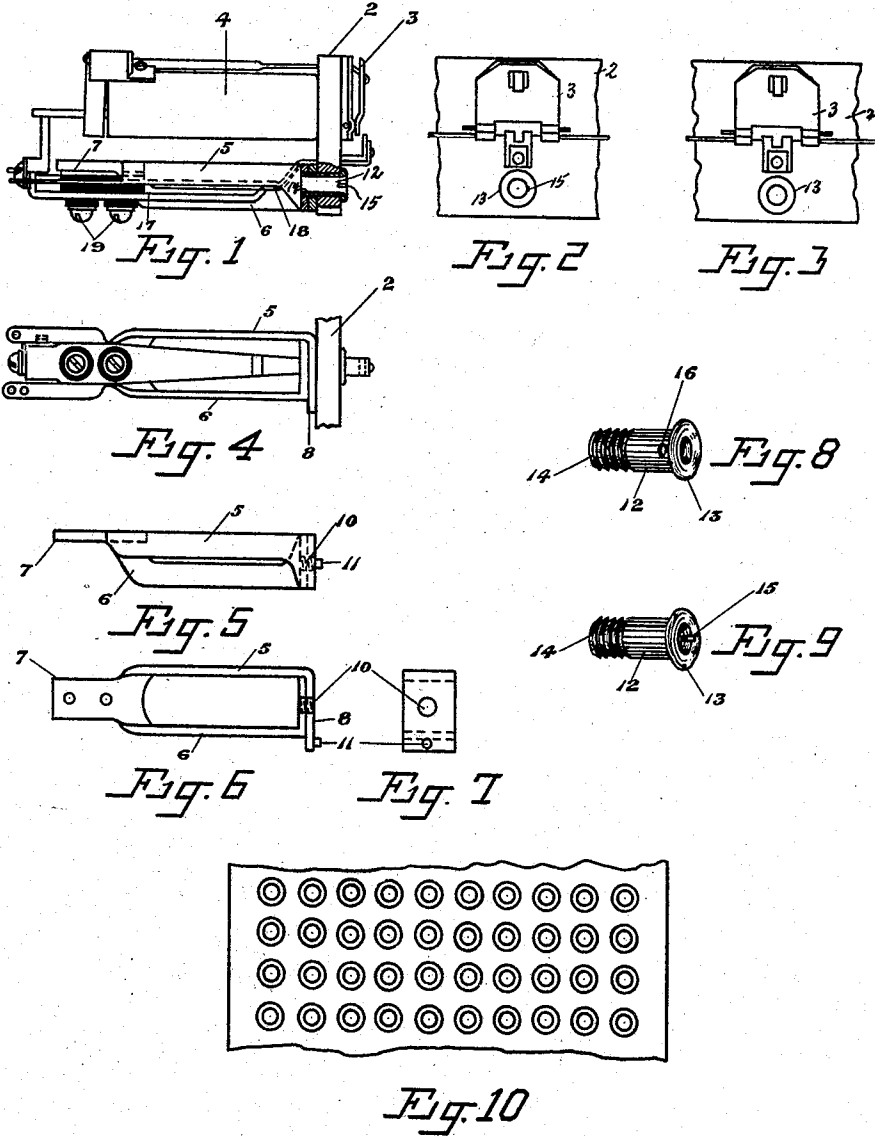


C. H. SMITH.
 CONNECTING JACK FOR TELEPHONE SWITCHBOARDS.
 APPLICATION FILED DEC. 30, 1904.

911,338.

Patented Feb. 2, 1909.



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CONNECTING-JACK FOR TELEPHONE-SWITCHBOARDS.

No. 911,338.

Specification of Letters Patent.

Patented Feb. 2, 1909.

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To all whom it may concern:

Be it known that I, CHARLES H. SMITH, a citizen of the United States, residing in Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Connecting-Jacks for Telephone-Switchboards, of which the following is a specification.

My invention relates to spring jacks for telephone lines, one of my objects being to provide a jack which presents a better appearance than is usual upon the exterior of the switchboard and which is simple and convenient to mount and assemble.

Another object of my invention is to construct a jack frame which is formed of one piece of integral metal and which has offset side braces, whereby the upper and lower jack contacts may be readily observed from the opposite sides of the jack, the forward part of the jack being made double, whereby sufficient thickness for threads is obtained, and whereby strength and rigidity are secured.

It has been common heretofore to secure the jack frame to the switchboard by a thimble inserted from the exterior and threading into the jack frame upon the inside of the board. In order to readily turn the said thimble to screw it into position it has been usual to provide it with a hexagonal or irregular head to which a suitable wrench may be easily applied for turning the same, and still another method was to groove the head diametrically so that a screw driver might be used instead of a wrench. These forms and in fact all such irregular forms are objectionable for the reason that when a number of jacks are closely mounted in rows in a switchboard the grooves across the heads of the thimbles or the sides of the hexagonal or irregular heads do not stand parallel and an unsymmetrical appearance of the face of the board is presented.

In my invention I provide the head of the thimble with a circular edge and smooth face so that whatever final position may be given to the same the face of the switchboard presents an even and symmetrical appearance. I further prefer to provide means for positively gripping the thimbles when they are to be screwed into position.

Further objects of the invention will appear from the detailed description and

claims, reference being had to the accompanying drawing, in which the same reference characters are used throughout to designate like parts, and in which:

Figure 1 is a side view of a combined self-restoring drop and jack embodying my improvements; Fig. 2 is a front view of the device shown in Fig. 1; Fig. 3 is a face view of such a combined self-restoring drop and jack provided with a modified form of thimble; Fig. 4 is a bottom plan view of the jack frame; Fig. 5 is a side view of the frame with all parts detached; Fig. 6 is a bottom plan view of the same; Fig. 7 is a front view of the jack frame; Fig. 8 is an isometric view of one form of the jack thimble; Fig. 9 is a similar view of the form of thimble in Figs. 1 and 2, and Fig. 10 is a face view of a section of a switchboard provided with such individual jacks and jack thimbles mounted closely in rows.

In Figs. 1 to 3 the invention is shown applied to a combined self-restoring drop and jack but as will be pointed out later it may be employed in connection with individual jacks and in fact said thimbles are more especially designed for use where the jacks and therefore the thimbles are mounted close together. In these figures 2 designates the mounting strip, the usual drop 3 being located upon the face of the strip while the drop releasing magnet 4 is placed upon the rear of the same in the ordinary way. The jack frame which is shown divorced from other parts in Figs. 5 and 6 consists of the two side members 5 and 6, the end piece 7 integral therewith, and the forward end pieces 8 which are formed of the folded ends of the side pieces 5 and 6. The front pieces 8 of the frame are provided with aligned threaded apertures 10, the forward fold of the front being provided with a suitable steady pin 11. In order to secure the frame thus constituted to the switchboard or mounting strip as the case may be a suitable thimble 12 is provided having a head 13 and a threaded inner end 14 adapted to screw into the aperture 10. Thus with the jack frame in the rear of the board and the thimble inserted from the front the said frame is clamped in position upon the rear face of the board, the said steady pin 11 at the same time entering an aperture provided for the purpose.

It will be noted that the edge of the head 13 of the thimble is circular in outline and

is thus unbroken and regular and that the face of the head is a plane face free from grooves or other irregularities. It is possible to tighten such a thimble without any special provision for the same, as by means of a suitable mandrel tightly fitting the bore of the thimble, but I prefer to employ some positive means for gripping the same, one way of accomplishing this being indicated in Figs. 1, 2 and 9, wherein a small and shallow notch 15 is formed in the wall of the bore of the thimble at its forward end and a suitable tool is provided to enter the bore and having a projection adapted to enter the said notch. These notches are not noticeable on a full sized switchboard and can be seen only after a careful inspection, this being due not only to their small size but also to the fact that they are in the inside rings of the thimbles instead of in the outside edges. Another mode of accomplishing the same result is illustrated in Fig. 8 wherein 16 indicates an aperture drilled through the side wall of the thimble and it may extend through both, a suitable tool again being employed to enter the bore of the thimble and the aperture 16 and thereby to grip the thimble and enable the same to be turned home. It is obvious that many other modes of gripping the thimble may be provided for. When such thimbles are mounted in a switchboard as in Fig. 10, therefore, the notches if the kind shown in Fig. 9 be employed, do not by their irregular locations cause an unsightly and unsymmetrical appearance of the board, and of course if the thimble of Fig. 8 or an entirely plain one is used, there is nothing to mar the appearance of the face of the board.

The end 7 of the jack frame supports the usual springs, they in this instance including the springs 17 and 18, both being secured thereto with suitable insulating strips by the screws 19. The spring 18 extends forwardly through the mounting strip to engage and restore the drop 3 when a plug is inserted in the jack. Suitable terminals are arranged at the rear to connect with the magnet coil and to connect the instrument and its springs in the desired circuit. With respect to the portion of my invention relating to the thimble any type of frame may obviously be employed.

While I have thus described my invention with specific reference to various practical ways for carrying the same into execution, I do not wish to be limited in all respects thereto since various modifications and alterations may be made therein and still come within its scope and purview. But

Having thus described the invention, what I claim and desire to secure by Letters Patent is:

1. A spring-jack frame comprising a shelf, to the under side of which the jack springs are secured, supporting members therefor, one extending along each side of the jack, said side members being bent at right angles across the front of the jack frame and folded one upon the other and having alined openings through the folded portions thereof, and a thimble extending through said openings to support the jack frame, substantially as described.

2. In a spring jack, the combination with a pair of horizontally disposed jack springs, of a frame therefor having a horizontally disposed shelf at the rear of the frame on the under side of which said springs are secured, side members for said frame formed integrally with the shelf and being arranged one on a higher level than the other, whereby the lower jack spring may be inspected from one side of the jack and the upper jack spring may be inspected from the other side of the jack, said side members being folded one upon the other at the front of the jack to give sufficient thickness for rigidly supporting the jack frame, substantially as described.

3. A spring jack comprising a supporting frame having a portion at the rear thereof for supporting the jack springs, side members formed integrally therewith and disposed one above the other in parallel planes along the sides of the jack frame, a mounting strip and means for securing said frame to the mounting strip, substantially as described.

4. A spring jack comprising a supporting frame formed of side members disposed in parallel planes, a spring support at the rear of said frame formed integrally with the side members, a mounting strip, a thimble for securing said frame to the mounting strip, said thimble being adapted to extend through the mounting strip and to thread into the forward end of said frame and having an opening within its bore adapted to be engaged by a tool for assembling and disassembling the jack, substantially as described.

Signed by me at Chicago, county of Cook and State of Illinois in the presence of two witnesses.

CHARLES H. SMITH.

Witnesses:

ROBERT LEWIS AMES,
EDITH F. GRIER.