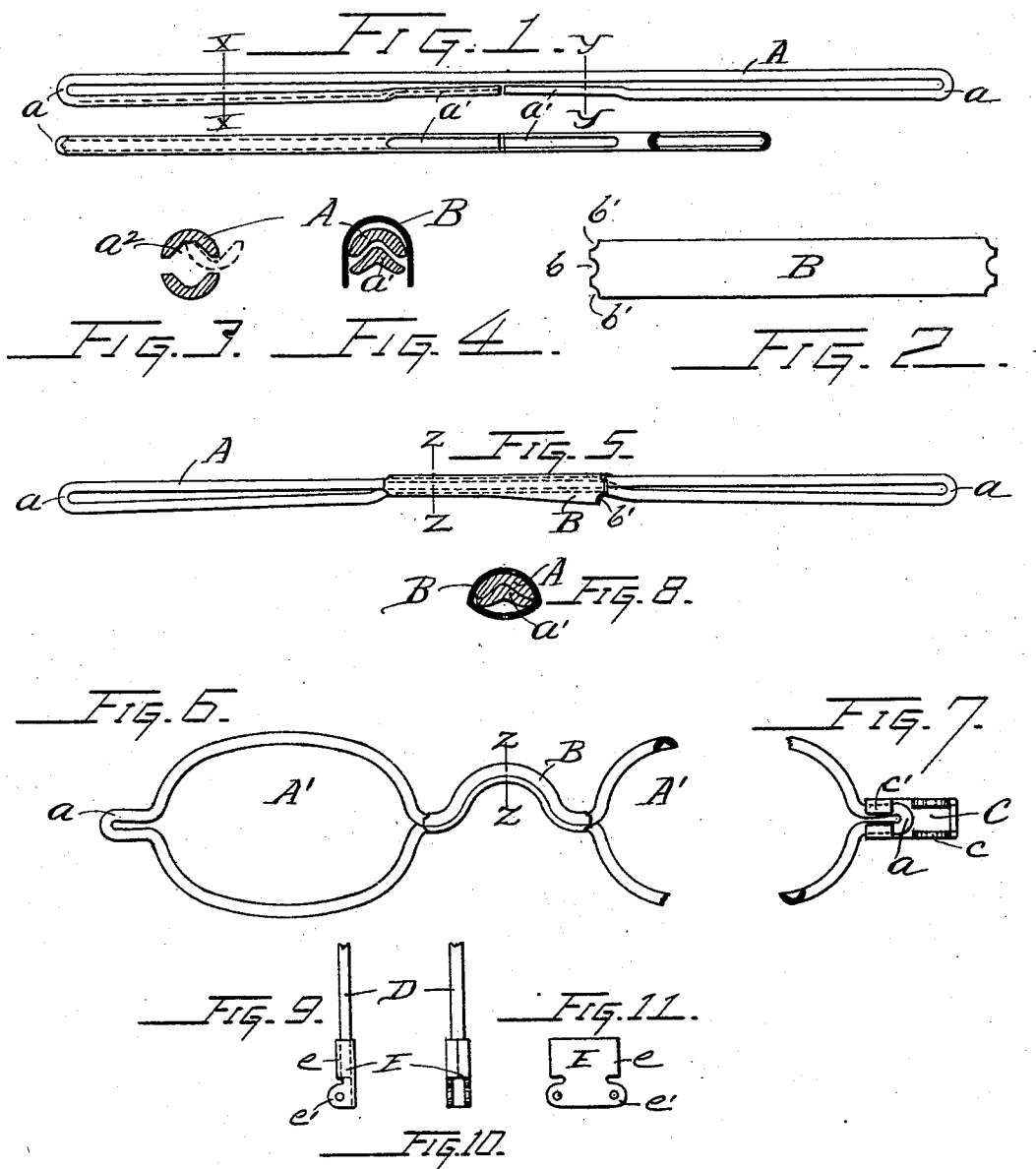


(No Model.)

T. A. WILLSON.
SPECTACLES.

No. 536,248.

Patented Mar. 26, 1895.



Witnesses:
Caleb J. Richer,
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UNITED STATES PATENT OFFICE.

THOMAS A. WILLSON, OF READING, PENNSYLVANIA.

SPECTACLES.

SPECIFICATION forming part of Letters Patent No. 536,248, dated March 26, 1895.

Application filed September 14, 1894. Serial No. 523,051. (No model.)

To all whom it may concern:

Be it known that I, THOMAS A. WILLSON, a citizen of the United States, residing at Reading, county of Berks, State of Pennsylvania, have invented certain Improvements in Spectacles, of which the following is a specification.

My invention relates mainly to the frames of spectacles, but also includes improvements in the temple and its connection to the frame.

In the class of frames to which my invention particularly relates, the upper and lower portions of each eye are continued across the space between them, and are brought together in parallel lines to form the nose-piece. The main object of my invention is to complete the nose-piece thus partially formed in a manner which will avoid the stringing of any clamping band or tube upon the doubled wire as has been heretofore done; this former method of construction not being adapted to my present improved frame the whole of which is formed from a single length of wire, and my present construction being otherwise advantageous. The method and means which I employ in carrying out this portion of my invention, as well as the other features thereof are fully described in connection with the accompanying drawings, in which—

Figure 1 illustrates the first step in the formation of my improved frame, showing in two views the single length of wire from which it is formed, bent and doubled upon itself. Fig. 2 shows the binding strip which forms the sheath for the nose-piece. Figs. 3 and 4 are enlarged sectional views on the lines xx and yy respectively of Fig. 1. Fig. 5 shows the binding strip partially clamped upon the doubled wire. Fig. 6 shows the frame front formed to shape, and Fig. 7 shows the temple-joint piece secured to the temple-end of the frame. Fig. 8 is an enlarged sectional view on the line zz . Figs. 9, 10, and 11 illustrate my improved temple end.

A represents a piece of channel wire such as is ordinarily used for spectacle frames. The length of this wire is sufficient to form both eyes A' , together with the doubled projections aa and doubled nose-piece or bridge, as shown in Fig. 6. The wire is first bent at points a so as to cause $a'a'$ to abut under the middle of the wire, the said bends being

rounded preferably as indicated so as to keep the doubled wire somewhat apart near the bends. The grooved faces a^2 of the doubled wire are thus brought opposite each other as indicated in Fig. 3, and form a convenient means of engaging the beveled edges of the lens when the eyes $A' A'$ are formed. In forming the nose-piece however it is impracticable to maintain these wires in the same relative position indicated in Fig. 3 without employing some means, such as a core-piece or a closely encircling band, to positively prevent them from assuming something approximating the position indicated therein in dotted lines. To avoid this and at the same time enable my improved construction to be practically carried out with ease, I change the sectional shape of so much of the abutting ends $a' a'$ as will form part of the nose-piece, preferably by reversing the groove as indicated in Fig. 4, so as to cause the said ends a' to naturally seat themselves centrally in the groove a^2 of the upper wire, thus overcoming all danger of displacement and at the same time reducing the thickness of the doubled wires so as to produce a somewhat flattened and less bulky nose-piece.

The binding strip B is stamped preferably out of sheet metal, its length being equal to the full extent of the nose-piece with recesses b and $b' b'$ at either end to engage the bends of the eye wires, and its width sufficient to envelope the doubled wire in clamping the same. This punched strip is first formed into a U-shaped cross-section as shown in Fig. 4, and the edges are afterward turned inward in the operation of clamping so as to practically meet at the center-line of the nose-piece. The required shape is then given to the different points of the frame. The nose-piece is readily bent to the desired curves owing to the reduced thickness of the doubled wires effected by the changed cross-section of the abutting ends $a' a'$. The bent ends aa are made to form projecting loops on the eyes A' for the attachment of the separately formed temple-joint piece. This piece as represented in Fig. 7 and marked with reference letter C, is the same as is shown and described in Letters Patent Nos. 452,008 and 452,009, issued to me May 12, 1891, being provided with clamping ears $c' c'$ which are closed over the doubled wire of the

loop between the eye and the bend *a*, thus firmly securing it to the frame.

Figs. 9, 10 and 11 illustrate the pivot end of my improved temple, as adapted to the temple-joint piece illustrated in Fig. 7. The temple shaft or bar *D* is of wire cut to proper length and suitably shaped at its outer end which is not shown. The pivot end is formed by a separate piece *E*. The blank from which this is made is shown in Fig. 11, the lower ears *e' e'* of which are bent up parallel with each other and sufficiently spread to fit snugly between the pivot-ears *c c* of the temple-joint piece *C*, while the upper ears *e e* are adapted to be clamped firmly to the end of the shaft *D* as shown in Figs. 9 and 10.

By my improved construction I am enabled to produce the whole frame from a single piece of wire, without soldering, in a neat, substantial and inexpensive form. The bends of the wire, and the cross-section of the doubled wire at other points than the nose-piece, do not interfere with or effect the completion of the latter. The temple-joint piece is easily and firmly attached as in the construction described in my prior patents referred to.

Having thus fully described my invention as I have preferably applied it, I do not desire to limit myself to the exact construction shown and described, but

What I claim is—

1. A spectacle frame made of channel wire bent up with the grooved face inward to form the eyes and doubled between the eyes to form the nose-piece, the lower wire of said nose-piece having an integral portion formed to centrally engage the groove of the upper wire, and said upper and lower wires being held in contact, substantially as described.

2. A spectacle frame made of a single piece of channel wire doubled up and having the ends thereof abutted at the nose-piece, said ends being clamped to the central portion of

the wire by a longitudinal strip with its side edges folded around the same and extending between the eyes, substantially as described.

3. A spectacle frame made of a single piece of channel wire doubled up and having the ends thereof abutted at the central portion of the wire, the thickness of the doubled wire at the nose-piece being reduced to less than the width of the channel wire and the doubled wire being clamped between the eyes by a metal strip bent around the same, substantially as described.

4. A spectacle frame having the nose piece thereof formed of doubled wire, in combination with a binding strip corresponding in length with the distance between the eyes and in width with the circumference of the doubled wire and having its ends recessed substantially as shown, said strip being folded around the doubled wires.

5. A spectacle frame made of a single piece of wire doubled and bent to form the two eyes with the connecting nose piece, and provided with projecting loops forming temple ends as described, in combination with a separate temple joint piece having clamping ears engaging said projecting end between the eye and the bend, substantially as described.

6. A temple consisting of a shaft portion and a separately formed pivot piece having clamping ears engaging the end of the shaft, and pivot ears extending beyond the shaft in combination with a spectacle frame having a temple joint piece with correspondingly formed clamping and pivot ears, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS A. WILLSON.

Witnesses:

W. G. STEWART,
ADAM L. OTTERBEIN.