No. 843,053. PATENTED FEB. 5, 1907.

K. WEMAN.

TELEPHONE SWITCH.

APPLICATION FILED JULY 13, 1906.

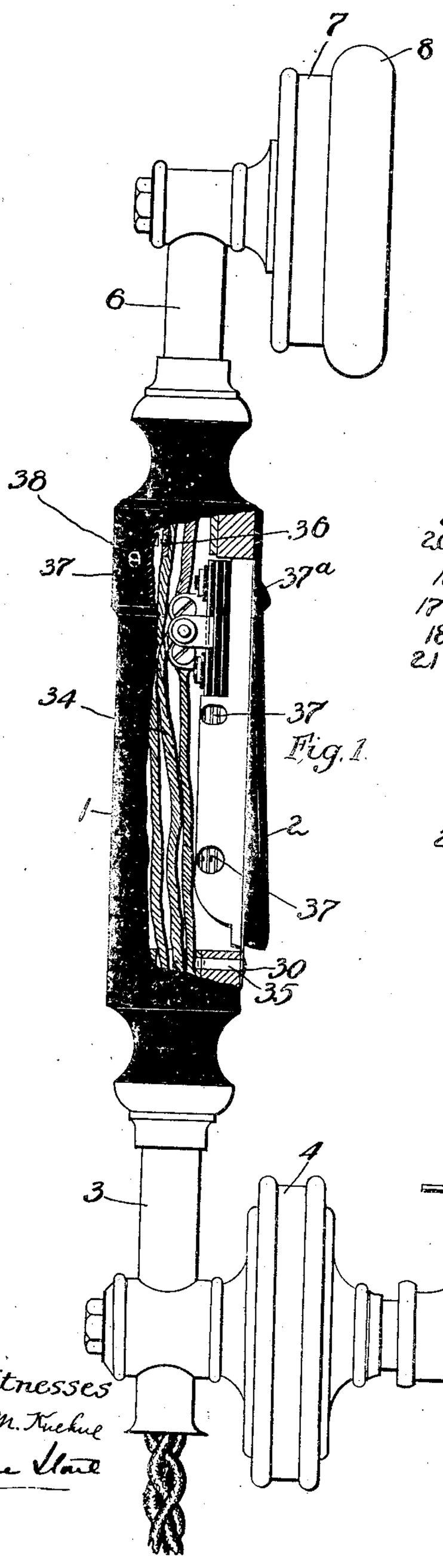

Fig. 1.

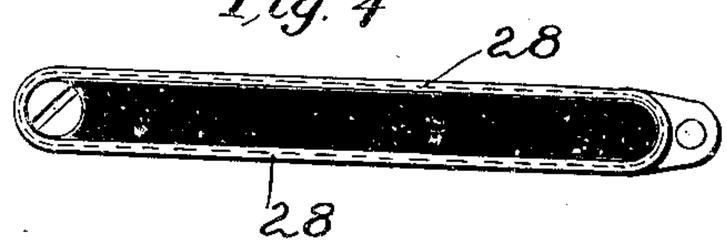

Fig. 4

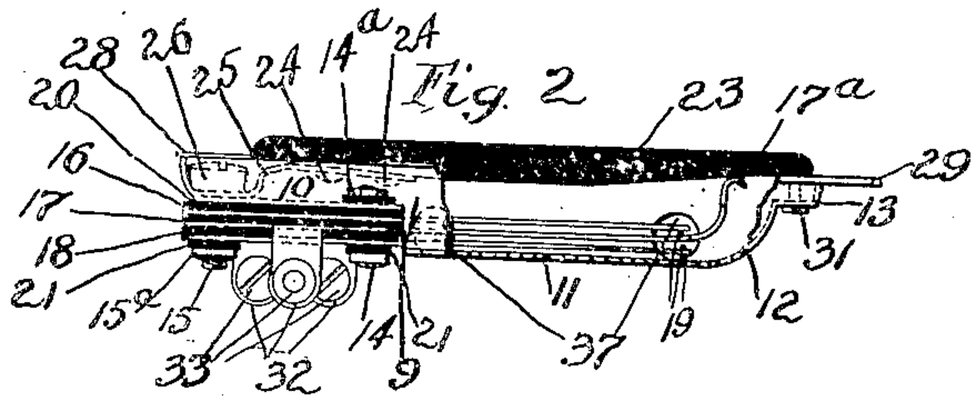

Fig. 2

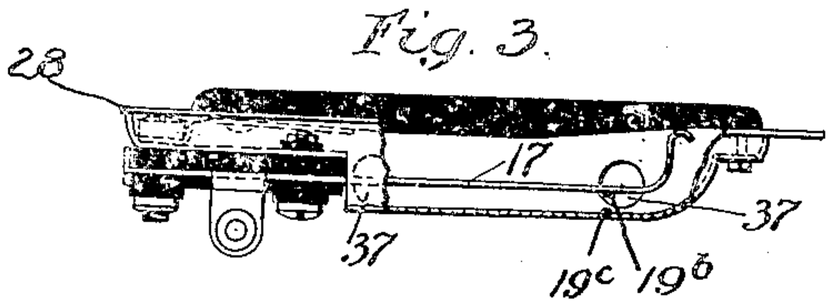

Fig. 3.

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TELEPHONE-SWITCH.

No. 843,053. Specification of Letters Patent. Patented Feb. 5, 1907.

Application filed July 13, 1906. Serial No. 325,997.

To all whom it may concern:

Be it known that I, KLAS WEMAN, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Telephone-Switches, of which the following is a specification.

The present invention relates to switches for telephones and is of special applicability to hand-microphone instruments.

The principal object of the invention is to provide a construction of switch wherein the various elements are compactly assembled and may be properly adjusted in relation to each other before being inserted into the instrument of which the switch is to form a part.

A further object of the invention is so to construct the switch that by means of a single retaining element, such as a screw, the switch may be secured in position, and by loosening the screw the entire switch may be released from the instrument.

A further object is to provide insulation at such place and in such manner that the user of the instrument will not be subject to electric shocks when employing the telephone.

The invention comprises various novel structural elements and combinations of parts, as will be fully hereinafter described, and particularly pointed out in the appended claims.

In the accompanying drawings, wherein one form of my invention is illustrated, and wherein like reference characters refer to like parts throughout, Figure 1 is a side elevational view of a hand-microphone containing the improved switch, part of the handle being broken away to better illustrate the interior construction. Fig. 2 is a side elevational view of the switch, partly is section. Fig. 3 is a similar view of a modified form of switch. Fig. 4 is a top plan view thereof.

Referring to the drawings, 1 indicates the handle of the instrument, containing an elongated slot 2, into which the complete switch, hereinafter described, is inserted and secured.

3 indicates the supporting-tube, upon which the transmitter 4 and mouthpiece 5 are mounted, and 6 is the supporting-tube to carry the receiver 7 with its cap 8.

The several parts just described are of ordinary or usual construction and form no part of my present invention.

In Fig. 2 is shown one form of the switch proper, which comprises a suitably-constructed casing, supplied with contact-springs and other appurtenant elements. The casing 9 is preferably of the form shown in the drawings, comprising a comparatively shallow channel or trough 10 and an extension 11 of greater depth than the channel 10, said extension having the end adjacent the part 10 open and being curved upwardly at 12 and terminating at 13 in substantially the same plane as the upper edges of the channel 10.

Secured to the base of the channel 10 by bolts 14 and 15, having nuts 14^a and 15^a, respectively, are the contact-springs 16, 17, and 18, which are extended through the open end of the extension 11 and between the lateral walls thereof. The lower wall of the extension 11 and each of the springs 17 18 are provided with a suitable contact point or anvil 19. Between each of the springs and the lower face of the channel 10 is insulation 20, and the bolts 14 and 15 are each provided with an insulating-bushing 21 to prevent contact between the bolts and the springs.

The spring 17 is preferably extended into a hook-shaped end 17^a, which is adapted to normally reach into engagement with the lower surface of the lever 23, made of suitable insulating material, such as hard rubber or the like. The lever 23 is held by screws 24 or the like to a spring 25, having upward tension and being fastened in the channel 10 by the bolt 15, having an enlarged head 26. The upper edge of the channel 10 is slightly extended circumferentially at 28, which extension is provided for the purpose of preventing the casing, with its springs, from passing too far down into the slot 2. At its free end the channel 11 is provided with a prolonged ear 29, properly apertured to receive the screw 30, which passes therethrough and into the tube 3 to hold the switch in position. Passing through the portion 13 of the channel 11 and into the lever 23 is an adjusting-screw 31, which limits the upward motion of the lever 23. Each contact-spring is provided with a depending lug 32, through which a binding-screw 33 passes, said binding-screw being adapted to hold the conducting-wires 34 within the instrument.

In the modified form of switch shown in Fig. 3 but one spring 17 is shown, and this spring is provided upon its lower surface with a contact-plate 19^b, adapted to make contact with the anvil 19^c on the plate of the channel

11. In other respects the construction shown in this figure is similar to that illustrated in Fig. 2. The side plates of the extension 11 are preferably provided with openings 37, so that the springs may be more easily adjusted and so that the contact points or anvils are visible.

When the several parts of the switch have been assembled as shown in Figs. 2 or 3 and connected to the conductors, the switch is inserted into the slot 2 in the handle 1, the extension 28 assisting in properly positioning the switch. The ear 29 is then so placed that its aperture registers with a corresponding aperture 35 in the tube 3, and the screw 30 is inserted, thus making electrical contact between the transmitter and switch-casing. The tube 6 is held to the handle 1 by a screw 36, and a ring of insulating material 37 is placed over the screw 36 around the handle 1 to prevent the user of the instrument from receiving shocks. The insulating-ring 37 is widened out at 37^a to allow sufficient space for movement of the lever 23 and is secured to the handle 1 by wood-screws 38. It will be understood that by suitable manipulation of the lever 23 talking connection is established in a manner well known in the art.

From the foregoing description it will be noted that I have produced a compact switch which may be completely assembled on one supporting-base and may thereafter be inserted into the instrument. Simplicity, cheapness, and neatness of construction are in this manner attained. It will also be noted that the hand of the user comes into contact only with insulated parts, and the possibility of receiving electric shocks from handling the instrument is therefore obviated.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a device of the character described, the combination of a casing comprising a shallow channel having an extension of greater depth, a set of contact-springs associated with said shallow channel and extending into said extension, and a lever for operating said springs.

2. In a device of the character described, the combination of a casing comprising a comparatively narrow channel having an extension of greater depth, a set of contact-springs secured to the base of said channel and extending into said extension, and a lever for operating said springs.

3. In a device of the character described, the combination of a casing comprising a comparatively shallow channel, an extension to said channel of greater depth than the channel itself, a set of contact-springs secured to the base of said channel and extending into and parallel with, the walls of said extension, and a lever for operating said contact-springs.

4. In a device of the character described, the combination of a casing comprising a comparatively shallow channel, an extension to said channel having an open end and the opposite end curved upwardly, a set of contact-springs secured to the base of said channel and extending into said extension, and a spring-held lever adapted to operate said contact-springs.

5. In a device of the character described, the combination of a casing, a set of contact-springs secured thereto, one of said springs having its end extended into hook form, a lever arranged over said contact-springs, and a spring upon which said lever is mounted.

6. In a device of the character described, the combination of a casing comprising a shallow channel having an extension of greater depth, a set of contact-springs secured below the base of said channel, a spring secured upon and projecting upwardly from said base and an insulating-lever connected with said spring and adapted to operate said contact-springs.

7. In a device of the character described, the combination of a casing comprising a shallow channel having an extension provided with an upwardly-curving end, a set of contact-springs secured to the base of said channel, a tension-spring secured to and projecting upwardly from said base, a lever connected with said tension-spring and adapted to operate said contact-springs, and an adjusting-screw associated with the curved end of said extension, said adjusting-screw being provided to limit the upward motion of said lever.

In testimony whereof I have affixed my signature in presence of two witnesses.

KLAS WEMAN.

Witnesses:
CARL H. SMITH,
H. J. DRAKE.