Aug. 5, 1952 J. E. BROWN ET AL 2,605,737

SETTING POINTER FOR MEASURING INSTRUMENTS

Filed July 17, 1947

Fig. 1.

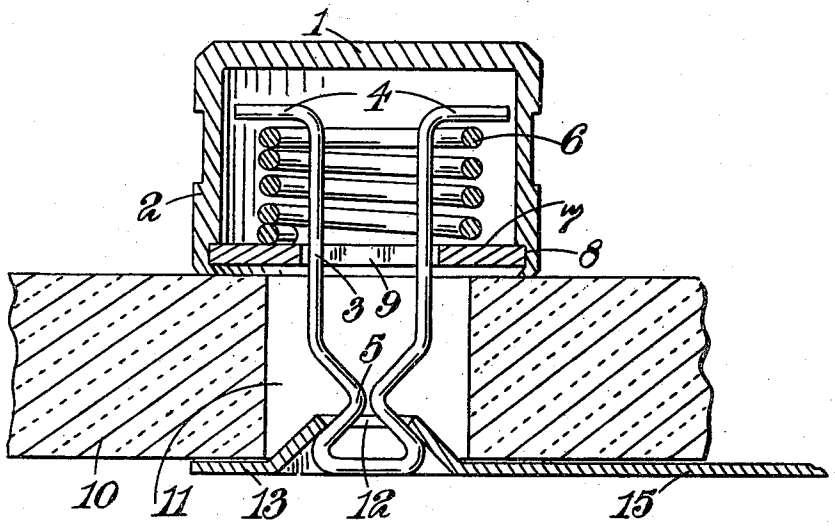


Fig. 2.

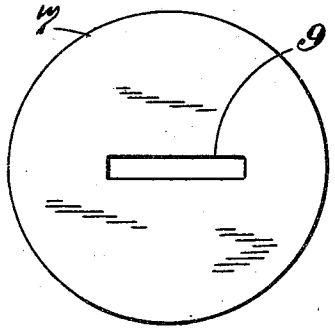
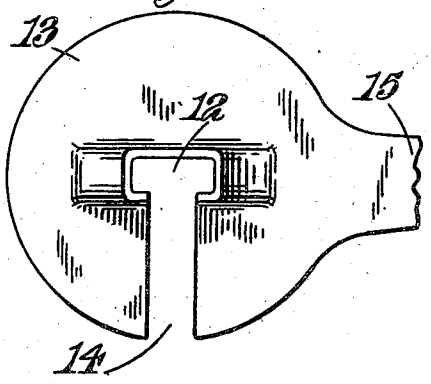


Fig. 3.



INVENTOR

J. E. Brown + Tom Bowe

By Watson, Cole, Grindle & Watson

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SETTING POINTER FOR MEASURING INSTRUMENTS

James Edward Brown and Tom Bowen, Brighton, England, assignors to Pullars Instruments Limited (formerly Pullars Electric Co. (Brighton) Limited), Brighton, England, a British company

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3 Claims. (Cl. 116—136.5)

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This invention relates to setting pointers for measuring instruments and is particularly applicable to aneroid barometers.

The invention has for its object to provide in a measuring instrument an improved connection between a setting pointer and its operating knob.

According to the invention a setting pointer and its operating knob are interconnected by means which enable them to be resiliently locked in driving engagement with each other when assembled with the transparent panel of a measuring instrument and to be readily unlocked and disengaged from each other when required.

The operating knob may be provided with a spring-mounted tongue which is in rotational engagement with the operating knob but is movable axially of the knob against the action of its spring so as to engage with a recess in the setting pointer and form a detachable connection therewith.

The tongue may be formed with a neck near its outer end for engagement with an apertured recess in the boss of the setting pointer; this recess is connected to one end of a radial slot which opens on the circumference of the boss of the pointer to permit the tongue to engage with the apertured recess.

The above and other features of the invention are set forth in detail in the following description of a non-limitative embodiment of the invention, the description having reference to the accompanying drawing in which:

Figure 1 is a sectional elevation through the pointer mounting

Figure 2 is a plan view of a part of the mounting, and

Figure 3 is a plan view of another part of the mounting.

Like references refer to like parts in all figures.

In this embodiment, which is applied by way of example, to an aneroid barometer, a knob 1 for operating the setting pointer of the barometer is constructed with a skirt 2, and within this skirt is arranged the inner portion of a tongue 3 formed of a length of wire bent in the form of an elongated channel with the ends 4 of its sides bent outwards at right-angles and with its sides adjacent to the bottom of the channel bent in sharply towards each other to form a neck 5 such that the bottom of the channel with adjacent parts of the sides below the neck are of dovetail shape.

The bent ends 4 of the tongue rest at opposite points on the inner end of a helical spring

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6 disposed within the skirt 2 of the knob 1 while the outer end of this spring rests on a washer 7 of which the periphery engages in a recess 8 adjacent to the open end of the skirt of the knob. The washer 7 is fixed in this recess by riveting or burring over the end of the skirt 2. This washer is formed with a slot 9 through which the tongue 3 projects for about one-half of its length. The tongue 3 is thus in rotational engagement with the knob but is movable axially of the knob 1 against the action of the helical spring 6.

The projecting part of the tongue 3 extends through a circular hole 11 formed centrally in the glass panel 10 of the barometer and engages with its dovetailed end in an elongated apertured recess 12 formed in the boss 13 of the setting pointer 15. The apertured recess 12 is formed symmetrically about the centre line of the pointer 15 and symmetrically about the axis thereof and is connected to one end of a radial slot 14 extending at right-angles to the centre line of the pointer and opening at its other end on the periphery of the boss 13 of the pointer.

When the tongue 3 is in engagement with the apertured recess 12 in the boss 13 of the pointer, the compression of the helical spring 6 imparts the required friction to the parts of the knob 1 and pointer 15 in contact with the glass panel to retain the pointer 15 in the position in which it is set.

To assemble the parts, the tongue 3 is passed through the slot in the helical spring 6 so that the bent ends 4 of the tongue rest on one end of the spring 6 after which the slotted washer 7 is passed over the dovetailed end of the tongue so that it rests on the other end of the spring. The washer and tongue are then inserted in the skirt 2 of the knob 1 so that the bent ends 4 of the tongue 3 are adjacent to the closed end of the skirt and the washer 7 engages with the recess 8 at the open end thereof. The open end of the skirt is then riveted or burred over so as to hold the washer 7 rigidly in position in the skirt. The knob 1 is then placed on the front of the glass panel 10 of the barometer so that the tongue 3 enters the central hole 11 in the panel and projects about half-way through the hole.

The end of the tongue 3 is now gripped and pulled through the hole a sufficient distance to enable the neck 5 of the tongue to engage with the radial slot 14 of the pointer and to be moved inwards to the junction of this slot with the apertured recess 12. In this position the plane of the dovetailed part of the tongue 3 is at right-

angles to the length of the apertured recess 12 and by rotating the knob 1 through a right-angle the dovetail snaps inward under the action of the helical spring into engagement with the recess 12 and forms a driving connection between the operating knob 1 and the pointer 15.

To disengage the operating knob 1 and the pointer 15 the tongue 3 is pulled out so as to disengage its dovetailed part from the apertured recess 12 in the boss 13 of the pointer while the knob 1 is rotated to bring the plane of the tongue 3 into alignment with the radial slot 14 when the tongue can be dsengaged from the pointer.

Instead of being made from wire, the tongue 3 may conveniently be made as a flat brass stamping conforming roughly to the outline of the wire tongue 3. Moreover, if desired, the boss 13 of the setting pointer 15 may be flat, the aperture 12 being cut in the flat boss.

The invention may be applied to measuring instruments other than aneroid barometers.

We claim:

1. An indicating device comprising a transparent sheet having a hole therein, an operating member extending through said hole, a pointer secured to said operating member and contacting with one side of said transparent sheet, a hollow knob on the other side of said sheet into which said operating member extends, a spring inside said knob and engaging a part of the operating member and a part of the knob so as to draw the pointer against said sheet, and a driving connection between the hollow knob and the operating member whereby rotation of the hollow knob will cause rotation of the operating member and thus of the pointer.

2. An indicating device comprising a transparent sheet having a hole therein, a pointer disposed on one side of said sheet and having a hole therein, a U-shaped wire operating member extending through said holes in the transparent sheet and in the pointer and having an enlarged

bottom of the U lying on the opposite side of the pointer to the sheet, a hollow knob on the other side of said sheet into which the two sidearms of the U-shaped member extend, the ends of which arms are bent away from each other, a shoulder formed on the inside of the knob, a helical compression spring encircling said arms within the knob and abutting said shoulder and bent ends and a driving connection between the hollow knob and the operating member whereby rotation of the hollow knob will cause rotation of the operating member and thus of the pointer.

3. An indicating device comprising a transparent sheet having a hole therein, a sheet metal pointer on one side of said sheet having a slot at the bottom of a groove at one end thereof, a U-shaped wire operating member extending through said slot and said hole, and having an enlarged head which lies within said groove, a hollow knob on the other side of said sheet into which the two side arms of the U-shaped member extend, the ends of which arms are bent away from each other, a shoulder formed on the inside of the knob, a helical compression spring encircling said limbs within the knob and abutting said shoulder and bent ends, and a driving connection between the hollow knob and the operating member whereby rotation of the hollow knob will cause rotation of the operating member and thus of the pointer.

JAMES EDWARD BROWN.
TOM BOWEN.

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