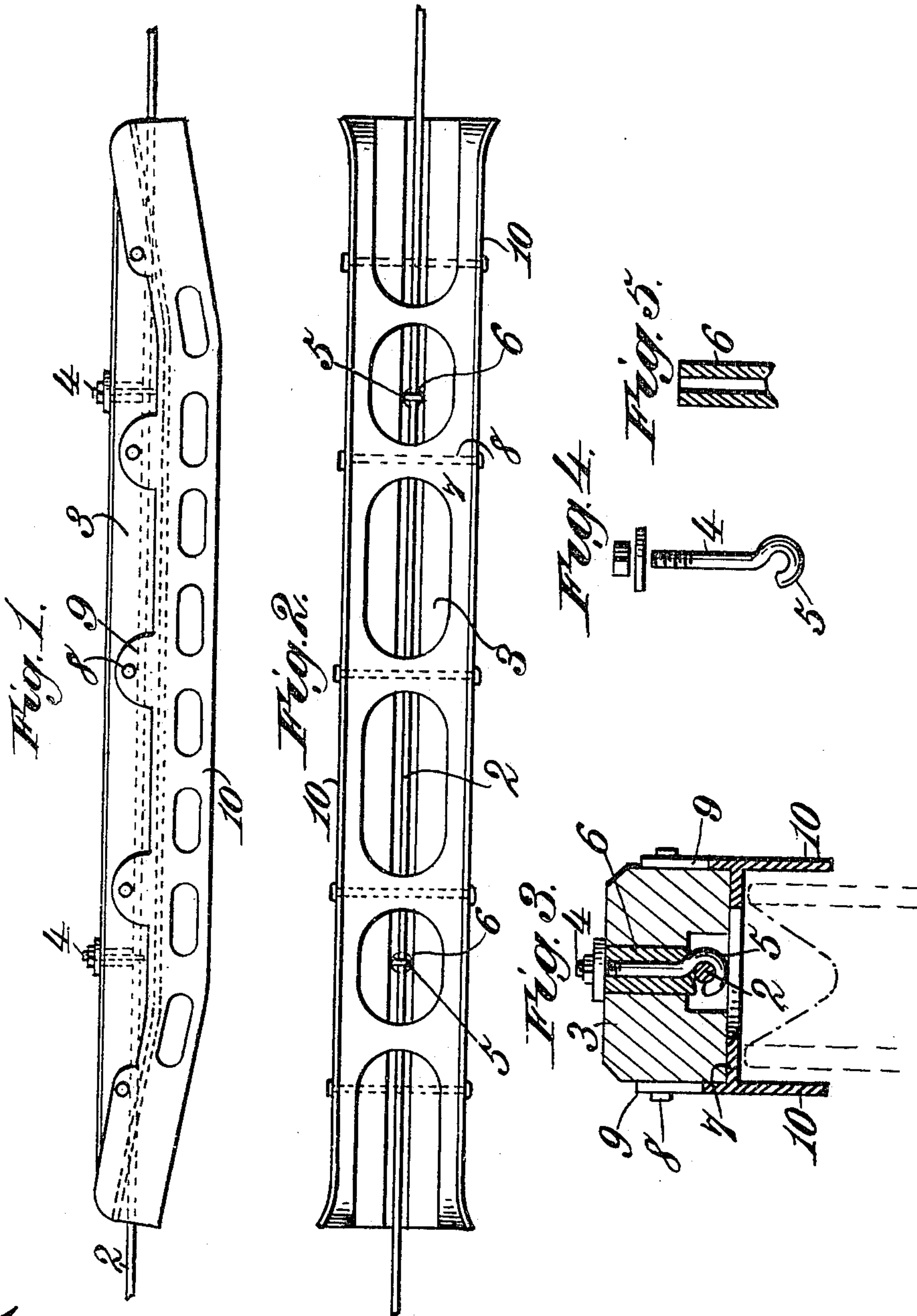


No. 818,947.

PATENTED APR. 24, 1906.

G. H. FRETTS.
SHOE CONTACT.
APPLICATION FILED MAY 13, 1905.



Witnesses.
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UNITED STATES PATENT OFFICE.

GEORGE H. FRETTS, OF SPRINGFIELD, MASSACHUSETTS.

SHOE-CONTACT.

No. 818,947.

Specification of Letters Patent.

Patented April 24, 1906.

Application filed May 13, 1905. Serial No. 260,316.

To all whom it may concern:

Be it known that I, GEORGE H. FRETTS, a citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Shoe-Contacts, of which the following is a specification.

This invention relates to what I shall for convenience term a "shoe-contact."

A device involving the invention may be advantageously put to several uses, one of which is, in conjunction with a current-carrying conductor, such as the customary overhead wire, to constitute part of a switch-controlling system. This particular adaptation of the invention I will set forth in the following description of the form of embodiment of the said invention which I have selected for illustration in the drawings accompanying and forming a part of this specification.

The shoe-contact is simple in construction, effective in operation, it has no soldered joints which are objectionable, it can be securely attached to a trolley-wire, it is light, and should the bolts which unite the device with a trolley-wire break the construction is such that the said bolts will fall upon the ground and will not thereby be in the path of a trolley-wheel.

Referring to the drawings, Figure 1 is a side elevation of a shoe-contact including my invention. Fig. 2 is a bottom plan view of the same. Fig. 3 is a vertical sectional elevation of said shoe-contact. Fig. 4 is a detail view of a bolt and its washer and nut. Fig. 5 is a like view of a bushing for the shank of said bolt.

Like characters refer to like parts throughout the different views.

In the drawings the numeral 2 indicates the conductor, which may be the well-known overhead trolley-wire familiar in electric railways.

Connected with the trolley-wire is a shoe-contact. (Shown in full in Figs. 1 to 3, inclusive, of the drawings.) This shoe-contact involves in its construction a body, as 3, made of hard wood or other suitable material. The under face of the hard-wood body 3 has a groove which may be conveniently located centrally between its sides and extends longitudinally thereof, and in this groove the trolley-wire 2 is shown as located.

As a convenient means for clamping the body 3 to the trolley-wire 2 I show a plurality of bolts, each denoted by 4, and as they

are the same in construction a detailed description of one will suffice for the other. From this it will be apparent that only two bolts are illustrated, although this is an immaterial point. The bolt 4 (see, for example, Fig. 4) is of hook form, the hook thereof being designated by 5 and being at the lower end thereof in order to receive the trolley-wire 2. The shank of the bolt is fitted in a vertical bore in the body 3 and is shown as surrounded by a bushing or sleeve 6, which fits snugly in the bore. From this it will be evident that the shank of the bolt does not fit against the wall of the bore through which it extends, but is embraced by the bushing or sleeve 6, so as to prevent the direct contact of the bolt with the wood, and thereby prolong the life of the latter.

The bushing or sleeve 6 has in its butt a concavity complementary to the seat of the hook 5, in which the trolley-wire 2 lies, to also receive said trolley-wire. The bolt 4 is furnished with a nut and a washer, the washer being fitted between the nut and top of the bushing or sleeve 6, so that when the nut is tightened up the trolley-wire will be strongly clamped by the joint action of the bolt and its bushing. The distance between the bolts may be regulated by individual desire.

Associated with the insulating-body 3 is a conducting member which may consist of a plate, as 7, the said conductor or contact-plate 7 being rigidly fastened to the insulating-body 3, for which purpose bolts, as 8, may be advantageously employed. The upper surface of the plate 7 fits against the under surface of the insulating-body 3, their width, as will be seen upon an inspection of Fig. 3, being equal. The plate is provided with upwardly-extending flanges 9 at its opposite sides, and the bolts 8, to which I have just referred, extend through these flanges and also through the insulating-body 3 in order to leave the under surface of the plate which is traversed by the trolley-wheel smooth and unobstructed. In addition to the upwardly-extending flanges 9 upon the contact-plate 7 the latter is provided with pendent flanges 10 in perpendicular alignment with the flanges 9. The flanges 10 are of continuous form—that is, they are unbroken throughout their entire length—so as to guide the trolley-wheel in a proper direction when upon the plate. In other words, the two pendent flanges 10 preclude lateral motion of the trolley-wheel. The pendent

flanges 10 have their opposite ends outwardly flared or deflected, as will be seen upon an examination of Fig. 2, to properly direct the trolley-wheel into the space between the same. The opposite ends of the body and contact-plate are slotted to present bifurcations, the branches of which are located at opposite sides of the trolley-wire. In other words, the slots provide for the passage therethrough of the wire. The contact-plate is slightly longer than the insulating-body, and both have their under faces upwardly inclined near the opposite ends thereof, so as to assure first the downward deflection and then the upward deflection of the trolley-wheel.

When a trolley-wheel (not shown) upon the wire 2 travels from the left toward the right in Fig. 1, it will when it comes against the shoe hereinbefore described initially strike the inclined portion of the plate 7 and will travel along said plate, then upward to the wire 2.

The plate 7 has holes therein directly under the respective bolts 4, so that in case one of said bolts should break it can drop directly through the appropriate hole and onto the ground, by virtue of which there is no possibility of the broken bolt lodging in or being retained against the contact to interfere therewith and cause sparking.

For lightness I may form slots in the pendent flanges 10 of the contact-plate and for the same purpose do not make the upwardly-extending flanges 9 continuous.

Having thus described my invention, what I claim is—

1. The combination of an insulating-body, a contact-plate having upwardly-extending flanges, between which said body is fitted, bolts extending through the body and flanges to leave the under surface of the plate smooth, and means for clamping said body to a conducting-wire.

2. The combination of an insulating-body, a contact-plate, means for connecting the contact-plate and insulating-body, a clamping device for connecting the body to a conducting-wire and consisting of bolts, and bushings surrounding the same, the body being bored to receive the bolts and bushings, and each bolt and bushing having a wire-receiving seat.

3. The combination of an insulating-body, a contact-plate having upwardly-extending flanges between which said body is fitted, and bolts passing through the body and flanges to leave the under surface of the plate smooth and unobstructed, and means for clamping said body to a conducting-wire, the plate having pendent continuous flanges to constitute a trolley-wheel guide.

4. The combination of an insulating-body, a contact-plate fastened to the body, and clamping means for fastening the body to a trolley-wire, the plate having holes located directly under the clamping means.

5. The combination of an insulating-body, a contact-plate connected with the body, and clamping-bolts carried by the body for connecting it with a trolley-wire, the plate having holes located directly under the respective bolts.

6. The combination of an insulating-body, a contact-plate having upwardly-extending flanges between which said body is fitted, bolts extending through the body and flanges, to unite the same, and to leave the under surface of the plate smooth, and clamping-bolts for uniting the body to a trolley-wire, carried thereby, the plate having holes located directly under the respective bolts.

7. The combination of an insulating-body having a longitudinal groove in its under surface, for the passage of a trolley-wire, a contact-plate fastened to the body, and the under surface of which is below the trolley-wire, and means in the groove for clamping the body to the trolley-wire.

8. The combination of an insulating-body having a longitudinal groove in its under surface, a contact-plate fastened to the body, a bolt extending through the body vertically thereof and having a hook at its lower end located in said groove to receive a trolley-wire, the plate having a hole located directly under the bolt.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

GEORGE H. FRETTS.

Witnesses:

S. GALBRAITH,
B. F. HANDY.