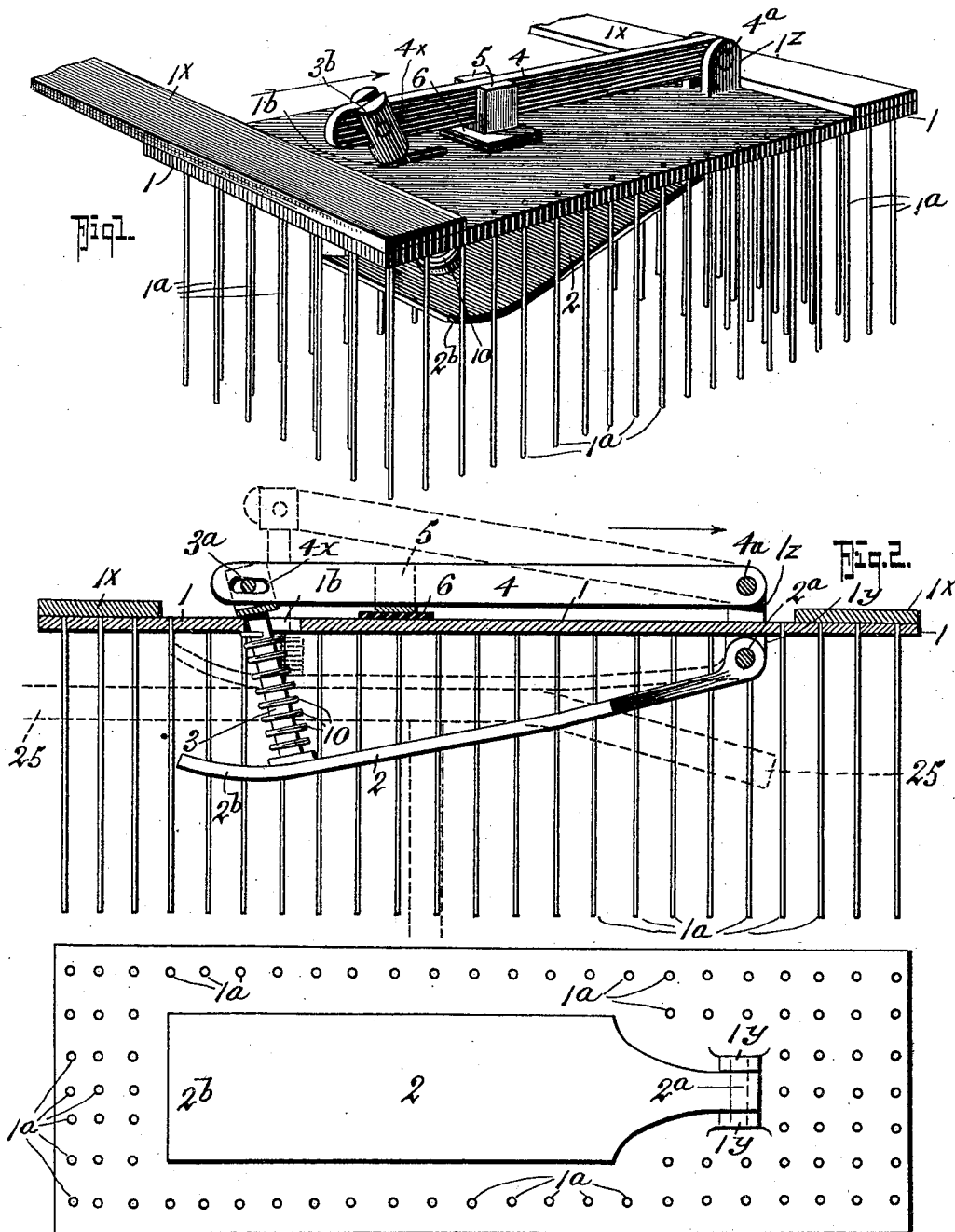


J. F. WEBB, JR.
CONTACT MAKER.
APPLICATION FILED AUG. 26, 1908.

932,924.

Patented Aug. 31, 1909.
2 SHEETS—SHEET 1.



WITNESSES:

John T. Schrott
Max E. Immrich

Fig. 3.

INVENTOR

Jean F. Webb, Jr.

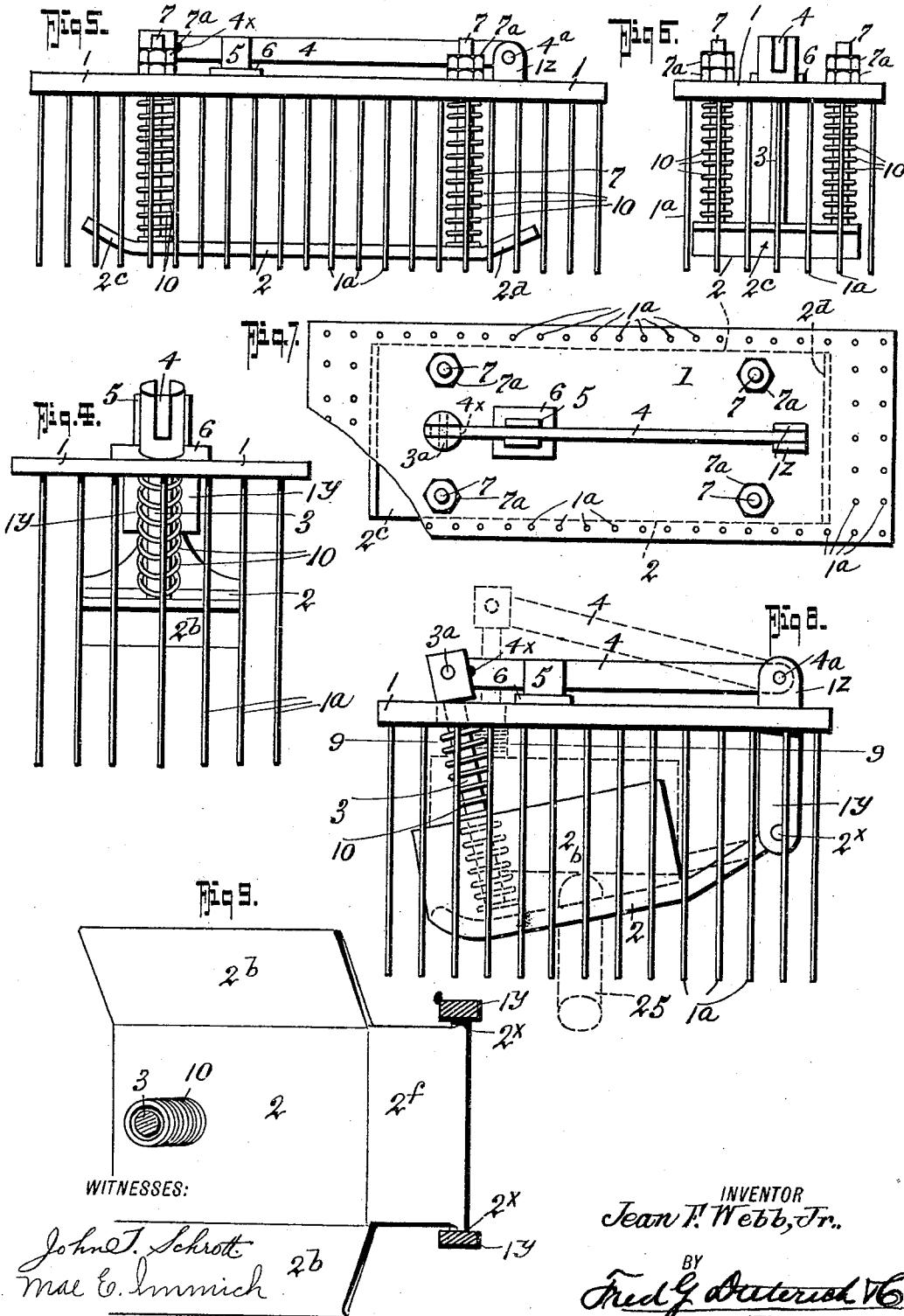
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2 SHEETS—SHEET 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JEAN F. WEBB, JR., OF NEW YORK, N. Y., ASSIGNOR TO THE ELECTRIC SIGNAGRAPHS AND
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CONTACT-MAKER.

932,924.

Specification of Letters Patent.

Patented Aug. 31, 1909.

Original application filed August 15, 1908, Serial No. 448,649. Divided and this application filed August 26, 1908.
Serial No. 450,367.

To all whom it may concern:

Be it known that I, JEAN F. WEBB, JR., residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Contact-Makers, of which the following is a specification.

My invention relates to certain new and useful improvements in contact makers for making electric contact with a terminal of an electric circuit.

In the art as practiced today, contact shoes have been provided for use, particularly on electric railways, to engage a conductor and convey the current therefrom to the car motor circuit to operate the motors of the car, and contact shoes have also been used on railways to engage sectional conductors in signaling and train stopping systems. In the contact shoes now in common use the conductor rail is engaged by a plate mounted on the car and held against the rail, either by gravity or spring pressure. Trolley wheels have also been provided on the rail contact makers of electric railway systems, not only to engage an over-head conductor but for performing the functions of a contact shoe in making connection with a track conductor rail or an underground conductor rail.

My present invention primarily has for its object to provide a contact maker which may be adapted for use where ever contact shoes and trolley wheels are now used and which in addition is adapted for special use in connection with a train signaling and stopping mechanism of a particular type, for instance that disclosed in my co-pending application, filed Aug. 15, 1908, Ser. No. 448,649, of which application this application forms a divisional part.

Generically, my present contact maker consists of a metallic brush (including a base plate and depending metallic bristles) and a contact shoe movably secured thereto, together with a make and break switch operably connected with the shoe whereby the movements of the shoe, in certain directions, will serve to open or close the switch, to break or make an electric circuit, one terminal of such circuit being connected with the metallic plate and one switch member, while the other circuit terminal connects to an insulated contact part of the switch.

The shoe may be moved in any desired manner to cause it to actuate the switch, for instance, a contact rail may be mounted adjacent to the track to be engaged by the contact maker and its shoe, so that the shoe will "ride up" and thus open the switch, and a spring or springs or the action of gravity may be utilized to return the shoe to its normal position to close the switch.

The invention also resides in those novel details of construction, combination and arrangement of parts, all of which will be described fully hereinafter and be specifically pointed out in the appended claims, reference being had to the accompanying drawings, in which:—

Figure 1, is a perspective view of my invention. Fig. 2, is a central vertical longitudinal section thereof, the "shoe" being shown in elevation. Fig. 3, is an inverted plan view of the contact maker. Fig. 4, is an end elevation thereof. Fig. 5, is a side elevation of a modified form of contact maker. Fig. 6, is an end view thereof. Fig. 7, is a top plan view thereof. Fig. 8, is an end elevation of another modification. Fig. 9, is a detail section on the line 9—9 of Fig. 8, showing the "shoe" and its pivot.

Referring now to the accompanying drawings, in which like letters and numerals of reference indicate like parts in all of the figures, 1 represents the main or body plate of the portion of my contact maker, while 1^a designates the bristles thereof. The bristles are secured to the body 1 in a manner to form a good electrical connection therewith and a space is left between the central part of the body 1, which is free from bristles 1^a, and in this space the shoe part 2 of the contact maker is located.

The shoe 2 is pivoted at 2^a to lugs 1^v on the underside of the plate 1, and it has a rear curved edge 2^b, for a purpose hereinafter fully understood. At the rear of the shoe a rod 3 is secured and the rod 3 passes through a hole 1^b in the plate 1 and is pinned at 3^a to the knife 4 of the switch, the pin 3^a passing through the slot 4^x. The knife 4 is pivoted at its other end to lugs 1^z on the top of the plate 1, as indicated at 4^a in the drawings.

A contact 5 is mounted on an insulating block 6 that in turn is secured on top of the plate 1 to cooperate with the knife 4. One

terminal of an electric circuit, (not shown) may be joined to the plate 1, while the other terminal may be connected with the contact 5, so that the movement of the knife 4 on its pivot will serve to open or close such circuit accordingly as the shoe 2 is raised or lowered. The contact maker may be mounted to project from the side of a car or locomotive through the medium of plates 1^x fastened to the plate 1 in any desired fashion. A spring 10 is mounted on the rod 3 between the shoe 2 and the under face of the plate 1 to hold the shoe in its normal position, as indicated in full lines in Figs. 1 and 2, of the drawings.

So far as described, the manner in which my invention operates will be best explained as follows:—As the train is moving with the shoe in the direction of the arrows in Figs. 1 and 2, of the drawings, and the circuit maker comes in contact with the track contact 25, shown in dotted lines in Fig. 2, the shoe 2 will be elevated to the position shown in dotted lines in Fig. 2, to open the circuit between the knife 4 and the contact 5 to break any electric circuit that is connected thereto. At the same time, the shoe 2 rests against the track contact 25 and the said track contact is also engaged by the bristles 1^a of the brush to insure good electrical connection between the contact maker and the track contact 25. By the use of two shoes, one on each side of the track and the provision of two track contacts 25, one on each side of the track, separate electric circuits may be controlled by the shoe, one of which may have its terminals connected to the plate 1 and contact 5 of one shoe and the other may likewise be connected to the terminal of the other shoe, and a third circuit may be controlled by connecting the terminals of such third circuit to one plate of one circuit maker 1 and the other terminal may be connected to the plate 1 of the other circuit maker, the two track contacts 25 being electrically connected in any approved manner, for instance, they may be connected with a semaphore as shown in the application hereinbefore referred to. I have not illustrated these electrical connections as the shoe can be used in so many different ways that to attempt to illustrate them all would result in unnecessarily burdening this specification. Furthermore the use of the contact maker will be readily apparent to those skilled in the art to which the invention appertains.

Instead of providing a contact maker of the forms shown in Figs. 1, 2 and 3, of the drawings, I may provide a contact maker of the form shown in Figs. 5, 6 and 7 of the drawings, wherein the shoe 2 has the front and rear upwardly bent ends 2^b—2^c and is mounted for vertical movement through the medium of a series of bolts 7 secured to the

shoe 2 and projecting through apertures in the plate 1, the bolt 7 having adjusting nuts 7^a whereby the normal height of the shoe 2 may be adjusted. A rod 3 is provided as in the other form to actuate the knife switch. Instead of placing the springs 10 on the rod 3 in this form, however, the springs are placed on the bolts 7 to perform the same functions as do the springs shown in Figs. 1 to 4.

Another modification of my invention is shown in Figs. 8 and 9 of the drawings, by reference to which it will be seen that the knife switch may be mounted transversely of the plate 1 instead of longitudinally thereof, and the shoe 2 may be pivoted through the medium of an extension 2^f as at 2^g on a longitudinal axis, instead of a transverse axis, as shown in Figs. 2 and 3 of the drawings. In this form of my invention the front and rear ends are bent up in the same manner as in the form shown in Fig. 5.

Numerous other modifications in the details of construction, combination and arrangement of parts will suggest themselves to those skilled in the art to which my invention appertains, and I do not desire to limit myself specifically to the features of construction herein described and illustrated in the accompanying drawings further than is set out in the appended claims.

From the foregoing description, taken in connection with the accompanying drawings it is thought the complete construction, operation and advantages of my invention will be readily understood by those skilled in the art to which the invention appertains.

What I claim is:

1. A contact maker for train signaling and stopping mechanisms and the like, comprising a plate, a switch mounted thereon, contact bristles pendent from said plate, and means carried by the plate for actuating said switch.

2. A contact maker comprising a plate, pendent bristles carried thereby, a switch mounted on said plate, and means carried by the plate for actuating said switch when said contact maker is mechanically engaged by an obstruction.

3. A contact maker for train stopping and signaling mechanisms and the like comprising a plate, a switch mounted thereon, contact bristles pendent from said plate, a shoe also pendent from such plate and operatively connected with said switch, said shoe being mounted to move in a vertical direction to open and close said switch.

4. A contact maker comprising a metallic brush, a switch mounted thereon, a shoe carried by said brush within the bristles thereof, and means connecting said shoe with said switch whereby the movement of the shoe will actuate the switch.

5. A contact maker for train stopping

mechanisms and the like comprising a plate, a knife switch mounted thereon, contact bristles pendent from said plate, a shoe also pendent from said plate and operatively connected with said knife switch, said shoe being movable in a vertical direction to open and close the switch, and means for normally holding said switch closed.

6. A contact maker comprising a plate, a knife switch mounted thereon, contact bristles pendent from said plate, a shoe also pendent from said plate, means connecting said shoe with said switch, said shoe being mounted in a vertical direction to open and close the switch, and means for normally holding said switch closed, said shoe being of less length than said plate and said bristles extending beyond the ends of said shoes.

7. A contact maker comprising a metallic brush member having bristles and a contact shoe mounted within the bristles of said brush member.

8. A contact maker consisting of a metallic plate and pendent metallic bristles secured thereto to form a "brush" and a "shoe" mounted on said "brush" and surrounded by the bristles thereof.

9. A contact maker consisting of a metallic plate, and pendent metallic bristles secured thereto to form a "brush" a "shoe" mounted on said "brush" and surrounded by the bristles thereof, and a switch mounted on said "brush" and connected with said "shoe" to be actuated thereby.

10. A contact maker comprising a brush including a base plate and pendent bristles, and a contact shoe mounted beneath said plate.

11. A contact maker comprising a brush including a base plate and pendent bristles, a contact shoe mounted beneath said plate, and electrically connected therewith, said shoe having vertical movement, and means for holding said shoe in a normal or definite position.

12. A contact maker comprising a brush including a base plate and pendent bristles, a contact shoe mounted beneath said plate, and electrically connected therewith, said shoe having vertical movement, means for holding said shoe in a normal or definite position, and a switch mounted on said plate and connected with said shoe to be actuated thereby.

13. A contact maker comprising a brush having a base plate and pendent bristles, a shoe pivotally mounted at one end beneath said plate and surrounded by said bristles, a rod connected to said shoe and passing through apertures in said plate, and a spring surrounding said rod to hold the shoe in one position.

14. A contact maker comprising a brush having a base plate and pendent bristles, a shoe pivotally mounted at one end beneath said plate and surrounded by said bristles, a rod connected to said shoe and passing through apertures in said plate, a spring surrounding said rod to hold the shoe in one position, and a knife switch mounted on said plate and connected with said rod to be actuated by the movements of the shoe.

JEAN F. WEBB, Jr.

Witnesses:

WALTER KINHUE,
J. F. MORRISON.