No. 804,859. PATENTED NOV. 21, 1905.

W. M. JOHNSON.

PENDULUM BEAT ADJUSTER.

APPLICATION FILED JULY 10, 1905.

Fig. 1.

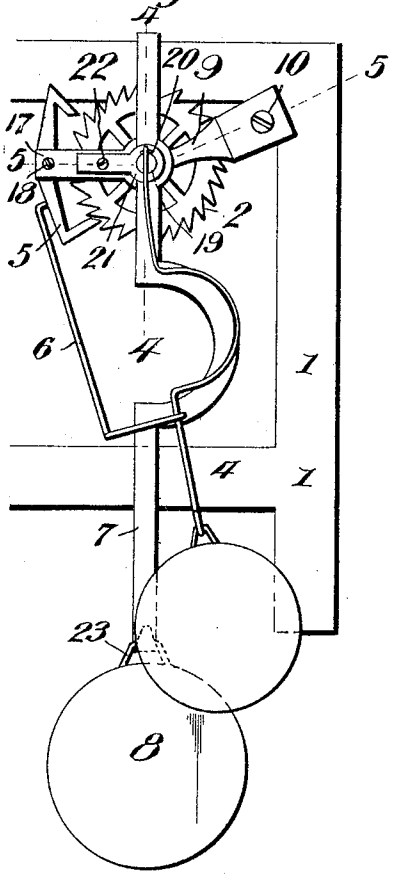


Fig. 2.

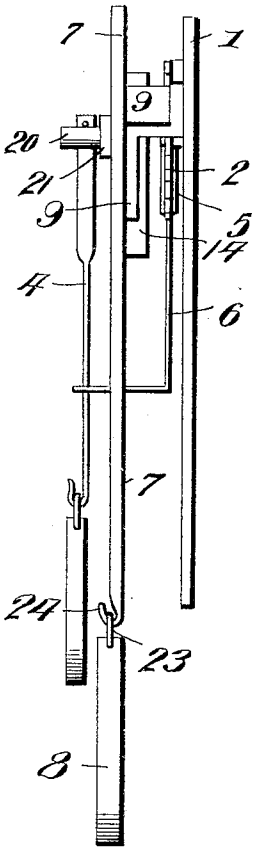


Fig. 3.

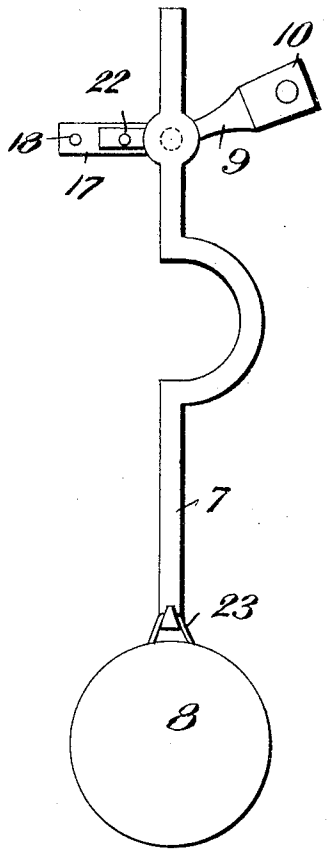


Fig. 4.

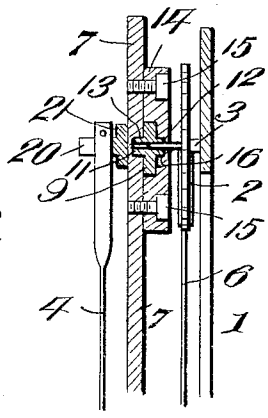


Fig. 5.

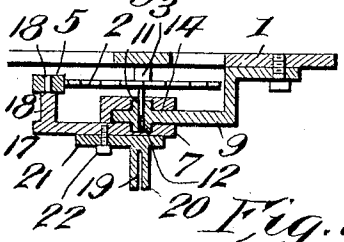


Fig. 6.

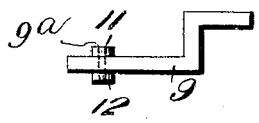
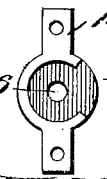


Fig. 8.

Fig. 7.



Witnesses

Inventor

W. M. Johnson.

by A. B. Wilson

Attorney

UNITED STATES PATENT OFFICE.

WILLIAM M. JOHNSON, OF CHAMPAIGN, ILLINOIS.

PENDULUM-BEAT ADJUSTER.

No. 804,859. Specification of Letters Patent. Patented Nov. 21, 1905.

Application filed July 10, 1905. Serial No. 269,104.

To all whom it may concern:

Be it known that I, WILLIAM M. JOHNSON, a citizen of the United States, residing at Champaign, in the county of Champaign and State of Illinois, have invented certain new and useful Improvements in Pendulum-Adjusters; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in pendulums for clocks and the like; and it consists in the novel construction, combination, and arrangement of devices hereinafter shown and described.

The object of the invention is to provide a simple and efficient means for mounting the pendulum of a clock so that it will automatically adjust itself to maintain a perfect beat when the clock is tilted or in an inclined position.

The above and other objects, which will appear as the nature of the invention is better understood, are accomplished by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of a portion of a clockwork with my improvements applied thereto. Fig. 2 is a side elevation of the same. Fig. 3 is a front elevation of my improved adjusting device removed from the clockwork. Figs. 4 and 5 are detail sectional views taken, respectively, on the planes indicated by the lines 4 4 and 5 5 of Fig. 1 of the drawings. Fig. 6 is a detail view of the bracket which carries the pivot of the adjusting device. Fig. 7 is a detail view of one of the bearing members for the pivot of the adjusting device, and Fig. 8 is a detail view of the support of the clock-pendulum.

Referring to the drawings by numerals, 1 denotes a portion of a frame of a clockwork; 2, an escapement-wheel; 3, the pivot of the latter; 4, the swinging clock-pendulum; 5, the verge or anchor which coacts with the escapement-wheel, and 6 the connection between said anchor and the pendulum. The pendulum 4, verge 5, and connection 6 are carried by a frame or support 7, which is pivotally mounted concentric with the pivot 3 of the escapement-wheel and which is overbalanced by a weight 8, so that the pendulum will at all times be properly suspended to cause its beat to be regular. The frame or support 7 is mounted upon a bracket 9, which is screwed or otherwise secured, as shown at 10, to the frame 1. This bracket 9 has formed upon the opposite faces of one of its ends oppositely-projecting concentrically-disposed studs or trunnions 11 and 12, which form the pivot for the frame or support 7. The stud 11 projects into an opening 13, formed in the upper portion of the support 7, and is retained therein by a bearing-plate 14, which is screwed, as shown at 15, upon the rear face of the support 7 and which is formed with a centrally-disposed opening 16 to receive the pivot 12, as clearly shown in Figs. 4 and 5 of the drawings. The pivot-studs 11 12 are formed with a central opening 9^a to receive the outer end of the pivot 3 of the escapement-wheel and form a bearing for the same, as clearly shown in Figs. 4 and 5 of the drawings. The frame 7 is formed adjacent to its upper end with a projecting arm 17, upon which is pivoted, as shown at 18, the verge 5.

The clock-pendulum 4 has its upper end engaged with a slot or notch 19, formed in a pivot projection or stud 20, which is provided upon a bracket 21. The latter is secured by a screw or the like 22 to the arm 17 of the support 7, so that said projection or stud 20 is disposed concentric with the pivot 3 of the escapement-wheel 2. The balancing-weight 8 of the frame 7 may be of any suitable form and construction and is preferably detachably connected to said suport by providing it with the loop or eye 23, which engages a hook 24, formed upon the lower end of the support 7.

The construction, operation, and advantages of the invention will be readily understood from the foregoing description, taken in connection with the accompanying drawings.

It will be seen that by mounting the pendulum and verge in this manner upon the frame 7 they will always be maintained in their proper position, since the frame 7 will be automatically held in a perpendicular position by the weight 8 without regard to the inclination of the clock to either side. Should the clock be tilted or placed in an inclined position, the frame 7 will shift automatically and carry the pendulum 4 and verge 5 with it, so that the beat of the pendulum will not be affected by such position of the clock.

While I have shown and described the preferred embodiment of my invention, it will be understood that I do not wish to be lim-

ited to the precise construction herein set forth, since various changes in the form, proportion, and the minor details may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with the frame of a clock, an escapement-wheel and the pivot of the latter, of a frame or support formed with a pivot-opening, a bracket adapted to be secured to said frame, concentric pivot-studs upon the opposite faces of said bracket and disposed concentric with the pivot of said escapement-wheel, a bearing-bracket secured upon the inner face of said support formed with an opening to receive one of the pivot-studs on said bracket, the other of said pivot-studs being adapted to enter the pivot-opening in said frame or support, an anchor pivoted upon said frame or support and adapted to coact with said escapement-wheel, a bracket secured upon said frame or support and formed with a projection disposed concentrically with the pivot of said escapement-wheel, a pendulum connected to the last-mentioned projection, a connection between said pendulum and said anchor and a weight detachably mounted upon said frame or support, substantially as described.

2. The combination with the frame of a clock, an escapement-wheel and the pivot of the latter, of a frame or support formed with a pivot-opening, a bracket adapted to be secured to said frame, concentric pivot-studs upon the opposite faces of said bracket and disposed concentric with the pivot of said escapement-wheel, said concentric pivot-studs being formed with a central aperture to receive the pivot of said escapement-wheel, a bearing-bracket secured upon the inner face of said support formed with an opening to receive one of the pivot-studs on said bracket, the other of said pivot-studs being adapted to enter the pivot-opening in said frame or support, an anchor pivotally mounted upon said frame or support and adapted to coact with said escapement-wheel, a bracket secured upon said frame or support and formed with a projection disposed concentrically with the pivot of said escapement-wheel, a pendulum connected to the last-mentioned projection, a connection between said pendulum and said anchor and a weight detachably mounted upon said frame or support, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM M. JOHNSON.

Witnesses:
W. R. GABRIEL,
JOSEPH HOLLER.