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A. SEIDNER

2,491,219

WORK HOLDER FOR USE IN GRINDING AND POLISHING LENSES

Filed Nov. 9, 1948

Fig. 1

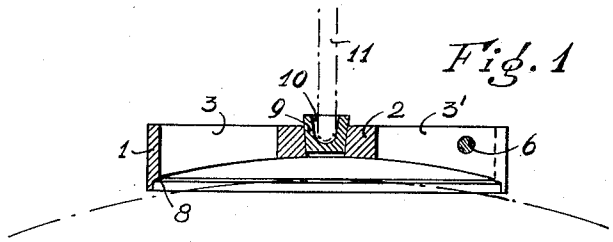


Fig. 2

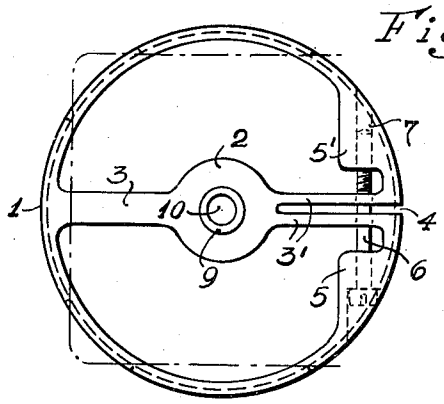
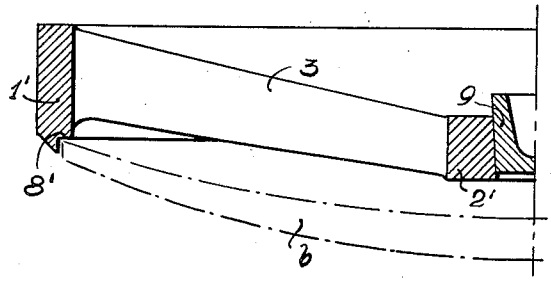


Fig. 3



INVENTOR.

Albert Seidner

BY J. J. Dasseches

his attorney

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WORK HOLDER FOR USE IN GRINDING AND POLISHING LENSES

Albert Seidner, Tel Aviv, Israel

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1 Claim. (Cl. 51—217)

1

This invention relates to a work holder, a so called "lens block" or "runner" used in the process of grinding and/or polishing surfaces of lenses. The new work holder is to be used primarily in the process of making spectacle lenses in working single surfaces, but may be used also for other kinds of lenses.

As is known, the lens blanks or semifinished lenses are usually attached to the lens block for presentation to the grinding surface by means of pitch and resin. This mode of affixing the blanks is a cumbersome operation and entails a loss of time. Moreover there is always the likelihood of the lenses being broken or spoiled when being detached from the block.

The present invention has for its object to provide a work holder in which the blank is clamped, which work holder is to be used for grinding and/or polishing single surfaces. But in this case care has to be taken that the pressure exerted by the clamping means is uniform around the whole periphery of the blank. It is therefore a further object of the invention to provide a clamping means which exerts a slight and uniform pressure on the periphery of the blank, which can easily be used with any grinding and polishing machine and which can easily and speedily be opened and closed whenever a blank is to be inserted or removed.

The invention is shown by way of example in the attached drawing,

Fig. 1 being a sectional elevation of the new runner for working concave surfaces,

Fig. 2 is a plan view thereof, while

Fig. 3 is the part view of a runner destined to hold lenses with convex surfaces, drawn on an enlarged scale.

The new work holder consists of a ring 1, having a hub 2 from which extend radially two spokes 3, 3'. Ring 1 is split at 4 and the slot extends well into the spoke 3' towards the hub. Ring 1 has two thickened portions 5 and 5' at both sides of the slot 4. Both these portions are provided with throughgoing bores, spoke 3' having a similar bore, all these bores being in alignment. A headed screw 6 is passed through these bores engaging an internal screw thread at 7. Ring 1 has a circumferential shoulder 8 on one side, serving as the seat for the lens to be worked upon. This shoulder is slightly slanting in the approximate direction of the surface of the blank to be inserted. The hub 2 has a central boss 9 extending axially on the side of the ring which is opposite shoulder 8. Boss 9 has a central recess of conical shape, designated 10 and adapted to be engaged by the tip of a rod 11 (shown in dotted lines) by means of which the runner is moved across the grinding surface.

In use, the lens is placed on the seat formed by shoulder 8 and is fixed in the work holder by screwing screw 6 into thread 7 thereby reducing the width of the gap 4 and consequently attaining

2

a grip on the rim of the lens blank, which in position does not come into contact with the hub or the spokes.

The grinding and polishing is performed in the normal way by means of known arrangements. Care has to be taken for the exact location of the hub and boss in relation to the blank. It is desirable to place the connecting point between runner and rod 11 as near as possible to the surface of the work piece under treatment, without touching the same. For this reason, at least two sets of differently shaped runners (see Figs. 1 and 3) have to be provided, the two types differing by the location given to the hub within the whole runner, this location being chosen in accordance with the general curvature of the blank, said curvature being either inward or outward. Each such set comprises runners of different sizes according to the sizes of the blanks.

According to Fig. 3, shoulder 8' is rectangular and the edge of the rim of ring 1' is made sharp, so as to allow for a grinding of the convex surface to the very edge of the blank *b*. Hub 2' together with boss 9, is placed as near as possible to the inner side of the blank, which—as a whole—is curved outward.

A modified form of the ring has to be employed for holding blanks of noncircular shape. Such blanks are usually quadrangular with rounded corners. In this case, portions of the rim above the circular shoulder 8 are cut away as indicated by dotted lines in Fig. 2. Of course, runners of different size have to be provided for blanks of different size.

The shape of hub and boss as shown in the drawing may be adapted to the requirements arising when used in connection with lens block holders as employed for grinding cylindrical or torical surfaces, e. g. this part may be shaped quadrangular, as is known in the art.

I claim:

A work holder for use in grinding and/or polishing single lenses, consisting of a ring with a central hub, adapted to be engaged by the tip of a rod, from which hub extend two diametrically positioned spokes connecting hub and ring, the ring being split, thereby creating a slot the slot passing through the ring and radially into one of the spokes, a screw being passed in a direction perpendicular to the slot between the parts of the ring adjoining the slot and across the latter for controlling the width of the slot.

ALBERT SEIDNER.

REFERENCES CITED

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

UNITED STATES PATENTS

Number	Name	Date
1,447,983	Hill	Mar. 13, 1923