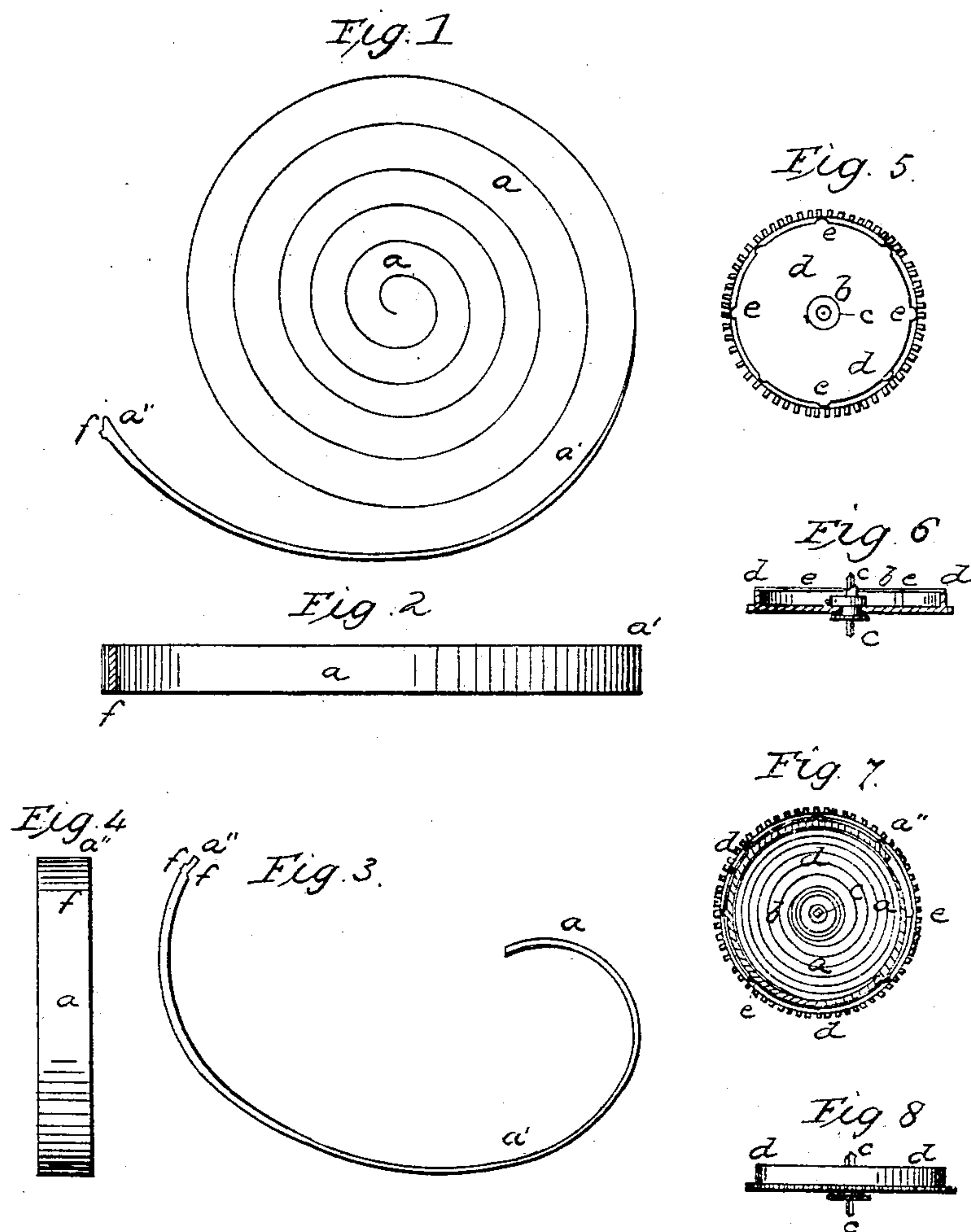


A. PHILLIPPE.
Watch Barrel.

No. 43,464.

Patented July 5, 1864.



Inventor
Phillippe

UNITED STATES PATENT OFFICE.

ADRIEN PHILIPPE, OF GENEVA, SWITZERLAND.

IMPROVEMENT IN SPRINGS AND BARRELS FOR TIME-KEEPERS.

Specification forming part of Letters Patent No. 43,464, dated July 5, 1864.

To all whom it may concern:

Be it known that I, ADRIEN PHILIPPE, of Geneva, Switzerland, have invented certain new and useful Improvements in Watches and Other Time-Keepers; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings.

This invention consists in improvements in the springs and barrels of watches and other time-keepers, hereinafter described, whereby the mechanism known as the "fixed stop" may be dispensed with. I make the spring as an ordinary watch or clock spring, except that I form that part which is to become the outer layer of the coil thicker, as represented at *a' a''* in Figures 1 and 2 of the accompanying drawings, than the remaining portion, *a*, of the length thereof. This increase in thickness insures a sufficient pressure to allow the rolling of about six turns or layers on the bung *b* of the arbor *c*, Figs. 5, 6, 7, 8, before the last layer slides against the interior face of the barrel *d*. By dispensing with the hooking of the spring to the barrel all chance of accident is avoided, because beyond the limit of its tension the spring may turn indefinitely in the barrel without injury to the watch. However, it is not sufficient simply to dispense with the cause of accident, but it is also necessary that the person winding should be advised when the proper number of turns of the spring has been attained. It might happen that the spring had not been wound sufficiently to insure the watch going its usual time. For this purpose I make in the interior cylindrical face of the barrel *d*, Figs. 5, 6, and 7, one or more channels, *e*, and at the outer end of the spring I fix a projection, *f*, Figs. 1, 2, and 7, which fits exactly in one or other of the channels. When the spring *a* is fully wound, this projection

falls into one of the channels and produces a slight click, sensible to the ear and to the touch. Thus the person winding is advised that the watch is fully wound. Instead of this projection, I sometimes form a bend near the outer end of the spring, as represented at *f*, Figs. 3 and 4; or I employ a simple round button, in which case holes are formed in the side of the barrel, instead of the channels *e*. In some cases I produce an analogous effect by means of a steel hoop, independent of the spring and armed with a projection. This hoop also performs the function of the spring, thickened at the outer end, before mentioned. The hoop is provided with a hook, to which the ordinary spring is attached, and upon the spring being wound it causes the hoop to slide and the projection thereon to enter the nearest channel in the interior cylindrical face of the barrel, making the click to indicate the full winding of the spring.

The improved springs, before described, may be applied to all ordinary barrels, while the fixed-stop mechanism is retained. In the employment of the springs in clocks the bend near the outer end of the spring is unnecessary.

Having now described the nature of the said invention, and in what manner the same is to be performed, I declare that I claim—

Constructing the springs and barrels of watches and other time-keepers substantially as hereinbefore described, whereby the mechanism known as the "fixed stop" may be dispensed with.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

A. PHILIPPE.

Witnesses:

E. SHERMAN GOULD,
F. JAURNE.