Oct. 27, 1925. 1,558,855

J. C. FIELD

APPARATUS RACK

Filed Oct. 7, 1921

Fig. 1

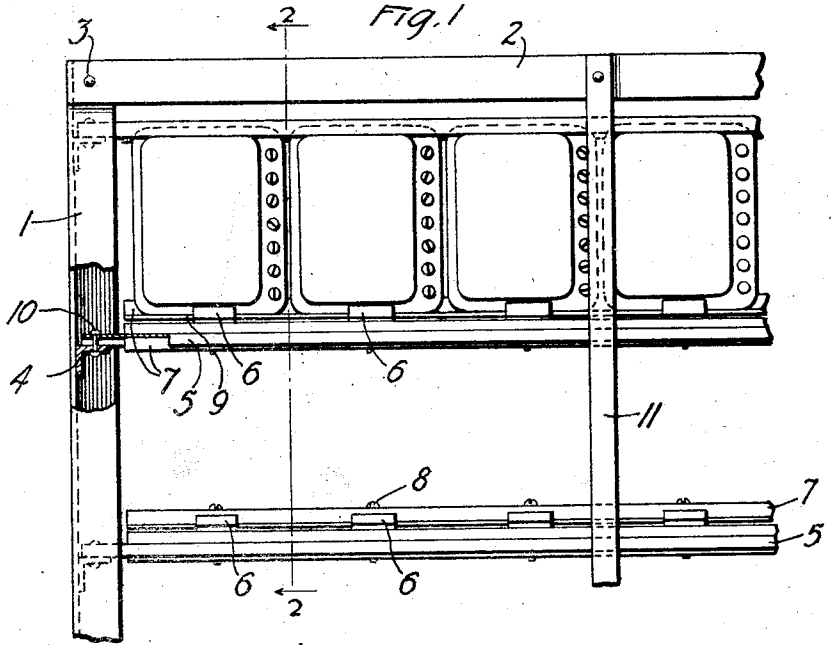


Fig. 2.

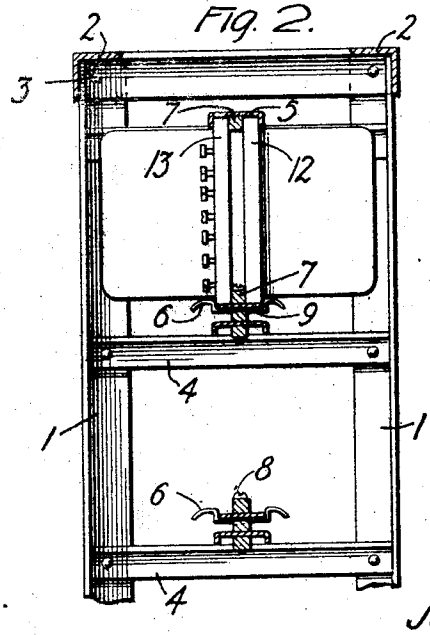
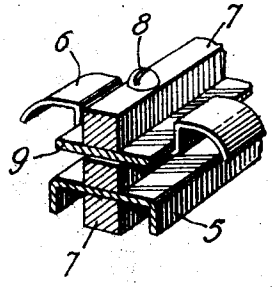


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOSEPH C. FIELD, OF ORANGE, NEW JERSEY, ASSIGNOR TO WESTERN ELECTRIC COMPANY, INCORPORATED, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

APPARATUS RACK.

Application filed October 7, 1921. Serial No. 506,164.

To all whom it may concern:

Be it known that I, JOSEPH C. FIELD, a citizen of the United States, residing at Orange, in the county of Essex, State of New Jersey, have invented certain new and useful Improvements in Apparatus Racks, of which the following is a full, clear, concise, and exact description.

This invention relates to supports for electrical apparatus, and particularly to that type of apparatus support known as the rack.

It is an object of the invention to provide an apparatus rack of the above character which is compact and of attractive appearance, combining great strength and rigidity with a minimum of weight, and in which the cost of manufacture is reduced to a minimum.

To this end, the invention contemplates employing a thin, but exceptionally strong, metallic frame, provided on one face with a rigid holding strip, and on its opposite face with a plurality of uniformly-spaced, resilient tongues or clips, the lower clips cooperating with the upper holding strip to form a plurality of clamping members each of which is adapted to clamp the base of a relay and hold it firmly in position. The clamping members are mounted permanently in place and permit the ready removal of the relays by simply releasing the resilient clips. The clamping members are properly spaced upon the frame thus providing a seat for banks of relays in any desired number.

It is another object of the invention to provide an apparatus rack in which the various parts and sections may be readily assembled, and are easily accessible for wiring connections and adjustment.

Still another object of the invention is to provide an apparatus rack in which the supported apparatus may be firmly held in place so as to resist accidental jars, and still be readily and quickly detachable.

Other objects and features of the invention will appear from a consideration of the following description taken in conjunction with the accompanying drawing and the appended claims.

In the drawing, Fig. 1 is a front elevation of the apparatus rack, a portion being broken away to show the joint between the frames; Fig. 2 is a sectional view taken on the line 2—2 of Figure 1, showing the compact arrangement of apparatus upon the rack; and Fig. 3 is a perspective view, partly in section, of the clamping unit, enlarged for the sake of clearness.

Referring to the drawing, the frame proper is made up of end supports 1 and top supports 2, which are preferably formed of angle iron and are joined in any suitable manner, as by means of the studs 3. Conveniently spaced upon the end frames of the rack are cross bars 4 which may also be of angle iron of sufficient strength to act as a brace for the end frames and also to serve as a support for the apparatus clamping members, as hereinafter described. Extending longitudinally of the frame and supported upon opposite cross bars 4 are the apparatus holding members which comprise rigid, inverted U-shaped strips of metal 5, and resilient two-branch metallic tongues or clips 6 clamped between blocks 7, which may be of wood or metal, by means of the headed studs 8, as best shown in Fig. 3. In order that the comparatively thin spring clips 6 shall not be made to bear the weight of the apparatus which they clamp in place, a rigid metallic plate 9 is inserted between the clips 6 and the upper clamping block 7, to form a rest for the bases of the apparatus. This plate may be either a short strip of about the width of the clip itself, or else may take the form of a continuous strip extending across the frame, as is shown in Fig. 1. The blocks 7, supporting the apparatus clamping members 5 and 6, extend longitudinally across the frame, as noted above, and in order that the various pieces of apparatus to be supported may be held in compact alinement, the cross bars 4 are spaced just far enough apart to permit the passage of the base of the apparatus between the rigid strip 5 and the resilient tongues or clips 6, positioned on the cross bar below. The apparatus supporting unit is fixed to the cross-bars 4, preferably in the manner shown in section in Fig. 1. Here the rigid inverted U-shaped member 5 extends beyond the end of the blocks 7 and is clamped to the bar 4 by means of the stud 10. It is to be understood, however, that the upper clamping members 5 may be of a short length corre-

sponding to the clips 6, and in such a case the blocks 7 are made fast to the cross bars 4. The rigid holding members 5, the two branches of the resilient clips 6 and their associated plates 9 extend on both sides of the supporting blocks 7, as best shown in Figs. 2 and 3, to provide seats for oppositely faced relays at the front and back of the rack, the lower member 5 of each clamping unit acting as the upper holding member for the clamping unit below. Thus, in Fig. 2, the edges of the bases of relays 12 and 13 are first inserted between block 7 and inverted U-shaped holding member 5, and are then slid over the rounded portion of the respective clips 6 to a resting position on the supporting plate 9, the two relays being clamped back-to-back against the block 7.

The frames 1 and 2 of the rack may be of any desired height and length, respectively, to accommodate any number of relays, the braces 11 being provided intermediate the end frames to provide additional strength and rigidity. It will be seen that the skeleton rack made in accordance with this invention is particularly accessible for wiring connections and adjustments, and is still extremely compact, light and portable and may be readily assembled.

Certain departures may obviously be made in materials and details of construction within the scope and spirit of the invention, and it is accordingly to be understood that the invention is not limited to the specific description herein contained except as defined by the scope of the following claims.

What is claimed is:

1. An apparatus rack comprising end standards, a two-branch strip, a plurality of two-branch resilient clips, a plurality of members between which said strip and clips are clamped with the clips spaced apart thus forming a unit, means for securing a plurality of units so formed to said end standards in spaced relation, each opposed pair of clips cooperating with the branches of said strip to attach a pair of oppositely faced pieces of apparatus having edge portions which slip into the grooves in said strip and snap into said clips.

2. An apparatus rack comprising end standards, a number of units each made up of an inverted U-shaped rigid strip, a member on which said strip is mounted and forming with said strip a pair of opposed grooves, a plurality of tongues of resilient material each having a pair of off-set portions and a member for supporting said tongues in proximity to said strip, and means for securing a plurality of said units to said end standards in spaced relation, each pair of opposed off-set portions on one unit cooperating with the opposed grooves on another unit to attach a pair of oppositely faced pieces of apparatus to the rack.

In witness whereof, I hereunto subscribe my name this 4th day of October, A. D. 1921.

JOSEPH C. FIELD.