Sept. 19, 1933. G. R. EATON 1,927,514

TELEPHONE SWITCHBOARD

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Fig. 3

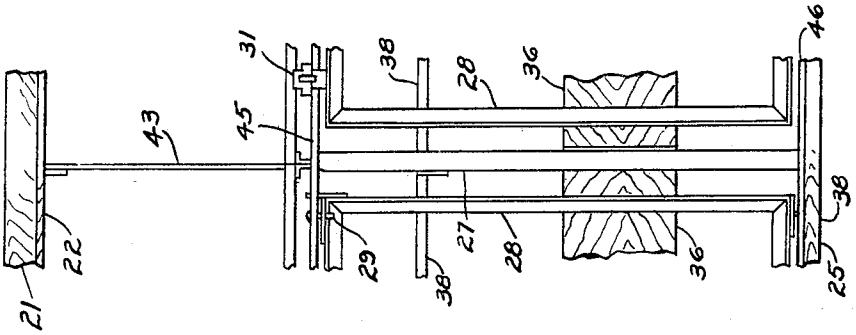


Fig. 2

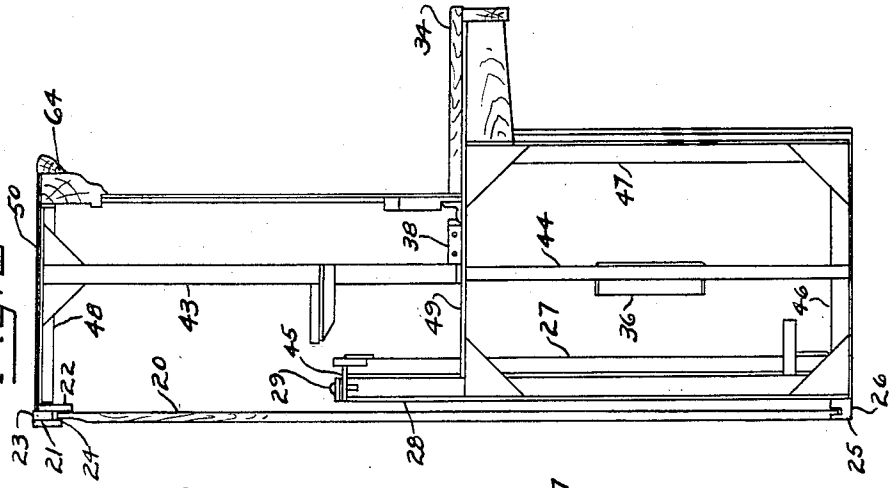
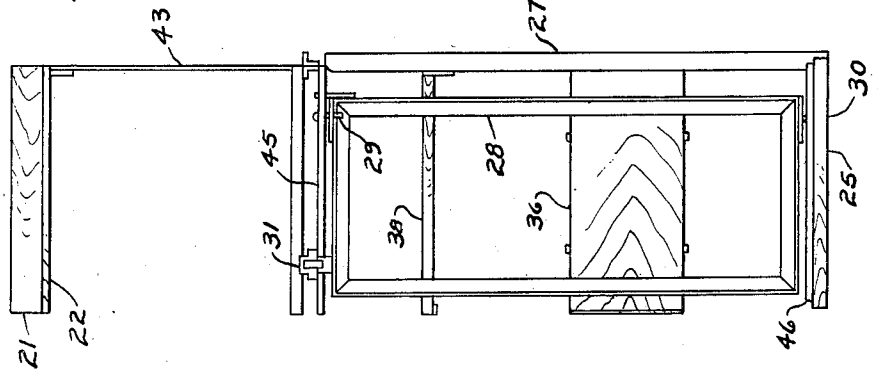


Fig. 1



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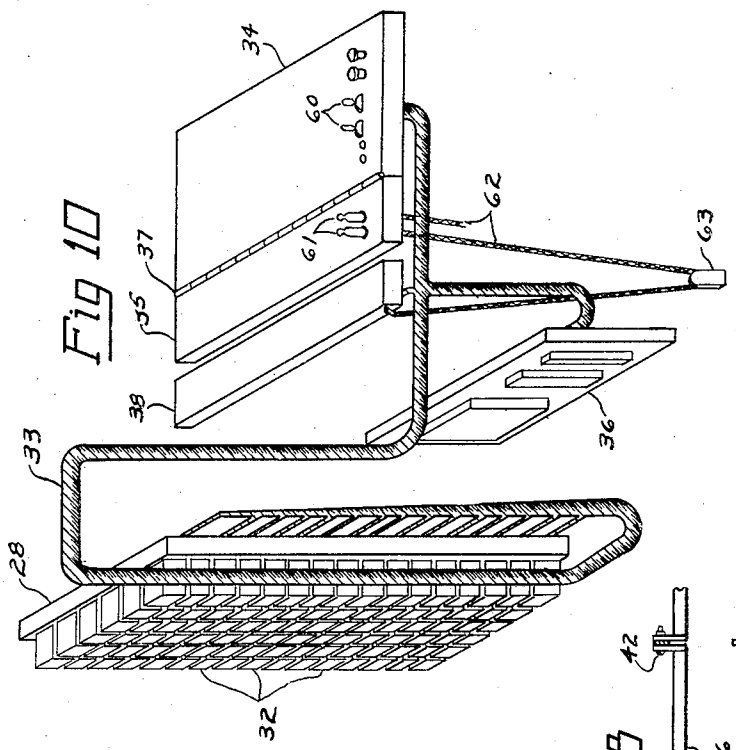

Fig 10

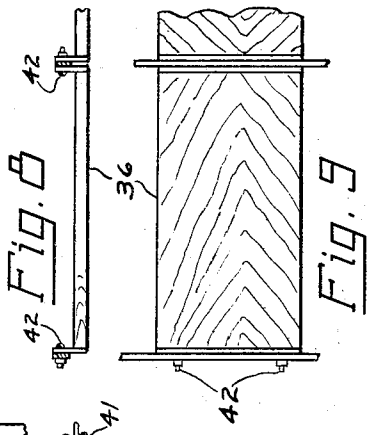

Fig. 8

Fig. 9

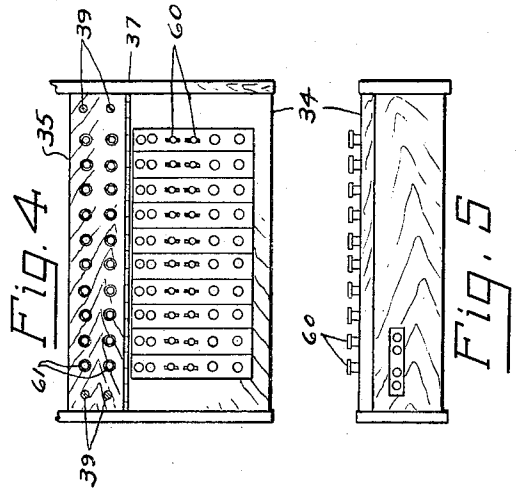

Fig. 4

Fig. 5

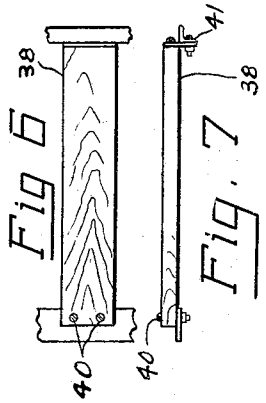

Fig 6

Fig. 7

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Patented Sept. 19, 1933 1,927,514

UNITED STATES PATENT OFFICE

1,927,514

TELEPHONE SWITCHBOARD

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Application October 11, 1930. Serial No. 488,031

7 Claims. (Cl. 179—91)

My invention relates to central office telephone switchboards, and an object of my invention is to provide a telephone switchboard in which the equipment local to each section may be assembled, wired and connected in a factory, shipped as a unit to the place of installation, and there attached to the framework of the switchboard.

A further object of my invention is to provide a telephone switchboard from which the equipment local to each section may be removed as a unit, and replaced with other local equipment, also as a unit, when it is desired to make a change in this equipment. For instance, a section may be originally equipped with apparatus for completing local calls and later toll equipment is desired in the section. It is a simple matter in the switchboard of my invention to remove the relay rack, cord rack and keyshelf constituting the local equipment and substitute toll equipment in the section or vice versa.

A still further object of my invention is to provide a telephone switchboard which may be made in a factory and shipped to the place of installation in sections, or "knocked-down."

Another object of my invention is to provide a telephone switchboard which is so constructed that new positions or sections may be added to either or both ends with a minimum of labor and material.

Further objects and advantages of my invention will appear from the following description, reference being had to the accompanying drawings in which

Fig. 1 is a rear view of one section of my switchboard, with the cover panel removed;

Fig. 2 is an end view, with the end panel removed;

Fig. 3 is a rear view of parts of two adjoining sections, showing the method of placing sections side by side, using one leg to support both sections;

Fig. 4 is a plan view of the key and cord shelf, with certain equipment in place;

Fig. 5 is an elevation of Fig. 4;

Fig. 6 is a plan view of the cord rack, showing the method of installing it in the framework;

Fig. 7 is an elevation of Fig. 6;

Fig. 8 is a plan view of the operator's coil and miscellaneous rack and a portion of an adjoining miscellaneous rack, installed in the framework;

Fig. 9 is an elevation of Fig. 8; and

Fig. 10 is a perspective view of the keyshelf, cordshelf, cord rack, miscellaneous rack and relay gate, as wired and connected in the factory and shipped to the place of installation.

Referring now to the drawings, the switchboard of my invention consists of a series of sections placed side by side and each section includes a supporting unit or framework preferably formed of metal which supports an operating unit comprising a keyshelf 34 carrying the usual keys 60, a plug shelf 35 for supporting the plugs 61 when the same are not in use, a rack 36 adapted to support miscellaneous equipment such as fuses in the battery leads to the cords, the induction or repeating coil of the operator's set and the like, and a cord rack 38.

A sliding door 20 serves as a cover for the back of the switchboard and as a means of gaining access to the interior for adjustments, replacements, or similar purposes. One such door is provided for each section of the switchboard. Strips of wood 21, 22 and 23 are arranged to form a groove 24 in which the top of the door 20 may slide. 25 is a strip of wood provided with the groove 26 in which the bottom of the door 20 may slide. As shown in Fig. 3, these grooved members are formed of continuous strips along the entire back of the switchboard assembly, serving also as one means of holding the various sections together, and are placed in position after the switchboards are installed. At 27 is an upright angle iron which, with the horizontal angle irons or stringers 45 and 46, supports the relay gate 28, which is pivoted on the pins 29 and 30 and held in place by the drop catch 31. The relays 32 may be any desired number and style, and are wired to the cable 33 through the back of the relay gate 28. Cable 33 is carried through any required turns to the keyshelf 34, the rack 36 and the cord rack 38. The plug shelf 35 is attached to the framework of the switchboard by the screws 39 and the keyshelf 34 is joined to the plug shelf 35 by the piano hinge 37, which permits the keyshelf 34 to be raised from the framework of the switchboard for inspection or repairs. The cord rack 38 is attached to the framework of the switchboard by the screws 40 and the bolts 41. The rack 36 is attached to the framework of the switchboard by the bolts 42. The relay gate 28, relays 32, cable 33, keyshelf 34, plug shelf 35, rack 36 and cord rack 38 are assembled, connected and wired in the factory, as shown in Fig. 10, and shipped on an appropriate frame (not shown) to the place of installation, where they are placed in the framework of the switchboard and attached thereto by the pins, bolts and screws previously mentioned. The removable parts are inserted through the rear of the switchboard, which has

no horizontal struts or braces to obstruct such insertion.

Cords 62 and the customary cord weights 63 are provided in the manner understood by one skilled in the art. A frieze 64 extends along the top portion of the switchboard.

Should it ever become necessary or desirable to alter the equipment in a particular section or sections of the switchboard assembly, this may conveniently be done by preparing the new equipment at the factory and shipping it as a unit, wired and ready for operation, to the place where it is to be used. At any convenient time, the equipment in use is removed and the new equipment installed in its place, the entire replacement operation requiring a comparatively short time.

When an original installation of switchboards is made, a position or any number of positions may be left blank, with a false keyshelf and cord shelf in place, and such equipment as may be required may be placed therein at any future time.

The upright members 43 and 44 serve as supports for the switchboard, and as means for connecting adjoining sections. It will be noted that each section is equipped with only one of each of these members, on the right-hand side facing the rear of the switchboard. These members thus serve as central supports for two adjoining sections. The angle irons 47, 48 and 49 are also placed on the right-hand side only of each section, and when the sections are assembled adjoining sections are held to their supports by convenient bolts. The roof or cover 50 is of sheet iron plates, and is made sufficiently long to cover the entire assembly of switchboards, and is bolted to the horizontal members 49 at convenient points. At each end of the switchboard assembly a panel (not shown) is provided to cover the outside end of the last section. The panel which is attached to the left-hand end of the assembly, facing the rear of the switchboards, is provided with members 43, 44, 46, 47, 48 and 49, to support the end of the left-hand section.

While I have illustrated and described a preferred embodiment of my invention it is to be understood that I do not wish to be limited thereby as changes and modifications will readily suggest themselves to those skilled in the art. I wish to be limited therefore only by the spirit and scope of the appended claims.

Having described my invention, what I claim as new and desire to secure by United States Letters Patent is:

1. A central office telephone switchboard of the character described comprising a plurality of sections, each section including a supporting unit and a detachable operating unit, said operating unit consisting of a keyshelf, relay gate, cord rack, plug shelf, an operator's repeating coil rack, electrical equipment for said unit and a cable interconnecting the same.

2. A central office telephone switchboard of the character described comprising a plurality of sections, each section including a supporting unit and a detachable operating unit, said operating unit comprising a relay rack, a cord rack, an operator's repeating coil rack, a plug shelf and a keyshelf wired and assembled as a detachable unit, said supporting unit arranged to permit the insertion of said operating unit as a whole.

3. A central office telephone switchboard including a plurality of sections, each section consisting of a supporting unit and a detachable operating unit, each said operating unit comprising a key shelf, relay gate, cord rack and electrical equipment carried thereby wired and assembled as a unit insertable into and detachable from said supporting unit with disassembling.

4. A central office telephone switchboard section, consisting of a supporting unit and a detachable operating unit, said operating unit comprising a key shelf, relay gate, cord rack and electrical equipment carried thereby wired and assembled as a unit and insertable into and detachable from said supporting unit without disassembling.

5. In a telephone switchboard, a plurality of sections each comprising a supporting unit and an operating unit, said operating units being equipped respectively for different classes of service such as local service and toll service, said supporting units permitting the interchanging of said operating units without disassembling.

6. In a central office telephone switchboard, a plurality of sections, each section including a framework having vertical supports at only one side, cord circuit apparatus assembled as a unit, certain of said units comprising local equipment, and certain of said units comprising toll equipment, said framework permitting the interchanging of said toll and local cord circuit equipment without disassembling.

7. In a telephone switchboard, a plurality of sections, each section including a framework having vertical supports at only one side, an operating unit for each section, said units being equipped for different classes of service such as local service and toll service, said framework permitting the interchanging of said units without disassembling.

GEORGE R. EATON.