

United States Patent

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 [33] **Italy**
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3,382,664 5/1968 Cielaszyk 58/21.15
 3,382,665 5/1968 Bowden 58/21.15

FOREIGN PATENTS

1,018,342 1/1953 France 58/21.15
 884,649 12/1961 Great Britain 58/21.15

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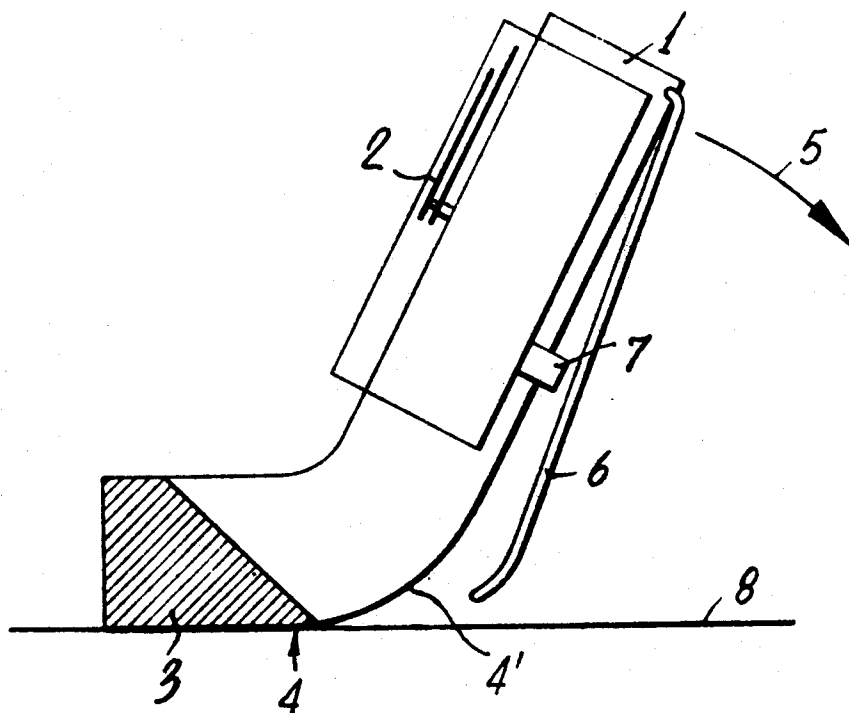
[54] **ALARM-CLOCK HAVING AN ARTIFICIAL
 CENTER OF GRAVITY**
6 Claims, 3 Drawing Figs.

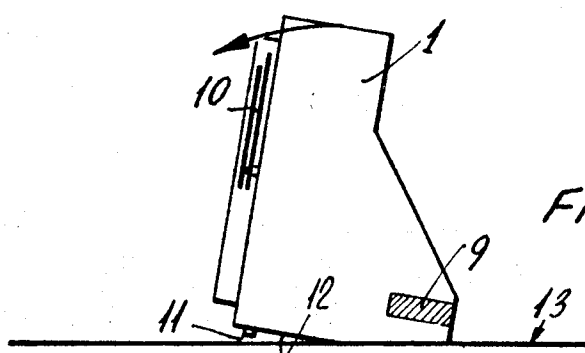
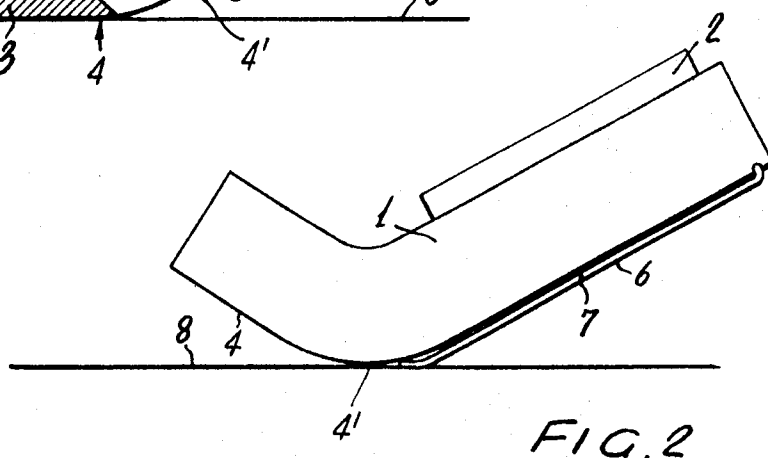
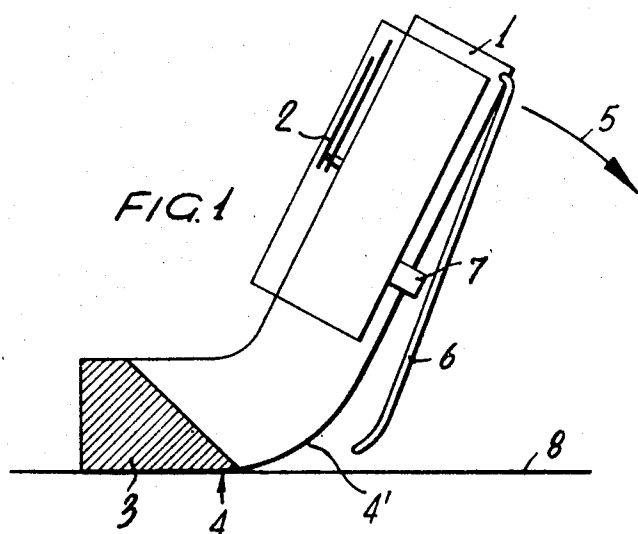
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[56] **References Cited**
UNITED STATES PATENTS

3,371,478 3/1968 Robinson 58/21.15

ABSTRACT: An alarm-clock comprising a supporting member for the clock device and a counterweight adjacent the base of said supporting member, the said base for the supporting member having an end portion upward facing and connected with the upper portion for enabling said member to oscillate as a result of a balance disturbing action between balance and inclined positions. At least one control lever is attached to said supporting member, and is operated by its abutment with the clock bearing plane because of said oscillation, the base shape and counterweight position being such as to cause the clock to move back to and be held at its balance position, when the disturbing action is stopped or removed.





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ALARM-CLOCK HAVING AN ARTIFICIAL CENTER OF GRAVITY

This invention relates to table-clocks, more particularly alarm-clocks, taking advantage of a disturbance in balance thereof to operate one or more levers acting on the inner devices of the clock.

In the range of the more or less complicated table-clocks, such as alarm-clocks, there are clocks being held at a determined position which is designed to take merely aesthetical functions. This clock position is provided by using a weight which establishes an artificial center of gravity.

In the more particular range of alarm-clocks, there are designs where the clock supporting base comprises two or more suitably interhinged elements, so that the relative movement thereof, as due to an external manual operation, may be taken advantage of for functional purposes. An exemplary system of this kind is to be found in alarm-clocks, where a manual pressure on a determined location of the clock would serve for stopping the sound of the alarm device.

However, the clocks of the above-described type have the practical disadvantage of a poor stability, particularly because of the hinged support, whereby a slight error in operation might cause the clock to fall down.

The object of the present invention is to avoid such drawbacks and to provide a table-clock using the artificial center of gravity techniques for obtaining complex functional performances of the clock, such as alarm sound stopping, at the same time avoiding the drawback due to a casual falling of the clock by incorrect operation thereon.

Therefore, the object of the present invention is to provide an alarm-clock comprising a supporting member or casing for the alarm device and a counterweight adjacent the base of said supporting member, the bearing base for said member having an end portion upward facing or connected to the upper portion for enabling said member to oscillate as a result of a balance disturbing action between a balance position and an inclined position, characterized in that at least one control lever is attached to said supporting member, said lever being operated by its abutment with the clock bearing plane because of said oscillation, the bearing base shape and counterweight position being such that the clock is moved back to and maintained at its balance position, when the disturbing action is removed.

In order to more clearly disclose the operation for the device according to the invention, reference will be had to the accompanying drawings, showing two not limiting examples of the invention.

In the drawings:

FIG. 1 is a longitudinal sectional view showing a first embodiment of the clock according to the present invention at its steady balance position;

FIG. 2 is a view similar to FIG. 1, showing the clock at the position for operating the control levers of the inner devices under the action of an external bias; and

FIG. 3 shows a second embodiment of the clock according to the present invention.

Referring to FIGS. 1 and 2 of the appended drawings, it will be seen that according to a first embodiment of the invention the clock substantially comprises a supporting member 1 for the alarm device 2, said supporting member 1 being substantially L-shaped as shown in FIGS. 1 and 2, and at its upper portion bearing said alarm device 2, while incorporating at its lower portion a counterweight 3 acting to provide an artificial center of gravity for the assembly such as to be close to base 4 of member 1.

As clearly shown in FIGS. 1 and 2, the base 4 for the supporting member 1 is suitably connected to the upper portion thereof by such a curved length 4' as to aid in clock moving away from balance position, in the direction of arrow 5 shown in FIG. 1, due to an external manual action intended to disturb the static clock balance.

This disturbing action tends to incline the clock rearwards and thus, according to the invention it is proposed to take advantage of this movement for operating a lever 6 which at its upper end is secured to said supporting member 1, in turn this lever operating a pushbutton 7, such as pushbutton of the alarm stop device which is incorporated within the alarm device 2.

The operation is very simple and schematically shown in FIG. 2. On pushing the clock in the direction of the above-mentioned arrow 5, a movement is provided which causes the whole clock assembly to incline rearwards, this movement being promoted by said curved surface 4'.

This oscillation causes a displacement in the center of gravity for the system; accordingly, forces will arise tending to move the entire system back to its steady balance position, shown in FIG. 1, as it can be clearly realized.

During the rearward movement of supporting member 1, lever 6 will bump into the bearing plane 8; said plane 8 urging the lever against said member 1 and pressing pushbutton 7 for alarm stop.

Upon completion of the disturbing action for clock balance, the spontaneous back movement of the entire assembly to the steady balance position will be started due to the suitable sizing of counterweight 3.

A further example is shown in FIG. 3, where counterweight 9 has been placed rearwardly of the alarm device 10, but still adjacent the base, so that the movement should be forwardly rather than rearwardly, as in the embodiment of FIGS. 1 and 2. Thus in the latter case, a lever 11, such as for stopping the alarm device, has been placed on the front portion 12 of the bearing base which, under balance conditions, is upward facing or not contacting the bearing surface 13, this bearing base being convex for enabling the clock to oscillate. The operation is fully identical to that previously described in connection with FIGS. 1 and 2.

It should be noted that in the examples herein shown, a single lever has been provided for stopping the alarm device, it being however understood that the lever can be committed with a task different from that described and that a plurality of levers may be provided for a same clock, each of which operating as previously described and to each of which different tasks are committed, such as the task of connecting or disconnecting a switch, causing a counting system and the like to trigger, and generally operating any additional device (not shown) incorporated in the clock.

Therefore, it is to be understood that the foregoing, as described and shown in the appended drawings, was given by mere way of not limiting example, and that further changes can be made without departing for this from the covering field of the invention.

What is claimed is:

1. In an alarm-clock having a clock mechanism and means for generating a signal and setting means settable between alarm permitting and, respectively, signal inhibiting stations, in combination,

a housing comprising a base portion and a clock supporting portion forming an angle with said base portion, and being rockable between a normal clock exhibiting position and an angularly offset signal shutoff position, control means operative near said signal shutoff position for setting said setting means into its signal inhibiting station, and a counterweight gravitationally urging the housing away from the shutoff position into its normal position.

2. In an alarm-clock, as claimed in claim 1, wherein said setting means is connected to said housing.

3. In an alarm-clock, as claimed in claim 1, wherein said counterweight is positioned on said base portion and spaced a distance sufficient from the vertical line intersecting the center of gravity of said housing in the shutoff position and has a weight sufficient to be operable to return the housing to the normal position.

4. In an alarm-clock, as claimed in claim 1, wherein said base portion forms a rocking section adapted to be rocked on a ground surface.

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5. In an alarm-clock, as claimed in claim 4, wherein said rocking section interconnects said clock supporting portion and said base portion.

6. In an alarm-clock, as claimed in claim 4, wherein said

setting means is disposed on the underside portion of said base portion and is operable to protrude outwardly therefrom towards said ground surface.

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