

(No Model.)

E. L. OVREJORDE.
WATCHMAKER'S TOOL.

No. 586,562.

Patented July 20, 1897.

Fig. 2.

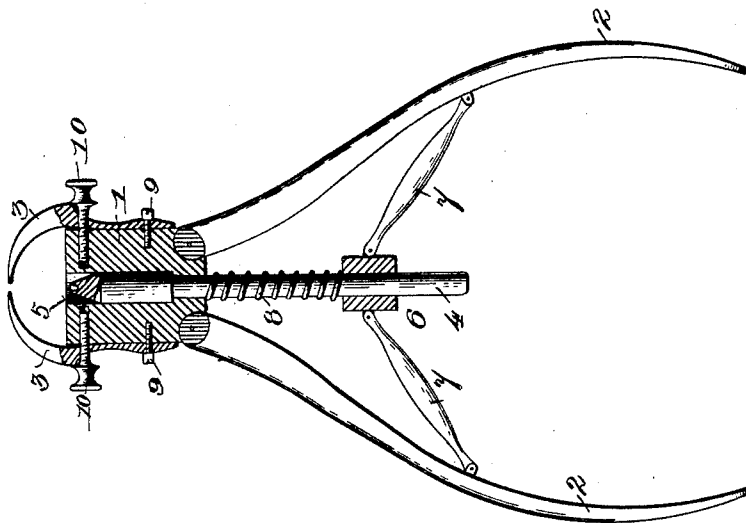


Fig. 3.

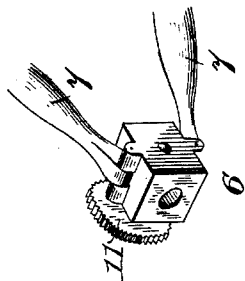
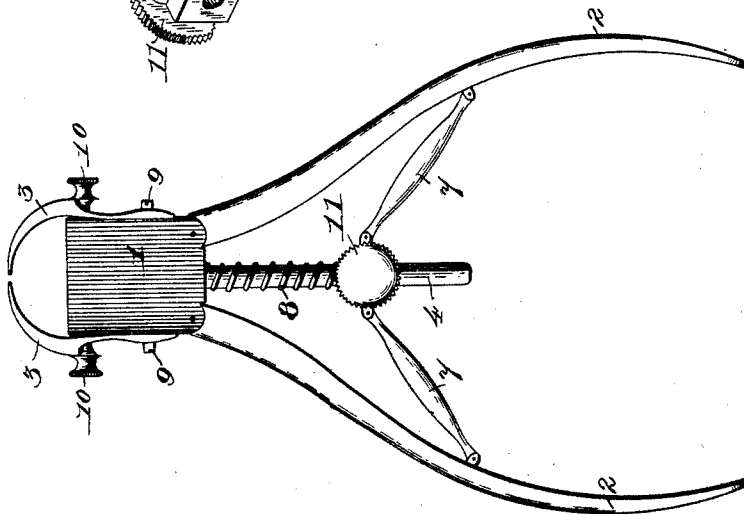


Fig. 1.



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WATCHMAKER'S TOOL.

SPECIFICATION forming part of Letters Patent No. 586,562, dated July 20, 1897.

Application filed June 24, 1896. Serial No. 596,775. (No model.)

To all whom it may concern:

Be it known that I, ERICK L. OVREJORDE, a citizen of the United States, residing at Fairfax, in the county of Renville and State of Minnesota, have invented a new and useful Watchmaker's Tool, of which the following is a specification.

This invention aims to provide a tool for jewelers or watchmakers to facilitate the removal of the hands from timepieces, the rollers from balance-staffs, hair-spring collets from their supporting-staffs, and other parts which it is required to remove from arbors and staffs when cleaning or repairing watch and clock movements.

The principal objects of the improvement are to devise a tool which can be operated by one hand, leaving the other hand free to hold the work and properly present the same to the tool, to reduce the operating parts to a minimum number and dispose them so as to secure positive action and a direct application of force, which will prevent twisting or canting of the hands, roller, collet, or other part to be removed from its staff, and to supply a tool for the purposes aforesaid which can be relied upon and will have its jaws independently adjustable, whereby provision is had for adapting the tool to the size of the staff or arbor from which the part is to be removed.

For a full understanding of the merits and advantages of the invention reference is to be had to the accompanying drawings and the following description.

The improvement is susceptible of various changes in the form, proportion, and the minor details of construction without departing from the principle or sacrificing any of the advantages thereof, and to a full disclosure of the invention an adaptation thereof is shown in the accompanying drawings, in which—

Figure 1 is an elevation of a watchmaker's tool constructed in accordance with the principles of this invention. Fig. 2 is a view similar to Fig. 1, partly in section. Fig. 3 is a detail view in perspective of the inner ends of the toggle-levers and the coupling to which they are pivotally connected.

Corresponding and like parts are referred to in the following description and indicated

in the several views of the drawings by the same reference-characters.

The tool comprises in its construction a block or rectangular-shaped head 1, handles 2, pivoted to the lower corners of the block or head, jaws 3, adjustably connected with the sides of the said block or head, whereby the distance between their active ends can be regulated, a push-bar or plunger 4, adapted to operate loosely through an opening 5 in the block or head, a coupling 6, adjustably connected with the push-bar, and toggle-levers 7, connecting the coupling with the handles 2 and normally inclining at their inner ends toward the block or head, so that when force is applied to the handles 2 to bring the latter together the push-bar or plunger will be projected beyond and through the block or head. A spring 8 is mounted upon the push-bar or plunger and is confined between the block or head and the coupling and serves normally to hold the coupling and block separated and the handles 2 spread and the push-bar or plunger in a withdrawn position, since the coupling and push-bar are connected.

The jaws 3 have their outer ends inwardly curved and made exceedingly thin, so as to pass beneath the flange of the hands of a watch-movement when it is required to remove the hands from either the setting-post or arbor or from the hour pipe or tube. The inner ends of the jaws are reduced and secured to the sides of the block or head by screws or other fastenings 9, and by reducing the inner ends of the jaws the latter are rendered elastic and capable of moving apart at their active ends by a spring action. Set-screws 10 pass through openings in the jaws 3 and enter threaded openings in the sides of the block or head 1 and are adapted to be turned so as to bring the active ends of the jaws closer together when it is required to reduce the space formed between them, so as to adapt the tool to the size of the staff or arbor from which the part is to be removed.

The push-bar or plunger 4 passes through an opening in the coupling 6 and is held therein in the required position by means of a binding-screw 11, whereby provision is had for adjusting the push-bar or plunger with reference to the block or head 1, so as to vary

the distance between the active ends of the jaws and the said push-bar. The outer or active end of the push-bar is indented or bored for a short distance from its extremity, 5 so as to receive the pivot of a staff or the end of a post or arbor, so as to prevent slipping when the tool is in operation, and used for removing a pinion, collet, or other part. The spring 8 serves to withdraw the push-bar or 10 plunger and at the same time spread the handles, and is readily accessible for stretching or to be replaced by a new one when rendered unfit for further service.

Having thus described the invention, what 15 is claimed as new is—

A watchmaker's tool for the purposes specified, constructed substantially as set forth and comprising an approximately rectangular-shaped head having a longitudinal opening, jaws having their inner ends made elas-

tic and rigidly secured to the opposite sides of the head, set-screws for adjusting the active ends of the jaws independently of each other and the head, handles pivoted to the inner or lower corners of the head and wholly 25 independent of the jaws, a push-bar slidably mounted in the opening of the head, a coupling having adjustable connection with the push-bar, a spring mounted upon the push-bar and located between the coupling and the 30 head, and toggle-levers connecting the coupling with the handles, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in 35 the presence of two witnesses.

ERICK L. OVREJORDE.

Witnesses:

FRED. W. LAMMERS,
MARY MAURER.