Oct. 12, 1954 C. E. BECK 2,691,560

CONSOLE CABINET TILTABLY MOUNTED ON ITS BASE

Filed Oct. 27, 1949 2 Sheets-Sheet 1

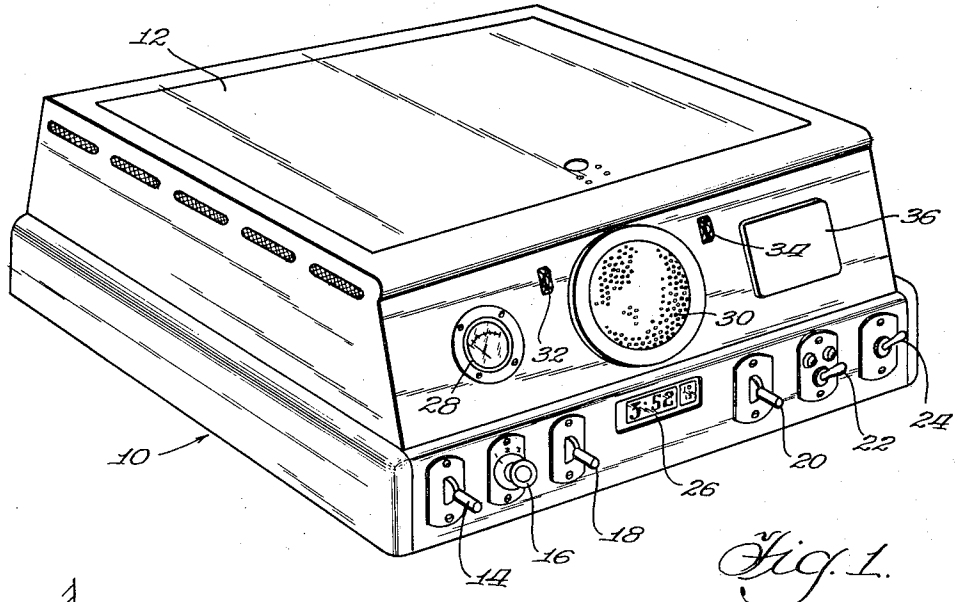


Fig. 1.

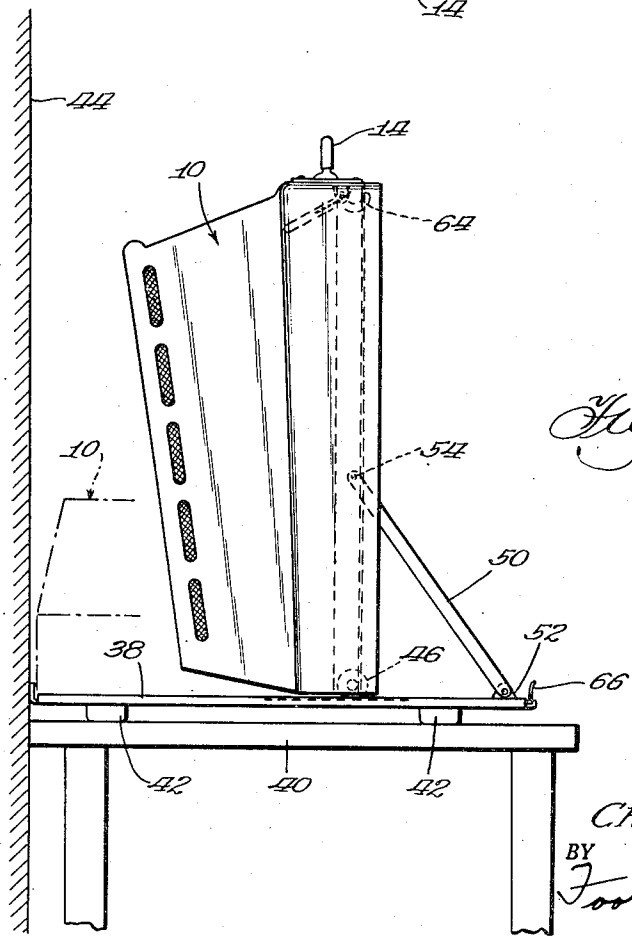


Fig. 2.

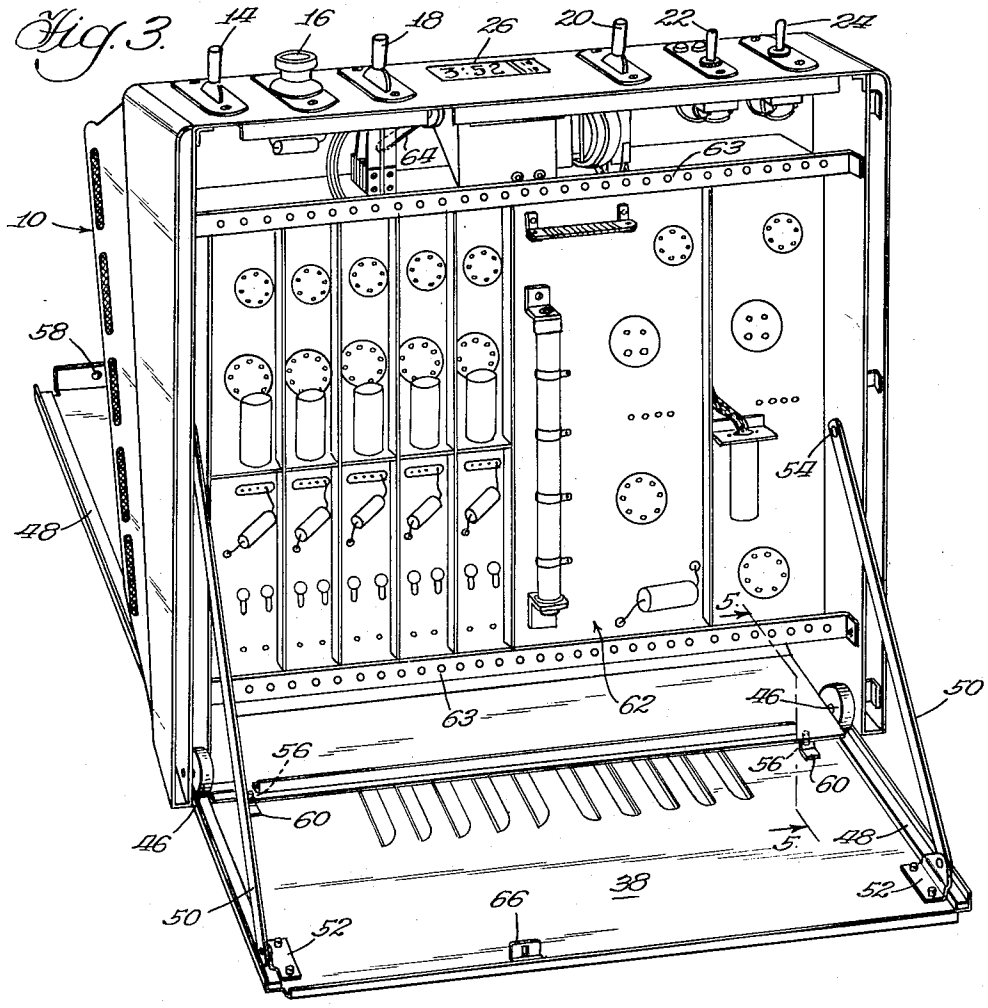
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Fig. 3.



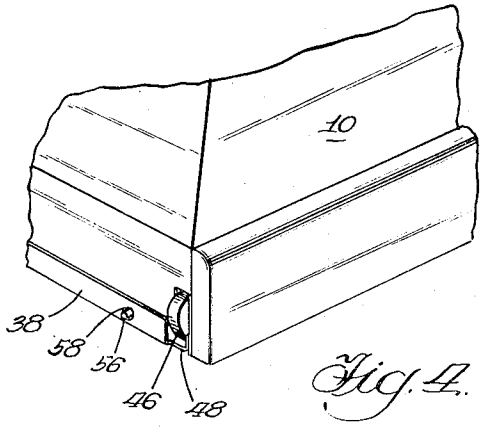


Fig. 4.

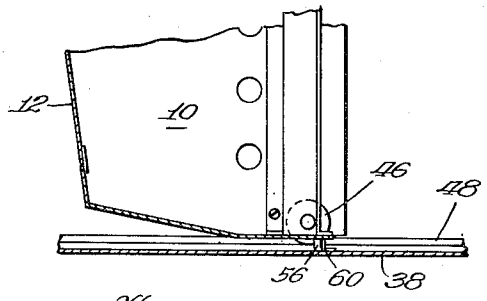


Fig. 5.

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CONSOLE CABINET TILTABLY MOUNTED ON ITS BASE

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Application October 27, 1949, Serial No. 123,813

5 Claims. (Cl. 312—7)

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This invention relates to housings for electronic equipment, and particularly to console cabinets that are employed to house relatively large control devices for radio communication apparatus.

In relatively large communication systems the equipment which must be located near the central operation is usually provided in a cabinet of the console type. Such a console cabinet is customarily positioned on a desk or table with the back thereof against a wall. Such console cabinets have been arranged so that when the equipment therein is to be serviced, the cabinet is tilted from its normal horizontal position to a vertical position. Heretofore it was necessary to pull the entire cabinet away from the wall before tilting it upwardly, to provide the necessary clearance. Then the bottom plate of the cabinet had to be removed for exposing the underside of the chassis. These steps were time-consuming and inconvenient. Moreover, the cabinet was not securely supported while resting on its back.

An object of the present invention is to provide an improved console cabinet which facilitates the servicing of the equipment housed therein.

Another object is to provide a console cabinet which can be swung vertically in a single continuous movement to expose the underside of the chassis and to support the chassis firmly in its vertical position for servicing.

Still another object is to provide an improved console cabinet of such construction that the base of the cabinet can remain in a horizontal position against a wall while the rest of the equipment is tilted upwardly into a vertical position.

A feature of the invention is the provision of a console cabinet which can be swung as a whole relative to its bottom plate or base in a single compound motion which brings the rear part of the cabinet away from the wall while the front part is being tilted upwardly to expose the underside of the chassis.

Another feature is the provision of a console cabinet having a stationary base with trackways on which rollers carried by the rear part of the cabinet proper are adapted to travel forwardly while the cabinet is being swung vertically.

Still another feature is the provision of links that are pivotally connected to the front part of the base and to the middle part of the cabinet proper, such links serving both to direct the aforesaid compound movement of the cabinet and also as a means to support the cabinet vertically.

The foregoing and other objects and features

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of the invention will be better understood from a study of the following detailed description thereof taken in connection with the accompanying drawings, wherein:

Fig. 1 is a front perspective view of a radio communication set housed in a console cabinet constructed in accordance with and embodying the principles of the invention;

Fig. 2 is a side elevational view of the apparatus, showing the cabinet in its vertical position for servicing of the equipment;

Fig. 3 is a front perspective view of the apparatus with the cabinet in its vertical position, showing the underside of the chassis;

Fig. 4 is a fragmentary rear elevational view of the equipment shown in Fig. 1; and

Fig. 5 is a fragmentary vertical sectional view of the equipment taken on the line 5—5 in Fig. 3, with the contents of the cabinet being omitted from this view for simplicity.

In practicing this invention, the cabinet proper or housing for the electronic equipment is normally supported in a horizontal position upon a base member or bottom plate. This cabinet or housing can be swung relative to the base member into a vertical position for access to the underside of the chassis when the set is being serviced. Rollers carried by the rear part of the cabinet run on trackways which are provided on the base member. The cabinet is connected to the base member by straight links, which are pivoted at one end thereof to the front part of the base and at the other end thereof to the middle portion of the cabinet. As the front end of the cabinet is elevated, these links cause the cabinet to execute a compound motion whereby the rear portion of the cabinet moves forwardly away from the wall to provide the necessary clearance as the cabinet is tilted upwardly, with the rollers travelling along the ways on the base member. Forward movement of the rear part of the cabinet is arrested by stops on the base member when the cabinet attains its full vertical position. The center of gravity of the cabinet and its contents is to the rear of these stops, and the cabinet is held by the links in front thereof so that it cannot fall backwardly from its vertical position. The cabinet is restored to its normal position by pulling the front end thereof downwardly again, and the front end of the cabinet is latched to the base member by suitable detent means.

Referring now to the drawings, the normal position of the console cabinet is illustrated in Fig. 1. The cabinet is composed mainly of a sheet

metal housing or cabinet proper 10 having a top plate 12 which is releasably secured to the housing 10. In the present instance it is assumed that the cabinet 10 houses communication equipment required by a central operator, such as a radio receiver and control equipment for a transmitter. Various controls mounted on the front of the cabinet 10 include, in the present instance, a transmit-intercom switch 14, a volume control 16, a supervisory control and tone switch 18, a receiver muting switch 20, a monitor-amplifier switch 22, and a frequency selector switch 24. An electric clock 26 may also be provided. An electric meter 28, loudspeaker grille 30, and indicator lights 32 and 34 likewise are mounted on the front panel. Space for mounting a second meter thereon is provided, and if this space is not utilized, it is covered by a small plate 36 as shown.

The housing 10 is supported by a flat horizontal base member 38, Figs. 2 and 3, which may serve as a bottom plate for the cabinet 10. The base member 38 customarily rests upon a shelf or table 40, being supported by small rubber feet 42 that are secured to the underside of the base member 38. The shelf 40 usually is just wide enough to accommodate the equipment, and the rear edge of the base member 38 abuts a wall 44. When the cabinet 10 is in its normal position, as illustrated in Fig. 1, it covers the entire base member 38, and the rear part of the cabinet 10 is disposed in close proximity to the wall 44, as indicated by the broken lines in Fig. 2.

When the equipment in the cabinet is to be serviced and access must be had to the underside of the chassis, the cabinet 10 is tilted upwardly from the base member 38 into the vertical position thereof shown in Figs. 2, 3 and 5. This is done merely by lifting the front end of the cabinet 10. Rollers 46 are respectively journaled in the cabinet 10 at the lower rear corners thereof, and these rollers 46 run on trackways 48 extending along the sides of the base member 38 from front to rear thereof. Two straight links 50 interconnecting the cabinet 10 with the base member 38 cause the cabinet 10 to travel with a compound motion as the cabinet is tilted upwardly, and they also help to support the cabinet 10 in its vertical position. Each of the links 50 is pivotally connected at one end thereof to a bracket 52 near one front corner of the base member 38, and at its other end this link 50 is pivotally connected to one side of the cabinet 10 near the middle of the bottom edge, as indicated at 54.

When the front end of the cabinet 10 is lifted, as mentioned above, the entire cabinet 10 pivots around the points 54 at the upper ends of the links 50, Figs. 2 and 3. This causes the back side of the cabinet 10 to move away from the wall 44 as the cabinet 10 turns into its vertical position. In this way, ample clearance is afforded between the cabinet 10 and the wall 44 so that it is not necessary to pull the base member 38 away from the wall 44 when tilting the cabinet 10. The rollers 46 travel forwardly along the ways 48, supporting the cabinet 10 at the bottom thereof. Forward motion of the rollers 46 is arrested when pins 56, Figs. 3, 4 and 5, (which normally project through openings 58 in the rear edge of the base member 38) strike against stop members 60 secured to the upper side of the base member 38. The stops 60 are so located that the cabinet 10 has a slight tendency to fall rearwardly when it is tilted into such a position that the pins 56 engage the stops 60. Such falling of the cabinet 10 to the rear is, of course, prevented by the links 50, so that the cabinet 10 is held securely in its vertical position.

The housing 10 contains the chassis 62 (Fig. 3) on which the various parts of the electronic equipment are mounted. The chassis 62 is made up of standard panel units which are secured at their ends to mounting strips 63 extending across the housing 10 parallel to the front and rear faces thereof. The housing may also be arranged with the mounting strips 63 extending parallel to the sides of the housing if preferred.

The underside of the chassis 62 is exposed for servicing when the cabinet 10 is in its vertical position, and the set may be serviced while operating. When the cabinet 10 is to be restored into its normal position, the front end thereof (which is at the top) is pulled forwardly and allowed to descend as the rollers 46 glide rearwardly along the trackways 48, bringing the rear end of the cabinet 10 back into its customary position near the wall 44, Fig. 2. A latch 64 mounted inside the cabinet 10 near the front end thereof engages a stationary catch member 66 on the front end of the base member 38 when the cabinet 10 is fully restored, thereby locking the cabinet 10 to the base member 38. The pins 56 projecting through the holes 58, Fig. 4, also assist in holding the base member 38 to the cabinet 10. The base member 38 therefore is securely fastened to the cabinet 10 without loose play. The latch 64 may be reached from the top of the cabinet 10 when the cabinet is to be unlocked from the base member 38.

The disclosed console cabinet has numerous advantages over conventional structures of this type, as will be apparent to those skilled in the art. It minimizes the time and labor involved in setting up the cabinet for servicing and restoring the cabinet to its normal position. Because of the leverages afforded by the links 50, considerably less effort is required to tilt the cabinet upwardly than would be the case if the cabinet were pulled out from the wall and titled in the usual manner. Furthermore, the cabinet is more securely held than if it were propped up in the ordinary fashion, and the serviceman does not have to take time for removing and replacing the base plate. All of these conveniences greatly expedite the servicing of the set.

While the invention has been described with reference to a preferred embodiment thereof, many modifications of this embodiment are possible without departing from the true spirit and scope of the invention as set forth in the appended claims.

I claim:

1. A console cabinet for electronic equipment comprising a base member, a housing for the electronic equipment, said housing being disposed on said base member and being movable from a normal horizontal position to a vertical position for permitting access to the underside of the electronic equipment, provisions on the rear of said housing for supporting said housing as it moves from the horizontal position thereof to the vertical position thereof, with said supporting provisions resting on said base member, a link pivotally connected at one end thereof to the front part of said base member and pivotally connected at the other end thereof to said housing intermediate the front and rear sides thereof, said link causing said housing to execute a compound movement as said housing moves from

the horizontal position thereof to the vertical position thereof, with the rear portion of said housing travelling forwardly over said base member as the front portion of said housing is elevated, a stop on said base member, and an abutment on the rear of said housing for engaging said stop to arrest the forward movement of said housing when the same attains its vertical position, with said link thereafter holding said housing in said vertical position thereof.

2. A console cabinet for electronic equipment comprising a base member, a housing for the electronic equipment, said housing being disposed on said base member and being movable from a normal horizontal position thereof to a vertical position thereof for permitting access to the underside of the electronic equipment, rollers carried by said housing at the rear thereof for supporting said housing on said base member as said housing moves from said horizontal position thereof to said vertical position thereof, said base member having ways thereon for said rollers, links interconnecting said housing and said base member, each of said links being pivotally connected at one end thereof to the front of said base member and being pivotally connected at the other end thereof to said housing intermediate the front and rear sides thereof, with said links causing the rear portion of said housing to travel forwardly as the front portion of said housing is elevated, a stop on said base member, and an abutment on the rear of said housing for engaging said stop to arrest the forward movement of said housing when the same attains its vertical position.

3. A console cabinet for electronic equipment comprising a base member, a housing for the electronic equipment, said housing being disposed on said base member and being movable from a normal horizontal position thereof to a vertical position thereof for permitting access to the underside of the electronic equipment, rollers carried by said housing at the rear thereof for supporting said housing on said base member as the same moves from said horizontal position thereof to said vertical position thereof, said base member having ways thereon for said rollers, links interconnecting said housing and said base member, each of said links being pivotally connected at one end thereof to the front of said base member and being pivotally connected at the other end thereof to said housing intermediate the front and rear sides thereof, with said links causing the rear portion of said housing to travel forwardly as the front portion of said housing is elevated, a stop on said base member, a pin on the rear side of said housing for engaging said stop to arrest the forward movement of said housing when the same attains its vertical position, said base member having an aperture therein at the rear edge thereof for receiving said pin when said housing is in its normal horizontal position, and latch means at the front of said housing for latching said housing to said base member when said housing is in said normal horizontal position thereof.

4. A console cabinet for electronic equipment including a base member, a housing having substantial height and having top and side walls enclosing the electronic equipment, said housing being disposed on said base member and being movable from a normal horizontal position to a vertical position for permitting access to the electronic equipment from the open underside of said housing, supporting means carried by said housing at the rear thereof normally resting on said base member at the rear thereof and movable forwardly along said base member when said housing is moved from a horizontal to a vertical position, link means pivotally connected at one end thereof to said base member and connected at the other end thereof to said housing intermediate the front and rear sides thereof for pivotal movement with respect thereto only, said link means causing said housing to execute a compound movement as said housing assumes its vertical position, with the rear portion of said housing travelling forwardly while said supporting means bear upon said base member as the front portion of said housing is elevated so that clearance is not required at the rear of said housing, and stop means for arresting forward motion of said supporting means when said housing is in a vertical position forward of said rear of said base member, said stop means being so disposed that when said housing is in said latter position the center of gravity of said housing lies to the rear of said stop means.

5. A console cabinet for electronic equipment including a base member, a housing for the electronic equipment, having top and side walls enclosing the electronic equipment therein, at least a portion of said top wall being movable with respect to said housing to permit access to said electronic equipment from the top side of said housing, said housing being disposed on said base member and being movable from a normal horizontal position to a vertical position for permitting access to the electronic equipment from the open underside of said housing, supporting means on the rear portion of said housing normally engaging the rear portion of said base member for supporting said housing on said base member and movable forwardly along said base member as said housing moves from the horizontal position thereof to the vertical position thereof, holding means for retaining said housing in its vertical position, said holding means including a link pivotally connected at opposite ends thereof to said base member and to said housing, with said link causing said housing to execute a compound movement to bring the rear portion of said housing forwardly as the front portion of said housing is elevated, and stop means for arresting forward motion of said rear portion of said housing when said top wall thereof is in a position spaced forwardly of said rear portion of said base member, whereby access is permitted to said electronic equipment from both said top side and said underside of said housing.

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