(No Model.)

H. HAMECHER.

ARTIFICIAL EYE.

No. 303,726. Patented Aug. 19, 1884.

Fig. 1.

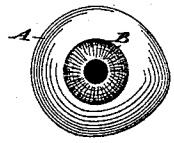


Fig. 2.

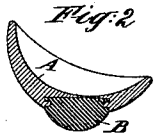


Fig. 4.

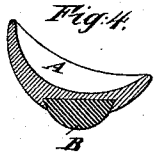


Fig. 5.

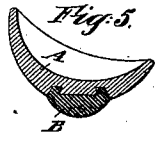
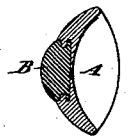


Fig. 3.



WITNESSES=

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UNITED STATES PATENT OFFICE.

HEINRICH HAMECHER, OF BERLIN, GERMANY, ASSIGNOR OF ONE-FOURTH TO FRITZ DAMMANN, OF SAME PLACE.

ARTIFICIAL EYE.

SPECIFICATION forming part of Letters Patent No. 303,726, dated August 19, 1884.

Application filed November 21, 1883. (No model.) Patented in Germany July 29, 1881, No. 17,279.

To all whom it may concern:

Be it known that I, HEINRICH HAMECHER, of Berlin, in the Kingdom of Prussia, have invented certain new and useful Improvements in Artificial Eyes, of which the following is a specification.

Down to the present time all artificial eyes have been made of glass or enamel, whose convexity lay toward the outside and the concavity against the eye-socket. These shells are so thin that the edges have to be covered with a thicker rim or band, so as not to injure the soft parts of the eye-socket. This band is, however, so inclosed, covered up, and held fast by the soft flesh that the false eye remains fixed and immovable in the socket, and so creates a staring expression of the eye, which causes its artificial nature to be easily discovered. These eyes made from enamel break very easily, and are also quick conductors of heat. This latter causes persons wearing them in winter a continual unpleasant sensation of coldness. For children the use of these eyes is particularly dangerous, as a fall may break the false eye and drive the splinters into the flesh. All these disadvantages are done away with by the use of my construction of false eyes.

The material I use in my manufacture is mainly or entirely a compound of gun-cotton, camphor, and other ingredients, known as "celluloid." I use this alone for the entire artificial eye, or I use the cornea of celluloid with the iris and pupil of glass. The celluloid is either prepared in the various colors, or, if celluloid of the desired color is not obtainable, I paint the same, including the arteries and other parts, to imitate nature. The iris is either of a spherical form or ground cylindrically, so that in the first case the highest point of the sphere lies toward the front, and in the second case a groove is turned in the edge of the cylinder; or on the under or back side arrangements are made for fastening or attaching, and in or around these fastening-points the celluloid fixed. I can also paint the iris direct upon the celluloid and fix the same with a coat of collodion. I cover the whole with a coat of collodion.

The accompanying drawings form a part of this specification, and represent what I consider the best means of carrying out the invention.

Figure 1 is a front view; Fig. 2, a central horizontal section, and Fig. 3 a vertical section through the center of the iris. The remaining figures are horizontal sections showing modifications.

Similar letters of reference indicate corresponding parts in all the figures.

Referring to Figs. 1, 2, and 3, A is the cornea, of celluloid; B, the iris, of glass properly colored to correspond to the natural eye, and having an imitation of the pupil in black in the center, as will be readily understood. The iris and the cornea are locked together by the forms imparted to their respective edges, as shown.

Fig. 4 shows the parts more plainly, the engaging-surfaces still so formed as to lock the parts efficiently together.

Fig. 5 shows the iris engaged with the cornea by the locking together, not of the edges, but of the back. The rear or back face of iris has a large dovetailed cavity, into which the material of the cornea is forced and caused to harden in position.

I claim as my invention—

1. An artificial eye the main body of which is of celluloid, substantially as above described.

2. The artificial eye described, having a shell of celluloid, in combination with a central portion of a different material, as glass, and a coating of collodion, as herein specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HEINRICH HAMECHER.

Witnesses:
J. F. CARPENTER,
WILLY SCHOLZ.