

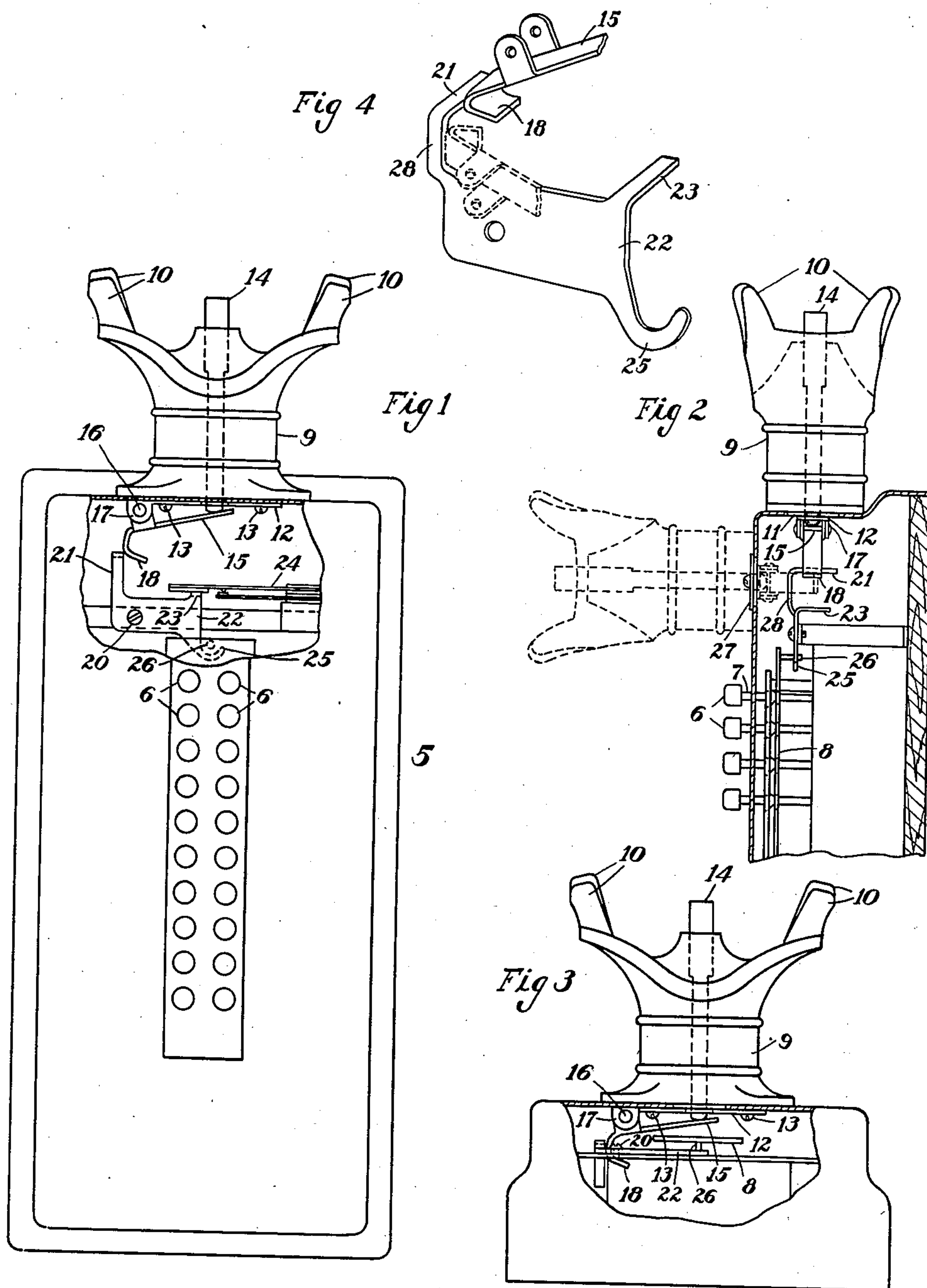
May 7, 1940.

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2,199,686

COMBINED TELEPHONE AND COMMUNICATING KEY BOX

Filed April 21, 1938



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UNITED STATES PATENT OFFICE

2,199,686

COMBINED TELEPHONE AND COMMUNICATING KEY BOX

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Application April 21, 1938, Serial No. 203,373

4 Claims. (Cl. 179—99)

This invention relates to a combined telephone and intercommunicating key box.

Such a combined telephone and intercommunicating key box is sometimes mounted on a vertical support in which location the cradle or handset rest must project in a direction parallel to the plane of the key box front. In other instances, the combined telephone and key box is mounted in a horizontal position in which case the cradle must project at right angles to the front of the key box. In order to obviate the need for two different types of equipment to fulfill the above requirements, it is proposed in accordance with the present invention to provide a combined telephone and intercommunicating key box with the parts thereof so constructed that they can be rearranged to satisfy either of the two mentioned conditions.

The various features and advantages of the invention will appear from the detailed description and claims when taken with the drawing in which Fig. 1 is a front elevation of the combined cradle and key box with the cradle projecting vertically from the end of the box, a portion of the box being broken away to illustrate more clearly the arrangement of parts therein.

Fig. 2 is a side elevation of the construction shown in Fig. 1 with the alternative arrangement of the cradle illustrated in dotted lines;

Fig. 3 is an end elevation of the combined telephone and intercommunicating key box with the cradle rearranged to extend upwardly from the front of the key box, a portion of the box being broken away to illustrate more clearly the arrangement of parts therein and

Fig. 4 is a detail perspective view of the bell-crank forming a part of the combination.

Referring to the drawing, 5 generally designates a key box in which there are mounted contact springs (not shown) arranged to be selectively operated by push button keys 6 to complete circuit connections in an intercommunicating telephone system in accordance with the well known practice. These keys have key stems 7 extending into the box and through a latching or tumbler plate 8 in such a manner that when the tumbler plate is displaced endwise, any depressed key will be released unless manually held in its depressed position. It is unnecessary to describe the intercommunicating key arrangement further since it may be of any well known construction.

As illustrated in Figs. 1 and 2, the upper end of the key box has mounted thereon a hollow pedestal 9 provided with spaced pairs of projections 10 constituting a cradle or rest for a combined

transmitter and receiver or handset (not shown), commonly referred to as the "French" type of telephone. The lower end of the pedestal rests on the upper end of the key box and is provided with a shoulder 11 which is set into an opening formed in the end of the key box. The pedestal is held in this position by a clamping plate 12 which engages the inner surface of the end of the box and is fastened by screws 13 threaded into the end of the pedestal to clamp it to the box. The pedestal is hollow and has a plunger 14 therein arranged with its upper end projecting outward in a position to be depressed by the handle of a handset when supported on the cradle. The lower end of the plunger engages the long arm of a lever 15 pivoted at 16 in ears 17 formed on the clamping plate. The other arm of this lever is relatively short and is curved as indicated at 18 to provide a cam surface. A coiled spring (not shown) mounted on the pivot 16 tends to elevate the long arm of the lever as well as the plunger when the handset is removed from the cradle. The short arm of the lever is mounted in operative relation to an arm 21 of a bell-crank lever suitably pivoted at 20 within the box. The other arm 22 of the bell-crank lever is provided with a projection 23 to engage an extension on one of the springs of the hook switch 24. The arm 22 of the bell-crank lever is also provided with a hook 25 to engage a pin 26 on the tumbler plate 8 whereby the tumbler plate will be displaced endwise when the handset is replaced on the cradle whereby any depressed key will be released.

The various parts illustrated in Fig. 1 are shown in the positions which they occupy when the handset has been removed from the cradle. It will be understood however, that when the handset is replaced on the cradle, the handle of the handset will depress the plunger 14, causing it to move the long lever arm 15 in a clockwise direction. The cam surface 18 on the short arm of this lever thus engages and moves the arm 21 of the bell crank lever to rock it in a counterclockwise direction. This operates the hook switch contact springs 24 by means of the projection 23 and elevates the hook 25 which in turn displaces the tumbler plate 8 to release any previously depressed key.

If it is desired to rearrange the combination as shown in Fig. 1, so that it may be mounted on a horizontal surface the cover plate 27 (Fig. 2) which conceals the opening in the upper portion of the front of the key box is removed. The box is then opened and the clamping plate 12 is un-

screwed from the lower end of the pedestal 9. The pedestal can then be removed from the upper end of the key box and its shoulder 11 inserted in the opening in the upper portion of the front of the key box. The clamping plate 12 is next screwed to the lower end of the pedestal. This mounting of the pedestal brings the cam surface on the short end of the lever 15 into a position where it engages the angular extension 28 on the arm 21 of the bell-crank lever. The cover plate can then be screwed to the end of the box to conceal the end opening therein. It will be understood that the operations of the several parts of the combination operate in the same manner as already described, except that the cam surface 18 on the lever 15 instead of engaging the edge of the arm 21 of the bell-crank lever now engages the edge of the angular extension 28 on this arm.

20 What I claim is:

1. In combination, an intercommunicating key box having an opening in one end and an opening in the front thereof, a handset support arranged to be mounted at either of said openings, a plunger extending through said support, a pivoted lever having a long arm and a short arm, said long arm being arranged to be operated by said plunger from either of the positions in which said support is mounted, a bell crank lever mounted in a position to be operated by said short arm, and a hook switch mounted within said box and controlled by said bell crank lever.

2. In combination, an intercommunicating key box having an opening in one end and an opening in the front thereof, a handset support arranged to be mounted at either of said openings, a plunger extending through said support, a lever

arranged to be pivoted adjacent either of said openings and having a long arm and a short arm, said long arm being operated by said plunger, a bell crank lever mounted in a position to be operated by said short arm, and a hook switch supported in said box and controlled by said bell crank lever. 5

3. In combination, an intercommunicating key-box, a hand-set support, a plunger extending through said support, said support and plunger being arranged to be mounted in either of two positions on said key-box to project above the top or one end thereof whereby said key box is adapted for use as a desk set or a wall set, a lever arranged to be pivoted intermediate its ends in operative relation to said plunger in either of the positions of said support, one arm of said lever engaging said plunger, a bell-crank lever mounted in a position to be operated by the other arm of said lever, and a hook switch supported in said box and controlled by said bell-crank lever. 10 15 20

4. In combination, an intercommunicating key box having an opening in one end and an opening in the front thereof, a handset support arranged to be mounted at either of said openings, a plunger extending through said support, a lever arranged to be pivoted intermediate its ends in operative relation to said plunger in either of the positions of said support, one arm of said lever engaging said plunger, a second lever mounted in a position to be operated by the other arm of said first-mentioned lever, and a hook switch supported in said box and controlled by said second-mentioned lever. 25 30 35

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