A. STEWART.

TIMEPIECE.

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1,310,038.

Patented July 15, 1919.

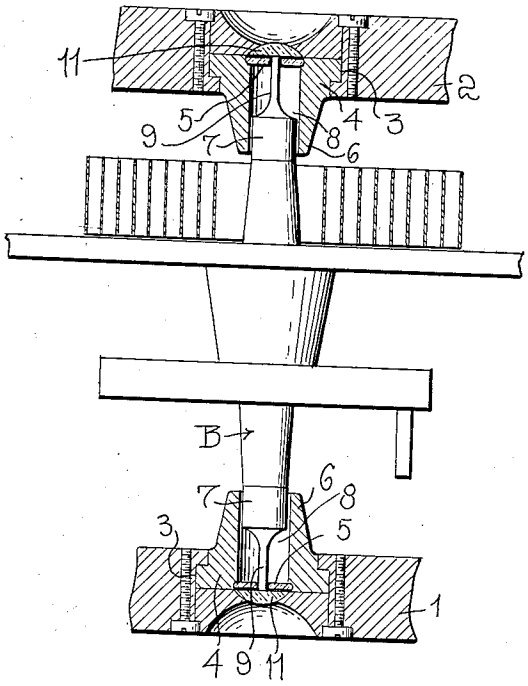


Fig. 1

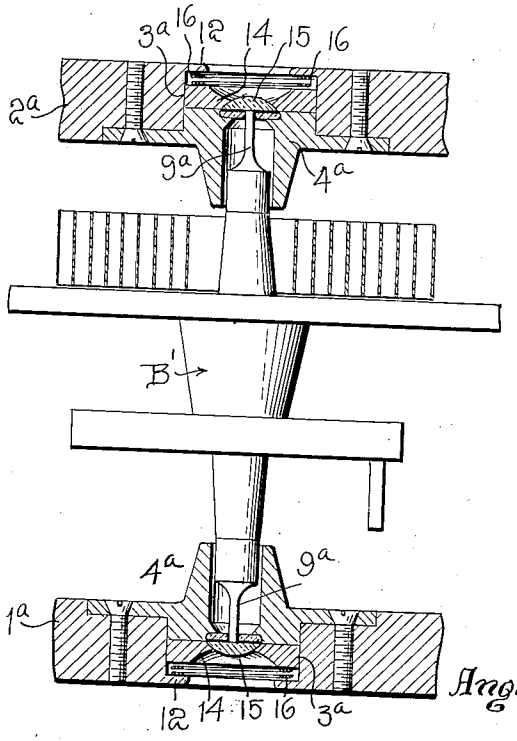


Fig. 2

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UNITED STATES PATENT OFFICE.

ANGUS STEWART, OF JEROME, IDAHO.

TIMEPIECE.

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To all whom it may concern:

Be it known that I, ANGUS STEWART, a citizen of the United States, residing at Jerome, in the county of Lincoln and State of Idaho, have invented certain new and useful Improvements in Timepieces, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to certain improvements in time pieces and has relation more particularly to watches and it is an object of the invention to provide a novel and improved balanced staff and mounting therefor and whereby undue shock to which the staff may be subjected is absorbed in a manner to prevent breaking of the pivots or jewels as embodied in a structure of this particular character.

An additional object of the invention is to provide a novel and improved balance staff wherein the staff is provided with a resilient or yielding pivot whereby the staff is permitted to have lateral movement when subjected to shock and wherein the setting of a coacting jewel for the staff serves to control the extent of lateral or vibratory movement of the staff.

Furthermore, it is an object of the invention to provide a novel and improved mounting for a balance staff and wherein the coacting bearings or jewels are supported for yielding of vibratory movement in a direction longitudinally of the staff in order to absorb abnormal shock which may be imposed upon the staff.

The invention consists in the details of construction and in the combination and arrangement of the several parts of my improved time piece whereby certain important advantages are attained and the device rendered simpler, less expensive and otherwise more convenient and advantageous for use, as will be hereinafter more fully set forth.

The novel features of my invention will hereinafter be definitely claimed.

In order that my invention may be the better understood, I will now proceed to describe the same with reference to the accompanying drawings, wherein:

Figure 1 is a fragmentary view partly in section and partly in elevation illustrating a balance staff and mounting therefore constructed in accordance with an embodiment of my invention; and

Fig. 2 is a fragmentary view partly in section and partly in elevation illustrating a modified form of my invention.

As disclosed in Fig. 1 of the accompanying drawings 1 and 2 denote supports for a watch mechanism or the like and said supports may constitute side plates and the member 2 may constitute an upper bridge which is employed in watch mechanisms of certain types or styles. The supporting members 1 and 2 are each provided with an opening 3 in which is mounted a setting 4 for the pivot jewel 5. The setting 4 is of a type now generally in use except that the central portion thereof is provided with an extension 6 disposed beyond the inner face of the support.

B denotes a balance staff of a conventional type except that the opposite end portions thereof are straight or cylindrical as indicated at 7 and which portions 7 are arranged within the extended portions 6 of the setting 4. The bore 8 of each of the settings 4 which is also continued through the extension 6 is of a diameter in excess of the diameter of the coacting portion 7 of the staff B so that the staff is capable of limited lateral vibration.

The opposite ends of the staff B are provided with the elongated resilient pivots 9 which are engaged in a conventional manner with the jewels 5 and which pivots normally position the staff B centered with relation to the bores 8 of the settings 4. The resiliency of the pivots 9 permit vibration of the staff B when the watch is subjected to abnormal shock which may be created by the dropping of the watch or from any other cause. This vibration of the staff B serves to prevent breaking of the pivots 9 or of the jewels 5. It will also be self-evident that the staff B is held against excessive vibration by contact of the portions 7 thereof with the walls of the bores 8. Also positioned within the openings 3 are the cap jewels 11 which coact with the staff B or more particularly the pivots 9 thereof in a well known manner.

In the embodiment of my invention as disclosed in Fig. 2 of the accompanying drawings the jewel settings 4^a are inserted within the openings 3^a of the supports 1^a and 2^a from the inner side of the supports. The staff B′ is provided with the pivots 9^a coacting with the settings 4^a in the same

manner as has been set forth with reference to the staff B.

The outer margin of each of the openings 3^a is defined by an inwardly directed flange 12 which overlies the outer face of the setting 14 for the cap jewel 15. Interposed between the setting 14 and the flange 12 is an expansible member 16 which constantly urges the setting 14 toward the setting 4^a but permitting outward yielding movement of the setting 14 when the staff B′ is subjected to abnormal shock. When the staff B′ is subjected to abnormal shock the same may have limited yielding longitudinal movement together with a lateral vibration as afforded by the pivots 9^a.

From the foregoing description, it is thought to be obvious that a time piece constructed in accordance with my invention is particularly well adapted for use by reason of the convenience and facility with which it may be assembled and operated and it will be obvious that my invention is susceptable of some change and modification without departing from the principles and spirit thereof and for this reason I do not wish to be understood as limiting myself to the precise arrangement and formation of the several parts herein shown in carrying out my invention in practice except as hereinafter claimed.

I claim:

In combination with a support provided with an opening therethrough, the outer margin of the opening being defined by an inwardly directed flange, a setting removably arranged within the opposite end portion of the opening, a second setting loosely mounted within the opening between the first named setting and the inwardly directed flange, a coil spring interposed between the marginal portion of the second setting and the inwardly directed flange for constantly urging the second named setting toward the first named setting and permitting a yielding movement of the second named setting, said spring and second setting being housed within the opening, and a balance staff having an end portion mounted within the first named setting and contacting with the second setting.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

ANGUS STEWART.

Witnesses:
R. H. TRAILL,
GEO. R. HOGSHIRE.