B. WORMELLE.

Watch-Winding Device.

No. 204,274. Patented May 28, 1878.

Fig. 1.

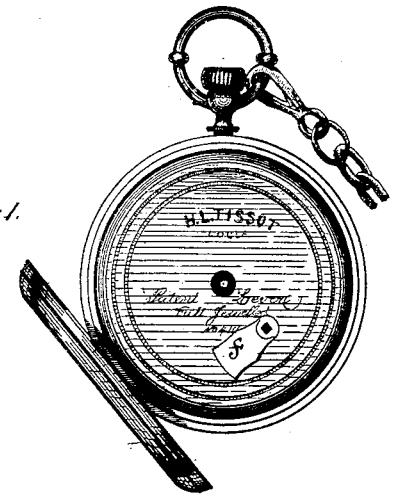


Fig. 2.

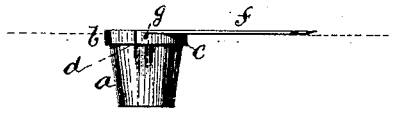


Fig. 3.

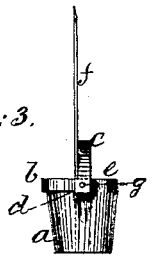
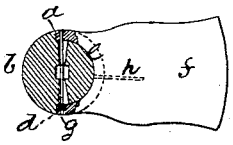


Fig. 4.



Witnesses.

L. H. Lutzmer.

Thomas Lally

Inventor.

B. Wormelle

by. J. H. Adams Atty.

UNITED STATES PATENT OFFICE.

BENJAMIN WORMELLE, OF BRIGHTON, MASSACHUSETTS.

IMPROVEMENT IN WATCH-WINDING DEVICES.

Specification forming part of Letters Patent No. **204,274**, dated May 28, 1878; application filed March 9, 1878.

To all whom it may concern:

Be it known that I, BENJAMIN WORMELLE, of Brighton, in the county of Suffolk and State of Massachusetts, have invented an Improved Watch-Winding Device, of which the following is a specification:

My invention relates to an improvement in that class of watch-winding devices which remain as a fixture to the watch, and at the same time are detachable for the purpose of setting the hands; and the object of the invention is to produce a device which, while ornamental, shall also be durable, requiring little or no labor to apply, and which may be so manufactured by machinery as to enable it to be applied to most watches in use without cutting the cap, or, at most, by simply enlarging the key-hole in a very slight degree, or to any watch by slightly depressing the cap immediately around the key-hole.

Heretofore watch-winding devices attached to the winding-arbor have been of such a character as to be inconvenient in use, and have required considerable labor in application on account of the necessary exactness and accuracy required in fitting them, thus rendering them so expensive as to prevent their general adoption. By my invention these objections are obviated, and I am enabled to produce a device which, by its cheapness and ease of application, may be within the reach of all who possess a key-winding watch.

My invention consists in constructing a watch-winding pipe in such a manner as to serve both as a pipe and part of a circular disk, base, or plate, which shall fit the key-hole of a watch. The full circle of the disk or base is completed by the employment of a piece of metal similar to that of the first half of the disk, and extended out in a thin plate, to be used as a thumb-piece for turning the pipe. This thumb-piece is hinged or pivoted to the pipe, so that it may be turned up and be used for winding the watch, but remain flat upon the cap when the case is closed. By thus lifting up the second half base or disk as a thumb-piece, instead of having a full circular base with a separate thumb-piece hinged at the top, the hinge is concealed beneath the upper surface of the winder, and a smooth upper surface is presented, showing no hinge or projection to interfere with the case.

Referring to the drawings, Figure 1 represents a watch with my improved winder applied. Fig. 2 is an enlarged side view of the pipe with the thumb-piece closed. Fig. 3 is a view of the same with the thumb-piece open for winding the watch; and Fig. 4 is a horizontal section of the upper part of the pipe, showing the construction and arrangement of the spring-hinge.

a represents the pipe, through which is made a square hole, that fits on the winding-arbor of the watch. On the upper portion of the pipe, and forming a part of the same, is a flange or projection, *b*, which extends nearly half-way around the pipe. To the opposite side of the upper portion of the pipe is fitted a flange, *c*, which is hinged or pivoted to the pipe, and, when closed upon the pipe, forms a full circle with the flange *b* around the top of the pipe, completing the true base of the winder, as seen in dotted curved lines in Fig. 4. I extend the flange *c*, which is of the same metal as the first part of the disk, in a thin plate, *f*, which constitutes the thumb-piece for winding the watch. It may be of any shape or configuration, as taste or fancy may suggest. When the thumb-piece is hinged to the pipe the full circle is completed, and constitutes, with the top of the pipe, the true base or disk of the winder. This base or disk sinks into the key-hole of the watch-case, while only a thin portion of the thumb-piece extended remains above the cap.

The flange on the thumb-piece gives strength where the greatest strain comes, and affords room for boring the hole for the joint-wire.

The flange *c* of the thumb-piece is pivoted or hinged to the pipe by means of a steel wire, *g*, passing through a hole bored horizontally through the upper part of the pipe, each half-section of the bore being in the form of a truncated cone, the narrow portion connecting with the hollow square of the pipe and the wider portion being at the outer edge of the pipe. The square ends of the flange *c* abut against the corresponding ends of the flange *b*, the two ends being held together by means of the joint, the peculiar form of the bore in which the spring is inclosed permitting of the yielding of the spring when the thumb-piece is being turned up or down, and also serving to maintain the thumb-piece in an open posi-

tion when winding and in a closed position when turned down, so that it cannot spring up and mar the case.

It may be found advantageous to run a thin cross-section of the under edge of the pipe-flange entirely around the pipe under the flange of the thumb-piece, so as to prevent the latter from hitting or scratching the cap when setting the hands.

For a steel winder, I propose to make the pipe and half base or flange in one piece; but for a gold winder the pipe is to be of steel and the half disk or flange of gold.

When the joint-wire passes entirely through the pipe it may be necessary to press up or bend aside the portion within the hollow square, so as to avoid interference with the watch-arbor; or the joint-wire may be in two pieces, each piece being secured to the thumb-piece, so as to get the benefit of the spring.

The thumb-piece may be made to act as a spring sufficient to clasp the pipe and keep it in either a flat or vertical position by making a slit, *h*, through the center of the flange, as shown in dotted lines in Fig. 4, into the extended thumb-piece, slightly spreading it, so as to enable it to clasp the pipe; and I propose to employ both these devices in the same winder, so that it may not fail to maintain its proper position.

What I claim as my invention, and design to secure by Letters Patent, is—

1. In a detachable watch-winding device, the pipe *a*, constructed with the flange *b*, the top of which forms the part disk or base, in combination with the hinged flange *c*, which completes the full base or disk of the winder, substantially as and for the purpose set forth.

2. The combination, with the pipe *a* and the disk or base formed of the flanges *b* and *c*, of the thumb-piece *f*, as and for the purpose specified.

3. Attaching the flange *c* and thumb-piece to the pipe *a* by means of the joint-spring wire *g*, fitted in the peculiarly-shaped bore in the pipe, substantially as and for the purpose described.

4. The slit *h* at the inner end of the thumb-piece *f c*, as and for the purpose set forth.

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

BENJAMIN WORMELLE.

Witnesses:

J. H. ADAMS,

THOMAS LALLY.