

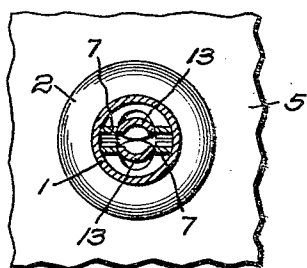
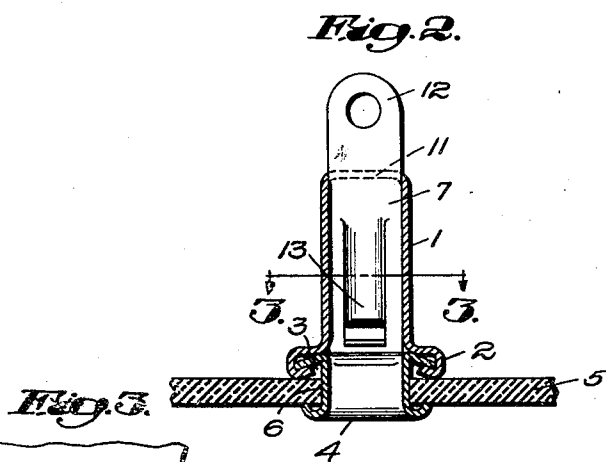
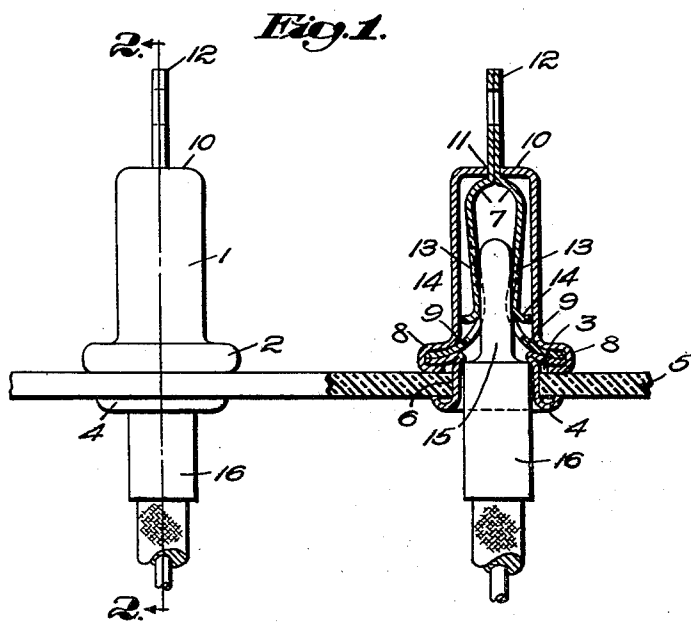
May 2, 1933.

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SPRING JACK

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UNITED STATES PATENT OFFICE

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SPRING JACK

Application filed May 27, 1930. Serial No. 456,195.

My invention aims to provide improvements in spring jacks for use in making a detachable connection with a connecting plug.

In the drawing which illustrates a preferred embodiment of my invention:—

Figure 1 is a view of a pair of spring jacks as they appear when attached and with connecting plugs engaged therewith, one of the jacks being shown in cross-section;

Fig. 2 is a section through a jack taken on the line 2—2 of Figure 1; and

Fig. 3 is a section through a jack on the line 3—3 of Fig. 2.

Referring to the particular embodiment of my invention selected for illustration by the drawing, I have shown a simple, durable and neat appearing jack made entirely from sheet metal and particularly, though not exclusively, adapted for use in electrical devices such as radio sets, switchboards and the like.

The body part of the jack is in the form of a cup-shaped shell 1 pressed from sheet metal and having a flange 2 at the open end thereof. The flange 2 is bent inwardly over the base 3 of a tubular rivet 4, the opening through which is in alignment with the opening in the shell 1.

The rivet 4 provides the only means necessary for cooperation with the flange 2 to secure the jack to a supporting structure 5. As illustrated in Figs. 1 and 2 the tubular portion of the rivet 4 extends through an opening 6 in the structure 5 and is bent outwardly against one face of the said structure.

Within the body of the jack I have secured a leaf spring device which is pressed from sheet metal. The leaf spring device illustrated is made up of two identical pieces 7—7, each of which is substantially flat in transverse cross-section and is of substantial width to fit against the inner surface of the cup-shaped shell 1. Each piece 7 has one end portion 8 clamped between the flange 2 and the base 3 of the rivet 4, as shown in Figure 1. When the two pieces 7—7 are assembled in position they curve from the clamped portions 8 toward each other to present curved surfaces 9—9 facing the open end

of the device and then diverge from each other and thereafter curve toward each other again near the bottom 10 of the shell 1. At the center of the shell 1 the pieces 7—7 contact and extend therefrom in parallel relation through an oblong aperture 11 through the bottom 10 to provide a contact 12 outside of the shell 1. A wire may be secured to the contact 12 by means of solder, a bolt or in any other suitable manner.

Each piece 7 is provided with a leaf spring 13 by cutting and bending the metal, as illustrated in each figure of the drawing. The free ends 14 of the leaf spring portions 13 are curved outwardly (Fig. 1) and are located near the mouth of the cup-shaped shell 1 so that they may immediately engage and grip the contact end 15 of the connecting member 16, as best illustrated in Figure 1.

During the operation of engaging the connecting member or plug 16 to the jack end 15 is entered through the rivet 4 and is guided into proper engagement with the leaf spring portions 13 by the curved portions 8—8 of the cooperating pieces 7—7.

My improved jack is easy to manufacture, simple to attach, because of the rivet construction, and is practically indestructible once it is installed.

While I have illustrated and described a preferred embodiment of my invention I do not wish to be limited thereby, because the scope of my invention is best defined by the following claims.

I claim:

1. A spring jack device comprising a leaf spring device adapted to receive the contact end of a connecting plug, a cup-shaped supporting structure within which the leaf spring device is housed, a flange on said supporting structure, a tubular rivet portion extending beyond said flange whereby said supporting structure may be attached to an apertured support and a wiring contact extending from said leaf spring device through the bottom of said cup-shaped supporting structure.

2. A spring jack device comprising a sheet metal cup-shaped part, a leaf spring device supported in said cup-shaped part and adapt-

- ed to receive the contact end of an electrical connecting plug entered through the mouth of the cup-shaped part, an electric wiring contact extending from said leaf spring device through an opening in the bottom of said cup-shaped part and a tubular rivet having a base secured to said cup-shaped part at the mouth thereof. 70
3. A spring jack device comprising a sheet metal cup-shaped part, a leaf spring device supported in said cup-shaped part and adapted to receive the contact end of an electrical connecting plug entered through the mouth of the cup-shaped part, an electric wiring contact extending from said leaf spring device through an opening in the bottom of said cup-shaped part, a tubular rivet having a base secured to said cup-shaped part at the mouth thereof and means extending from said leaf spring device and clamped between the base of the rivet and the cup-shaped part to hold said leaf spring device in fixed relation to said cup-shaped part. 75
4. A spring jack comprising a relatively long tubular body portion having a closed end, a flange on said body portion, a rivet located at the open end of said body portion whereby a support may be gripped between the rivet and the said flange when the rivet is upset and a leaf spring device secured within the body portion and having opposed leaf spring members adapted to make a separable connection with a suitable plug adapted to be presented to the leaf springs through the rivet. 80
5. A spring jack comprising a relatively long tubular body portion having a closed end, a flange on said body portion, a rivet located at the open end of said body portion whereby a support may be gripped between the rivet and the said flange when the rivet is upset and a leaf spring device secured within the body portion, said spring device comprising two similar pieces each having an end secured to the shell adjacent to the said flange and extending therefrom toward the bottom of the said closed end. 85
6. A spring jack comprising a tubular body portion having a closed end, a flange on said body portion, a rivet portion at the open end of said body portion whereby a support may be gripped between the rivet portion and the said flange when the rivet is upset and a leaf spring device secured within the body portion, said spring device comprising two similar pieces each having an end secured to the shell adjacent to the said flange and extending therefrom toward the bottom of the said closed end and each piece having pressed therefrom intermediate its ends a leaf spring portion. 90
7. A spring jack comprising a tubular body portion having a closed end, a flange on said body portion, a rivet portion at the open end of said body portion whereby a support may be gripped between the rivet portion and the said flange when the rivet is upset and a leaf spring device secured within the body portion, said spring device comprising two similar pieces each having an end secured to the shell adjacent to the said flange and extending therefrom toward the bottom of the said closed end and each piece having pressed therefrom intermediate its ends a leaf spring portion. 95
- In testimony whereof, I have signed my name to this specification. 100
- CARL L. KNUTSON. 105
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