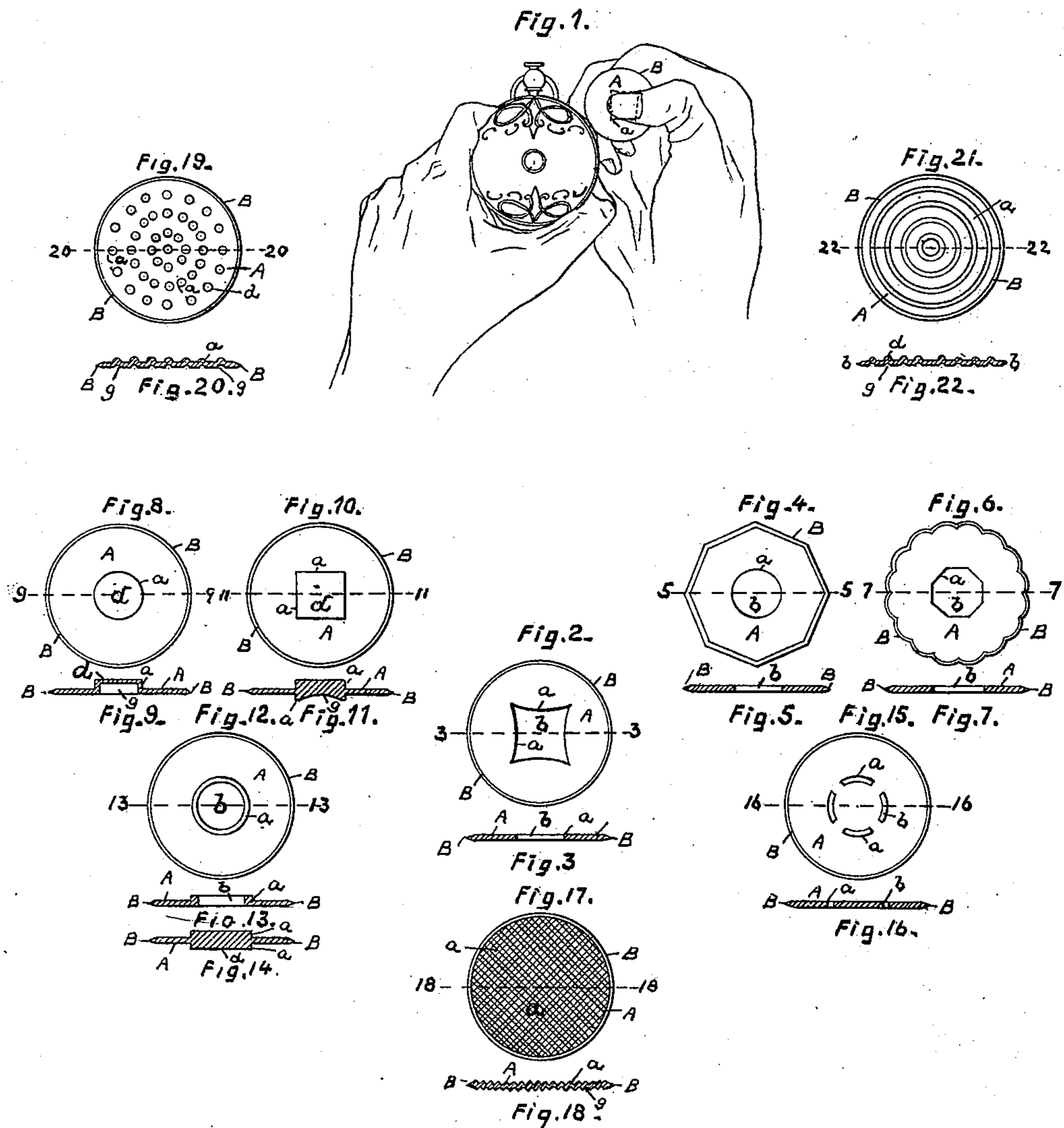


(No Model.)

D. SOUTHWORTH.  
WATCH CASE OPENER.

No. 451,982.

Patented May 12, 1891.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

DEAN SOUTHWORTH, OF BRAINTREE, MASSACHUSETTS.

## WATCH-CASE OPENER.

SPECIFICATION forming part of Letters Patent No. 451,982, dated May 12, 1891.

Application filed November 28, 1890. Serial No. 372,917. (No model.)

*To all whom it may concern:*

Be it known that I, DEAN SOUTHWORTH, a citizen of the United States of America, and a resident of the town of Braintree, in the county of Norfolk and State of Massachusetts, have invented a certain new and Improved Hand-Tool for Opening Watch-Cases, &c., of which the following is a full, clear, and exact description.

This invention relates to a hand-tool more especially designed for opening cap and such like plates or covers of watch-cases, &c. Heretofore these hand-tools have consisted, simply, of a strip of steel or other metal or suitable material, suitably shaped to be grasped by the fingers and at one end reduced to a thin edge suitable to be entered between the edge of the cap, &c., and its seat and all otherwise, so that the cap, &c., could be by the tool then pried, as it were, off of its seat and made free either for its removal or for being swung on its hinges, &c., according as the connection of the cap, &c., otherwise was constructed or arranged. These hand-tools, applied and operated as above stated, obviously work successfully; but they are most inconvenient and unhandy, in that when taken up for use they must be adjusted and held in the fingers in one given position—to wit, a position presenting their working and reduced edge to the edge and seat of the cap, &c., which is to be opened. To overcome this disadvantage in these hand-tools as heretofore made and also to adapt the tool for a better and more firm grasp of it by the fingers are the objects of this invention, and to that end the hand-tool of this invention, in substance, is composed of a plate of steel or other suitable metal or material having an outer edge or periphery which is continuous and more or less beveled and thin and at all points is substantially equidistant from a common center, and, again, on either one or both, but preferably on both, its opposite sides and within its outer edge has more or less edges or faces suitable for contact and engagement with the fingers in grasping the tool for use, and all otherwise, so as thereby to present resistance to the slip of the tool between the fingers when grasped thereby, all substantially as hereinafter described.

In the drawings forming part of this speci-

fication, Figure 1 is a view illustrating the hand-tool in use. Fig. 2 is a face view of the tool itself; and Fig. 3 is a transverse section, line 3 3, Fig. 2. Figs. 4 to 22, both inclusive, are illustrations in face and section views of modifications of the hand-tool as compared with the tool particularly as shown in Figs. 1, 2, and 3, and which is deemed most preferable, although the invention is not to be limited thereto.

In the drawings, A is a plate of metal, steel, or other suitable kind or other suitable material.

B is the continuous outer edge or periphery of the plate A and at all points substantially equidistant from a common center of the plate. This edge B is beveled off and thin, as specially shown in the various sectional views, and in the several face views it is shown as of various outlines apparent on inspection. Each plate A has within its outer edge B and preferably on both of its opposite sides, although it may be on either one or the other side, edges or faces *a* in lines or directions transverse to the periphery of the plate, all for the purpose of presenting bearings on the fingers grasping the plate on its opposite sides to open the cap of a watch-case, Fig. 1. These edges or faces *a* prevent slip of the tool on the fingers or of the fingers over the sides of the tool when the tool is grasped to be used, for the reason that they are resistants thereto, and, furthermore, they insure a better hold of the tool by the fingers.

The edges *a* are shown in the figures of the drawings as of various forms, directions, and outlines—in some figures as formed by holes *b*, and in others by raised rims or portions *d*, teeth *f*, depressions *g*, and otherwise in many other ways, as is obvious.

The tool in either form described and in others obvious therefrom plainly when taken by the fingers to be used requires no adjustment to place its working-edge in proper operative position, for the reason that however the tool may be taken up some part of the working-edge is in position for use. Further, a formation of the sides, either one or both of the tool, all substantially as described, insures a firm, rigid, and immovable grasp of the tool, however the tool may be seized by the fingers, and prevents all possibility of slip

of the tool either on the other or both on each other.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A hand-tool for opening caps of watch-cases, &c., composed of a plate having a beveled and thin outer edge that at all points is substantially equidistant from the center of the plate, substantially as described.

2. A hand-tool for opening caps of watch-cases, &c., composed of a plate having, in combination with a beveled and thin outer edge

that at all points is substantially equidistant from the center of the plate, opposite sides, either one or both provided with more or less resistant edges or faces, substantially as described, for the purposes specified.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

DEAN SOUTHWORTH.

Witnesses:

ALBERT W. BROWN,  
MARION E. BROWN.