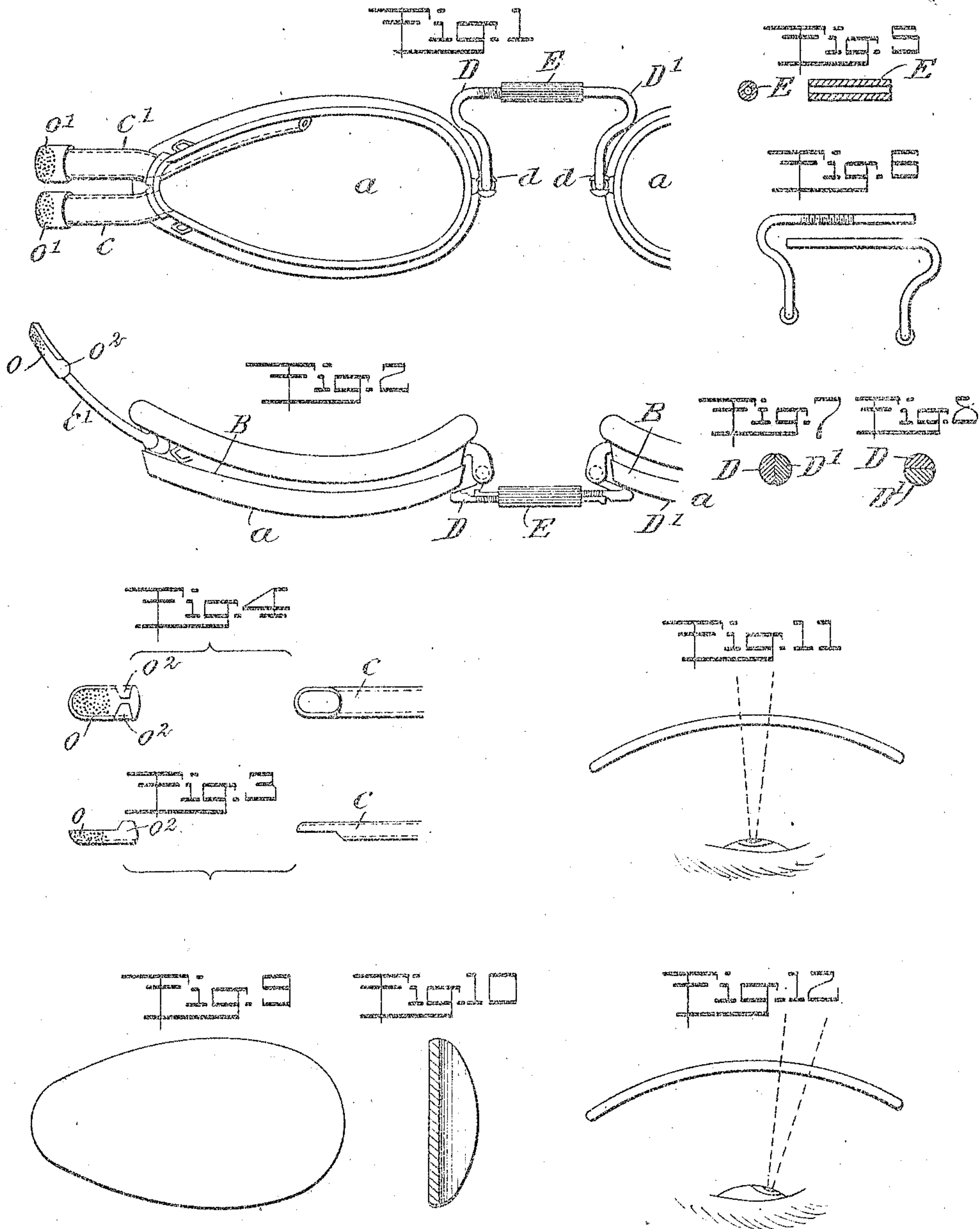


No. 844,952.

PATENTED FEB. 19, 1907.

E. MIROVITCH.  
EYE PROTECTOR.

APPLICATION FILED MAR. 22, 1906.



WITNESSES

F. D. Sweet.  
C. E. Wolske.

INVENTOR

Elie Mirovitch  
BY *Mumuk*  
ATTORNEYS



# UNITED STATES PATENT OFFICE.

ELIE MIROVITCH, OF PARIS, FRANCE.

## EYE-PROTECTOR.

No. 844,952.

Specification of Letters Patent.

Patented Feb. 19, 1907.

Application filed March 22, 1906. Serial No. 307,400.

*To all whom it may concern:*

Be it known that I, ELIE MIROVITCH, doctor of medicine of the faculty of Paris, residing at 53 Rue Notre Dame de Lorette, Paris, France, have invented certain new and useful Improvements in Eye-Protectors or Goggles for Automobilists and Others, of which the following is a specification.

This invention relates to improvements in the eye-protectors or goggles for automobilists and others for which former Letters Patent of the United States of America were granted to me, dated the 13th December, 1905, No. 807,844.

The invention will be described with reference to the accompanying drawings, wherein—

Figures 1 and 2 show the improved eye-protector or goggles, hereafter referred to for convenience as "spectacles," in its complete form in face and plan view, respectively, while Figs. 3 to 12 show details of the novel portions forming the subject of the present application.

According to the present invention the ventilating-tubes  $c\ c'$  are of flattened oval form in cross-section, and instead of being open at their rear extremities each tube is provided with a lateral opening on the outer side of its rear end. These tubes  $c\ c'$  are made of metal and are rigid, so as to remain in a fixed position relatively to the chamber B, which carries them, and are furnished at their extremities with air-filters  $o\ o'$ , which serve to prevent flies and other insects as well as matter which might obscure the vision from gaining access to the interior of the chamber B between the lens  $a$  and the eye. The filters  $o\ o'$ , which are illustrated in Figs. 3 and 4, may be made of perforated metal gauze or equivalent material and are provided with flexible clips  $o^2$ , adapted to take onto the tubes  $c\ c'$ , so as to acquire the elliptic form of the latter and adhere firmly thereto when once placed in position. This arrangement permits of the filters  $o\ o'$  being detached with facility when not required or when the ventilating-tubes  $c\ c'$  are to be cleaned out.

A further improvement relates to the articulated bridge-piece which connects the two chambers B.

According to the present invention the extensibility of the bridge-piece is obtained by means of a construction differing from the spring-pressed sliding arrangement illus-

trated in the previous patent referred to above. The metallic arch forming the bridge-piece is constituted by two bent stems  $D\ D'$ , halved together, and each connected at one end by a ball-and-socket joint  $d$  to the spectacle-frame in order to permit of the spectacles being folded up in the smallest possible space. Each stem  $D$  and  $D'$  is of semicylindrical form for a portion of its length, and these portions are superposed one upon another, so as to form conjointly a complete cylindrical body, which is received in a screw-nut  $E$ , having an externally-milled surface. The semicylindrical stems are partially screw-threaded, one of the stems bearing a left-hand and the other a right-hand screw-thread, while the interior of the screw-nut  $E$  is similarly screw-threaded. (See Figs. 5 and 6.) When the stems  $D\ D'$  are introduced into the screw-nut  $E$ , it suffices to merely turn the latter in one direction or the other in order to regulate the distance between the joints  $d$ , and consequently the distance between the lenses of the spectacles, so as to suit the vision of the individual using the spectacles. Moreover, by this construction the axis of the ball-joints  $d$  remains invariably in the same plane with the axis of the screw-nut  $E$ , so that the bridge-piece is maintained without any deformation or play such as would result if the stems  $D\ D'$  were made in a single piece. The bridge-piece thus constructed, moreover, presents a better appearance, its bulk being less than that of the spring-slide, while its contact with the nose of the wearer is more agreeable in consequence of the screw-nut  $E$  alone coming in contact with the nose.

The superposition of the two semicylindrical portions of the stems  $D\ D'$  is preferably made in such manner as to present the joint between the two flat faces in a vertical plane, as shown in Fig. 7, this arrangement imparting to the bridge-piece a maximum power of resistance to such forces as would tend to interfere with the proper relative position of the joints  $d$ . The two flat portions of the stems  $D\ D'$  may, however, be arranged with their meeting faces extending in the horizontal direction, as seen in Fig. 8.

A further improvement consists in giving to the lenses of the spectacles an optical conformation differing from that of those at present in use for ordinary spectacles. The goggles or eyeglasses should be so constructed as not to restrict the field of vision, for the



reason that the driver of a motor-car must necessarily keep a constant lookout not only in front of him but also at either side, as well and both in his immediate vicinity and also at a distance in order to guard against accidents. The lenses now in use for such spectacles in no way meet this requirement, as they are made with a view of obtaining a clear vision through their center alone, and they all give rise to phenomena of deviation, displacement, deformation, &c., when the vision is directed toward their sides.

A person with normal vision capable of clearly distinguishing objects either close at hand or at a distance need only be protected by neutral lenses, and at present only two sorts of lenses are employed for use in such cases—viz., those which are flat on both faces and of uniform thickness, like window-glass, and those of curved glass, presenting two spherical concentric surfaces and also of uniform thickness; but these two kinds of neutral lenses do not give satisfactory results when employed as goggles. The necessity which the driver of a motor-car is under of very attentively guarding against accidents by directing his eyes all the time to right and left without moving his head in the same direction (which would give rise to excessive fatigue) involves the employment of lenses which are very wide in the horizontal direction. Now looking obliquely across neutral lenses of the ordinary kinds gives rise to very serious visual troubles, more especially if the lenses are not sufficiently large to permit of vision in the most oblique direction. This part of the invention consists in forming the lenses with the maximum dimension called for in the horizontal sense and so as to permit nevertheless of the oblique visual rays passing without undergoing the slightest alteration. These lenses when neutral have a uniform thickness, as usual; but they are

neither plane or spherical, but are of a curved or arched form, of which the curvature is in the horizontal direction only, as will be seen in Figs. 10, 11, and 12, in vertical section and plan view, respectively. For the better comprehension of this part of the invention one may consider the neutral lenses as being cut, for example, from a cylindrical glass tube, the longer dimension of each lens extending circumferentially of the tube, while the narrow dimension extends in the direction of the axis of the tube. The lenses thus shaped conform to the curvature of the eyeballs in the horizontal direction. They are traversed by the visual rays in a direction perpendicular to the thickness of the lens, as well in horizontal oblique vision as in horizontal front vision, as can be seen by referring to Figs. 11 and 12. Hence obstacles on the road on all sides appear to the driver in their real aspect, as they would if seen by the naked eye. This new form of arched lens is adapted for use by persons having abnormal vision of all kinds—*e. g.*, short-sighted, long-sighted, astigmatic, &c. The arched form of these lenses is more especially adapted to form a basis for the optical combination whereby most kinds of abnormal vision may be corrected.

I claim—

In eyeglasses or goggles for automobilists and others, having a double ventilating-tube and an extensible bridge-piece, the construction of the extensible bridge comprising two semicylindrical stems adapted to work within a screw-threaded nut having right and left handed screw-threads adapted to engage corresponding threads on the ends of the respective stems, substantially as specified.

ELIE MIROVITCH.

In presence of—

JOSEPH ZADOK,  
JULES MATHIEU.