

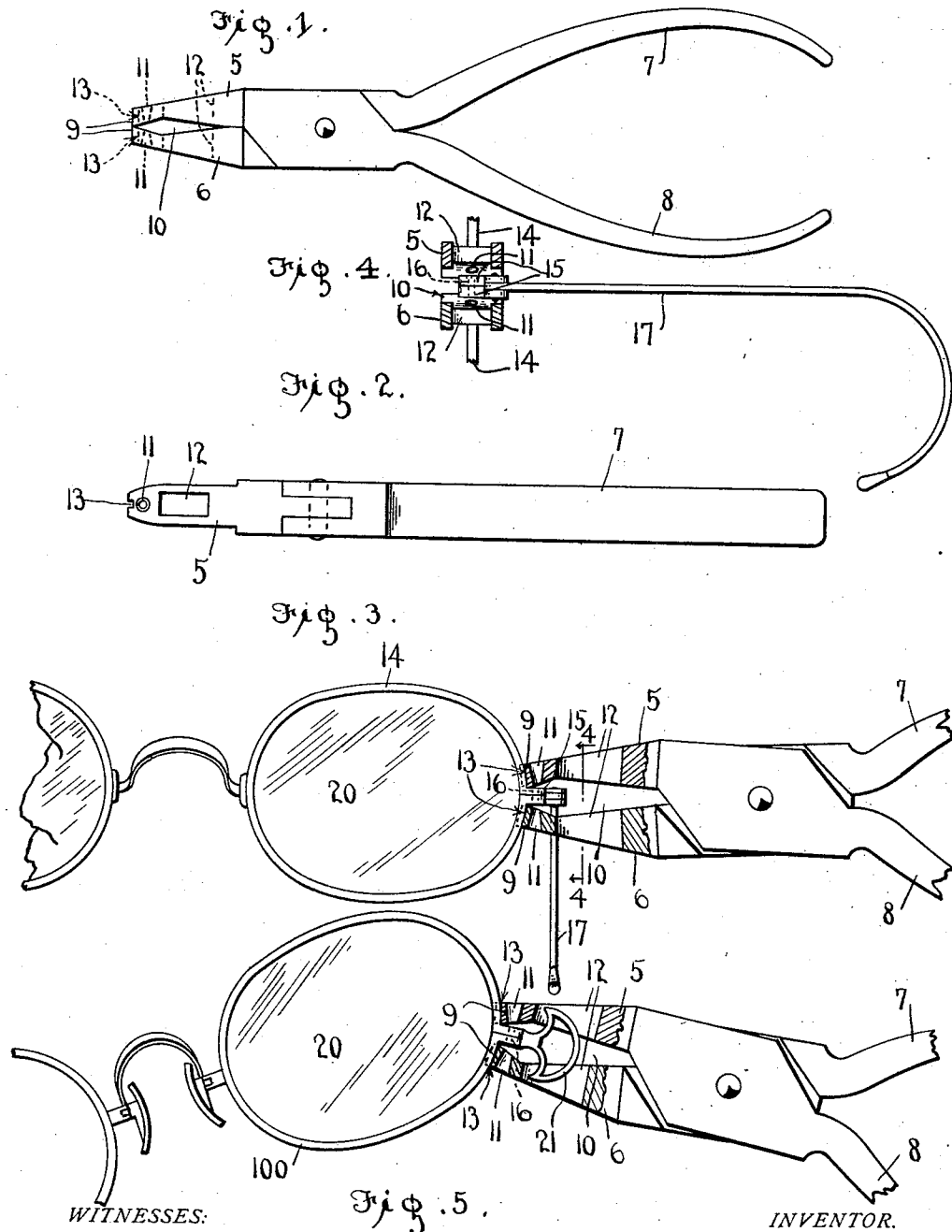
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PLIERS.

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1,008,176.

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WITNESSES:

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Fig. 5.

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To all whom it may concern:

Be it known that I, ALBERT E. MENZEL, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Pliers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to pliers designed especially for the optical trade for facilitating the work of securing lenses in eye-glass and spectacle frames, and of removing them from the same.

One object of the invention is to provide pliers of this character so constructed as to grip the eye-wire end pieces of eye-glass and spectacle frames, and by pressure on the handles to bring the frame firmly together over the lens, without marring the end pieces of the frame and to hold the lens and frame together while the frame screw is either inserted or removed by means of a screw driver.

Another object of the invention is to provide pliers of this character having means for grasping the end pieces of eye-glass and spectacle frames close to the lens, openings for the insertion of screws to secure the end pieces together, and spaces to accommodate the temples of spectacle frames, or the handles of eye glass frames, during the operation of securing the end pieces together.

With these and other objects in view, which will hereinafter appear, the invention consists in the improved construction, arrangement and combination of parts of a tool of the character specified which will be first fully described and afterward specifically claimed.

In order that my invention may be readily comprehended, I will now proceed to specifically describe its construction and operation having reference to the accompanying drawings in which is shown an embodiment of the invention, and in which:

Figure 1 represents a view in side elevation of my improved pliers; Fig. 2 represents a view in edge elevation of the same; Fig. 3 represents a view of the pliers in side elevation with the jaws partly broken away and shown in section, gripping the end

pieces of a spectacle frame; Fig. 4 represents a view in section, on the plane indicated by the broken line 4—4 of Fig. 3; Fig. 5 represents a view showing the pliers substantially as shown in Fig. 3, illustrating the manner of applying them to eye-glass frames.

Like reference characters mark the same parts wherever they occur in the several figures of the drawings.

Referring specifically to the drawings, 5 designates the upper, and 6 the lower jaw of the pliers formed integral with the handles 7 and 8 which are pivoted in the usual manner. The jaws are duplicates of each other, and are each provided with gripping edges 9 at their points which come together, as shown in Fig. 1, when the handles are at the end of their inner stroke, and the inner faces of both jaws are provided with recesses, which, when the jaws are brought together in the manner described, jointly form a single recess as at 10 for a purpose hereinafter described. Each jaw is provided with an aperture near the point as at 11, and these apertures are so arranged that they are in line with each other when the jaws are brought together, when the apertures open into the recess 10 between the jaws.

The jaws 5 and 6 are further provided with longitudinal rectangular slots 12, which are likewise in line with each other when the jaws are brought together, and also open into the recess when the jaws are closed, all as very clearly shown in Figs. 3 and 5 of the drawings. In the extreme ends of the jaws, they are provided with grooves 13 which also are in alinement with each other when the jaws are closed, as clearly shown in Figs. 3 to 5 of the drawings, such grooves reaching to the edge of the grasping surface 9 and extending entirely across the face of the ends of the jaws.

I have illustrated the application of my improved pliers to the frame of a pair of spectacles, in Fig. 3, in which, it will be observed, that the groove 13 receive the eye-wires 14 of the frame, while the gripping edges firmly grasp the ends 15 of said eye-wires, bringing them firmly together with the screw holes 16 in line with the apertures 11 in the jaws of the pliers, so that the securing screw may be readily inserted in position through one of said apertures. It

may be observed that, by virtue of the construction of the jaws exactly alike as hereinbefore specified, they may be reversed in position, whenever desired, and the securing screw inserted through either of the apertures 11. When the frame of the spectacles is thus held for the insertion of the securing screw in the end of the eye-wires, or obviously, for the removal of the same, the temple 17 of the end operated upon, will project through the recess 10 between the jaws 5 and 6 and will in nowise interfere with the operation. In order to more readily accommodate the securing screw, the apertures 11 are of greater diameter at their outer ends than at their inner ends, thereby forming countersunk holes through each of the jaws to readily receive a screw or the blade of a screw driver from the outside for turning the screw home, while the frame 14 and lens 20 are firmly held in position by the pliers.

In Fig. 5, the piers are shown in the same operative position on the end wires of an eye glass frame 100, instead of on a spectacle frame 14, the operation being the same in all respects and the handle 21 of the eye glass being accommodated in the two oblong slots 12 between the jaws of the pliers, entirely out of the way of the operator, and out of contact with the middle of the pliers, or anything which would tend to scratch or mar it.

From the foregoing description, the construction and operation of my improved pliers will be apparent, and it will be obvious to those skilled in the art that slight changes and variations may be made in the construction and arrangement of the parts described without departing from the spirit and scope of the invention.

Having thus described my invention, what I claim as new is:

1. Pliers of the character described comprising pivoted jaws of duplicate construction, each jaw being provided with a gripping edge, a groove in the outer end face at

right angles to the gripping edge, an inner surface receding from the gripping edge, and an aperture separate from and adjacent to and parallel with the outer groove. 50

2. Pliers of the character described comprising pivoted jaws of duplicate construction, each jaw being provided with a gripping edge, a groove in the outer end face at right angles to the gripping edge, an inner surface receding from the gripping edge, an aperture separate from and adjacent to and parallel with the outer groove, and a large rectangular slot parallel with and in the rear of the aperture. 60

3. Pliers of the character described comprising duplicate pivoted jaws having grooves on their inner faces in alinement with each other when the pliers are closed and receding inner surfaces, whereby they meet at the gripping front edges only, thus forming a recess between the jaws when closed, each jaw being provided with an oblong slot extending from said recess outwardly through the jaws, such slots being separate from the grooves and in alinement with each other when the jaws are closed. 70

4. Pliers of the character described provided with duplicate jaws having grooves in their end faces to accommodate eye wires of spectacle or eye glass frames, acute edges to grip the meeting ends of said eye wires, countersunk apertures in alinement with each other and with the screw holes of the frame when gripped therein, a recess between the jaws and slots through the jaws communicating with the recess, to accommodate the handles of the eyeglass frame being operated upon. 80

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses. 85

ALBERT E. MENZEL.

Witnesses:

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