Sept. 7, 1926. 1,599,107

D. A. WHITSON

ANTITAMPERING DEVICE FOR RECEIVERS

Filed March 22, 1924

Fig. 1.

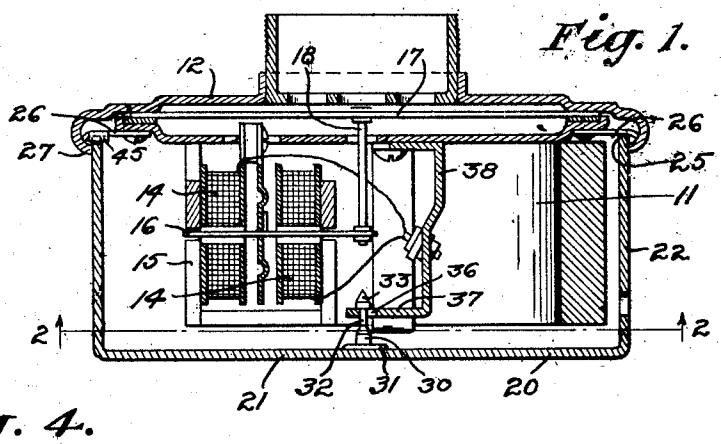


Fig. 4.

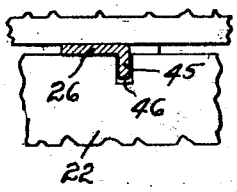


Fig. 2.

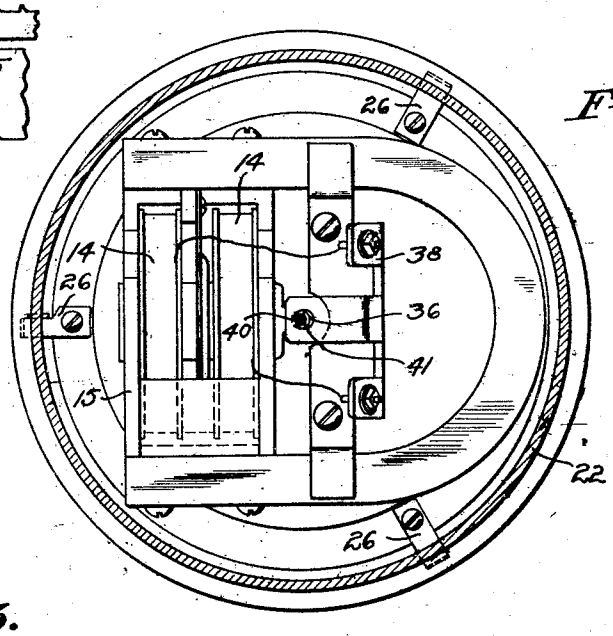
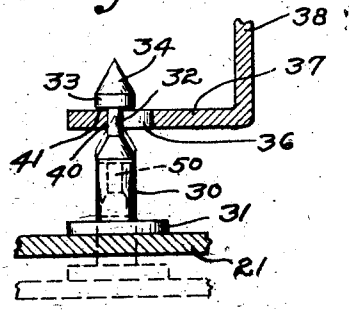


Fig. 3.



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UNITED STATES PATENT OFFICE.

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ANTITAMPERING DEVICE FOR RECEIVERS.

Application filed March 22, 1924. Serial No. 701,053.

My present invention being referred to as an anti-tampering device for receivers, it may be understood to be an object of this invention to provide a means and a method for preventing unqualified or unauthorized persons from gaining access to delicate instruments, such as telephone receivers, whether for the purpose of attempting to repair the same or for any other purpose, such as the substitution of inferior or less costly parts for those to which the favorable reputation of an instrument maker may be due.

It is a particular object of this invention to provide a construction or a method of closure suitable for use in connection with instruments such as loud speaking radio receivers, or the like, and effective to afford to a manufacturer positive assurance as to whether or not a case or housing element enclosing an instrument, which may have been returned as defective, has in fact been opened; and, in a preferred embodiment of my invention, I may employ a case or housing element or a cover element provided with a spring catch in a wholly inaccessible position, this spring catch being preferably adapted to prevent a relative translatory movement of said case or housing and optionally provided with additional means adapted to prevent a relative rotation thereof.

It is an object of this invention to provide an instrument of the general character referred to with an anti-tampering device comprising a catch which may automatically engage a keeper whenever a case or housing is put in place, but which can thereafter be removed, without damage, only by a suitable application of a soldering iron, or other means for a local application of heat, to a specific spot intended to be known only to a manufacturer and his employees or agents; and a preferred embodiment of my invention may comprise a cover element, to which the essentials of an instrument may be secured, and a cooperating cup-shaped case provided in its bottom or base with a slightly eccentric and yielding pin having a head adapted to engage and interlock with a substantially central apertured element which may be rigidly or resiliently and either directly or indirectly connected with said cover, both said base and said pin being preferably tinned with a "silver" or "hard" solder in advance of the securing of said pin to said base, as by means involving the use of a jig.

Other objects of my invention will appear from the following description of an illustrative embodiment thereof and from the appended claims, taken in connection with the accompanying drawings, in which—

Fig. 1 is a substantially central vertical section through a receiver provided with my invention.

Fig. 2 is a sectional view taken substantially as indicated by the line 2—2 of Fig. 1.

Figs. 3 and 4 are slightly enlarged detailed views showing advantageous relationships of securing elements hereinafter referred to.

In Figs. 1 and 2 of the drawings, I show my invention as applied to a receiver 11, which may be a loud speaker of a type now in common use. The loud speaker 11 may comprise a mounting and cover element 12, to which the operating parts of the instruments may be attached. These operating parts may include coils 14, supported from the mounting or cover element 11 by a suitable bracket 15. An armature 16 may vibrate the diaphragm 17 by means of the rod 18 and thereby produce sound. To protect the operating parts of such instruments, it is usual to employ a suitable case or housing, which may be in the form of a cup 20, provided with a base or bottom 21 and a cylindrical wall 22. The case 20 may enclose any desired instrument or instruments, and the edge 25 may engage spacing arms or lugs 26 and may rest inside an annular confining lip 27.

The parts just mentioned are in current use, and they form a part of my present invention only in the sense that they constitute an organization to which this invention may be adapted.

My present invention may include a catch, and this may comprise a pin 30, shown as having a base 31, a neck 32, and a head 33, and said head may be conical as shown at 34. The parts being preferably tinned in advance, the pin 30 may advantageously be secured eccentrically to the bottom 21 of the cup 20 by soldering. When the cup 20 is in place, as in Figs. 1 and 2, the pin may be arranged to extend through a substantially

central aperture 36, which may be provided in a keeper member rigidly or resiliently and directly or indirectly connected with the cover or mounting element 12. In this instance, it is very convenient to provide the aperture 36 in a keeper arm 37 which is shown as being a part of the "terminal" bracket 38 of the speaker 11. The axis of the pin 30 and the aperture 36 being relatively offset slightly, as shown, when this pin is projected through the aperture (which occurs when the cover is put in place) that portion of the aperture 36 indicated at 40 may rest in contact with the neck 32 of the pin 30, and the shoulder 41 of the pin may engage the upper surface of the arm 37 as shown in Fig. 3. The engagement between the shoulder 41 and said surface holds the cup securely in place; and, if desired, the dimensions may be such that a resilient bottom 21 must be sprung upwardly to cause engagement between the shoulder 41 and the arm 37, this construction being effective to prevent all danger of the pins being jarred from engagement.

As shown in Fig. 4, to provide guidance for assembling and to prevent subsequent relative rotation, a lip or projection 45 may be stamped in one of the lugs 26, and a suitable notch 46 may be formed in the wall 22 of the cup 20. When the projection 45 and the slot 46 engage, the pin and aperture are properly aligned. When the cup 20 is being installed in place, the cover is held so that the pin 30 assumes the position as indicated by the dotted lines 50 in Fig. 3. The projection 45 and the slot 46 being then aligned, the cup is forced in place; the conical portion 34 at this time enters the aperture 36, and the pin may yield laterally or it may spring the arm 37 to the left as the pin is moved inwardly. When the head 33 has passed through the aperture 36, the arm 37 may spring back to the position shown and thereby lock the cup 20 securely in place.

When it is necessary to remove the cover for the purpose of adjustment or repairs, an authorized person may do so by applying heat to the bottom of the cup 20 adjacent to the pin 30, a soldering iron being very suitable for this purpose. The application of heat melts the solder and detaches the pin 30 from the cup, thereby allowing the cup to be removed. Before the cup is replaced, the pin may be again soldered in place, in order that the cup may again be rendered tamper-proof.

Although, I have herein described one complete embodiment of my invention, it will be understood that various features thereof might be independently employed and also that various modifications might be made by those skilled in the art, without the slightest departure from the spirit and scope of my invention, as the same is indicated above and in the following claims.

I claim as my invention:—

1. In an anti-tampering device for enclosing instruments, the combination of: a member; a case associated with said member; and means for preventing said member and said case from being separated, said means being caused upon local application of heat to render separable without damage said member and said case.

2. In an anti-tampering device for enclosing instruments, the combination of: a cover member; a case associated with said cover member to enclose instrument mechanism; and means for preventing said cover member and said case from being separated, said means being caused only upon local application of heat to render separable without damage said member and said case.

3. In an anti-tampering device for enclosing instruments, the combination of: a cover member; a case associated with said cover member; and means for preventing said member and said case from being separated, said means comprising a soldered connection between contiguous portions of said member and said case, said solder being caused upon local application of heat to soften and render separable without damage said member and said case.

4. In an anti-tampering device for enclosing instruments, the combination of: a cover member; one element of a catch secured to said cover member; a case associated with said cover member; a second element of a catch associated with said case and adapted to engage the first named catch element for preventing said cover member and said case from being separated, one of said catch elements being secured to its supporting member with solder, the softening of said solder by application of heat being alone sufficient to render said cover member and said case separable without damage to parts.

5. In an anti-tampering device for enclosing instruments, the combination of: a cover member; one element of a catch secured to said cover member; a case associated with said cover member; a second element of a catch associated with said case and adapted to engage the first named catch element for preventing said cover member and said case from being separated, the second named catch element being secured to said catch with solder, the softening of said solder by application of heat being alone sufficient to render said cover member and said case separable without damage of parts.

6. In an anti-tampering device for enclosing instruments, the combination of: a case element; a cover element normally extending over said case element; and resiliently related interlocking elements respectively secured to said case element and said cover

element, said interlocking elements being inaccessible from the exterior of the case and being arranged to function without injuring any of the parts of the combination.

7. In an anti-tampering device for enclosing instruments, the combination of: a case element; a cover element normally extending over said case element; and resiliently related interlocking elements respectively secured to said case element and said cover element, one of said interlocking elements being a resiliently supported catch, said interlocking elements being inaccessible from the exterior of the case and being arranged to function without injuring any of the parts of the combination.

8. In an anti-tampering device for enclosing instruments, the combination of: a case element; a cover element normally extending over said case element; and resiliently related interlocking elements respectively secured to said case element and said cover element, one of said interlocking elements being a resiliently supported catch extending inwardly from the base of said case, said interlocking elements being inaccessible from the exterior of the case and being arranged to function without injuring any of the parts of the combination.

9. In an anti-tampering device for enclosing instruments, the combination of: a case element; a cover element normally extending over said case element; and resiliently related interlocking elements inaccessible from the exterior of the case respectively secured to said case element and said cover element, one of said interlocking elements being a resiliently supported catch extending inwardly from the base of said case and the other being a keeper secured to said cover and adapted to engage said catch.

10. In an anti-tampering device for enclosing instruments, the combination of: a case element; a cover element normally extending over said case element; and resiliently related interlocking elements inaccessible from the exterior of the case respectively secured to said case element and said cover element, one of said interlocking elements being a resiliently supported catch extending inwardly from the base of said case and the other being a keeper secured to said cover and adapted to engage said catch, either said case or said keeper being eccentrically positioned.

11. In an anti-tampering device for enclosing instruments, the combination of: a case element; a cover element normally extending over said case element; resiliently related interlocking elements inaccessible from the exterior of the case respectively secured to said case element and said cover element; and means for preventing relative rotation of said case and said cover, said means being arranged to function without injuring any of the parts of the combination.

In testimony whereof, I have hereunto set my hand at Los Angeles, California, this 14th day of March, 1924.

DELMAR A. WHITSON.