

E. H. HORN.
REGULATOR FOR TIMEPIECES.
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1,044,050.

Patented Nov. 12, 1912.

Fig. 1.

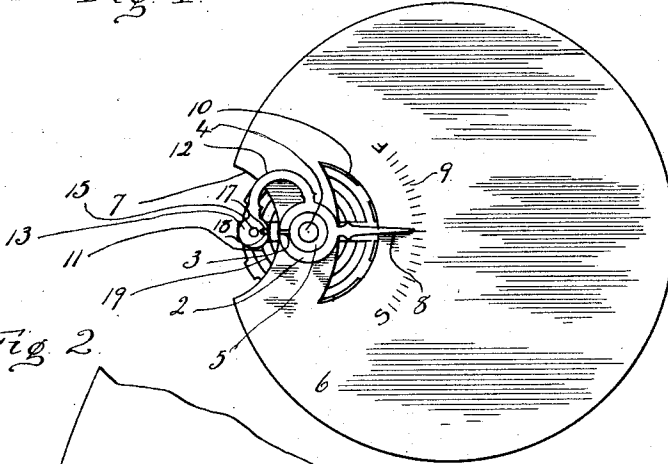


Fig. 2.

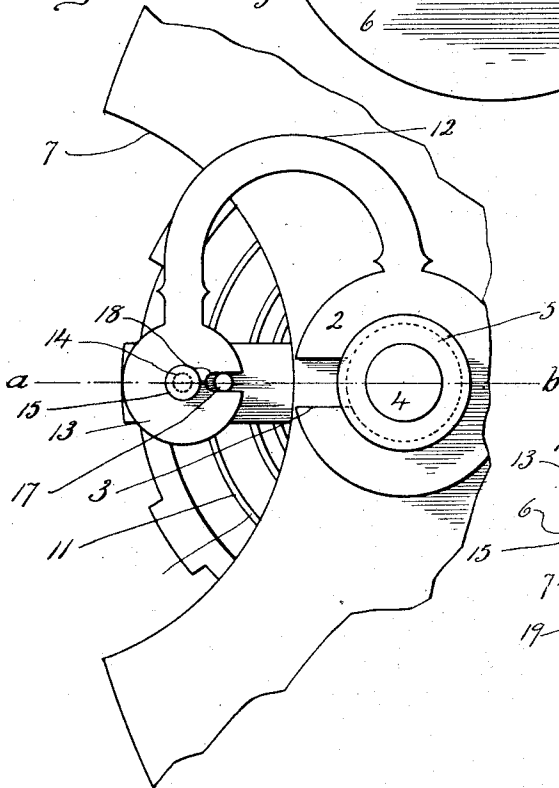
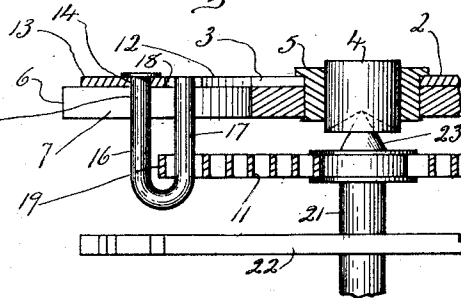


Fig. 3.



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UNITED STATES PATENT OFFICE.

ERNEST H. HORN, OF WATERBURY, CONNECTICUT, ASSIGNOR TO WATERBURY CLOCK CO., OF WATERBURY, CONNECTICUT, A CORPORATION.

REGULATOR FOR TIMEPIECES.

1,044,050.

Specification of Letters Patent.

Patented Nov. 12, 1912.

Application filed August 6, 1912. Serial No. 713,534.

To all whom it may concern:

Be it known that I, ERNEST H. HORN, a citizen of the United States, residing at Waterbury, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Regulators for Timepieces; and I do hereby declare the following, when taken in connection with the accompanying drawings and the characters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this application, and represent, in—

Figure 1 a reverse plan view of a watch containing my improved regulator. Fig. 2 a similar view on a greatly enlarged scale, with the greater part of the movement broken away. Fig. 3 a sectional view on the line *e—b* of Fig. 2.

My invention relates to an improvement in regulators for watches and for clocks of the "marine" type, the object being to reduce the expense of making and adjusting such regulators, to guard the regulator loop against lateral displacement and to prevent the hair-spring from escaping from the loop and fouling.

With these ends in view, my invention consists in a regulator having certain details of construction and combination of parts which will be hereinafter described and pointed out in the claim.

In carrying out my invention as herein shown, I employ an oscillating sheet-metal regulator frame comprising an annular body-portion 2 entered by a radial slot 3 adapting it to be frictionally mounted upon a conical head 4 located at the outer end of a bushing 5 mounted in the back movement plate 6 adjacent to the bottom of a large clearance notch 7 formed therein. The said frame is also formed with an integral inwardly extending pointer 8 which sweeps over a regulator scale 9 upon the outer face of plate 6 and extends across a crescent-

shaped opening 10 formed in the plate to expose the hair-spring 11 and located in line with the clearance notch 7 aforesaid. The said regulator frame is also formed with an outwardly extended integral goose-neck or bowed arm 12 terminating at its outer end in a disk 13 having a central perforation 14 for the reception and riveting in place of the fixed end 15 of the wire regulator loop 16 the free end 17 of which enters a radial slot 18 formed in the edge of the disk 13 in line with the said end 15 of the loop and the bushing 5 aforesaid. The outer coil 19 of the hair-spring 11 passes through the said regulator loop 16 which may be opened and closed as desired by bending it so as to move its free end 17 inward or outward in the slot 18 from which its said end 15 cannot escape, whereby the loop is guarded against lateral displacement and the hair-spring prevented from escaping from the loop and being fouled. Said hair-spring is connected at its inner end in the usual manner with a balance-staff 21 carrying a balance wheel 22. One end of the balance-staff 21 runs in a bearing 23 mounted in the bushing 5.

I claim:—

In a regulator for time pieces, the combination with an oscillating sheet metal frame having an arm formed with a radial slot, of a regulator loop one end of which is riveted in said arm and the opposite end of which is entered into the said radial slot in which it is radially movable, and a balance-spring the outer coil of which passes through the said loop.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

ERNEST H. HORN.

Witnesses:

J. R. PUTNAM,
C. I. GRIGGS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."