The present invention relates to pivot straightening devices and it consists in the combinations, constructions and arrangements of parts herein described and claimed.

It is an object of the present invention to provide an attachment for a jeweler’s lathe having means for quickly and easily straightening or truing pivot points such as the pivot of a balance staff.

Another object of the invention is the provision of an attachment of the character set forth wherein pivots of varying sizes may be handled.

Another object of the invention is the provision of a device of the character set forth having a minimum number of parts and which will be simple in operation and effective and efficient in use.

Other and further objects of the invention will become apparent from a reading of the following specification taken in conjunction with the drawing, in which:

Figure 1 is a side elevational view of an embodiment of the invention, shown in position upon a jeweler’s lathe.

Figure 2 is an enlarged fragmentary vertical sectional view illustrating certain details of construction.

Figure 3 is a fragmentary elevational view of the apparatus shown in Figure 2 but taken at right angles thereto.

Figure 4 is a plan view of the apparatus shown in Figures 2 and 3.

Figure 5 is a perspective view of an element of the invention, and

Figure 6 is a fragmentary elevational view, partly in section, illustrating certain details of the invention.

Generally, there is provided a pivot straightening device adapted to be attached to the body of a lathe adjacent to the chuck thereof. A block is pivotally mounted upon a spindle and is provided with a flat upper surface upon which is revolvably mounted a plate having a series of grooves of various sizes formed radially at its upper surface. The work to be taken care of is mounted in the chuck so that the pivot extends into one of the grooves above mentioned, means being provided to raise and lower the straightening device to the proper height for this purpose. An eye extends upwardly from the straightening device and is adapted to receive therein a bar which is semi-circular in cross sectional area. The flat side of one end of the bar is placed upon the pivot to be straightened and the other end of the bar may be lifted to apply pressure upon the pivot as the spindle of the lathe is turned thereby to straighten the pivot.

Referring more particularly to the drawing, there is shown therein a jeweler’s lathe having a base 10 and a horizontally extending body 11. The lathe is provided with a stock 12, a spindle 13 having a manually operable handle 14 and a chuck 15.

Slightly and adjustably mounted upon the body 11 is a base member 16. The base member is provided with an upwardly extending bifurcated cylindrical member 17 provided with clamping ears 18 and a clamp 19 and which is adapted to receive therein a hollow elongated cylinder 20 in which is threadably mounted a shaft 21 having a cylinder head 22 provided with a transversely extending opening 23.

A semi-spherical block 24 is revolvably mounted upon the head 22 and is provided with a transversely extending opening 25 which is adapted to communicate with the opening 23 when properly aligned. The block is provided with a flattened upper surface 26. Upon the upper surface of the block 24 is revolvably mounted a plate 27 having a plurality of radially extending rounded grooves 28 of various lengths and of various diameters. The block 24 is provided with a knurled upper edge 24a.

Centrally disposed in the block 24 is a pin 29 having an eye 30 at its upper end, an annular collar 31 adapted to raise lightly upon the plate 27 and extending downwardly into an opening 32 in the bottom of the block 24 which opening also receives the head 22. A collar 33 encompasses the lower end of the pin 29 which end is adapted to be riveted over the collar to hold the same in place. An elongated handle 34 which is semi-circular in cross sectional area is provided as a part of the invention.

In operation, it will be apparent that a pivot to be straightened as, for example, the pivot 35 of the balance staff 36 may be straightened in the following manner: the balance staff 36 is placed in the chuck 15 and locked therein. Thereupon the straightening device is moved to a position beneath the pivot 35 and the base member 16 locked upon the base 11 in conventional manner. The block 24 is then raised by turning the shaft 21 until the plate 27 comes directly beneath the pivot 35. The plate 27 is then moved to such position that one of the grooves 28 which will suitably receive the pivot 35 is directly in contact with the pivot. Thereupon the openings 23 and 25 are aligned and a pin (not shown) is passed therethrough to hold the block in position. The
handle 34 is then inserted into the eye 30 in such manner that the flattened under side bears against the pivot 35. Upward pressure is then applied to the free end of the handle 34 causing a downward pressure upon the pivot 35 whereupon the lathe is turned and the pivot will be forced into the proper position by the pressure of the handle forcing the same into the groove 28.

While but one form of the invention has been shown and described herein, it will be readily apparent to those skilled in the art that many minor modifications may be made without departing from the spirit of the invention or the scope of the appended claims.

What is claimed is:

4. An apparatus of the character described comprising, in combination with a jeweler's lathe having a bed, a headstock, a spindle in the headstock and a chuck carried by the spindle and adapted to hold therein a balance staff having a pivot, a block mounted on said bed, means for longitudinally positioning said block with respect to the chuck, means for vertically positioning said block with respect to the bed, a plate having a plurality of radially extending grooves revolubly mounted on the upper end of said block and adapted to selectively receive the underside of the pivot, an upwardly extending eye revolubly mounted in said block and a handle extendible through said eye and adapted to bear against the upper side of the pivot.

5. An apparatus of the character described comprising, in combination with a lathe having a bed, a headstock, a spindle in the headstock and a chuck carried by the spindle and adapted to hold therein a balance staff having a pivot, a base member slidably and horizontally adjustable upon the bed, an upwardly extending hollow cylindrical member clamped in said base member, a shaft threadably mounted in said cylindrical member, a head at the upper end of the shaft and having a transversely extending opening therethrough, a block revolubly mounted on the head and having a transversely extending opening therethrough which opening is adapted to register with the opening in the head when properly aligned, an eye having a vertical shank revolubly mounted in the block, a plate having a plurality of radially extending rounded grooves revolubly mounted upon the upper end of the block and adapted to selectively receive the underside of the pivot and a handle extendible through said eye and adapted to bear against the upper side of the pivot.

6. An apparatus of the character described comprising, in combination with a lathe having a bed, a headstock, a spindle in the headstock and a chuck carried by the spindle and adapted to hold therein a balance staff having a pivot, a base member slidably and horizontally adjustable upon the bed, an upwardly extending hollow cylindrical member clamped in said base member, a shaft threadably mounted in said cylindrical member, a head at the upper end of the shaft, a block revolubly mounted on the head, an eye having a vertical shank revolubly mounted in the block, a plate having a plurality of radially extending rounded grooves revolubly mounted upon the upper end of the block and adapted to selectively receive the underside of the pivot and a handle extendible through said eye and adapted to bear against the upper side of the pivot.

The following references are of record in the file of this patent:

UNITED STATES PATENTS

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384,429 Davis September 21, 1909