

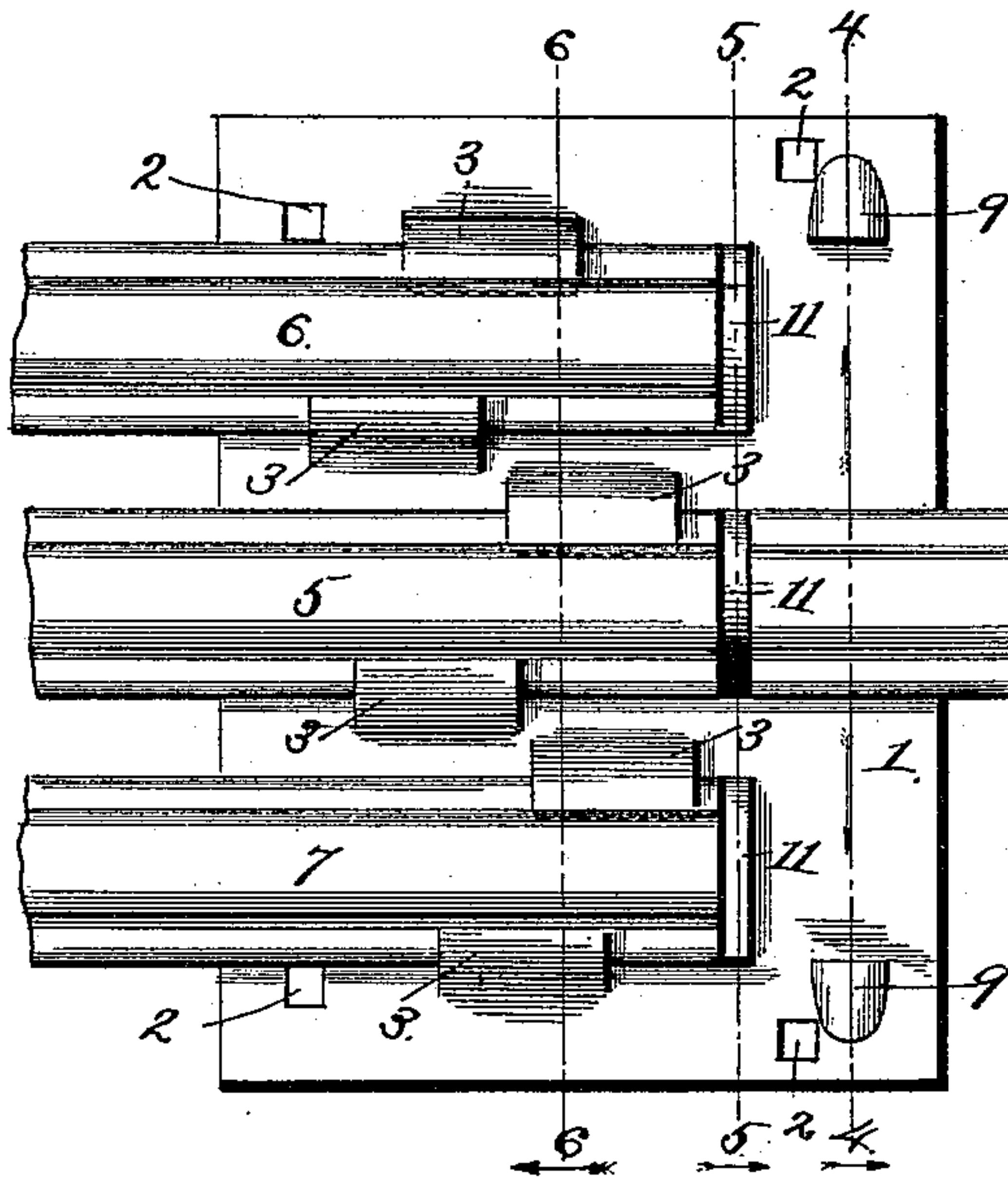
(No Model.)

J. M. KATZMAIER.  
RAILWAY HEAD PLATE.

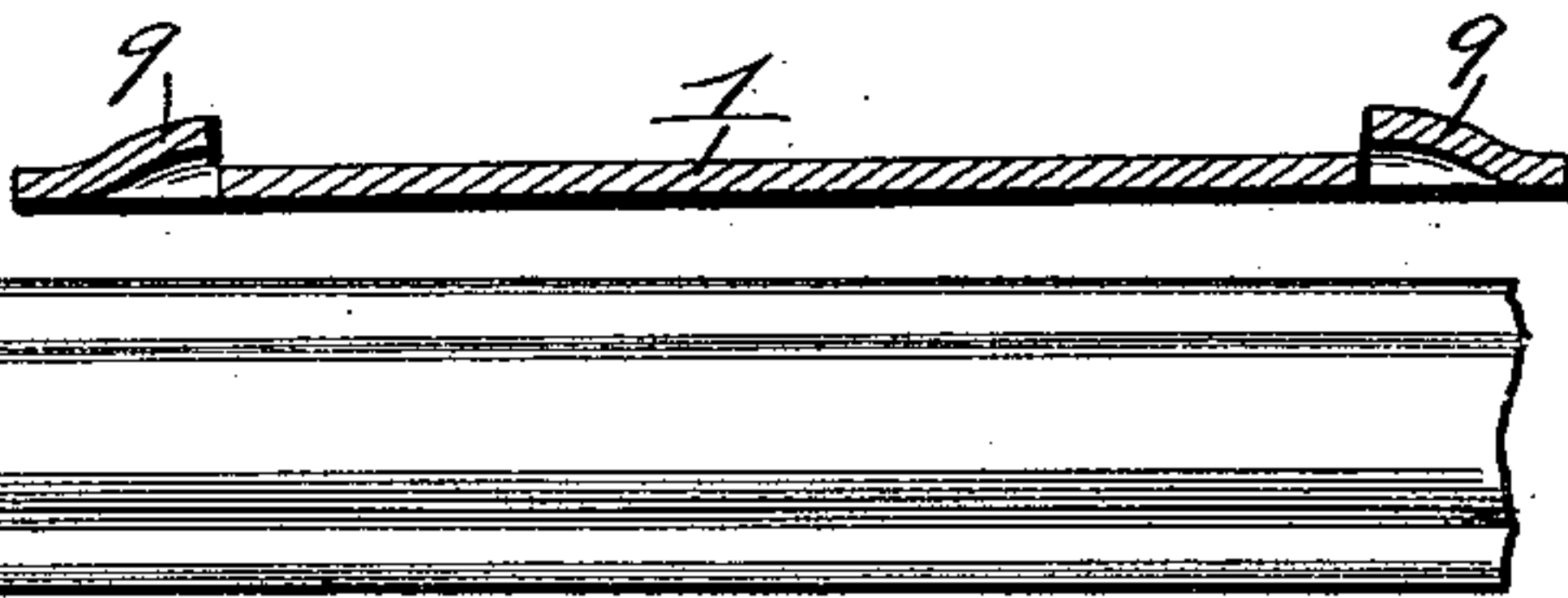
No. 471,240.

Patented Mar. 22, 1892.

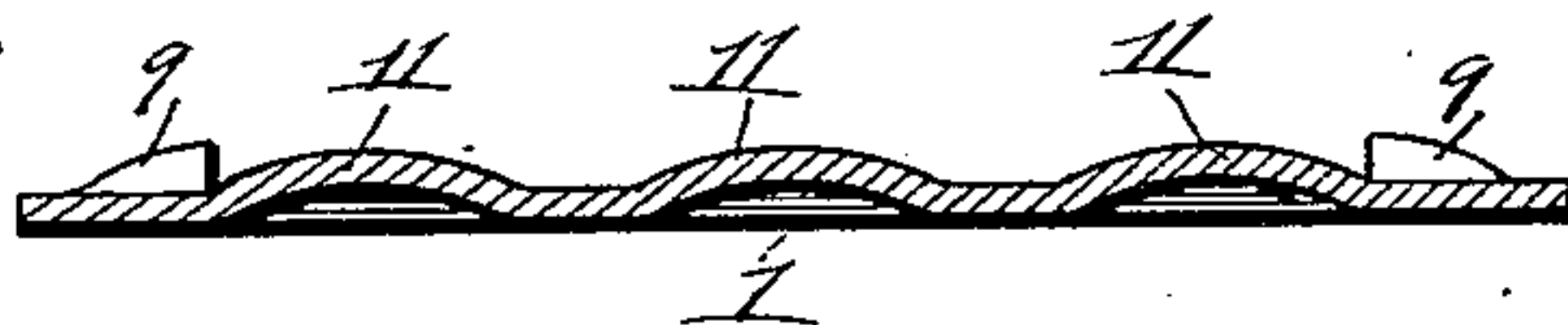
*Fig. 1.*



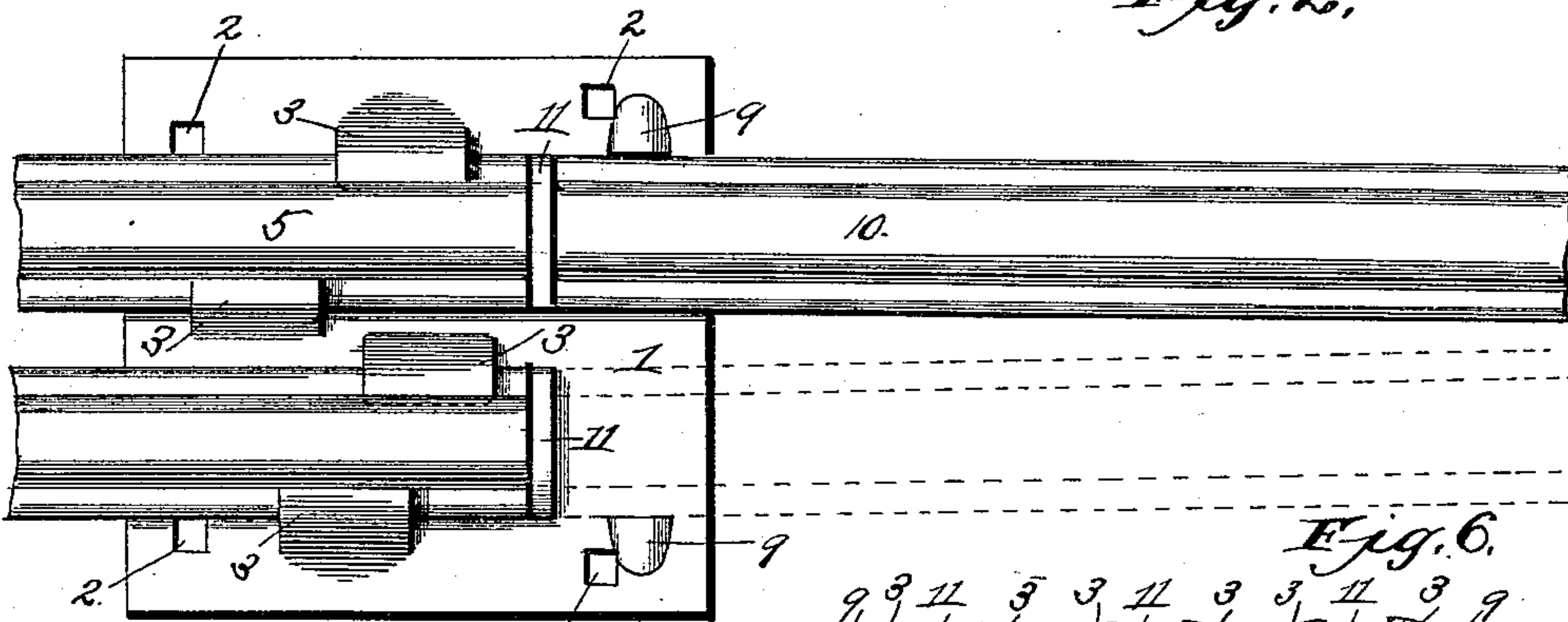
*Fig. 4.*



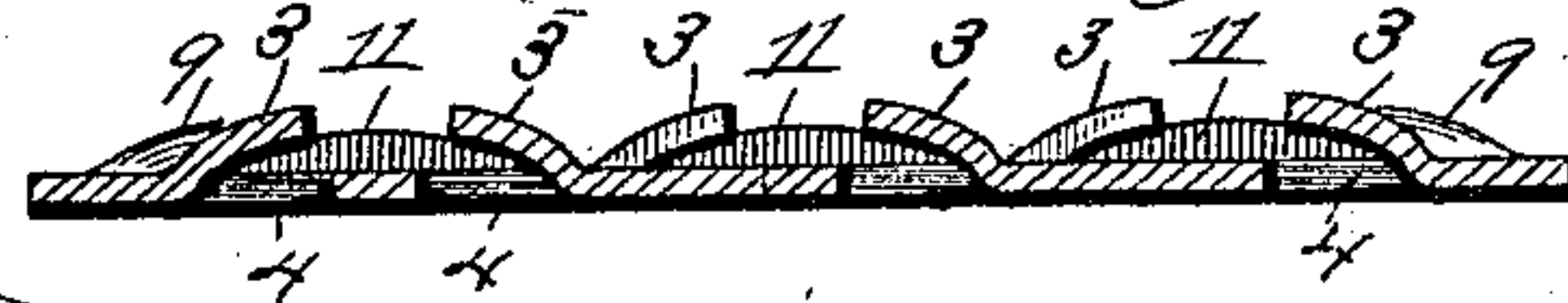
*Fig. 5.*



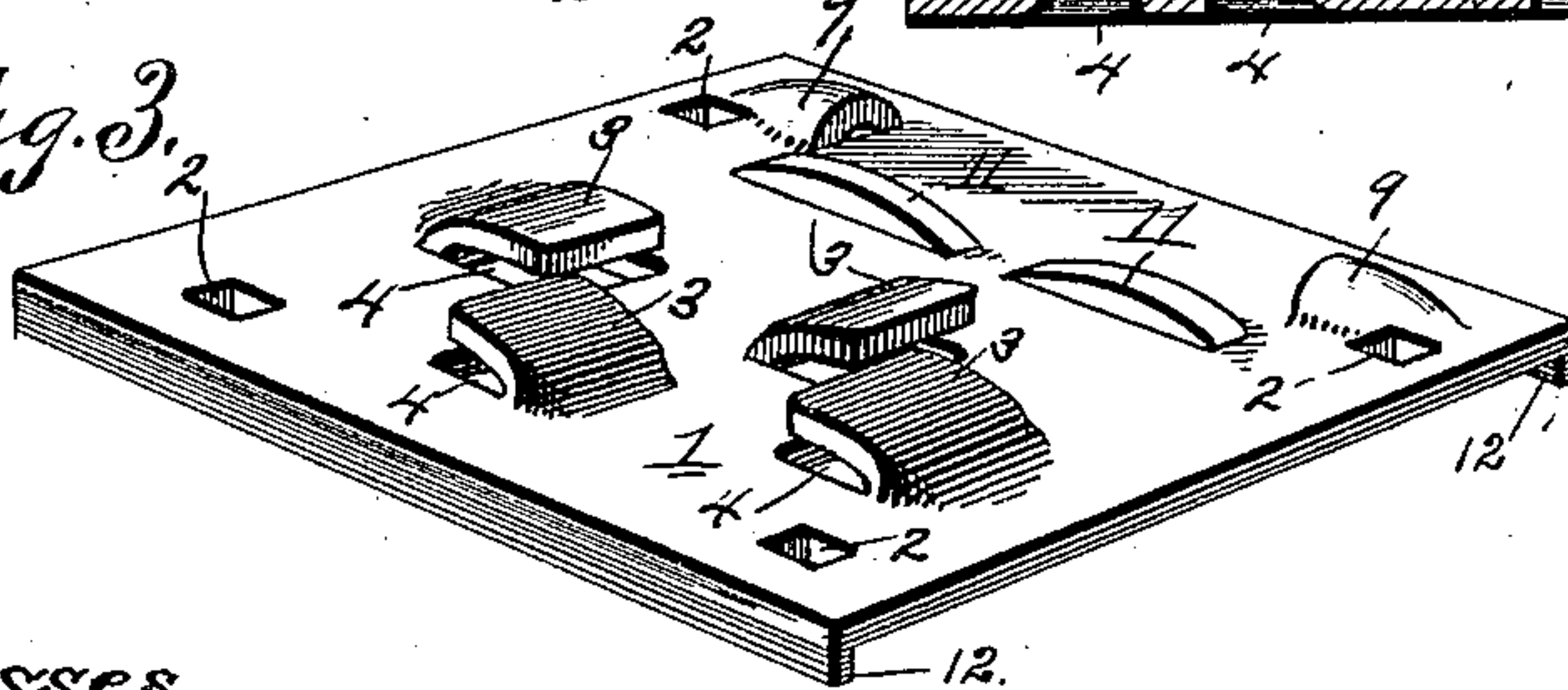
*Fig. 2.*



*Fig. 6.*



*Fig. 3.*



Witnesses,

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# UNITED STATES PATENT OFFICE.

JOHN M. KATZMAIER, OF KANSAS CITY, MISSOURI, ASSIGNOR TO THE KANSAS CITY SWITCH AND FROG COMPANY, OF SAME PLACE.

## RAILWAY HEAD-PLATE.

SPECIFICATION forming part of Letters Patent No. 471,240, dated March 22, 1892.

Application filed November 5, 1891. Serial No. 410,995. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN M. KATZMAIER, of Kansas City, Jackson county, Missouri, have invented certain new and useful Improvements in Railway Head-Plates, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to that class of railway appliances which are employed for retaining the rails in proper position upon the ties or road-bed, the objects of my invention being to produce a chair-plate which shall be simple, strong, durable, and inexpensive in construction and which shall be applicable either to single or duplex switches, and which shall securely retain the fixed rails in position, while permitting of the proper operation of the movable rails of the switches.

To the above purposes my invention consists in certain peculiar and novel features of construction and arrangement, as hereinafter described and claimed.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is a plan view of my improved chair-plate applied to a double switch. Fig. 2 is a similar view of my improved chair-plate applied to a single switch. Fig. 3 is a detached perspective view of the chair-plate shown in Fig. 2. Fig. 4 is a vertical section of the plate on the line 4 4 of Fig. 1. Fig. 5 is a sectional view of the chair-plate on the line 5 5 of Fig. 1. Fig. 6 is a similar sectional view of the chair-plate on the line 6 6 of Fig. 1.

In the said drawings, 1 designates the body portion of the chair-plate, said body portion being of rectangular form and preferably formed of a forged casting of iron, steel, or other suitable or preferred metal. This body portion 1 is of such dimensions as to rest upon one or more of the ties which are located at the junction of the switch-rails with the rails of the main track and is provided with a number of holes or openings 2, which are preferably located adjacent to the corners of the body portion 1 of the plate, and through which are driven the spikes which retain the plate in position upon the tie or ties.

3 designates the chairs proper, the said chairs being formed by punching out a portion of the body of the plate in such manner that said punched-out portions shall be integrally united each at one end to the body portion of the plate at one margin of the corresponding opening 4, formed by the chair. Each of these chairs is, furthermore, of approximately segmental form and extends upward from one margin of its opening 4 and above and also across said opening, as is best shown in Fig. 3. These chairs are disposed oppositely from each other and extend toward each other, as shown. In Fig. 1 I have shown three sets or pairs of these chairs 3, the plate being in this instance shown as of somewhat elongated form. This particular form of the plate adapts it for use for double switches—such, for example, as where two sidings, spurs, or branches make juncture with the main-line track at opposite sides thereof. In this instance 5 designates one of the main-line rails, 6 one of the branch, siding, or spur rails joining the main track from one side, and 7 one of the branch, spur, or siding rails joining the main line from the side opposite from the rail 6. It is to be understood that two of these plates 1 are to be placed at the junction, and it will be seen that the base of each of the rails extends beneath one pair of chairs 3, and that said rails are thus retained securely in stationary position upon the chair-plate.

In Figs. 2 and 3 I have shown the plate as adapted for use in situations where a single branch, siding, or spur joins the main line from one side only of the latter. In this instance 5 designates one of the main-line rails, and 8 one of the branch, siding, or spur rails. There are in this instance but two pairs or sets of the chairs 3, and the plate 1 is proportionately shorter than that previously described. The chairs in this instance also embrace the bases of the rails, as before, and likewise retain said rails securely in stationary position.

In both forms of the plate above described the movements of the movable switch-rails are limited by two stops 9, which are located each adjacent to one end of the plate, and the inner end of each of which is in alignment with the outer margin of the base of the cor-



responding stationary rail. These stops are formed by punching the body portion of the plate outward from its under side, as shown in Fig. 4, and each of said stops is of elongated form, extending transversely of the plate. It will be seen that the switch-rail 10 moves laterally between these two stops 9, and that when in engagement with one of said stops it is in alignment with one of the stationary rails, and when in engagement with the other stop it is in exact alignment with another of the said stationary rails. In Fig. 1 the stops 9 are farther apart than in Figs. 2 and 3; but the purposes of the stops are substantially identical in both instances.

11 designates a number of elongated stops, which are also formed by punching the body portion of the plate 1 upward from beneath, as shown in Fig. 5, and each of these stops is preferably of segmental form, extending lengthwise transversely of the plate, as shown. Each of these stops 11 is located beyond and on a line drawn midway between the corresponding pair of chairs 3, so that the inner end of each stationary rail abuts against one of said stops. When the switch-rail 10 is in one or the other of its operative positions, its inner end abuts against one of the stops 11, and it will thus be seen that all longitudinal expansion of the rails occurs in a direction opposite from the stops 11, and that consequently the adjacent ends of the stationary and movable rails cannot come together and be clogged by expansion.

From the above description it will be seen that I have provided a railway chair-plate which is simple, durable, and inexpensive in construction, which securely retains the stationary rails in proper position, which insures the effective action of the switch-rails, and which entirely prevents clogging of the rails by expansion.

It is to be understood that by obvious duplications of the pairs of chairs and stops 11 and increase in the distance between the stops 9 the plates can be applied to switches for any number of branches, sidings, or spurs.

It is to be observed that two of the opposite edges of the body portion 1 may be formed with pendent flanges 12, which embrace the sides of the spikes in retaining the plate in position; but these flanges may be dispensed with, if desired.

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

1. An improved railway chair-plate comprising a body portion having a number of chairs arranged in pairs and formed by punching upward the material of the body portion from beneath, thus forming openings, to one margin of each of which each chair is integrally united, and a number of oppositely-disposed stops for the switch-train, said stops being also formed by punching up the body portion of the plate from beneath, substantially as set forth.

2. An improved chair-plate comprising a body portion having a number of chairs formed by punching up the body of the plate from beneath, so as to form openings, to one margin of each of which the corresponding chair is integrally united, and a number of elongated stops also formed by punching up the body of the plate from beneath and each located beyond and midway between one of the pairs of chairs, substantially as set forth.

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

JOHN M. KATZMAIER.

Witnesses:

H. E. PRICE,

JNO. L. CONDRON.