



INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION R 1112

HOROLOGY

FUNCTIONAL AND NON-FUNCTIONAL JEWELS

1st EDITION

September 1969

COPYRIGHT RESERVED

The copyright of ISO Recommendations and ISO Standards belongs to ISO Member Bodies. Reproduction of these documents, in any country, may be authorized therefore only by the national standards organization of that country, being a member of ISO.

For each individual country the only valid standard is the national standard of that country.

Printed in Switzerland

Also issued in French and Russian. Copies to be obtained through the national standards organizations.

HOROLOGY

FUNCTIONAL AND NON-FUNCTIONAL JEWELS

1. SCOPE

This ISO Recommendation lays down the technical definition of “functional” and “non-functional” horological jewels.

2. DEFINITION

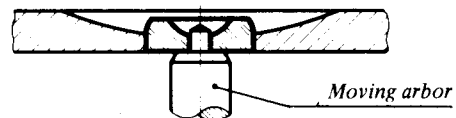
A horological jewel may be natural or synthetic. It is called a functional jewel only if it serves to stabilize friction and to reduce the wear-rate of contacting surfaces of the components of a timekeeping device.

3. FUNCTIONAL JEWELS

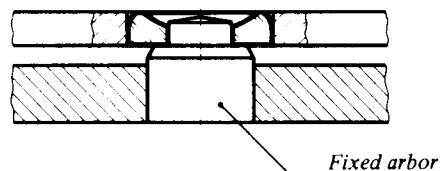
The following are regarded as *functional* jewels, irrespective of their form :

3.1 Jewels with holes serving as radial or axial bearings (or both)

3.1.1 fixed, with moving arbor,

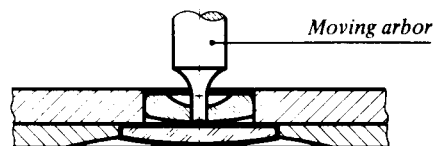


3.1.2 moving, with fixed arbor,

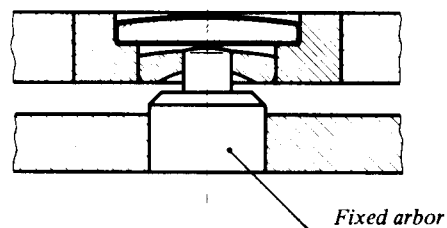


3.2 Jewels without holes, serving as axial bearings

3.2.1 fixed, with moving arbor,

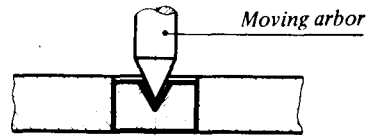


3.2.2 moving, with fixed arbor,

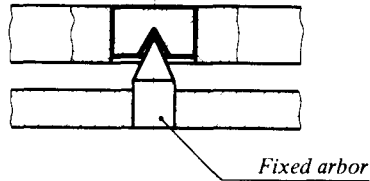


3.3 Jewels with conical recesses (cup bearings), serving both as radial and axial bearings

3.3.1 fixed, with moving arbor,



3.3.2 moving, with fixed arbor;



3.4 Jewels contributing to the transmission of *a force or a movement*, or both simultaneously, for example, the jewels used for the maintenance of an oscillating system;

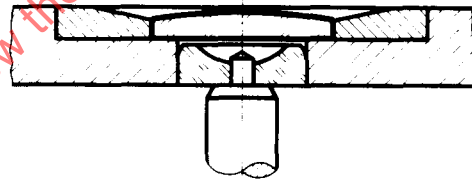
3.5 The elements comprising several jewels such as ball bearings or clutch devices for automatic winding mechanisms. Each unit should be counted as *a single functional jewel* in the description and marking of the instrument (see section 5).

4. NON-FUNCTIONAL JEWELS

All jewels which *do not comply with the requirements of sections 2 and 3* are regarded as non-functional, in particular :

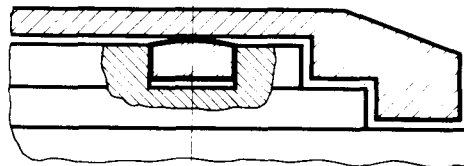
4.1 Jewels for ornament and replacement;

4.2 Jewels covering a jewel hole but not serving as an axial bearing (for example : oil chamber, dust protection);



4.3 Jewels serving as a support for moving parts such as the minute wheel, the hour wheel, the ratchet wheel, the transmission wheel, the winding shaft, etc;

4.4 Jewels serving to limit the occasional displacement of an oscillating mass or serving as a support for date and calendar discs, etc.



5. DESCRIPTION AND MARKING

Only the number of functional jewels and functional jewelled units (see clause 3.5) should be mentioned in describing the characteristics of the timekeeping device in sales literature and general advertising and in marking the instrument.