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TIGHT WINDING DEVICE FOR TIMEPIECES

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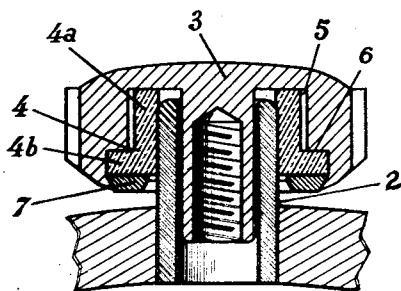


Fig. 1

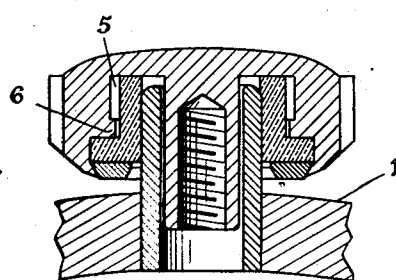


Fig. 2

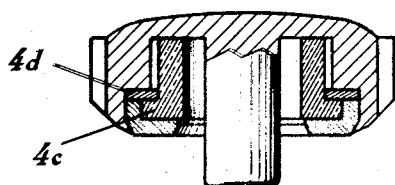


Fig. 3

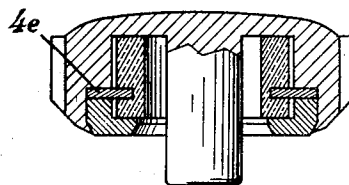


Fig. 4

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## UNITED STATES PATENT OFFICE

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## TIGHT WINDING DEVICE FOR TIMEPIECES

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4 Claims. (Cl. 58—90)

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This invention relates to a tight winding device for time pieces which comprises a crown having a packing adapted to form a tight joint about the pendant neck of the watch-case. The invention primarily consists in that this packing presents a main body provided with an external flange, said main body being lodged with play in an annular recess of the crown while said flange is compressed between a shoulder of the crown and a clamping piece borne by the crown.

In order that the invention may be completely understood, attention is directed to the accompanying drawing in which Figure 1 is an axial sectional view of a preferred embodiment of the invention and Figures 2, 3 and 4 show modifications of details.

In the form shown in Figure 1, 1 designates the case body, 2 the pendant neck and 3 the winding crown in which there is lodged a packing 4 adapted for use as a tight joint about the pendant neck 2. This packing is formed of a cylindrical main body 4<sup>a</sup> and a flange 4<sup>b</sup> projecting externally from the periphery and at the lower portion of the main body. The main body 4<sup>a</sup> is lodged with play in an annular recess 5 of the crown while the flange 4<sup>b</sup> is compressed between a shoulder 6 of this crown and a clamping ring 7 set in the lower portion thereof.

In this way the compression necessary to maintain the packing merely acts on the portion of the flange which is clamped between shoulder 6 and ring 7 and thus the main body 4<sup>a</sup> is entirely free from compression. This is a considerable advantage, for when the compression is distributed on the whole packing it causes in the long run a flattening of this packing which reduces the central bore and a hardening of the compressible material thereof. As a result a too heavy friction occurs when winding-up the crown and after the crown has been removed from the pendant neck, for instance when repairing of the watch, it would be difficult to set it again into place. The small play reserved radially in the recess 5 of the

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crown permits the body 4<sup>a</sup> of the packing to be easily adjusted on the pendant neck notwithstanding the errors of calibration and without radial compression of the packing.

The embodiment shown in Figure 2 only differs from the form above described in that the shoulder 6 slightly projects inwardly from the outer wall of the recess 5.

In both those crowns the flange is made integral with the body of the packing. In the form shown in Figure 3 the flange is constituted of an annular projection 4<sup>c</sup> of the packing body and a metallic washer 4<sup>d</sup> fixed on this projection. In the modification shown in Figure 4, the flange only consists in a metallic washer 4<sup>e</sup> partly engaged in a peripheral groove of the packing body.

What I claim is:

1. A tight winding device for time pieces, the combination with a case body having a pendant neck fixed thereto, of a crown having an annular recess, a compressible packing fitted about said neck and including a cylindrical main body spaced radially from the side wall of said recess and a lower flange projecting outwardly from the periphery of said main body, said main body having sealing contact with said pendant neck, a shoulder on the outer wall of said recess and a clamping piece borne by said crown, said flange of the packing being compressed between and having sealing contact with said shoulder and said clamping piece.

2. A tight winding device as claimed in claim 1, wherein the flange is made integral with the cylindrical main body of the packing.

3. A tight winding device as claimed in claim 1, wherein the flange comprises an annular projection of the main body and a metallic washer fixed on said projection.

4. A tight winding device as claimed in claim 1, wherein the flange only consists in a metallic washer partly engaged in a peripheral groove of the main body.

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