

No. 692,663.

Patented Feb. 4, 1902.

J. J. HIGGINS.

DEVICE FOR CLEANING WATCH MOVEMENTS.

(Application filed Apr. 27, 1901.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

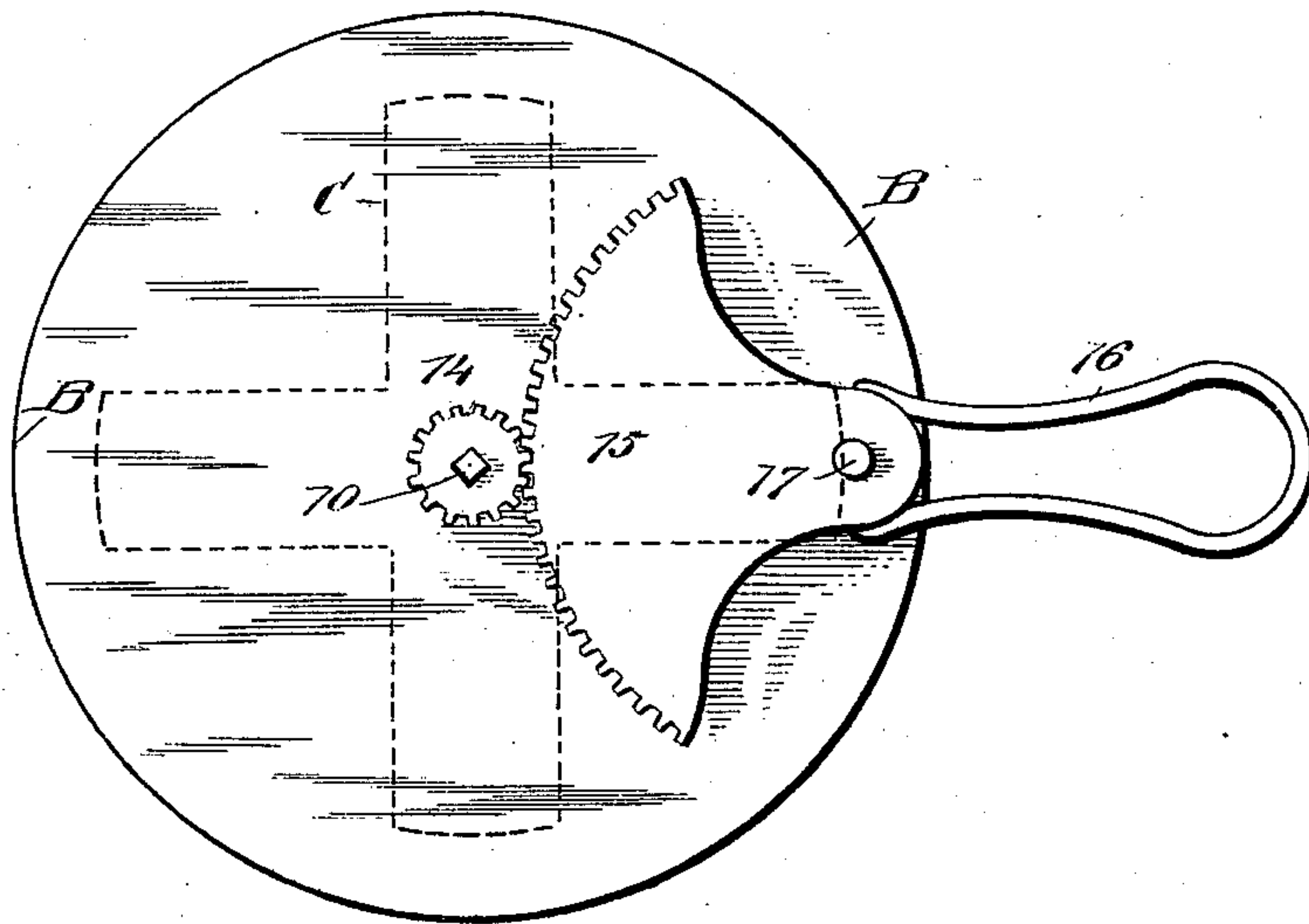
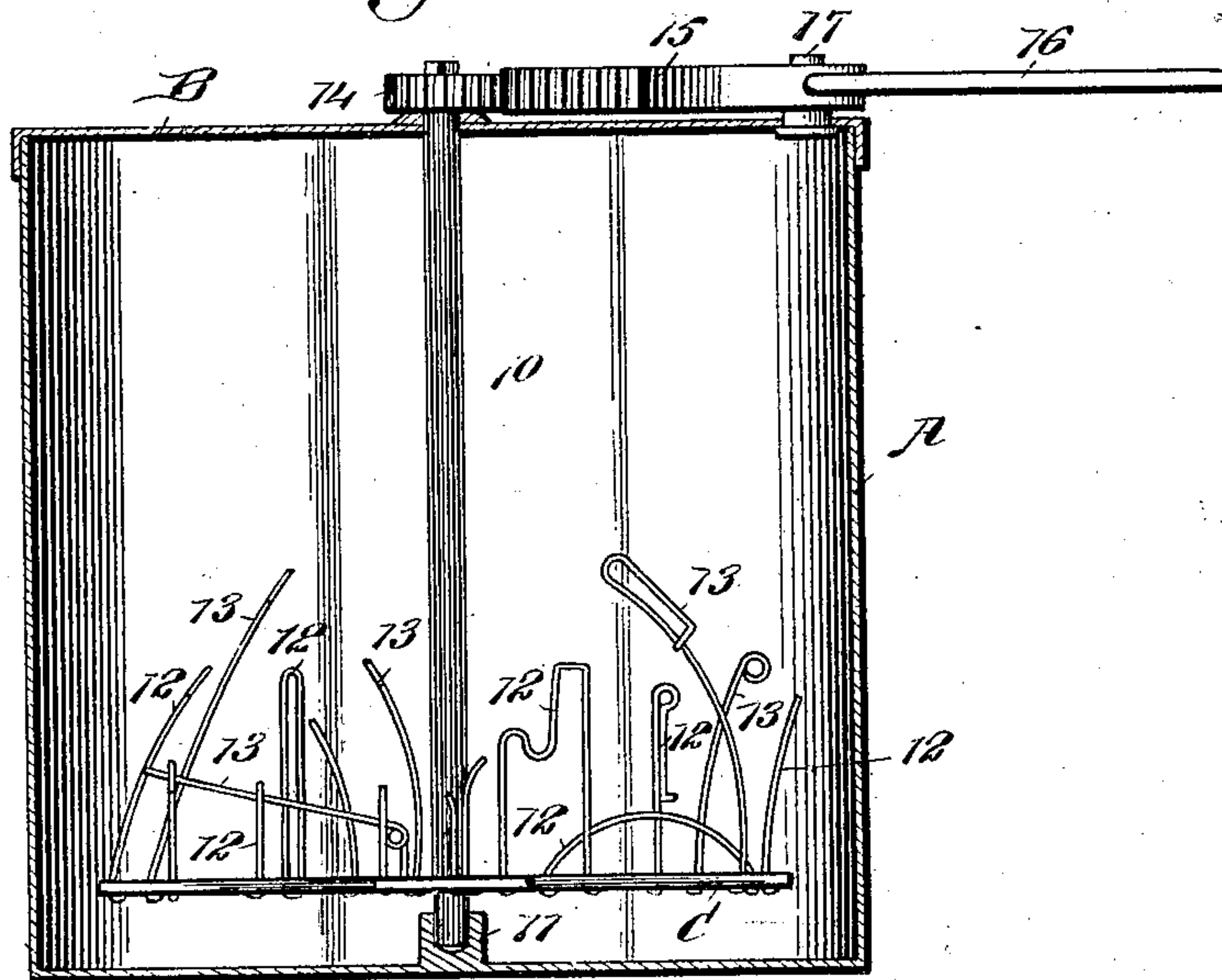


Fig. 2.

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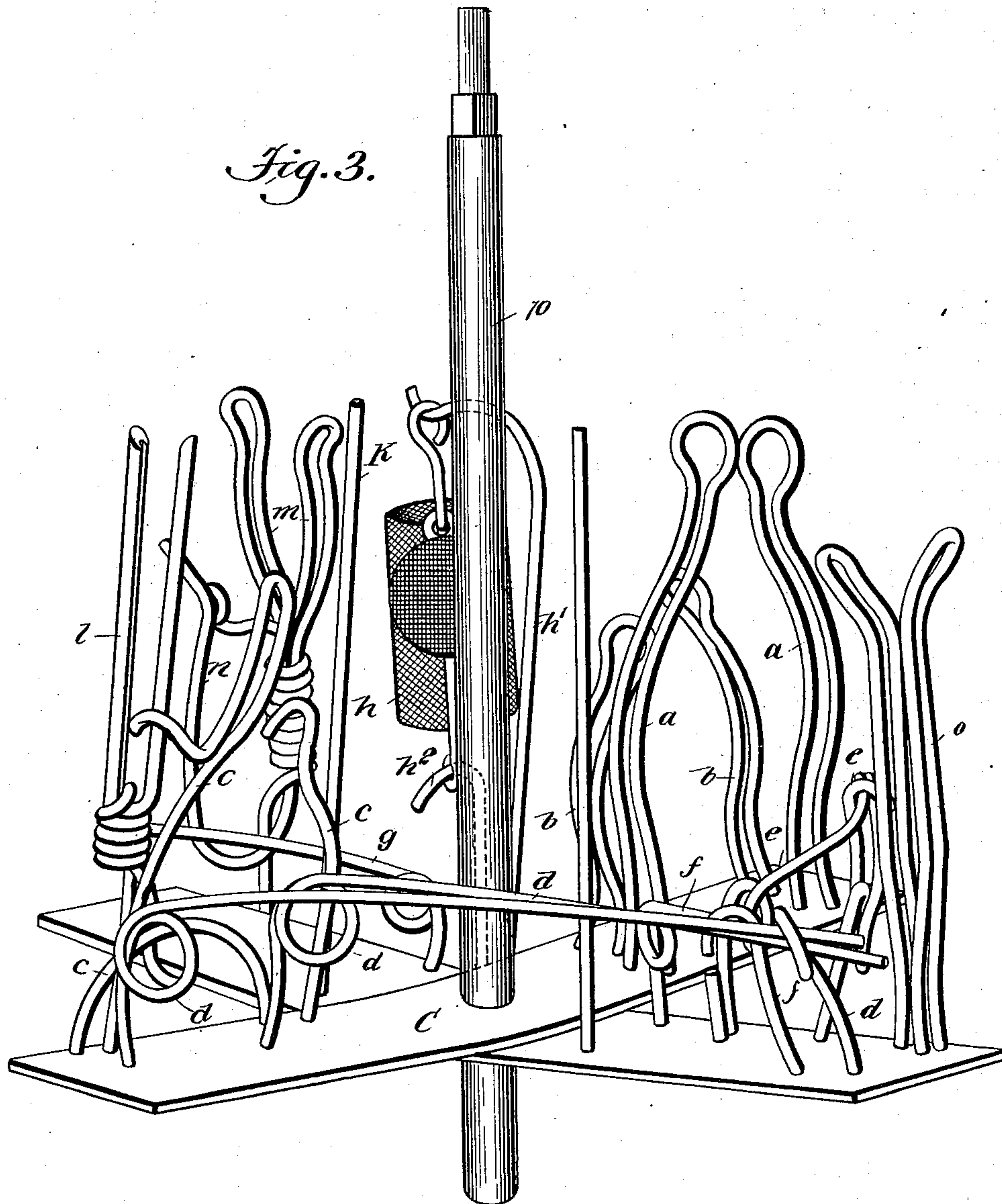
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UNITED STATES PATENT OFFICE.

JOHN J. HIGGINS, OF DUQUOIN, ILLINOIS.

DEVICE FOR CLEANING WATCH-MOVEMENTS.

SPECIFICATION forming part of Letters Patent No. 692,663, dated February 4, 1902.

Application filed April 27, 1901. Serial No. 57,704. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. HIGGINS, a citizen of the United States, and a resident of Duquoin, in the county of Perry and State of Illinois, have invented a new and Improved Device for Cleaning Watch-Movements, of which the following is a full, clear, and exact description.

The purpose of the invention is to provide a simple and economic device especially adapted for cleaning any watch or clock movement or parts of the same, and, furthermore, to provide means for imparting a rapid alternating motion to the device in the presence of a cleaning compound or liquid and for holding the parts to be cleaned in such position that the compound will reach all faces or surfaces thereof.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a vertical section through the device. Fig. 2 is a plan view of the device, and Fig. 3 is an enlarged perspective view of the clamps and their support.

A represents a receptacle provided with a removable top B, and this receptacle A is adapted to contain a cleansing compound or liquid. A shaft 10 is passed loosely through the cover B, having a bearing therein, and the lower end of the shaft 10 is stepped or journaled in a suitable bearing 11 at the central bottom portion of the receptacle A. Near the bottom of the shaft 10 a supporting-plate C is secured to said shaft, and while this plate may be of different shapes it is preferably made cruciform, as illustrated in the drawings. On the various sections of the supporting-plate C retaining members 12 are secured, which are preferably made of wire, together with spring clamp members 13, all of which members are given an upward inclination, some of said parts being perpendicular and others at angles to the supporting-plate. These retaining and spring clamp members 12 and 13 are so grouped together and are so shaped that they will retain in position on the

supporting-plate C the various portions of a watch or clock movement.

At the outer end of the shaft 10 a pinion 14 is secured, and this pinion is made to mesh with a toothed segment 15, provided with a handle 16, which extends horizontally beyond an edge of the cover B, and the pivot 17 of the toothed segment 15 is carried by the cover B in any suitable or approved manner.

When my device is employed, no part of a movement can be lost during the cleansing operation and no part can be bent or distorted, thereby saving the adjustment essential to fine timekeepers and enabling a watch-movement after being cleaned to be brought speedily to time with its regulator.

In Fig. 1 the general idea only of the apparatus is represented, but the details of the clamps for holding the various parts to be cleaned are represented in the enlarged view, Fig. 3, in which view the clamps are accurately shown. With reference to Fig. 3, *a* represents the clamps for holding the pillar-plates of watches, and as they and all of the clamps to be hereinafter mentioned are of spring material the clamps *a* will accommodate the pillar-plates of movements within certain sizes. The clamp *b* is also adapted to hold the pillar-plates of watch-movements, but of a smaller size than can be accommodated by the clamp *a*. The clamp *c* comprises three parts—an arched member and two opposing upwardly-curved members. The object of these three members is to hold firmly the upper plates in any eighteen-sized American watch. The clamp designated as *d* comprises three pieces—two spring members and a catch member—the object of these three members being to hold the upper plates of sixteen-sized watches or the balance and barrel-bridge of eighteen-sized watches. The clamp *e* also embraces three similar pieces—namely, spring-arms and a keeper—and the object of this clamp is to hold the small bridges of watches. The clamp or carrier *f* includes two pieces—a spring-wire and a keeper—and the object of this part is to hold cannon-pinions, dial-wheels, and the small winding-wheels of any watch. *g* represents a clamp or carrier of similar construction to the clamp or carrier *f* and is adapted to hold larger winding-wheels, yokes, or cocks. *h*

represents a small gauze receptacle for screws, pinions, arbors, or small steel springs and other small pieces and is provided with a suitable cover. The receptacle is suspended 5 from a hook-standard h' and is held in place by a lower hook-standard h^2 . The upright k shown will accommodate parts which cannot be accommodated by the clamp or carrier g . l represents a detachable spring-fork 10 for holding what are known as "set" jewels and the "cap" and "hole" jewels of watches. m represents a detachable spring-clamp which is also preferably adjustable, intended for holding any size of watch-balance, hair- 15 spring, and roller-tables. n represents a spring device for holding the levers of watch or clock movements, and o represents a wire clamp for holding the train of watches—namely, the center wheel, third wheel, fourth 20 wheel, and escapement-wheel.

It will be observed from the foregoing description and the drawings that if the various parts of a clock or watch movement are held by the retaining or spring clamp members 25 on the supporting-plate or if any portion of such movements are so held by imparting lateral movement to the toothed segment 15 backward and forward movement is communicated to the shaft 10 through the medium of the pinion 14, and the shaft and its 30 attached supporting-plate will be given a rapid alternating movement, and as the receptacle A contains a cleansing or cleaning compound or liquid such liquid or compound 35 is passed rapidly and with more or less force in contact with and between the various portions of the watch or clock movement, thoroughly cleansing the same from dirt no matter how gummed the dirt may be on the parts 40 of the movement.

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

1. A device for cleaning watch and clock 45 movements, comprising a receptacle, a cover for the same, a shaft mounted in the receptacle, a supporting-plate carried by the shaft, a series of retaining members and spring clamping members carried by the supporting- 50 plate and arranged to retain the various portions of a watch or clock movement, the said clamping and retaining members comprising upwardly-extending spring-clamps having

opposing members, and clamps having spring-arms and keepers, and means for imparting 55 motion to the shaft, as set forth.

2. A device for cleaning watch and clock movements comprising a main receptacle adapted to contain a cleaning compound or liquid, a shaft mounted to rotate in the re- 60 ceptacle, a supporting-plate carried by the shaft, retaining members and spring-clamps carried by the supporting-plate, a hook-standard also carried by the supporting-plate, a small apertured receptacle adapted to be sus- 65 pended from the said hook-standard, a lower hook-standard on the supporting-plate for holding the receptacle in place, and means for imparting an alternating motion to the shaft, for the purpose specified. 70

3. In a device for cleaning watch and clock movements, the combination with a receptacle and a removable cover therefor, the receptacle being adapted to contain a cleansing compound or liquid and a shaft journaled in 75 the cover and the bottom of the receptacle, of a supporting-plate secured to the lower portion of said shaft, and retaining and spring clamping members carried by said plate and having an upward inclination, the said mem- 80 bers being adapted to support the various parts of a watch or clock movement, sundry of said members being detachably connected with the plate and one of said detachable members comprising an upwardly-extending 85 spring-fork, for the purpose set forth.

4. In a device for cleaning watch and clock movements, a receptacle, a supporting-plate mounted to turn in the receptacle, and provided with a series of clamps and carriers for 90 the parts of the movement, the said clamps and carriers comprising upwardly-extending spring-clamps having opposing members, spring-arms and keepers, and upright carriers, a small apertured receptacle, and means 95 carried by the supporting-plate for holding said apertured receptacle in place, for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of 100 two subscribing witnesses.

JOHN J. HIGGINS.

Witnesses:

ROBT. O. LAKE,
C. J. HARRISS.