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G. F. PUTNAM

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PIVOT STRAIGHTENING DEVICE

Filed March 28, 1928

Fig. 1.

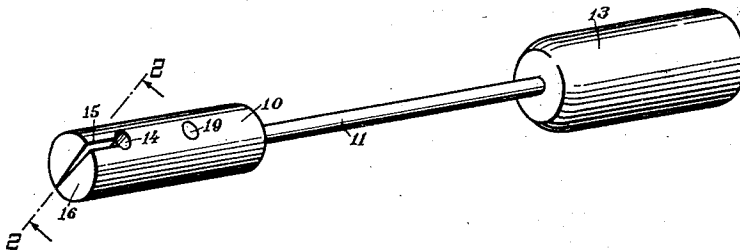


Fig. 2.

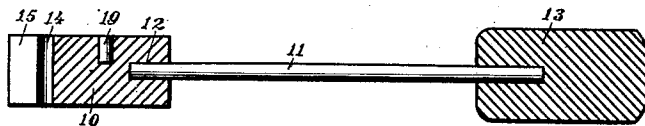
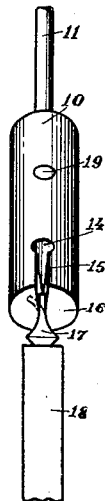


Fig. 3.



WITNESSES

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PIVOT-STRAIGHTENING DEVICE

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The present invention is concerned with the provision of a pivot straightening tool which may have a wide range of utility, but which is peculiarly adapted for straightening the balance staff pivots and train pivots of watches.

In accordance with the conventional practice, it is customary to use fairly heavy brass tipped tweezers or pliers for straightening these pivots, the tweezers being heated over a suitable flame before they are used to grip the twisted pivot.

This conventional practice is subject to several disadvantages. In the first place it is unpleasant because of the heat to which the user's hand is subjected. It is a clumsy method of carrying out a relatively delicate operation. It is furthermore subject to the very material disadvantage of difficulty of heat regulation, since the pliers or tweezers should be at a very definite temperature to effect the best results.

In accordance with the present invention, I have provided a tool which may be conveniently manipulated with the thumb and forefinger as opposed to the present practice of using the whole hand to grasp hot pliers. I have also provided a tool which may be used without burning the hand, and a tool with which accurate temperatures are assured.

Other and more general objects of the invention are to provide a simple hand tool of the character noted above which will be rugged, durable and efficient in use, and well suited to the requirements of economical manufacture and convenient manipulation.

With the above noted and other objects in view, the invention consists in certain novel features of construction and combinations and arrangements of parts as will be more fully hereinafter set forth and pointed out in the claims. The invention may be more fully understood from the following description in connection with the accompanying drawings, wherein—

Fig. 1 is a perspective view of a tool embodying the present invention.

Fig. 2 is a longitudinal sectional view thereof through on the line 2—2 of Fig. 1.

Fig. 3 is a fragmentary perspective view indicating the manner of use of the tool.

In order that the construction of the device may clearly appear, all of the drawings show the tool on a greatly enlarged scale; that is to say, in a much larger size than would commonly be employed for straightening watch pivots.

The device includes a head 10 comprising a relatively short length of brass wire. The tool shank 11 may conveniently comprise a length of steel wire, one end of which is received in a socket 12 in the head 10, and the other end of which carries a handle 13 of suitable heat insulating material, such for instance as wood.

Adjacent its free end, the head 10 is formed with a diametrically extending transverse bore 14 which bore communicates with the rear end of a relatively deep slot 15 V-shaped in transverse cross section, also extending transversely of the head and intersecting the end face 16 of the head. The tapering notch 15 extends from one side of the head to the other, providing a relatively wide mouth at one side of the head and simply a narrow slit at the opposite side.

The notch 15 serves conveniently as an adjustable vise to receive the pivots to be straightened, such for instance as the pivot 17 of the balance shaft 18 shown in Fig. 3.

In order to accurately determine the temperature of the brass head 10, a steel plug 19 is set into the head and disposed flush with the lateral surface thereof.

The transverse bore 14 serves primarily to admit light into the V-shaped notch 15.

The manner of using the tool is as follows. The brass head 10 is placed over an alcohol flame until the temperature-indicating plug 19 shows a dark straw color. The tool is then removed from the flame and a bent pivot inserted in the slot 15 and bent to proper shape in Fig. 3. The dotted lines indicate a possible bent or distorted condition of the pivot 17 before it is straightened. After the straightening operation, an emery stick may be rubbed over the face of the steel plug, removing the color therefrom and rendering the tool ready for re-heating and re-use.

Various changes and alterations might be made in the general form and arrangement of the parts described without departing from the claims. Hence I do not wish to limit myself to the details set forth, but shall consider
5 myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of the appended claims.

I claim:

1. A tool of the class described including a
10 head formed of a section of brass wire and having a work-receiving notch therein, a steel wire shank attached to the head and a heat-insulating handle on the shank, and a steel
15 plug inlaid in the head to indicate by color changes the temperature of the head.

2. A pivot straightening tool of the class described, including an elongated head circular in cross section, said head being split to
20 provide a pivot-receiving recess extending diametrically across said head to either side thereof, said recess being transversely tapered to provide an opening on one side of the head larger than the opening on the other side and
25 to provide angularly disposed pivot-receiving faces.

Signed at Goodrich in the county of Genesee and State of Michigan this 22nd day of March A. D. 1928.

GEORGE F. PUTNAM.

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