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[54] **MOUNTING DEVICE FOR A QUARTZ RESONATOR**

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[30] **Foreign Application Priority Data**

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[51] **Int. Cl.²** **H01L 41/08**

[58] **Field of Search** ..... 310/9.1, 9.4; 58/23 R, 58/23 A; 317/99, 120;101 CC; 174/DIG. 3

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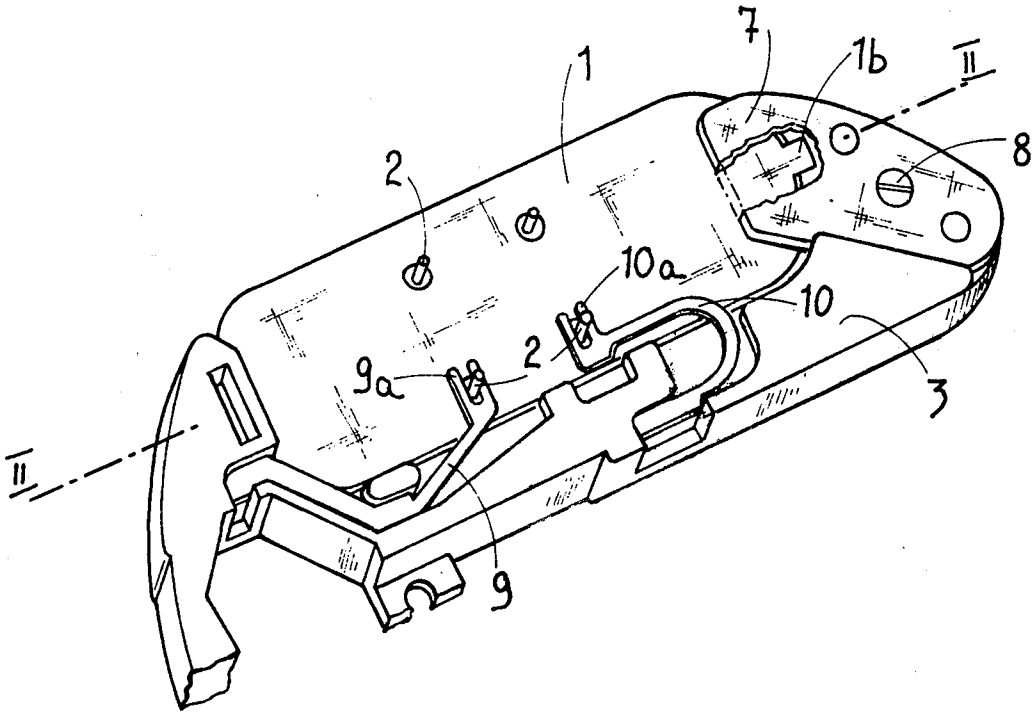
[57] **ABSTRACT**

A mounting device for a quartz crystal resonator. The quartz crystal is secured in a housing having pins for providing electrical coupling to the quartz crystal. The housing is removably mounted on an insulating support. Maintenance of the electrical connections to the resonator are ensured by the contact of the pins with resilient conductors secured to the support.

3 Claims, 2 Drawing Figures



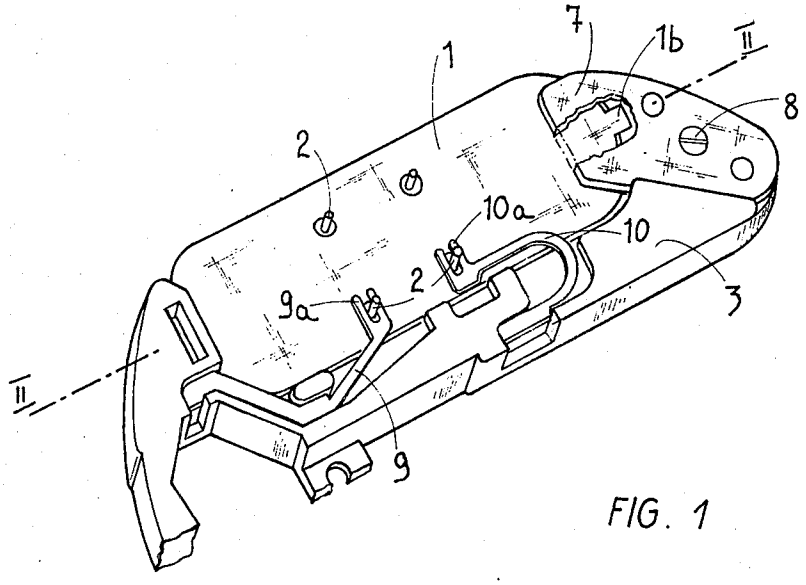
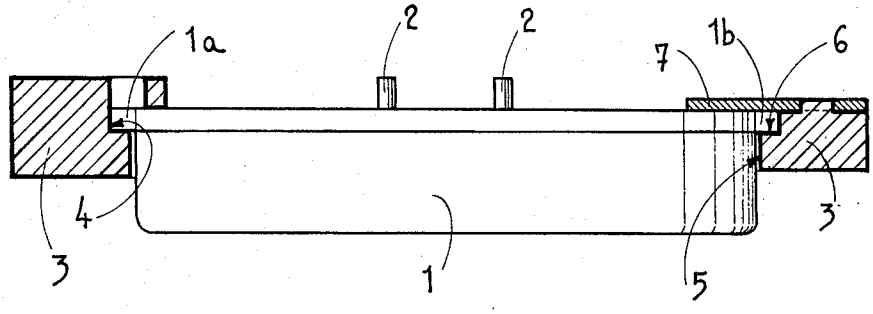


FIG. 1

FIG. 2



MOUNTING DEVICE FOR A QUARTZ RESONATOR

The present invention has for object a mounting device for a quartz resonator, especially for timepiece.

This device is characterised by the fact that the housing of the quartz crystal is removably mounted on its support, which is insulating, the electric connections being ensured by the contact of the pins of the resonator with resilient conductors secured to the said support.

The drawing shows, by way of example, one embodiment of the object of the invention.

FIG. **1** is a perspective view, with removed portion, of a quartz resonator, mounted on its support, and

FIG. **2** is a longitudinal sectional view thereof, along line II—II of FIG. **1**, at an enlarged scale.

The quartz crystal, which is not visible in the drawings, is located in an elongated housing **1** and carries four contact pins **2**, isolated from the said housing. This latter is removably mounted on a support **3** made of plastic material. To this effect the housing **1** is provided with two ears **1***a* and **1***b* situated each at one of its ends, the first of which is engaged in a notch **4** provided in the support **3** and which opens on the lateral wall of an opening **5** provided in this support, in which is partially located the housing. The opposite ear **1***b* is engaged in a recess **6** provided in the outer face of the support **3** and is held in place by a metallic small plate **7** secured to the support **3** by a screw **8**. This small plate **7** ensures at the same time the earthing of the housing **1**.

The electric connections of the resonator are ensured by two metallic blades **9** and **10** carried by the support **3** and which terminate each by a head having the shape of a fork **9***a*, respectively **10***a*, gripping round elastically each of the pins **2**.

Owing to this arrangement, a defective resonator can, in some instants, be dismounted and replaced by another one without being necessary to dismount any other element than the small holding plate **7**.

As a modification, the elastic blades **9** and **10** could not present a portion having the shape of a fork but be

applied laterally or even axially by their own elasticity on the pins **2**.

What we claim is:

1. Mounting device for rigidly and removably mounting a quartz resonator, the resonator including a housing with a quartz crystal therein and at least one pin for providing an electrical connection to the quartz crystal, said mounting device comprising,

support means for supporting the housing of the resonator, said support means including,

a frame including walls which define a notch on one side of the frame for surrounding a first ear of the housing,

a resilient conductor secured to said frame, said conductor including means for elastically and electrically coupling the conductor to the pin of the resonator,

said support means also including means for removably and rigidly mounting the housing of the resonator to said frame.

2. The mounting device as claimed in claim **1** wherein said support means also include other walls which define a recess for receiving a second ear of the housing.

3. Mounting device for rigidly and removably mounting a quartz resonator, the resonator including a housing with a quartz crystal therein and at least one pin for providing an electrical connection to the quartz crystal, said mounting device comprising,

support means for supporting the housing of the resonator, said support means including,

a frame,

a resilient conductor secured to said frame, said conductor including means for elastically and electrically coupling the conductor to the pin of the resonator,

said support means also including a metallic flange removably coupled to said frame, said flange positioned on said frame to rigidly retain the housing of the resonator against said frame and also to provide an earthing of the housing.

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