

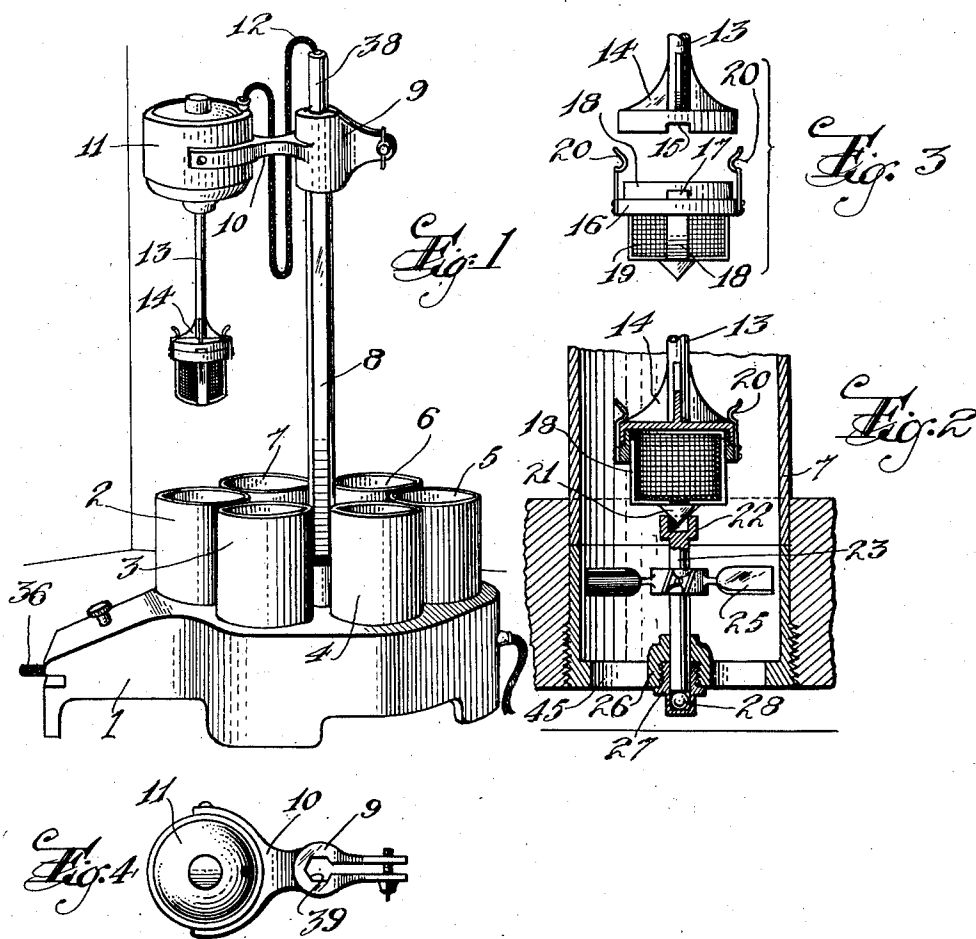
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WATCH CLEANING MACHINE

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WATCH CLEANING MACHINE

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This invention relates to improvements in machines for cleaning watch works and the like.

In the cleaning of watches, it is necessary to immerse the works in agitated liquids. Inasmuch as the parts of a watch are very small, it is obvious that the cleaning of watch works by manual means is inconvenient and impractical.

It is therefore an object of this invention to provide a machine for cleaning watch works easily and conveniently. In accordance with my invention, the works are alternately immersed in a liquid and in a drying chamber. In order that the container for the works will be in the exact position for immersion in the various chambers, it is slidably mounted on a polygonal shaft which enables the container to be adjusted to various angular positions directly above the chambers.

A further object of my invention is the provision, in a watch cleaning machine, of a fan arrangement for thoroughly drying the parts being cleaned.

These and other advantageous objects, which will later appear, are accomplished by the simple and practical construction and arrangement of parts hereinafter described and exhibited in the accompanying drawing, forming part hereof, and in which:

Fig. 1 is a perspective view of a watch cleaning machine embodying my invention,

Fig. 2 is a sectional view showing details of the machine,

Fig. 3 is an exploded view showing the manner in which a container for watch works is connected to the motor shaft, and

Fig. 4 is a plan view of the slidable bracket for holding the motor.

Referring to the drawing, in Fig. 1, the machine is shown to comprise a base 1, which supports six containers, 2, 3, 4, 5, 6, 7, arranged about a polygonal post 8 extending up from the base, the upper end 38 of the post being cylindrical. In the present instance, the post 8 is hexagonal, and is embraced by a collar 9 having a hexagonal aperture 39, the collar 9 having integral therewith a bracket 10, which supports an electric motor 11, connected by means of a cord 12 to a source of electric current and operated by switch 36 or the like. The shaft 13 of motor 11 is vertical and has at the lower end thereof a head 14 provided with one or more notches 15, which receive lugs 17 of a ring 16 having a flange and straps 18 which support a wire mesh basket 19 for carrying watch works. Attached to the sides of ring 16 are flat springs 55 having bowed-in portions 20 which snap over

the head 14 to hold the ring 16 and container 19 on the shaft 13 to rotate therewith.

In operation, the watch works are placed in the container 19, and the container is attached to shaft 13. The collar 9 is then moved up to the cylindrical portion 38 of hexagonal shaft 8 and rotated so that when it again engages the hexagonal shaft 8 the container will be directly over container 2, which contains a cleaning fluid. The container 19 is immersed in the fluid in container 2, and the motor started. After being subjected to the fluid in container 2 for a certain period of time, the collar 9 is raised and rotated to place the container 19 over container 3 which carries no fluid.

Container 3 is an empty jar, and when the receptacle is lowered into the container 3 and the motor is started, whirling the container 19, the excess fluid which still clings to the parts, from the container 2, is thrown off.

After the short time required for this operation, collar 9 is raised and rotated and the container 19 is lowered into container 4. Container 4 contains a cleaning fluid, container 5 is an empty jar in which the fluid which still clings to the parts from container 4 may be thrown off, and container 6 has a different type of cleaning fluid in which the parts are immersed. The final container 7, is used for thoroughly drying the parts as well as for whirling off any liquids which still cling to the parts. In this container, as shown in Fig. 2, the conical member 21 of the flange strap 18 frictionally engages enlarged portion 22 of shaft 23 to rotate shaft 23 and the fan blades 25.

The shaft 23 is supported by a thrust bearing 28 in a recessed plug 27 screwed into a bearing 26, which forms a part of the bottom of container 7, which is provided with a plurality of apertures 45 to allow the passage of air there-through, thus thoroughly drying the parts.

Containers 2, 4, 6, have various cleaning fluids, and containers 3, 5, 7, are drying chambers.

From the above description it will be seen that there has been provided a simple and effective machine for cleaning the works of watches. The hexagonal post 8 enables accurate positioning of the container 19 and motor over the desired fluid containers or drying chambers; and the connection between the shaft 13 and the disk 16 enables convenient and rapid attaching or removal of the container 19 when desired.

The foregoing disclosure is to be regarded as descriptive and illustrative only, and not as restrictive or limitative of the invention, of which

obviously many embodiments may be constructed, including many modifications, without departing from the spirit and scope of the invention herein indicated and denoted in the appended claims.

5 Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. In a watch cleaning machine, a base, a post
extending up from said base, said post having
10 the upper portion thereof of circular cross section, the remainder of the post being of polygonal cross section, a collar provided with a polygonal aperture corresponding to the polygonal cross section of the post slidably arranged
15 on said post, and being provided with means for selectively contracting the aperture of said collar to clamp the collar on the post or for enlarging the aperture to enable the collar to be freely moved along the post, said collar being further
20 provided with a vertical shaft adapted to support a basket for watch parts to be cleaned, and a plurality of containers positioned on said base about the post and in alignment with the respective
25 sides thereof, whereby the collar may be rotated on the circular portion of the post and by bringing the collar into engagement with the polygonal portion of the post the basket may be aligned with any predetermined container on the base.

2. In a watch cleaning machine, a base, a post
extending up from said base, said post having the
upper portion thereof of circular cross section, the remainder of the post being of polygonal
35 cross section, a collar provided with a polygonal aperture corresponding to the polygonal cross section of the post slidably arranged on said post and being provided with a vertical shaft adapted to support a basket for watch parts to be cleaned, and a plurality of containers positioned
40 on said base about the post and in alignment with the respective sides thereof, whereby the collar may be rotated on the circular portion of the post and by bringing the collar into engagement with the polygonal portion of the post the basket may be exactly aligned with any predetermined container on the base.

3. In a watch cleaning machine, a base, a post
extending up from said base, said post being of uniform, polygonal cross-section except at the
50 upper portion thereof, said upper portion being of a smaller cross-section than the polygonal portion of the post, a collar provided with a polygonal aperture corresponding to the polygonal cross-section of the post slidably arranged on said post and being provided with a vertical
55 shaft adapted to support a basket for watch

parts to be cleaned, and a plurality of containers positioned on said base about the post and in alignment with the respective sides thereof, whereby the collar may be rotated on the upper
5 portion of the post and by bringing the collar into engagement with the polygonal portion of the post the basket may be exactly aligned with any predetermined container on the base.

4. In a watch cleaning machine, a drying
chamber having apertures in the bottom thereof, 10
a shaft vertically supported by the bottom of the chamber, a fan mounted on the shaft, said shaft having an enlarged head with a recess therein, a container for watch works, said container being connected to a vertical shaft of an electric motor, 15
and a conical member on the bottom of the container, said member fitting in the recess and frictionally engaging the enlarged head to rotate the first mentioned shaft.

5. In a watch cleaning machine, a drying 20
chamber, an open container for watch works adapted to be received in said chamber, a fan rotatably mounted on a shaft in said chamber, and means for supporting and rotating the container and for moving the same into said chamber and into frictional engagement with the shaft
25 to actuate the fan to create an air current for drying the watch parts in said container.

6. In a watch cleaning machine, a base, a polygonal post extending up from said base and
30 having the upper portion thereof cylindrical, a collar having a polygonal aperture slidably mounted on said post, a motor supported by the collar and having a vertical shaft, a head fixed to the lower end of said shaft, a container for watch works removably secured to the head, and fan means carried by said base for drying the watch works within the container.

7. In a watch cleaning machine, a base, a motor supported by the base and provided with a vertical
40 shaft, a head attached to the lower end of the shaft, a ring, said ring and head being provided with complementary means for displaceably interlocking the same and with spring means for removably securing the same together, and
45 a wire mesh compartment carried by said ring.

8. In a watch cleaning machine, a base, a polygonal post extending up from said base, a collar having a polygonal aperture slidably mounted
50 on said post, a motor supported by the collar and having a vertical shaft, a head fixed to the lower end of said shaft, a container for watch works removably secured to the head, and fan means carried by said base for drying the watch works within the container.

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