

UNITED STATES PATENT OFFICE.

HORACE M. HEDDEN, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO
HIMSELF, ENEAS MORGAN, CHARLES A. HILL, AND J. DEAN.

IMPROVEMENT IN PHOTOGRAPHIC PLATES.

Specification forming part of Letters Patent No. **174,525**, dated March 7, 1876; application filed
January 11, 1875.

To all whom it may concern:

Be it known that I, HORACE M. HEDDEN, of Worcester, Massachusetts, have invented certain Improvements in Photography, of which the following is a specification:

My invention relates to an improvement, fully described hereafter, in the photographic plate for which Letters Patent No. 141,351 were granted to William H. Hill July 29, 1873.

I take a thin metallic plate—by preference, the sheet-iron—such as used in making the pictures known as ferrotypes, and first prepare the plate by coating it with linseed oil or other equivalent substance and then heating the plate until the oiled surface adheres to it in a thin, hard, smooth, Japan-like film, which cannot be removed or cracked by any ordinary bending of the plate. I then prepare a collodion of more than the usual strength by dissolving as much gun-cotton in equal parts of alcohol and ether as this composition will take up, and to this collodion I add as much kaolin or other white clay, or baryta, or oxide of zinc, or such other equivalent substance as will convert the collodion into a white opaque varnish of about the consistency of cream, of which varnish I float a film over the surface of the oiled plate.

The above preliminary steps are substantially similar to those described in the said patent of William H. Hill, who, however, completed the plate by applying to it a thin transparent coat of wax, paraffine, or spermaceti.

I have found, after many practical tests, that a coating of albumen is much superior to either of the above substances as a final coat.

This albumen I prepare by mixing intimately together the white of egg with water, relative quantities of which may be varied without detracting from the results, although I prefer a mixture of about one part of the white of egg with about two parts of water.

I apply the albumen to the prepared plate by simply floating it over the latter, so as to insure a thin uniform film. After the coat of albumen is dry the plate may be sensitized, and the picture imparted to it from a photographic negative in the usual manner, the result being a cheap imitation of an ivory-type, or of a photographic picture on porcelain.

Instead of using a metal plate as a backing, the latter may consist of any white or slightly-tinted material capable of resisting the heat to which it may be subjected.

A backing of fine, smoothly-calendered cardboard, or thick paper, or of nicely-finished linen or muslin may be employed.

I claim as my invention, and as a new article of manufacture—

A photographic plate consisting of a sheet coated with a composition of collodion and kaolin, or equivalent opaque backing, and having a surface-film of albumen, all prepared substantially in the manner described.

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

HORACE M. HEDDEN.

Witnesses:

H. L. PARKER,
J. W. PUTNAM.