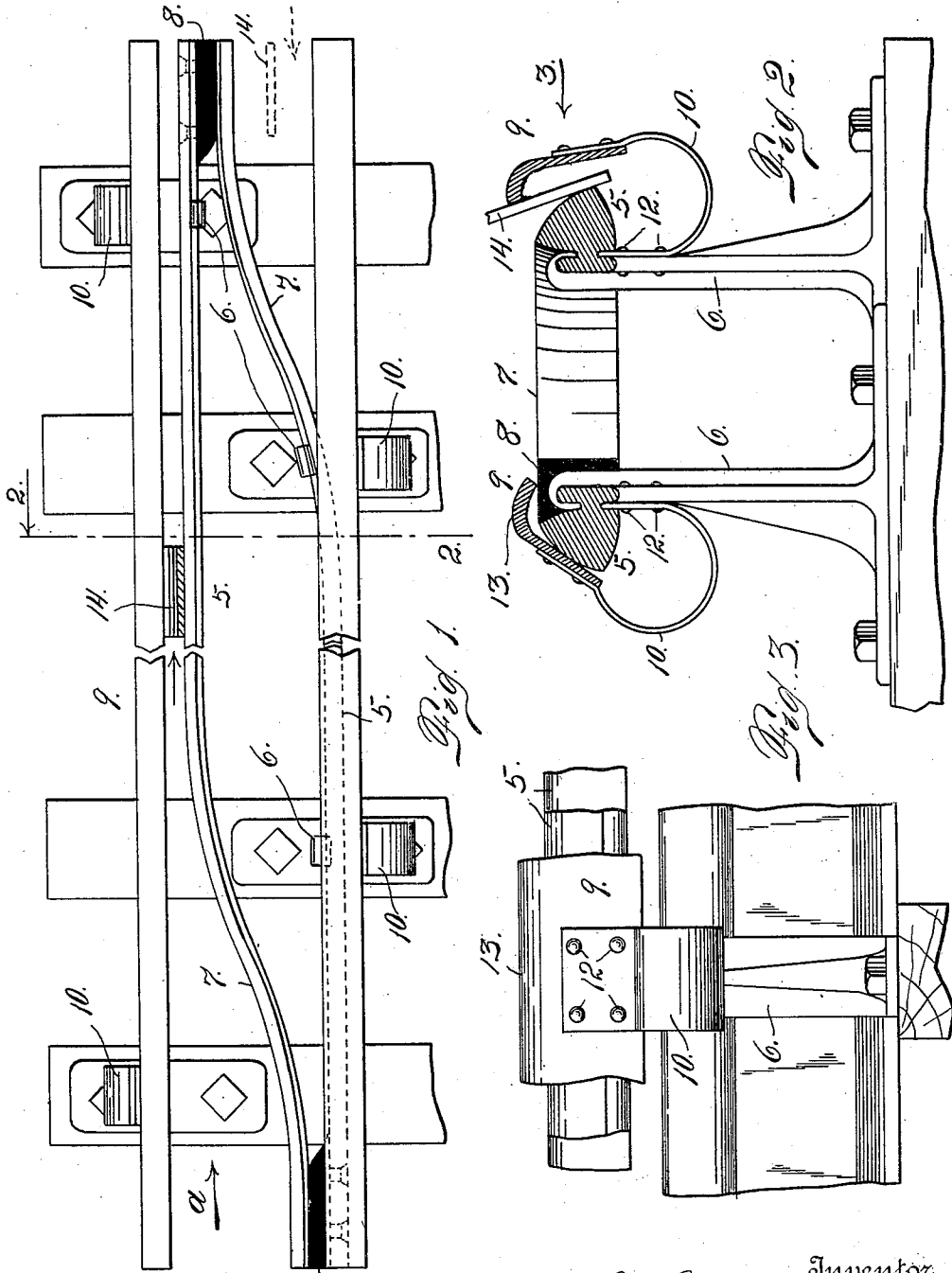


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 HOUSED TRACK CONTACT FOR RAILWAY SIGNALING SYSTEMS.
 APPLICATION FILED MAY 23, 1911. RENEWED JUNE 20, 1912.

1,069,089.

Patented July 29, 1913.



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HOUSED TRACK-CONTACT FOR RAILWAY SIGNALING SYSTEMS.

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Specification of Letters Patent.

Patented July 29, 1913.

Application filed May 23, 1911, Serial No. 628,988. Renewed June 20, 1912. Serial No. 704,877.

To all whom it may concern:

Be it known that I, BENJAMIN F. WOODING, citizen of the United States, residing in the city and county of Denver and State of Colorado, have invented certain new and useful Improvements in Housed Track-Contacts for Railway Signaling Systems; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in track contacts for railway signaling systems.

My object is to provide a contact adapted to engage a movable hanger carried by the train for making or breaking a circuit on the train, or for some other purpose, as may be necessary. This special construction of contact is disclosed in connection with train mechanism coöperating therewith in a simultaneously pending application No. 628,989, filed May 23, 1911, and, in the particular relation disclosed in the said application, the train hanger is actuated to break a train circuit. It is evident, however, that this contact is not limited to use in that particular relation, but may be employed wherever a train hanger or depending device is to be actuated.

The construction, generally speaking, consists of two members, whose body portions extend parallel with the tracks and parallel with each other, but whose end portions are bent toward each other, whereby curved engaging parts for the train hanger are formed at each extremity of the contact, the curved portions being bent in opposite directions at the opposite extremities of the device, the two members of the contact being insulated from each other and supported upon suitable posts or standards. These two members are housed by spring-actuated devices, which yield to the train hanger which moves them away from the contacts, the said housings, however, returning and protecting the contacts as soon as the hangers are disengaged. In this way, the contacts are kept free from ice, snow and sleet, or other foreign substances that might interfere with the

proper performance of their function for electrical contact making purposes.

Having briefly outlined my improved construction, I will proceed to describe the same in detail, reference being made to the accompanying drawing, in which is illustrated an embodiment thereof.

In this drawing: Figure 1 is a top plan view of my improved contact device, the same being, for the most part, broken away, the curved extremities being chiefly shown. Fig. 2 is a cross section, taken on a line 2—2 of Fig. 1, looking toward the left, or in the direction of the arrow. Fig. 3 is a fragmentary side elevation, being a view looking in the direction of arrow 3, Fig. 2.

The same reference characters indicate the same parts in all of the views.

Let the numeral 5 designate each of the two contact members of which my improved device is composed. These members are mounted upon short posts or standards 6, whose upper extremities are shaped to properly engage the contact members in the supporting relation.

It is evident that the particular construction disclosed in the drawing is not essential, but that any suitable manner of attaching the contact to the standards may be employed. Each member is bent at one extremity, as shown at 7, toward the adjacent extremity of the opposite member, the bent portion of each member being separated from the adjacent extremity of the housing, which extends over and protects the straight or parallel portion of each contact member. The bent extremity of each contact member is insulated from the adjacent extremity of the other member, as shown at 8. Each bent extremity is also free to spring away from the insulating portion 8 in the event that the train hanger should by accident enter the space between the two contact members, going in either direction. If this should happen, the bent portion 7 of each member has sufficient yielding capacity to move in the direction necessary to allow the train hanger to escape without injury to itself or the contact device.

The two housing members 9 are parallel with each other and suitably separated to occupy positions on the outside of the contact members 5. These housing members

are supported by means of leaf-springs 10, which are secured to the standards 6, as shown at 12, the springs being of sufficient strength to give the housing members the necessary tension, whereby the train hanger, which must pass between the housing member and the contact proper, is pressed tightly against the contact member, forming a good electrical connection. These housing members are curved at their upper extremities, as shown at 13, whereby the parallel portions of the contact members are completely concealed from above, thus protecting the said members from the weather, as heretofore outlined. There may, of course, be as many spring supports 10 for the housing members as may be desired, in order to give them the proper support, and also the necessary tension to hold them against the contact members for the aforesaid purpose. When the device is in use, it is assumed that the train, which is to utilize these contacts, will carry a depending hanger 14, which is shown in full lines and in section in Fig. 1 and in position engaging one of the contacts 5, the housing member being moved away from the contact, as is necessary, under the circumstances stated. It will be understood that the hanger 14, shown in section and in full lines, has approached the contact from the left or in the direction indicated by arrow A. The position of the train hanger, as it approaches the curved portion of either contact member, is illustrated at the right of Fig. 1, where the train hanger is indicated by dotted lines. Normally, the train hanger is supposed to occupy a vertical position, but, as it strikes the curved portion 7 of either contact member, it is deflected toward the housing member, and, as soon as it reaches the straight or parallel portion of the contact member, it is held tightly between the spring-actuated housing member and the contact proper, the latter being stationary beyond its curved extremity.

It must be understood that the two members of the contact are respectively engaged by the train hanger 14, when the train is moving in opposite directions; for instance, the contact member and the housing member are separated at the lefthand extremity to receive the train hanger of a train moving toward the right, while the two corresponding members are separated at the opposite extremity of the contact device to receive the train hanger of the train moving in the opposite direction.

It must be understood that my improved contact device will, under ordinary circumstances, be of considerable length, probably twenty-five (25) or thirty (30) feet. It, of course, may be as long or as short as desirable, though it will ordinarily be preferable to perform the function, which this device

is intended to perform, for a number of seconds, and in order that it may properly do this work, where a train is moving rapidly, it must be of sufficient length for the purpose.

Having thus described my invention, what I claim is:

1. A contact device for use in connection with railway signaling systems, consisting of two contact members suitably supported and insulated from each other, the said members being separated and extending parallel with each other during the greater part of their length, one extremity of each contact member being bent toward the adjacent parallel portion of the opposite member, substantially as described.

2. A contact device of the class described, consisting of two separated members insulated from each other and suitably supported in proximity to the track extending longitudinally thereof, housings arranged to protect the said contact members, one extremity of each of said members being curved toward the opposite member to receive a train hanger the curved extremity of one member being at the opposite end of the device from the curved extremity of the other member, the curved extremities of the two members being adapted for the purpose set forth.

3. A contact device composed of two separated members, one extremity of each of said members being curved toward the opposite member to engage a train hanger moving in opposite directions the curved extremity of one member being at the opposite end of the device from the curved extremity of the other member, the body portion of the two members being parallel with each other, and spring-actuated housings arranged to protect the parallel portions of the contact members, substantially as described.

4. A contact device consisting of two separated members, which for the greater part of their length are parallel with each other, one extremity of each of said members being curved toward the opposite member, the curved extremity of one member being at the opposite end of the device from the curved extremity of the other member, and both curved extremities having a limited degree of yielding capacity, and spring-actuated housings arranged in suitable proximity to the contact members and adapted to cover the parallel portions of the two members, the springs of the housing members having sufficient tension to cause train hangers passing between the contact members and the housing members to form a good electrical contact, substantially as described.

5. In apparatus for railway signaling systems a contact member arranged throughout the greater portion of its length substan-

5 tially parallel to the track and having at least one end curved out of line with the main portion of the contact, and a housing normally spring-held above the straight portion of said contact.

10 6. In apparatus for railway signaling systems, a contact member arranged throughout the greater portion of its length substantially parallel to the track and having at least one end curved out of line with the main portion of the contact, the contact being rigidly fixed in position, and a housing normally spring-held above the straight portion of said contact.

15 7. In apparatus for railway signaling systems, two elements, namely, a contact member and a housing arranged throughout the greater portion of their length side by side and substantially parallel to the track, 20 springs acting upon the straight portion of one of said elements to normally hold it in such position with respect to the straight portion of the other element that the contact shall be protected from the weather by

the housing, one of said elements being 25 curved out of line with the other element at least one of its extremities.

8. In apparatus for railway signaling systems, two elements, namely, a contact member and a housing arranged throughout the 30 greater portions of their lengths side by side and substantially parallel to the track, one of said elements being fixed in position, springs acting upon the straight portion of the other of said elements to normally hold 35 it in such position with respect to the straight portion of the first element that the contact shall be protected from the weather by the housing, one of said elements being curved out of line with the other element at 40 at least one of its extremities.

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

BENJAMIN FRANKLIN WOODING.

Witnesses:

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