

W. H. TAYLOR.
MIRROR CONSTRUCTION.
APPLICATION FILED OCT. 6, 1921.

1,434,860.

Patented Nov. 7, 1922.

FIG. 1.

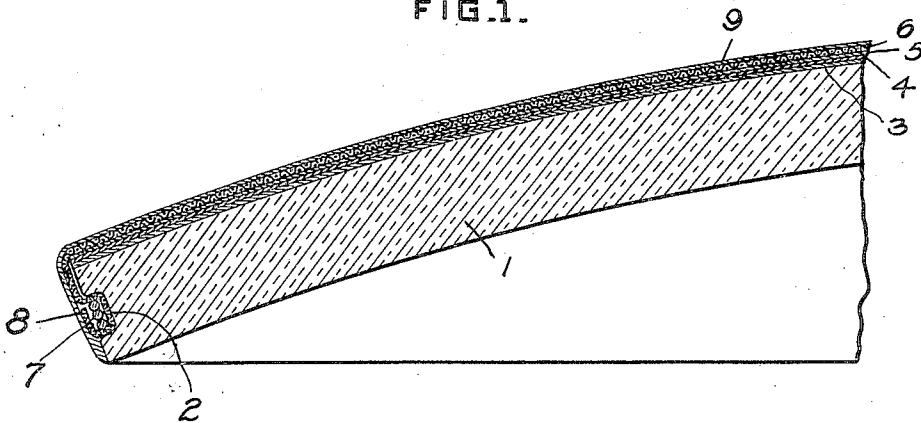
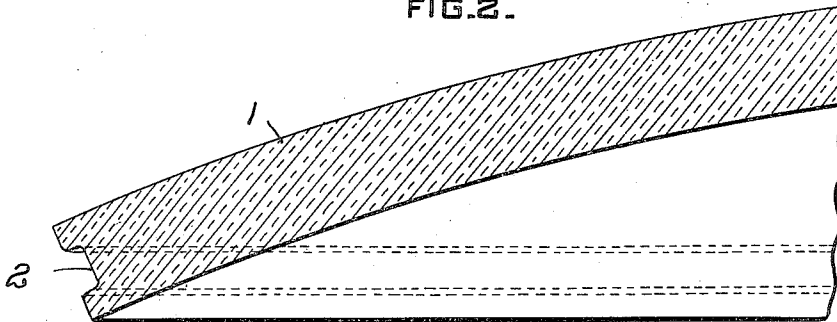


FIG. 2.



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UNITED STATES PATENT OFFICE.

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MIRROR CONSTRUCTION.

Application filed October 6, 1921. Serial No. 505,894.

To all whom it may concern:

Be it known that I, WILLIAM H. TAYLOR, a citizen of the United States, and a resident of Ford City, in the county of Armstrong and State of Pennsylvania, have made a new and useful invention in Improvements in Mirror Constructions, of which the following is a specification.

The invention relates to mirror constructions and particularly those employing a netting of metal or similar material at the back to protect the silver or other coating and to add reinforcing strength tending to hold the structure together in case the glass is shattered. The invention is illustrated as applied to a parabolic mirror, such as are used in connection with search lights, but is not limited to such use and may be employed to advantage on any mirror employing the metallic protecting backing. Heretofore it has been the practice to imbue the reinforcing netting in a coating or paste adherent to the back of the glass or the coating carried thereby, but with such construction the attachment to the glass is relatively weak, and the whole backing is liable to loosen from the glass at the edges and pull away. The object of the invention is to provide improved means for positively anchoring the metallic netting to the edge of the glass. One embodiment of the invention is illustrated in the accompanying drawings wherein:

Figure 1 is a section on an enlarged scale through the edge of a parabolic mirror including the improvement, and Fig. 2 is a section through the glass plate before the application of the backing.

In constructing the mirror the glass is first provided with a groove 2, which, in the case of a glass seven-sixteenths inches thick, is preferably about one-eighth inch wide and one-sixteenth inch deep. This groove is formed by a grinding operation. The sheet is then provided on its convex side with a silvering coating 3, over which is electroplated a copper coating 4. A third coating 5, consists of several layers of varnish. Upon this backing thus prepared is placed the woven copper fabric 6, which may be generically designated as a "flexible metal fabric" as this metal protecting fabric might be made in a variety of ways, although the woven copper mesh or screen

is the material which is at present universally used for this purpose. This fabric 6 is brought around the edge of the glass and over the groove 2, after which the clamping or binding wire 7 is applied. This wire is preferably about a No. 20 gauge and of phosphor bronze, three turns or laps being illustrated although a greater or less number of turns and wires of varying size may be employed, depending upon conditions. The ends of the wires are preferably secured by being soldered to adjacent turns of the wire.

After the wire is secured in position, the copper fabric is bent around to cover the wire, as indicated at 8 in Fig. 2. A final coating is then applied to cover the metal fabric and give the mirror a finished appearance. This covering, indicated by the reference numeral 9 in Fig. 1, preferably consists of one or more coats of varnish thickened with zinc oxide, although various compositions might be employed for this purpose. The construction as illustrated and described serves to hold the backing very securely in place as the wire positively clamps the edge of the metal fabric in position in the edge of the glass and there is no danger of the backing coming off, such as is the case where the entire attachment of the backing depends upon the adhesion of the various coatings, including the adhesion of the silvering to the glass. In case the glass is accidentally shattered, the backing with its secure holding means tends to hold the pieces together so that the mirror is effective to a certain extent at least until it can be replaced. The advantages of the construction incident to its security and the ease and cheapness with which it may be applied will be readily apparent to those skilled in the art. It will be understood that the invention is capable of embodiment in a wide variety of forms and that the one shown is merely illustrative of the principle involved and is not limited either as to the character of the groove or as to the number and the character of the layers constituting the backing.

What I claim is:

1. In combination in a mirror, a glass plate provided in its periphery with a groove, a silvering coating on the back of the plate, a flexible metal securing member

in said groove, and a flexible metal fabric extending over said coating and anchored at its edges to said flexible member.

2. In combination in a mirror, a glass plate provided in its periphery with a groove, a silvering coating on the back of the plate, a flexible metal fabric extending over such coating and over the grooved edge of the plate and a wire lying in the groove over the edge of the fabric and clamping it in such groove.

3. In combination in a mirror, a glass plate provided in its periphery with a groove, a silvering coating on the back of the plate, a flexible metal fabric extending over such coating and over the grooved edge of the plate, and a wire lying in the groove over the edge of the fabric and clamping it in such groove, the extreme marginal portion of said fabric being folded back over the wire.

4. In combination in a mirror, a glass plate provided in its periphery with a groove, a silvering coating on the back of the plate, an electrically deposited protect-

ing coating extending over the silvering coating, a flexible metal securing member in said groove, and a flexible metal fabric extending over said protecting coating and anchored at its edges to said flexible member.

5. In combination in a mirror, a glass plate provided in its periphery with a groove, a silvering coating on the back of the plate, an electrically deposited protecting coating extending over the silvering coating, a flexible metal securing member in said groove, a flexible metal fabric extending over said protecting coating and anchored at its edges to said flexible member, and a coating of varnish compositions extending over the foraminous fabric and the groove.

In testimony whereof, I have hereunto subscribed by name this 27th day of September, 1921.

WILLIAM H. TAYLOR.

Witness:

F. H. McNUTT.