April 8, 1952 A. J. BARRETT 2,592,000

WATCHMAKER'S SCREWDRIVER SHARPENER

Filed July 20, 1950

Fig. 1

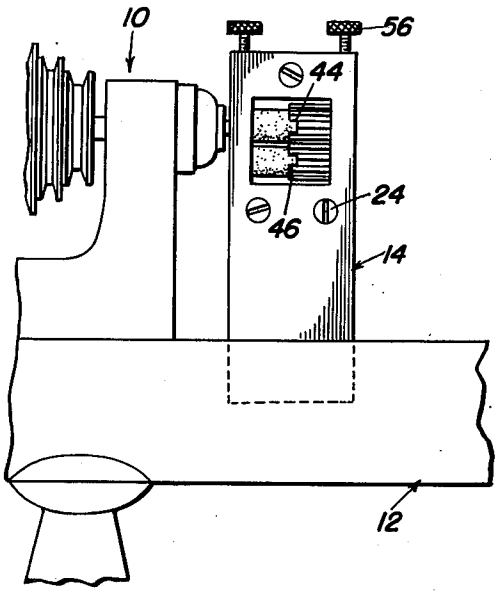


Fig. 2

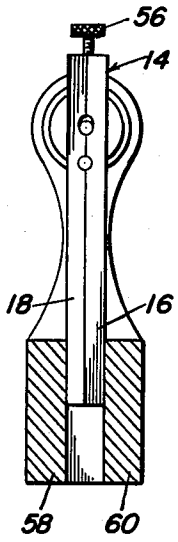


Fig. 3

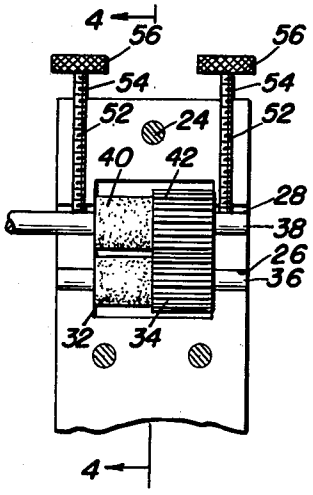
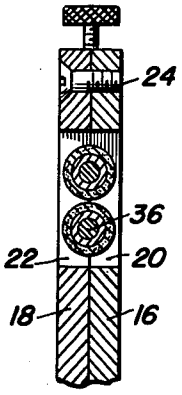


Fig. 4



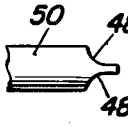


Fig. 5

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WATCHMAKER'S SCREWDRIVER SHARPENER

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4 Claims. (Cl. 51—80)

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The present invention relates to improvements in watchmaker's equipment, and more particularly to a watchmaker's screwdriver sharpener.

An object of the present invention is to provide an improved screwdriver sharpener, whereby the screw engaging portion of the screwdriver may be ground to a substantially square end with parallel screw slot engaging surfaces.

Another object of the present invention is to provide an improved grinding wheel mounting means which is formed from a pair of rectangular plates having openings therein, the plates being secured to each other whereby the openings form a single opening therethrough and in which the grinding tools are rotatably disposed.

Still another object of the present invention is to provide an improved grinding tool whereby the grinding wheels are adapted to engage opposite sides of the screwdriver and whereby the grinding tools are adapted to be rotated in opposite directions.

It is a further object of the present invention to provide an improved screwdriver grinding tool which is adapted to be positioned on a watchmaker's lathe for operation thereby.

Various other objects and advantages will be apparent from the detailed description to follow.

The best form in which I have contemplated applying my invention is illustrated in the accompanying drawings, wherein:

Figure 1 is a side elevational view showing the structure of the present invention mounted on a watchmaker's lathe;

Figure 2 is a side elevational view of Figure 1 with the head of the lathe in cross-section;

Figure 3 is a view of the structure of the present invention with one of the supporting plates removed;

Figure 4 is a vertical transverse sectional view taken substantially along the plane of line 4—4 of Figure 3; and

Figure 5 is a detail view of the end of a screwdriver showing the result of grinding by the means of the present invention.

Referring more particularly to the drawings, wherein like numerals designate like parts throughout, the numeral 10 designates generally a watchmaker's lathe having a lathe bed designated generally at 12 and in which the screwdriver sharpener 14 of the present invention is mounted.

The screwdriver sharpener 14 is comprised of supporting means including a pair of rectangular plates 16 and 18, each having rectangular openings 20 and 22, respectively, and secured together by means of a plurality of screws 24. The openings 20 and 22 are so positioned that when the plates 16 and 18 are secured together, a single opening is formed in which are adapted to be positioned the grinding means of the present invention.

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Each of the plates 16 and 18 is provided with transversely extending grooves 26 and 28 whereby, when the plates are secured together, a pair of bores are formed which extend transversely through the pair of plates.

The lower grooves 26 are adapted to form a substantially circular bore in which may be rotatably mounted a first shaft 36 on which a first grinding tool 32 and a first pinion gear 34 are mounted.

The second bore formed by the pair of grooves 28 is of substantially elongated form and is adapted to rotatably receive the second shaft 38. The second shaft 38 is adapted to be rotated by the watchmaker's lathe 10 and has mounted thereon the second grinding tool 40 and pinion gear 42.

Each of the pinion gears 34 and 42 is provided with slotted portions 44, and each of the grinding tools 32 and 40 is provided with a projection 46 which is adapted to be positioned within the slots 44, whereby rotation of the grinding tools and pinion gears is simultaneous. Inasmuch as the pinion gears 34 and 42 are adapted to be intermeshed, rotation of the second shaft 38 by the watchmaker's lathe will cause the first shaft 36 to be rotated at the same rate of speed but in an opposite direction whereby the grinding tools 32 and 40 are similarly rotated in opposite directions for grinding the screwdriver 50 to the form shown at 48.

The supporting means is provided with a pair of vertically disposed and internally threaded bores 52 in which a pair of set screws 54 are threadably positioned with their heads 56 above the supporting means. The lower ends of the screws 54 have bearing surfaces which are adapted to be disposed within the elongated second bores 28 and abut the second shaft 38 for adjustment thereof.

As seen best in Figure 2, the supporting means formed by the two plates 16 and 18 has its lower end positioned between the longitudinally extending bars 58 and 60 of the lathe bed 12, whereby rotation thereof is prevented.

From the foregoing description taken in conjunction with the drawings, it is believed that one skilled in the art will readily understand the operation and use of the present device, and fur-

ther description at this point is deemed unecessary.

Having thus described the invention, what is claimed to be new is:

1. A screwdriver sharpener comprising, a supporting means including a pair of rectangular plates each having an opening through its faces, the inner faces of said plates being juxtaposed and abutting one another, said inner faces having transversely disposed complementary grooves formed therein and intersecting each opening, means for removably securing said plates to one another, said opening in each plate being aligned with each other and constituting a single opening and the complementary grooves in each plate being aligned to form first and second bores, a first shaft having its ends rotatably mounted in the ends of said first bore, a first grinding tool and a first pinion gear coaxially mounted on said first shaft intermediate the ends of the latter, a second shaft having its ends rotatably mounted in the ends of said second bore, a second grinding tool and a second pinion gear coaxially mounted on said second shaft intermediate its ends, said pinion gears and said grinding tools being disposed wholly within the confines of said single opening, said pinion gears being adapted to intermesh, and means operatively connected to an end of said second shaft for rotating said second shaft.

2. The structure specified in claim 1, wherein

first ends of said first and second grinding tools are frictionally and operatively connected to first ends of said first and second pinion gears.

3. The structure specified in claim 2, wherein second ends of said first and second grinding tools and second ends of said first and second pinion gears abut edge portions of said plates formed by said single opening.

4. The structure specified in claim 3, including a pair of adjusting screws threadedly mounted on said plates and having bearing ends, said bearing ends extending into one of said bores and engaging the shaft adjacent thereto for adjustably maintaining said first and second tools in predetermined spaced relationship.

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REFERENCES CITED

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

UNITED STATES PATENTS

Number	Name	Date
621,204	Ballou	Mar. 14, 1899
887,754	Behrens	May 19, 1908
916,328	Kirksey et al.	Mar. 23, 1909
1,049,200	Bremer	Dec. 31, 1912
1,092,713	Helmer	Apr. 7, 1914
2,249,084	Kobos	July 15, 1941
2,477,075	Miller	July 26, 1949
2,502,705	Choate	Apr. 4, 1950