(No Model.)

F. J. WHILTON.

DEVICE FOR DEMAGNETISING WATCHES.

No. 417,763. Patented Dec. 24, 1889.

Fig. 2.

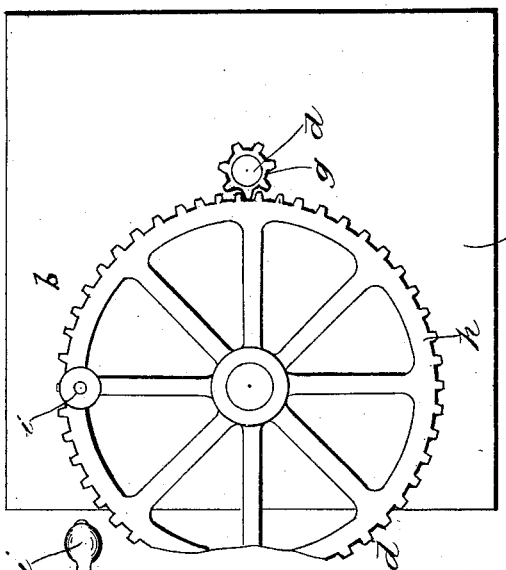
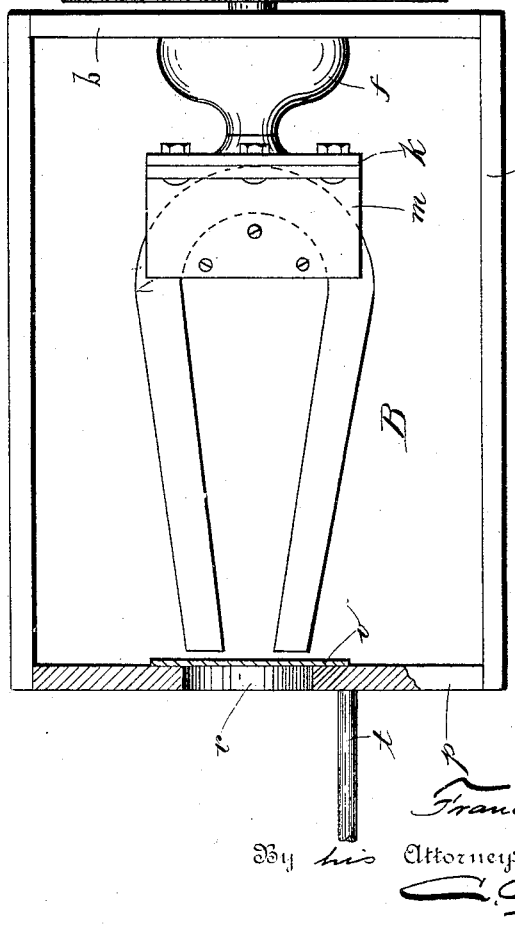


Fig. 1.



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UNITED STATES PATENT OFFICE.

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DEVICE FOR DEMAGNETIZING WATCHES.

SPECIFICATION forming part of Letters Patent No. 417,763, dated December 24, 1889.

Application filed October 14, 1889. Serial No. 327,000. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS J. WHILTON, of Boston, in the county of Suffolk, State of Massachusetts, have invented certain new and useful Improvements in Devices for Demagnetizing Watches, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a top plan view showing one form of my improved device, and Fig. 2 an end elevation of the same.

Like letters and figures of reference indicate corresponding parts in the different figures of the drawings.

My invention relates especially to means for removing the magnetism from the metal works of watches which have become accidentally charged; and it consists in certain novel features hereinafter fully set forth and claimed, the object being to produce a simpler, cheaper, and more effective device of this character than is now in ordinary use.

The nature and operation of the improvement will be readily understood by all conversant with such matters from the following explanation.

In the drawings, A represents the body of the device, which consists of a rectangular box provided in one end *b* with a horizontal stub-shaft *d*, journaled in a bushing *f*. A pinion *g* is secured on the outer end of said shaft and meshes with a gear *h*, journaled on the box end *b* and provided with a crank-handle *i*. A disk *k* is secured to the inner end of the stub-shaft *d*, and a bracket *m* is bolted to the face of said disk. A horizontally-arranged horseshoe-magnet B is secured in said bracket. In the opposite end *p* of the box a circular opening *r* is formed directly opposite the poles of the magnet, said opening being covered by a plate of zinc or similar non-magnetic material *v*. A horizontal guide rod or rest *t* projects outward from the end *p* of the box, at one side of the opening *r*.

In the use of my improvement the watch-works to be demagnetized are held in the opening *r*, within the field of the magnet, the rod *t* being employed as a support and guide for the hand. The magnet B is then rapidly revolved by means of the gear *h* and the watch-works slowly drawn away from the poles of the magnet. The magnetized works are thus subject to a rapid and constant change of polarity by the revolving magnet while remaining in the magnet-field. As the works are slowly withdrawn from the center of influence each change decreases in intensity. This operation is repeated until the last change is a minimum one, and the steel or magnetized parts of the watch are reduced to their normal condition, or nearly so.

The plate *v* serves simply as a guide to prevent the watch from being accidentally brought into contact with the poles of the magnet.

Having thus explained my invention, what I claim is—

1. The combination of a rotary shaft, a magnet connected therewith, a guard-plate disposed opposite the poles of the magnet, and a support for said guard-plate.

2. The combination of a rotary shaft, a magnet connected therewith, a guard-plate disposed opposite the poles of the magnet, a support for said guard-plate, and a guide-rod attached to said support.

3. In a device for demagnetizing watches, a box, a shaft journaled therein bearing a disk, gears for rotating said shaft, a permanent magnet secured to said disk, so that its poles rotate when the disk moves, an opening in the frame within the field of the magnet, and a non-magnetic guard-plate covering said opening, substantially as and for the purpose set forth.

4. In a device for demagnetizing watches, the frame or box A, provided with the opening *r*, the shaft *d*, bearing the disk *k* and pinion *g'*, the gear *h*, for rotating said shaft, and the magnet B, clamped to said disk, with its poles adjacent to said opening, substantially as and for the purpose set forth.

5. In a device for demagnetizing watches, the frame A, provided with the opening *r*, the shaft *d*, bearing the pinion *g* and disk *k*, the crank-gear *h*, meshing with said pinion, the magnet B, clamped to said disk, and the non-magnetic guard-plate *v*, covering said opening, combined and arranged, substantially as described.

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