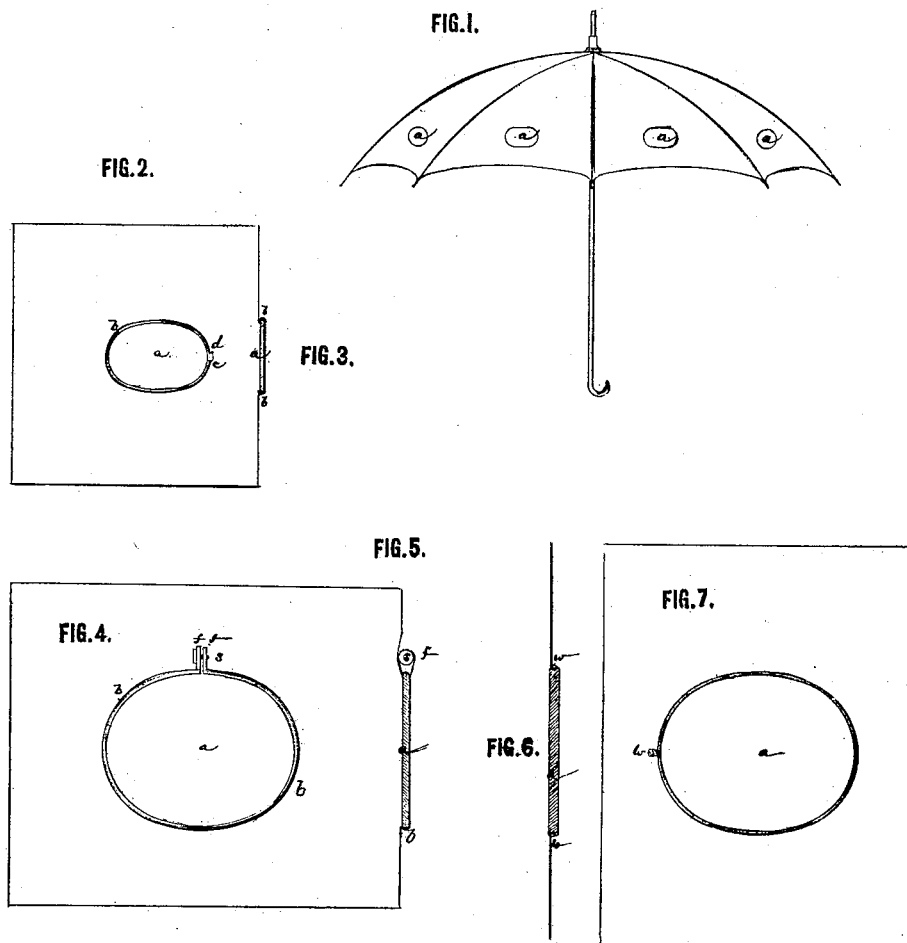


E. A. POND & M. S. RICHARDSON.
INSERTING GLASS IN UMBRELLAS, &c.

No. 50,492.

Patented Oct. 17, 1865.



E. A. Pond & M. S. Richardson
By J. H. Hodge
Attorney

WITNESSES,
Jos. A. Brown
W. W. Kelly

UNITED STATES PATENT OFFICE.

E. A. POND AND M. S. RICHARDSON, OF RUTLAND, VERMONT.

IMPROVEMENT IN INSERTING GLASS IN UMBRELLAS, &c.

Specification forming part of Letters Patent No. 50,492, dated October 17, 1865.

To all whom it may concern:

Be it known that we, E. A. POND and M. S. RICHARDSON, both of Rutland, in the county of Rutland and State of Vermont, have invented certain new and useful Improvements in Methods of Inserting Glass or other Transparent Plate to Form Windows in Umbrellas, Carriage-Tops, &c.; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is an elevation of an umbrella constructed in accordance with this our invention—that is to say, being provided with windows in the manner hereinafter more fully explained. Figs. 2 and 3 represent in elevation and section, respectively, one of the modes of inserting or securing a glass plate in thin flexible fabrics. Figs. 4 and 5 represent, in elevation and section, a modification of the same. Figs. 6 and 7 represent similar views of a plate inserted or held in still different mode in leather or fibrous textile material.

The inconveniences and embarrassing incidents attending the use of umbrellas, particularly in driving rain, first suggested the idea of using, in combination with a fabric of the umbrella and inserted at convenient heights from the border, windows or glasses whereby the objects which otherwise would be shut out from view by the interposition of the umbrella could be espied and collision or other accidents avoided.

To carry this invention into effect it was found difficult to insert in the limber, flexible, and often very thin materials, such as silk, a rigid glass-plate, of whatsoever form, without using complicated and costly devices, thus more than neutralizing the advantages accruing from the invention.

The object of this invention therefore is twofold: first, the creation of a new commodity consisting in the application to or combination with umbrellas and other like articles of windows made of glass or other transparent plates; second, the method of inserting such glass or other transparent plate in flexible or limber materials, such as silk, cotton, linen, leather, &c.

It is unnecessary to particularly describe the construction of an umbrella to which this our

invention is applied. It will suffice to say that windows or plates of glass *a*, of a round, oval, elliptical, or other form, may be inserted in one or more or all the leaves—that is, in the fabric between the ribs of the umbrella. They may be located centrally at a distance above the border, according to the taste and judgment of the user.

Several glasses, one above the other, may be inserted in one and the same leaf, so that observations through the umbrella may be made at various inclinations of the umbrella.

In Figs. 2 and 3 we have shown one of the modes of inserting the glass in silk or other fabric. It is done in the following manner: Upon the fabric, and in the required position, is placed the plate *a*, and the fabric is stretched over the plate, on the opposite side, so as to sharply define the edges of the plate. Around the edges thus covered with the fabric a grooved clasp-band, *b*, is placed so as to snugly frame the plate. The ends of the clasp-band may be secured in different ways. If the band be springy, a loop, *c*, may be formed on one end, the other end, *b*, being slightly curved outward, so that on engaging the curved end into the loop it will firmly clasp and hold the fabric onto the glass. In lieu of this attachment little ears *f* may be formed on both ends of the clasps, and a screw, *s*, may be run through screw-threaded holes in the ears to bring the ends of the clasp together. The latter is shown in Figs. 4 and 5, and affords the means of tightening the clasp around the edge of the plate. After the clasp is securely adjusted onto the plate the fabric stretched over the plate and between the clasp is removed or cut away by scissors or knives. In this way the hole in the fabric is made, as it were, after the insertion therein of the clasp.

A very cheap and expeditious mode of securing and inserting the glass plate into the fabric is shown in Figs. 6 and 7. The plate in this case is made, expressly for the purpose of this invention, grooved at the periphery. The fabric is applied and stretched over it in the manner before described, with reference to the square or convex edged plate, and in lieu of a grooved clasp, as in the former cases, a simple brass or other wire, *w*, is run around the edge of the plate and tightened upon it by twisting

the ends together. In this manner the wire will be forced into the groove or channel of the plate confining the fabric. The binding force of the wire may be increased by an additional twist of the wire. The fabric covering the plate is then removed in the same way as before described.

From the above it will be seen that our invention is susceptible of many modifications without departure from the principle thereof. We have described those which, on experimenting, we have found to answer the purpose well. Nor do we wish to confine ourselves to the application of the mode of inserting glass into fabrics or leather, as described, to umbrellas, as there are many occasions or articles in which this our invention may be used. Thus, for carriage-tops, masks, and other purposes, it may be employed with advantage.

Having thus described our invention, we claim—

1. The method of inserting glass or other transparent plate in flexible or limber fabrics or materials substantially as and for the purposes herein set forth.

2. As a new article of manufacture, umbrellas provided with windows made of glass or other transparent plate, substantially as herein shown and set forth.

In testimony whereof we have signed our names to this specification before two subscribing witnesses.

E. A. POND.

M. S. RICHARDSON.

Witnesses:

S. P. GIDDINGS, 2d,

E. J. PROUT.