Oct. 19, 1926. 1,603,391

O. M. LEICH

SPRING JACK

Filed Feb. 19, 1923

Fig. 1.

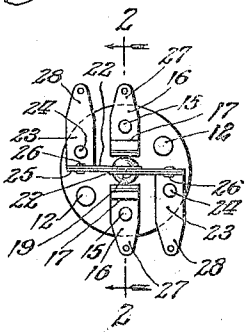


Fig. 2.

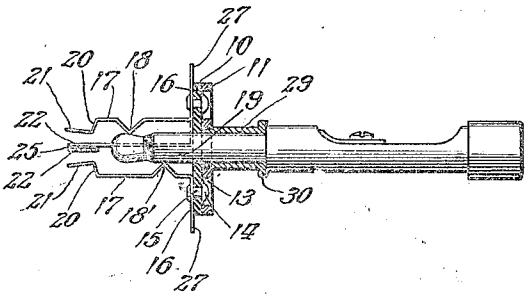


Fig. 3

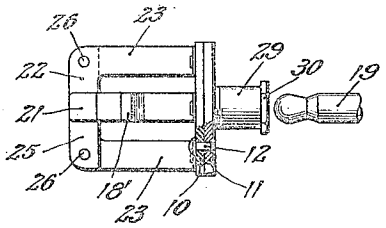


Fig. 4.

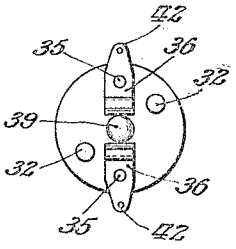
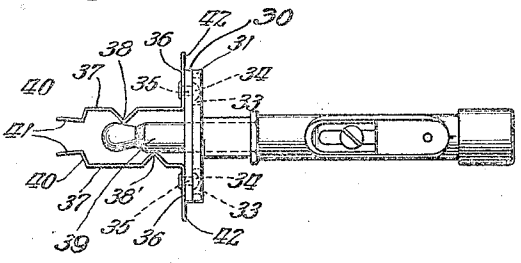


Fig. 5.



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UNITED STATES PATENT OFFICE.

OSCAR M. LEICH, OF GENOA, ILLINOIS, ASSIGNOR TO LEICH ELECTRIC CO., OF GENOA, ILLINOIS, A CORPORATION OF ILLINOIS.

SPRING JACK.

Application filed February 19, 1923. Serial No. 619,941.

My invention relates to spring jacks, and more particularly to a spring jack that is simple and cheap in construction.

It is a purpose of the invention to provide a jack of the above mentioned character which is made up of as few and as simple parts as is possible to provide an efficient device. The jack may be a simple series jack with a pair of spring contacts or a multiple jack with a plurality of pairs of contacts.

Other objects and advantages of the invention will appear as the description of the accompanying drawings proceeds. However, I desire to have it distinctly understood that I do not intend to limit myself to the exact details shown or described but that I intend to include as part of my invention all such obvious changes and modifications of parts as would occur to a person skilled in this art and as would fall within the scope of the claims.

In the drawings:

Fig. 1 is a rear face view of a jack embodying my invention;

Fig. 2 is a section thereof taken on the line 2—2 of Fig. 1;

Fig. 3 is a side elevation thereof partly broken away;

Fig. 4 is a view similar to Fig. 1 of a jack comprising a single pair of contacts; and

Fig. 5 is a side elevation of the jack shown in Fig. 4.

Referring in detail to the drawings, in Figs. 1 to 3 inclusive is shown a jack comprising a disk of insulation 10, a metallic plate 11 secured thereto by means of the rivets 12, said plate 11 being provided with openings 13 in which are located the heads 14 of rivets 15 for securing the spring contacts 16 to said insulation 10. It will be noted that the openings 13 are considerably larger than the rivet heads 14 so that the rivet heads 14 will be insulated from the metallic member 11. There will be no possibility of the rivet heads 14 engaging with the metal of the member 11, as said member 11 is fixed in position relative to the member 10 by means of the rivets 12. The contacts 16 are provided with rearwardly extending fingers 17 having inwardly offset portions 18 and 18′ respectively engaging with the plug 19 in the usual manner. Said fingers 17 are also provided with portions 20 offset toward each other and with end portions 21 extending rearwardly from said offset portions 20 to provide a pair of contacts adapted to engage with the transversely extending portions 22 of the contact members 23 secured to the insulating member 10 by means of the rivets 24 in a similar manner to that used for securing the members 16 thereto. The transversely extending portions 22 of the members 23 are secured together and insulated from each other by means of the bridging piece 25 riveted to said portions by means of the rivets 26.

It will be seen that when the plug 19 is in position the terminals 27 provided on the members 16 will be connected through the fingers 17 with the contacts on the plug 19, while if the plug 19 is removed said terminals 27 will each be connected through one of the spring fingers 17 with a terminal 28 on the contact members 23 due to engagement of the portions 21 with the portions 22. The contact plate 11 is provided with a screwthreaded central opening for screwthreadedly receiving the tubular guide member 29 for the plug 19, said guide member 29 being provided with a flange 30 on the outer end thereof, which may be made with flattened faces as shown in Fig. 3 so that the member 29 may be readily screwed into position.

In Figs. 4 and 5 is shown a jack comprising the disk of insulating material 30 and the metallic plate 31 secured together by means of the rivets 32, said member 31 having openings 33 for receiving the heads 34 of the rivets 35 which are used for holding the contact members 36 in place on the insulation disk 30. Said contact members 36 are provided with the longitudinally extending spring fingers 37 having the offset portions 38 and 38′ therein for engaging with the plug 39 in the usual manner, said contact fingers having inwardly offset portions 40 and substantially parallel extending portions 41 which are adapted to engage when the plug 39 is withdrawn to connect the members 36 in series, so that the conductors secured to the terminals 42 will be connected in series through the contact fingers 37 when the plug 39 is removed and so that the apparatus connected with the plug 39 will be serially included in the circuit when the plug 39 is inserted in the jack. It will be noted that the contact members 16, 23 and 36 are simple stampings which can be very simply and cheaply made and that the parts are secured

together in a very simple manner with the use of a small number of insulating members and with a minimum number of parts.

Having thus described my invention, what I desire to claim and secure by U. S. Letters Patent is:

1. A jack of the character described comprising a metallic base plate, a layer of insulating material secured thereto, a pair of contact fingers and means for securing said contact fingers on said insulating material, said contact fingers each having an inwardly offset contact portion intermediate the ends thereof adapted to engage with a plug inserted into said jack and inwardly offset oppositely arranged contact portions adjacent the free ends of said fingers moving toward each other when said plug is removed, but lying beyond the end of said plug and being separated thereby when said plug is in engagement with said intermediate contact portions.

2. A jack of the character described comprising a metallic base plate, a layer of insulating material secured thereto, a pair of contact fingers, means for securing said contact fingers on said insulating material and a pair of contact members arranged on opposite sides of said first pair and having portions extending transversely between said contact fingers and being adapted to be engaged thereby, said contact members being secured together by means of a piece of insulating material.

3. A jack of the character described comprising an insulating base, a pair of spring contact fingers mounted thereon and having portions extending rearwardly therefrom, and a pair of contact members mounted thereon, said contact members having rearwardly extending portions and transversely extending portions, said transversely extending portions extending between said contact fingers and being secured together and insulated from each other by a strip of insulating material.

In witness whereof, I hereunto subscribe my name this 7th day of February A. D., 1923.

OSCAR M. LEICH.