

(No Model.)

T. GILL.
BANKING PIN FOR WATCHES.

No. 476,956.

Patented June 14, 1892.

FIG. 1.

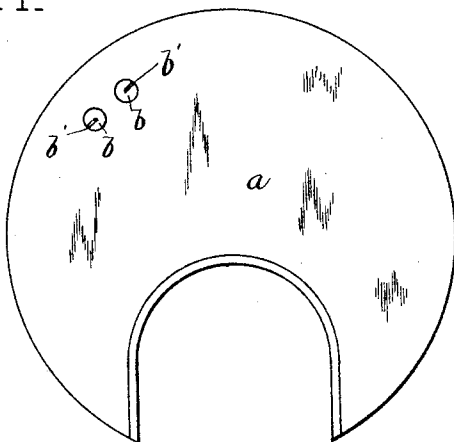


FIG. 2.

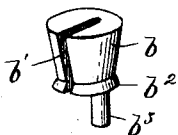


FIG. 3.

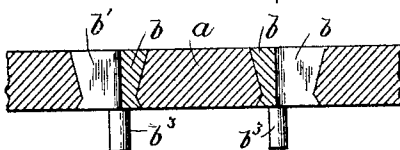


FIG. 4.

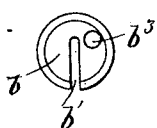


FIG. 6.

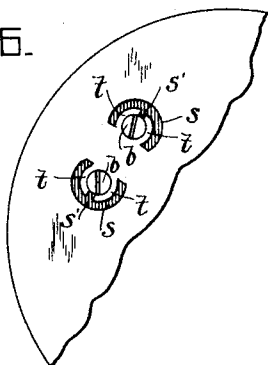
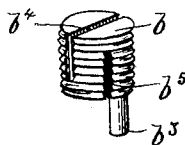


FIG. 5.



WITNESSES:

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UNITED STATES PATENT OFFICE.

THOMAS GILL, OF WALTHAM, MASSACHUSETTS.

BANKING-PIN FOR WATCHES.

SPECIFICATION forming part of Letters Patent No. 476,956, dated June 14, 1892.

Application filed March 17, 1892. Serial No. 425,220. (No model.)

To all whom it may concern:

Be it known that I, THOMAS GILL, of Waltham, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Banking Plugs or Pins for Watch-Movements, of which the following is a specification.

This invention relates to the pins which are used to limit the oscillating movements of the escapement-lever in watches, said pins being attached to one of the plates of the watch and projecting therefrom at opposite sides of the oscillating escapement-lever in such position as to bank or arrest the same at each extreme of its movement. Heretofore banking-pins have been formed as eccentric projections on the ends of screws or screw-threaded plugs inserted in screw-threaded orifices formed for their reception in the watch-plate, the eccentricity of the pins enabling them to be adjusted by partially rotating the screws on which they are formed, it being necessary to adjust the pins very accurately, so as to bring them into the proper relation to the oscillating lever. The employment of the usual screws or screw-threaded plugs as the means for holding banking-pins is objectionable because of their uncertainty and unreliability, the screws being liable to be slightly turned or to work loose by reason of the impact of the escapement lever against the banking-pins or from other causes.

It is the object of my invention to overcome the objections incidental to the use of ordinary screw-threaded plugs, and to this end the invention consists in a banking-plug constructed to automatically expand in the orifice formed for its reception in the watch-plate, so that the plug will be retained in position by its frictional contact with the walls of the socket without liability of being accidentally moved, as I will now proceed to describe.

Of the accompanying drawings, forming part of this specification, Figure 1 represents a view of the top plate of a watch-movement provided with my improved banking plugs or pins. Fig. 2 represents a perspective view of one of the banking pins or plugs removed and shown on a larger scale than in Fig. 1. Fig. 3 represents a section on line 3 3, Fig. 1.

Fig. 4 represents an end view of one of the banking-pins. Figs. 5 and 6 represent views of modifications. Each of said views is considerably enlarged or magnified.

The same letters of reference indicate the same parts in all the figures.

In the drawings, *a* represents the top plate of a full-plate watch-movement, and *b b* represent the banking plugs or pins. Each banking-plug is cylindrical in cross-section and is partially divided lengthwise by means of a slot *b'* of sufficient depth to enable the plug to be compressed or contracted by insertion in an orifice of less than the normal diameter of the plug, so that when the plug is inserted in said orifice its effort to expand will cause its periphery to bear so firmly upon the surface of the socket as to prevent liability of accidental rotation of the plug in the socket.

Each plug is made of varying diameter and the socket in the plate is made of correspondingly varying diameter, so that the plug while being forced into the plate will be contracted, and when in place will expand sufficiently to interlock its periphery with the surface of the socket which receives it, and thus prevent any endwise movement of the plug unless by the application of sufficient endwise pressure to overcome the tendency of the plug to expand.

The form of the plug whereby it is caused to interlock with the socket to prevent endwise movement, as described, may be variously modified. I prefer the form shown in Figs. 2 and 3 as the simplest and most practicable of any of which I am at present aware, the plug being larger at one end than at the other and gradually contracted to a point near its opposite end, where it is provided with a beveled lip or enlargement *b²*. The orifice in the watch-plate which receives the plug is of course formed to correspond with the external form of the plug and is of somewhat smaller diameter than the normal diameter of the plug. In inserting the plug in the orifice the smaller end of the plug is inserted in the larger end of the orifice and the plug is forced inwardly, its smaller end first coming in contact with the contracted portion of the orifice, so that the plug is contracted until its lip *b²* passes through the

smaller portion of the orifice, when the plug expands sufficiently to bring its surface to a firm bearing upon the surface of the socket, the plug and socket being thus interlocked by the engagement of the contracted portion of the socket with the contracted portion of the plug. Each plug has at its smaller end a banking-pin b^3 , which is arranged at one side of the center of the plug, as clearly shown in Fig. 4. It will be seen that the slot b' enables a tool—such as a watch-maker's small screw-driver—to be engaged with the ends of the plug, as with the slot of an ordinary screw, for the purpose of turning the plug to adjust the banking-pin.

I do not limit myself to the described form of the plug and may give the same any suitable form which will enable it to interlock with the socket in the watch-plate and at the same time be rotated to adjust the banking-pin.

I do not show in the drawings the escapement-lever or any of the other parts of the watch, it being understood that my invention relates entirely to the banking-plugs and the sockets which receive the same, the arrangement of the banking-pins with relation to the escapement-lever being the same as heretofore.

In three-quarter-plate movements the banking-plugs are or may be inserted in the pillar-plate instead of in the top plate.

I do not limit myself to the employment of a smooth-surfaced plug of varying diameter.

In Fig. 5 I show a screw-threaded plug of the form generally used, said plug being rendered resilient by slots $b^4 b^5$ cut into it from opposite ends, the slot b^4 being at right angles to the slot b^5 and intersecting the latter. This construction enables the plug to be contracted by the wall of the internally-threaded socket into which it is screwed, and to maintain a sufficient yielding pressure on said wall to prevent accidental rotation of the plug. The screw-threaded plug may have a single slot made partly through it from end to end, like the slot shown in Figs. 2 and 3.

In Fig. 6 I show an equivalent construction in which the plug is or may be the ordinary solid screw, the desired yielding pressure between the plug and the wall of its socket be-

ing afforded by the resilient construction of the plate a . To this end the plate may be provided with curved slots $s s$, partly surrounding the sockets for the banking screws or plugs, said slots being separated from the walls of the sockets by tongues tt , the inner surfaces of which form parts of the walls of the plug-sockets, said tongues being integral with the plate and separated by branch slots s' , which give the tongues the desired resilience. When the plugs are inserted in the sockets thus formed, the tongues tt yield, the plugs being larger than the normal diameter of the sockets, so that the walls of the sockets in their effort to contract exert sufficient yielding pressure on the plugs to prevent their accidental movement.

I claim—

1. A banking-plug adapted to be rotated in a socket in a watch-plate and provided with a longitudinal slot whereby the plug is enabled to be compressed and to automatically expand to give it a firm bearing upon the surface of the socket, as set forth.

2. A compressible banking-plug adapted to be rotated in a socket in a watch-plate and having a varying diameter, whereby it is adapted to be interlocked with a correspondingly-formed socket, as set forth.

3. A watch-plate having sockets varying in diameter, combined with banking-plugs having correspondingly-varying diameters, whereby they may be interlocked with said sockets against endwise movement, said plugs being longitudinally slotted and adapted to be compressed by their insertion in the sockets, as set forth.

4. The combination of a watch-plate and a banking-plug inserted in the socket therein, one of said parts being of resilient construction, whereby a yielding pressure is maintained between the plug and the wall of the socket, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 5th day of March, A. D. 1892.

THOMAS GILL.

Witnesses:

C. F. BROWN,
A. D. HARRISON.