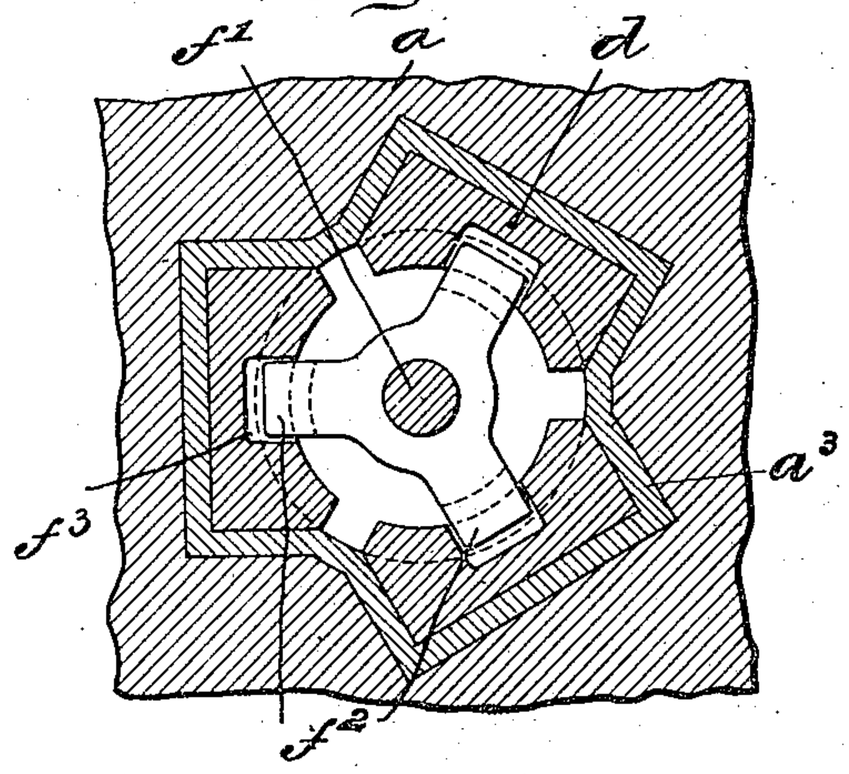


Fig. 9.

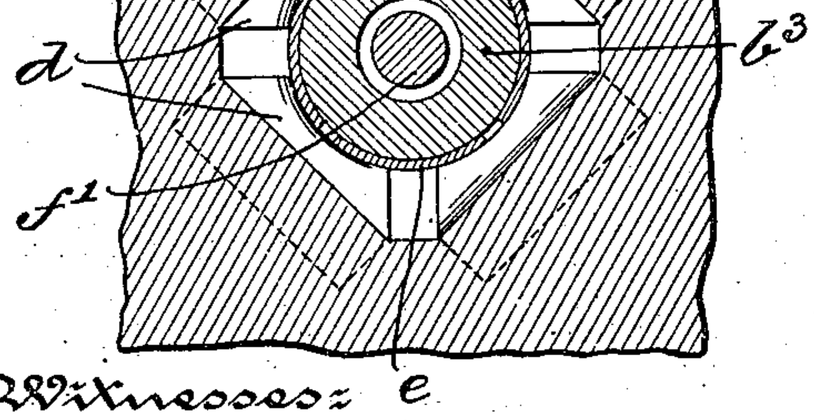
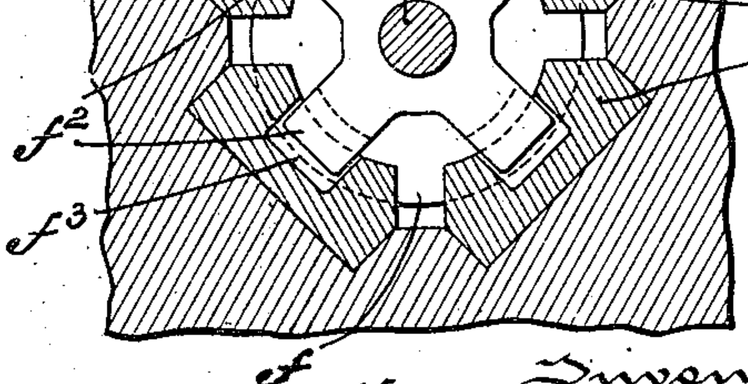


Fig. 10.



Witnesses:
Wilhelm Voigt
Thomas M. Smith

Inventors:
Victor Angerer and Constantine B. Voynow,
By their Attorney
J. Walter Douglass

UNITED STATES PATENT OFFICE.

CONSTANTINE B. VOYNOW AND VICTOR ANGERER, OF PHILADELPHIA, PENNSYLVANIA.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 673,590, dated May 7, 1901.

Application filed January 24, 1901. Serial No. 44,516. (No model.)

To all whom it may concern:

Be it known that we, CONSTANTINE B. VOYNOW and VICTOR ANGERER, citizens of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Railway-Switches, of which the following is a specification.

Our invention has relation to a railway-switch of the class or type known as "tongue-switches," and in such connection it relates to means for tightening the pivotal connection of the heel of the tongue with the switch-block, as well as compensating for the wear and tear upon the pin or boss constituting the pivot for the tongue.

The principal object of our invention is to provide in a tongue-switch wherein a pin or boss formed on the heel of the tongue forms the pivot for the tongue a means whereby the bearing of said pivot may be tightened up and the wear and tear on said pivot may be taken up without replacing any of the parts.

Our invention consists, primarily, of a substantially wedge-shaped bearing box or block preferably formed of two or more parts, and said box or block being interposed between the pin or boss constituting the pivot for the tongue of the switch and the surrounding complemental parts of the switch-body, together with means for advancing the box or block in the switch-body to bind against the periphery of the pin or boss.

Our invention further consists of a tongue-switch constructed and arranged in substantially the manner hereinafter described and claimed.

The nature and scope of our invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, in which—

Figure 1 is a top or plan view of a railway-switch embodying the main features of our invention. Fig. 2 is an enlarged cross-sectional view on the line 2 2 of Fig. 1. Fig. 3 is a horizontal sectional view on the line 3 3 of Fig. 2. Fig. 4 is a similar view taken on the line 4 4 of Fig. 2. Fig. 5 is a side elevational view illustrating the interior of one of the members of the bearing block or box. Fig. 6 is a perspective view of the nut adapted to support the members of said block or box. Figs. 7 and 8 are horizontal sectional views taken on planes corresponding to Figs. 3 and 4, respectively, but illustrating a modified form of bearing block or box; and Figs. 9 and 10 are views similar to Figs. 7 and 8, but illustrating a still further modified form of our invention.

Referring to the drawings, a represents the switch-body, in the recess a' of which the tongue b is adapted to oscillate. In the form of tongue-switch illustrated in the drawings to which our invention is applied the heel b' of the tongue b is covered by a protecting-plate b^2. Upon the heel b' of the tongue b is formed a pin or boss b^3, depending downward in the switch-body a and forming the pivot upon which the tongue b is adapted to oscillate. The switch-body a at the portion wherein the pin or boss b^3 is inserted is recessed, and the walls a^2 of this recess are preferably upwardly converging. Between the converging walls a^2 of the switch-body a and the periphery of the pin or boss b^3 of the heel b' is located a bearing box or block d, adapted to be elevated or lowered in the space between the pin or boss b^3 and said walls a^2 of the switch-body a. The wall of the box or block d is substantially wedge-shaped in cross-section, the interior of the block being rounded to surround the periphery of the pin or boss b^3 and the exterior being beveled complementally to the inclined walls a^2 of the switch-body a. Upon the periphery of the pin or boss b^3 is preferably fitted a sleeve or bushing e, of steel or similar hard metal, within which the pin or boss b^3 is adapted to turn and which is made to grasp the pin or boss b^3 throughout its entire length. As illustrated, this sleeve or bushing e is preferably split into two sections, each of which is confined to the periphery of the pin or boss b^3 by means of a circular projection or lug e', extending into a corresponding channel formed in the periphery of the pin or boss b^3. This connection permits of the pin or boss b^3 turning in its bushing e, but prevents the bushing e from slipping up or down on said pin or boss. The sleeve or bushing e is connected to the block or box d, so as to prevent its turning with the pin or boss b^3, by any suitable means, that which is preferred being illus-

trated in the drawings as consisting of a lug or lugs d', formed upon the inner face of the bearing block or box d and entering a vertically-arranged slot or slots e^2, formed in the sleeve or bushing e. A preferred means of advancing the block or box d in the switch-body a, so as to bind against the pin or boss b^3 and its sleeve or bushing e, consists of a nut f, supporting the base or bottom of the block or box d, and a long bolt f', traversing the pin or boss b^3 through a hole formed therein and entering the nut f. The bolt f' is adapted to be turned freely within the pin or boss b^3 and independently thereof to elevate the nut f and hence to raise or advance the bearing block or box d in the switch-body a. The nut f by preference has a yoke-piece f^2, engaging at its ends suitable slots or recesses f^3 in the bearing block or box d to not only prevent the nut from turning, but to also constitute a means when the bolt f' is loosened and forced downward to cause the nut f to engage the block or box d, and thus to force it downward in the switch-body.

In Figs. 2, 3, and 4 we have illustrated the bearing block or box as formed of two members or sections, and this is the preferred construction. The block or box d may, however, be formed of three members or sections, as illustrated in Figs. 7 and 8, or of four members or sections, as illustrated in Figs. 9 and 10, or of even a greater number of sections without departing from the spirit of our invention.

For convenience in manufacture we preferably interpose a liner or lining a^3 between the walls of the switch-body a and the blocks or boxes d, thereby affording means to readily center the bearing-boxes and to secure the tongue b through its pivot or pin b^3 in proper relative position to the recess in the switch-body a. This liner or lining may consist of pieces of metal inserted or metal, such as zinc or Babbitt metal, poured in in a fluid state after the various parts have been inserted into the switch-body a and temporarily secured in proper relative position by suitable means.

Having thus described the nature and object of our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a railway-switch, a tongue having a depending hollow pin or boss forming the pivot of said tongue with a switch-body recessed to receive said pin or boss, a bearing block or box interposed between said pin or boss and adjacent parts of said switch-body, and means for advancing said bearing block or box in the switch-body to bind said block or box against the periphery of said pin or boss, said means adapted to traverse said hollow pin or boss.

2. In a railway-switch, a tongue having a depending hollow pin or boss, a sleeve or bushing surrounding said pin or boss and in which said pin or boss is adapted to turn, a switch-body arranged to receive said pin or boss and its sleeve, a bearing block or box between said sleeve and surrounding parts of said switch-body, means for advancing said bearing block or box in said switch-body, and a liner or lining interposed between said bearing block or box and switch-body.

3. In a railway-switch, the combination of the tongue having a depending hollow pin or boss forming the pivot for said tongue, with a switch-body arranged to receive the pin or boss, a bearing-block interposed between the pin or boss and the adjacent parts of the switch-body, a nut supporting said bearing-block, and a bolt traversing the hollow pin or boss and turning independently therein, said bolt engaging the nut and arranged to advance the nut and bearing-block in the switch-body to bind the bearing-block against the periphery of the pin or boss.

4. In a railway-switch, a tongue having a depending pin or boss, a switch-body adapted to receive said pin or boss, a bearing block or box consisting of two or more sections interposed between the pin or boss and the surrounding portions of the switch-body, and a liner or lining interposed between said bearing block or box and switch-body.

5. In a railway-switch, a tongue having a depending pin or boss, a switch-body adapted to receive said pin or boss, a bearing block or box consisting of two or more sections having one of the ends thicker than the other, said bearing block or box interposed between said pin or boss and switch-body, and a liner or lining interposed between said bearing block or box and switch-body.

6. In a railway-switch, a tongue having a depending pin or boss, a switch-body adapted to receive said pin or boss, a bearing block or box consisting of two or more sections having the sides not bearing against said pin or boss in the form of a truncated prism or beveled and said bearing block or box interposed between said pin or boss and switch-body.

7. In a railway-switch, a tongue having a depending pin or boss, a switch-body adapted to receive said pin or boss, a bearing block or box surrounding said pin or boss, and a liner or lining interposed between said bearing block or box and said switch-body.

8. In a railway-switch, a tongue having a depending pin or boss, a switch-body adapted to receive said pin or boss, a bearing block or box surrounding said pin or boss, a liner or lining interposed between said bearing block or box and said switch-body and means for advancing said bearing block or box in the switch-body to bind said block or box against said pin or boss.

In testimony whereof we have hereunto set our signatures in the presence of two subscribing witnesses.

CONSTANTINE B. VOYNOW.
VICTOR ANGERER.

Witnesses:
J. WALTER DOUGLASS,
THOMAS M. SMITH.