March 15, 1949. E. A. CLARK 2,464,375

HOLDER FOR WATCH MOVEMENTS

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Fig. 1

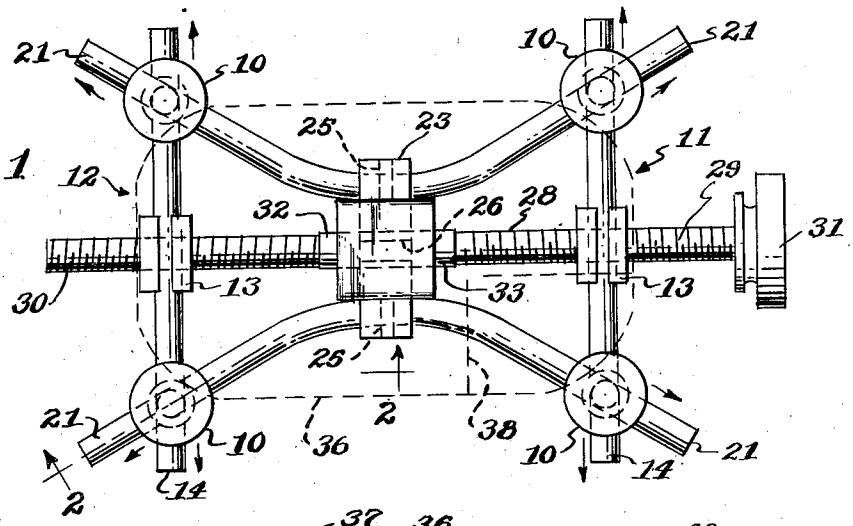


Fig. 2

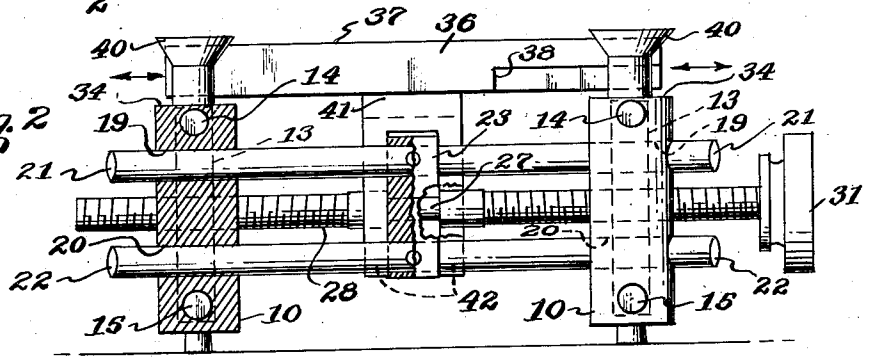
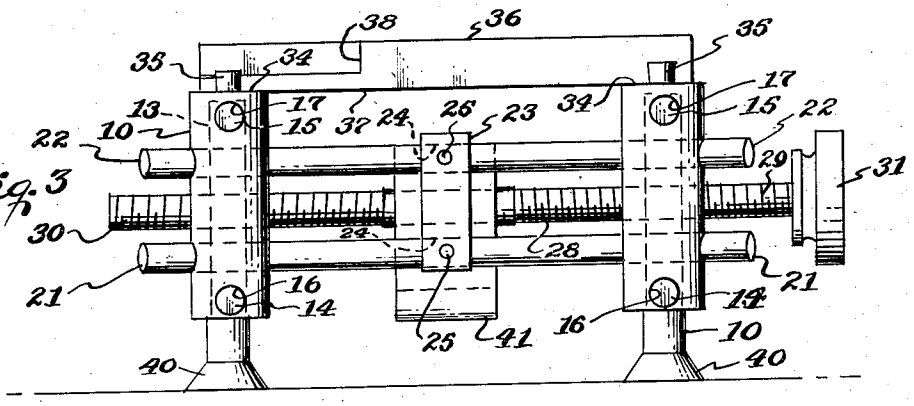


Fig. 3



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HOLDER FOR WATCH MOVEMENTS

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4 Claims. (Cl. 81—6)

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The invention relates to an adjustable holder particularly adapted for holding watch movements while repairs are being effected.

One of the objects of the invention is to construct an adjustable holder which is capable of receiving watch movements of various standard sizes and to clamp the same in position either with the movement side up or the dial side up.

Another object is to provide a simplified construction of watch movement holder which facilitates a watch repairman in making the necessary adjustments and replacements on watch movements.

Other objects will be more apparent as the description of the preferred embodiment proceeds.

In the drawings:

Figure 1 is a top plan view of the work holder;

Figure 2 is a side view partly in section on the line 2—2 of Figure 1; and

Figure 3 is a side view of the work holder in inverted position.

Referring to the drawings, the work holder comprises four supporting and clamping pins or posts 10 adapted to be simultaneously moved laterally and longitudinally with respect to one another in order to engage the edges of watch movements of different sizes. 11 and 12 represent cross frame members each of which comprises a central plate 13 having upper and lower parallel rods 14 and 15 secured thereto and projecting laterally therefrom. Each of the pins 10 is provided with two parallel bores 16 and 17 for slidably engaging the upper and lower rods 14 and 15 respectively. Each of the pins 10 is also provided with upper and lower parallel bores 19 and 20 extending at an acute angle with respect to the bores 16 and 17 and preferably at about a 60° angle. These latter bores 19 and 20 slidably engage the rods 21 and 22 which are inclined outwardly from opposite sides of a central work supporting frame 23. This frame contains a series of apertures 24 through which the rods 21 and 22 may be inserted, and the rods are retained in position in a suitable manner as by means of the small retaining pins 25. The frame 23 is slotted at 26 to receive and swivel the reduced central portion 27 of an adjusting screw 28 provided at one end with right-hand threads 29 and at the other end with left-hand threads 30. These threaded portions engage correspondingly threaded apertures in the central plates 13 of the two cross frame members 11 and 12 respectively. An adjusting knob 31 is secured to one end of the screw 28 and the center of the screw has enlarged portions 32 and 33 forming abutments on opposite sides of the slotted frame 23.

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In the construction as thus far described, when the screw 28 is turned by means of the adjusting knob, the cross frame members 11 and 12 are simultaneously moved in opposite longitudinal directions and the pins 10 carried thereby are caused to move both longitudinally and laterally by means of their sliding engagement with the angling rods 21 and 22.

At one end of each of the pins 10 there is a shoulder 34 and a central projecting portion 35. When it is desired to insert a watch movement 36 in the work holder with the movement side upward, the watch movement is placed on the shoulders 34 of the 4 pins 10 with the dial side 37 resting on said shoulders and the pins 10 are moved inwardly until the portions 35 engage and clamp the sides of the watch movement holding it securely in position.

A watch movement as ordinarily constructed as a cutaway portion 38 at one corner thereof on the movement side in order to accommodate the balance wheel of the mechanism. Therefore when it is desired to clamp the watch movement with the dial side upward, it cannot be inserted in the holder as above described because the portion 35 of one of the pins 10 would come in contact with the balance wheel of the watch mechanism. Hence, I provide the pins 10 at the opposite ends thereof from the shoulders 34 with the conical heads 40 and I also provide the work holder with a central supporting member 41 which, as shown, consists of a U-shaped member having slotted legs 42 embracing the opposite sides of the frame 23. The top of the supporting member 41 lies in a plane which is spaced from the conical portions 40 of the pins at such a distance as to correspond with the thickness of a watch movement so that when the center of the movement side of the watch movement rests on the support, the peripheral edges of the opposite or dial side of the watch movement engage the conical heads 40. Thus by turning the adjusting knob 31, the pins 10 are moved inwardly so that the conical portions engage and clamp said peripheral portions and not only hold the movement securely in place but also, by reason of the conical angle, forces the movement downwardly into positive engagement with said support.

With the device as described, it will be apparent that it is readily adapted to secure a watch movement in position with the movement side upward by clamping between the projections 35 of the

pins and where it is desired to support the movement with the opposite side upwardly, the entire work holder is turned over and the movement clamped between the conical pins 40. Thus it will be readily apparent that I have provided a very simplified work holding mechanism which is adjustable to various sizes of watch movements and is capable of supporting the same with either side of the movement in position to be worked on by the repairman.

What I claim as my invention is:

1. A holder for a watch movement comprising a central supporting member, a series of rods extending from said supporting member in diagonal directions, four parallel pins transverse to said rods and slidably engaging the same, a pair of frames having rods slidably engaging said pins in a direction transverse to said diagonal rods, an adjusting rod rotatable in said supporting member and threadedly engaging the respective frames of said pair with threads of opposite hands.

2. A holder for watch movements and the like, comprising four corner posts, a central member between said posts, pairs of rods secured to and on opposite sides of said central member, the rods of each pair being parallel and having outwardly extending diagonal opposite end portions slideably engaging transverse bores in said posts, a pair of parallel rods extending transversely to said diagonal rods and slideably engaging bores in said posts which are at an angle to the aforesaid bores, work engaging and clamping means at the end of each post, a rod swiveled in said central member to extend transversely to said transverse parallel rods and having respectively right-hand and left-hand screw threaded opposite end portions, and nuts engaging said screw threaded portions and respectively attached to said transverse rods whereby a rotation of said screw threaded rod will simultaneously move all of said posts towards or from said central member.

3. A holder for watch movements and the like, comprising four corner posts, a central member between said posts, pairs of rods secured to and on opposite sides of said central member, the rods of each pair being parallel and having outwardly extending diagonal opposite end portions slideably engaging transverse bores in said posts, a pair of parallel rods extending transversely to said diagonal rods and slideably engaging bores in said posts which are at an angle to the aforesaid bores, engaging and clamping means upon opposite ends of each of said posts, for respectively engaging a watch movement in reverse positions thereof, each of said means alternatively

constituting a supporting foot for its post, a rod swiveled in said central member to extend transversely to said transverse parallel rods and having respectively right-hand and left-hand screw threaded opposite end portions, and nuts engaging said screw threaded portions and respectively attached to said transverse rods whereby a rotation of said screw threaded rod will simultaneously move all of said posts towards or from said central member.

4. A holder for watch movements and the like, comprising four corner posts, a central member between said posts, pairs of rods secured to and on opposite sides of said central member, the rods of each pair being parallel and having outwardly extending diagonal opposite end portions slideably engaging transverse bores in said posts, a pair of parallel rods extending transversely to said diagonal rods and slideably engaging bores in said posts which are at an angle to the aforesaid bores, a portion of reduced diameter and restricted length projecting from one end of each post for engagement with a watch movement when arranged with its face side up, said movement resting on the shoulder beneath said reduced diameter portion, a reduced diameter portion of greater length extending from the opposite end of each post and terminating in a flaring portion which in the reverse position of the structure constitutes a work clamp for the movement with the dial side up, a bearing on said central member for supporting the movement in the latter position, the clamping means at opposite ends of each post alternatively constituting supporting feet for the post, a rod swiveled in said central member to extend transversely to said transverse parallel rods and having respectively right-hand and left-hand screw threaded opposite end portions, and nuts engaging said screw threaded portions and respectively attached to said transverse rods whereby a rotation of said screw threaded rod will simultaneously move all of said posts towards or from said central member.

EDWARD A. CLARK.

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