Feb. 18, 1941. L. H. JUNKEN 2,232,535

WATERPROOF TELEGRAPH KEY

Filed July 23, 1940

Fig. 1.

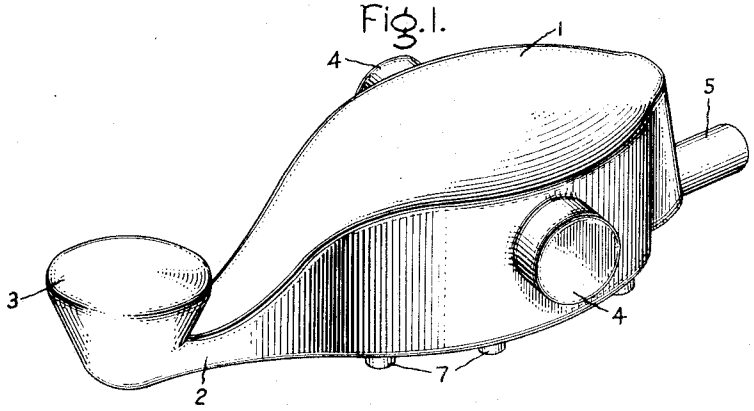


Fig. 2.

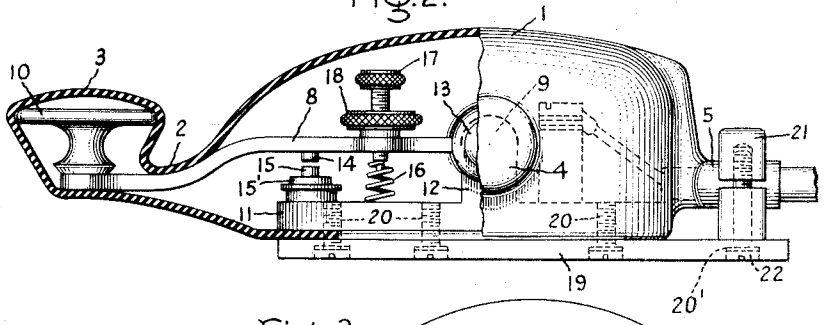


Fig. 3.

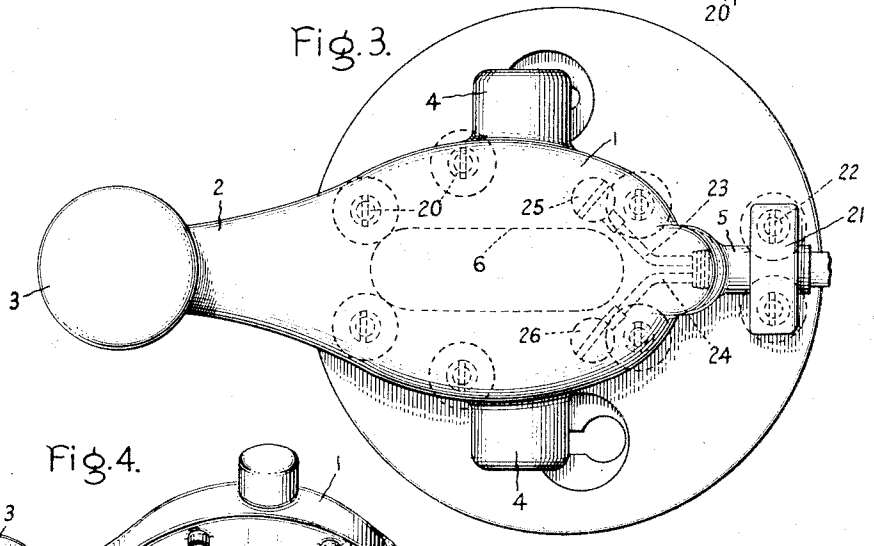
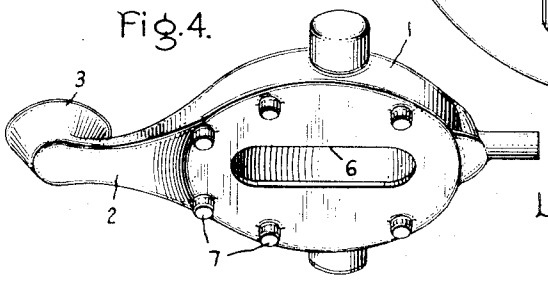


Fig. 4.



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Patented Feb. 18, 1941

2,232,535

UNITED STATES PATENT OFFICE

2,232,535

WATERPROOF TELEGRAPH KEY

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Application July 23, 1940, Serial No. 346,909

3 Claims. (Cl. 178—101)

My invention relates to telegraph key assemblies and more particularly to such assemblies for use in areas where they are exposed to moisture, rain, etc., as for example, in lifeboats, and the like.

It has for one of its objects to provide a housing adapted to protect such assemblies from moisture without unduly encumbering, or hindering, the manipulation of the key and its various adjustment devices.

The novel features which I believe to be characteristic of my invention are set forth with particularity in the appended claims. My invention itself, however, together with the further objects and advantages thereof, may best be understood by reference to the following description taken in connection with the accompanying drawing in which Fig. 1 represents a perspective view of the housing of my invention, Fig. 2 represents a sidewise view partially in section, Fig. 3 a top view and Fig. 4 a bottom perspective view of the housing.

Referring to Fig. 1 of the drawing, I have shown therein the housing which may preferably be of flexible rubber construction formed in the general shape of a telegraph key. It comprises the large comparatively bulbous center portion 1 having a constricted neck 2 with enlarged end 3 adapted to receive the knob of the telegraph key. It is also provided with sidewise projecting protuberances 4 arranged to fit over the bearing adjustment screws of the key, together with a backwardly extending tubular portion 5 through which electrical connections to the key may be made.

The bottom construction of this housing is better shown in Fig. 4, in which it is seen that the bottom of the portion 1 of the key housing is provided with an aperture 6 through which the key may be inserted into the housing. The housing being of flexible rubber permits the aperture 6 to be stretched to such an extent that the key, assembled in its bearings on a base plate, etc., may be inserted therein. It is also provided with a number of protuberances 7 which, during the assembly of the apparatus, may be cut off to leave apertures through which screws may be received for the clamping of an external plate thereby to close the aperture 6.

The assembled key and housing is shown in Fig. 2. The key comprises a member 8 pivoted for rotation about an axis 9 in supporting bearing members 12. It has a knob 10 mounted upon one end thereof which projects through the neck 2 of the housing into the bulbous end portion 3 of the housing which encloses the knob. The base plate 11 of the key may have the form of a ring, as is usual in such assemblies, having on opposite sides thereof the upwardly projecting bearing members 12 between which the telegraph key is mounted. Each of these bearing members is provided with an adjusting screw 13 to permit the adjustment of the bearings.

The electrical contacts controlled by the key are indicated at 14 and 15, one being mounted on the member 8 and the other being mounted on, but insulated from, the base plate 11. The key is biased by means of a spring 16 to retain the contacts separated whereby they may be closed by pressure applied to the knob 10. The tension of the spring 16 may be adjusted by means of a screw 17 provided with a lock nut 18.

The adjusting screws 13, which also may be provided with lock nuts, project into the protuberances 4, these protuberances being just large enough to fit rather closely over the adjusting screws and their lock nuts, the material of the housing being sufficiently flexible to permit ready adjustment of these screws and nuts.

No protuberance is provided to fit over the screw 17 and its lock nut 18, but since these adjusting members are in the upper portion of the rather bulbous portion 1 of the housing, the bulbous character of the housing itself is sufficient to permit adequate flexibility so that these members may be readily adjusted by the operator through the housing.

Plate 19 may be attached to the base plate 11 by means of screws 20 projecting through openings in the housing left by cutting off the protuberances 7 of Fig. 4.

Preferably kraft paper washers 20' are provided between the heads of these screws 20 and the mounting plate 19 and cemented thereto by any suitable waterproof cement. If desired the threads of the screws are also similarly cemented. In this way the bottom portion of the housing around aperture 6 may be clamped between plate 19 and the base member 11, the plate 19 thereby closing the aperture and preventing the entry of moisture into the interior of the housing.

Fig. 3 shows a top view of the housing and indicates the positions of the various screws 20 by which the housing is clamped to the base member. It also shows a clamp 21 with screws 22 projecting through the plate 19 whereby the clamp members 21 may be caused to compress the tubular portion 5 about the preferably rubber insulated conductors which extend therethrough thereby to prevent the entry of moisture or water

through the protuberances into the housing. Conductors 23 and 24, which enter the housing through this protuberance, are shown attached to binding posts 25 and 26, one of which may be electrically connected to the key 8 through the base plate 11 and bearing members 12, and the other may be connected to contact 15 mounted on, but insulated from, the base plate 11 by insulation means 15'.

As thus constructed and assembled, it will be seen that this housing offers complete protection to the telegraph key from moisture, rain or salt water, as in lifeboat service, so that the key and its contacts are always dry and the insulation thereof is maintained. At the same time, due to the flexibility of the housing and the conformance of its shape to the key, it does not encumber the key, or the manipulation thereof, by the telegraph operator. Neither does it seriously impair or encumber the manipulation of the adjustment screws 13 and 17 or the lock nuts provided therefor. Also, while by reason of its flexibility and form it offers these advantages, at the same time the device has and retains a definite shape from which it is distorted through purposeful manipulation of the key or its adjustment devices. Thus, the key may be readily handled, manipulated and adjusted in the presence of the worst condition of moisture, or even under water, without any serious impairment by reason of its protective housing.

While I have shown the particular form of my invention, it will, of course, be understood that many modifications may be made therein and that I contemplate by the appended claims to cover any such modifications which fall within the true spirit and scope of my invention.

What I claim as new and desire to secure by Letters Patent of the United States, is:

1. In combination, a telegraph key comprising a longitudinal member, adjustable bearings therefor supporting said key, said key being mounted on said bearings for rotation about an axis at right angles to said member, and a flexible housing for said key and bearings, said flexible housing having a form conforming generally to the shape of said key and bearings and being sufficiently flexible to permit ready manipulation of said key and adjustment of said bearings through said housing.

2. In combination, a telegraph key assembly comprising a base member having opposite upwardly projecting bearings, and a longitudinal key member extending between said bearings and arranged for rotation about an axis extending between said member in a plane at right angles to said axis, adjusting screws on said bearing members, a flexible housing having an aperture for insertion of said key assembly into said housing, means to clamp said housing to said base member and to close said aperture, said housing having a shape conforming generally to the shape of said key and bearings to permit manipulation of said key and adjustment of said bearings.

3. In combination, a telegraph key assembly comprising a base member having opposite upwardly projecting bearings, and a longitudinal key member extending between said bearings and arranged for rotation about an axis extending between said member in a plane at right angles to said axis, adjusting screws on said bearing members, a flexible housing having an aperture for insertion of said key assembly into said housing, means to clamp said housing to said base member and to close said aperture, said housing having a shape conforming generally to the shape of said key and having protuberances fitting over said adjusting screws to permit manipulation of said key and adjusting screws through said flexible housing.

LAWRENCE H. JUNKEN.