

UNITED STATES PATENT OFFICE.

BENJAMIN T. IRISH, OF NEW BEDFORD, MASSACHUSETTS.

IMPROVEMENT IN PROCESSES OF PREPARING AND PRODUCING COLORED PHOTOGRAPHS ON GLASS.

Specification forming part of Letters Patent No. **179,316**, dated June 27, 1876; application filed May 15, 1876.

To all whom it may concern:

Be it known that I, BENJAMIN T. IRISH, of New Bedford, county of Bristol, State of Massachusetts, have invented certain new and Improved Methods of Making Colored Photographs on Glass, of which the following is a specification:

My invention relates to the production of colored pictures by mounting a photograph on glass, removing the paper, so as to render the print transparent, and then coloring the picture on the back. This method has been practiced for many years with more or less success; but as heretofore practiced it has been difficult and uncertain, and the results obtained have not been considered artistic.

My invention consists in certain improvements on the method referred to, which result in the obtaining of effects superior to those obtained by any other system known to me.

I shall first describe my process or method in detail, and will then point out those features which distinguish it from others.

The photograph, if mounted, is first removed from its card by soaking for a time in water, and then peeling the card away from the photographic paper. The unmounted photograph is now attached by its face to a glass by means of a paste made of ten parts water, four parts starch, and one part nitrate of strontium, stirred, dissolved, and boiled until the mixture has cooked well.

Other pastes or materials, however, may be used to attach the photograph to the glass, if desired. The paste above described is one good material for the purpose.

After the photograph is affixed to the glass, as stated, it is left until all moisture has dried out of it, and the paper is then made transparent as follows: The paper is ground down until it looks quite dark and very thin, or, possibly, until the surface film next to the glass begins to be very slightly scratched. The grinding is effected by emery-cloth or fine sand-paper, or the like, with which the back of the photograph is rubbed briskly until the paper is nearly ground off from the glass. When it is thus ground sufficiently and evenly it is placed in a bath of melted paraffine, for which other substances, such as bees-wax or spermaceti, may be substituted. It is there left for

a few moments, and is then removed, and all surplus wax is rubbed with a cloth from the back of the picture. It cools immediately, and is then clear and transparent, and ready for coloring or painting.

This method of rendering photographic paper transparent, and preparing it for coloring or painting, is a decided improvement over any system heretofore devised. The improvement is due to the conjoined operations of grinding and treating the paper with paraffine-wax or its equivalent.

I am aware, as above said, that it is not new with me to remove the greater portion of the body of the mounted paper; but I am not aware that this has ever been before effected by grinding down the dry paper. Nor am I aware that the grinding operation, or, indeed, any method of removing the paper, has ever been used in conjunction with the wax treatment. I exclude from the category of wax the balsams, oils, and varnishes which have been used for the purpose of giving the picture transparency. These materials are not to be relied on, are difficult to use, and are objectionable in other material respects, since they are certain to ruin photographic prints by causing them to turn yellow, to spot, or to crack from the glass.

My process gives to the photograph the appearance of a transparency upon ground glass, of a dull or softened appearance, and of such density as will admit of colors showing through the picture with a softness, and yet brilliancy, not attained by any other method of which I have knowledge.

In addition to the beauty of the effect, further advantages are derived, in that there is freedom from liability to spot, or to become injured by dust, moisture, handling, &c., and durability of the transparency and picture is obtained.

After the photographic print has been rendered transparent, as described, it is then painted with oil-colors; or such parts as may be desired are touched up direct upon the back of the picture itself. Then another glass is placed at the back of the picture, and oil-colors are put upon the back of this second glass, and the various tints are placed opposite such parts of the picture as may be de-

sired. Thus the colors are separated from the picture by the thickness of a glass, and this separation of the color has certain advantages over painting direct upon the back of the picture, as greater softness can be obtained in this way; consequently it is really a system of double painting. When the painting is completed, the glasses are backed with a piece of card-board, and the whole is then bound together with strips of gummed paper, and the picture is finished.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

The process of preparing and producing col-

ored photographs on glass, by first mounting the photograph on glass, face downward, then grinding it thin from the back, and then treating it with paraffine or its equivalent, as specified, for the after reception of oil-colors, applied directly to the back of the picture, or to a second glass, to be applied as a backing, substantially as herein described.

In testimony whereof I have hereunto signed my name this 13th day of May, A. D. 1876.

BENJAMIN T. IRISH.

Witnesses:

LEML. T. WILLCOX,

GEO. A. COVELL, Jr.