

No. 886,883.

PATENTED MAY 5, 1908.

J. H. SMITH.

MANUFACTURE OF FILMS FOR PHOTOGRAPHIC AND OTHER PURPOSES.

APPLICATION FILED MAY 15, 1905.

Fig. 1.

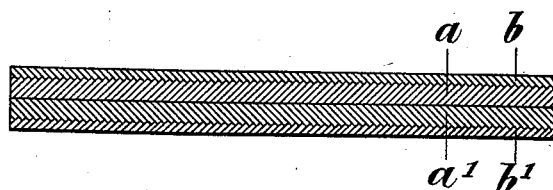
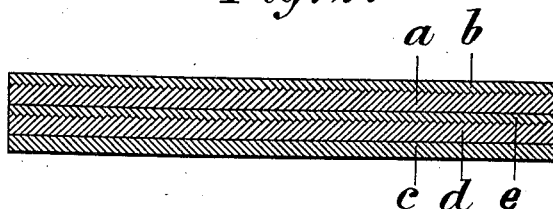


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

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MANUFACTURE OF FILMS FOR PHOTOGRAPHIC AND OTHER PURPOSES.

No. 886,883.

Specification of Letters Patent.

Patented May 5, 1908.

Application filed May 15, 1905. Serial No. 260,436.

To all whom it may concern:

Be it known that I, JOHN HENRY SMITH, a subject of the King of Great Britain, residing in Zurich, in the canton of Zurich, Republic of Switzerland, (whose post-office address is No. 417 Seestrasse, Zurich,) have invented certain new and useful Improvements in the Manufacture of Films for Photographic and other Purposes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The subject of the present invention is an improved process for the manufacture of films for photographic and other purposes. According to this process two component films are prepared by coating upon an appropriate smooth support a gelatin solution and after drying coating upon this again a solution of nitro-cellulose; when the two double films are dry they are stripped from their support, the gelatin surfaces brought together in a slightly moist condition, squeegeed together, and thus brought into intimate combination. This process produces films composed of a double gelatin film with a protective coating of nitro-cellulose in intimate combination with the gelatin surfaces upon both sides which withstand the action of the baths and solutions and show no tendency to curl.

The process is more fully explained by reference to the accompanying drawing.

Figure 1 of the drawings is a vertical sectional view of a complete film constructed according to this invention. Fig. 2 is a vertical sectional view illustrating the manner of constructing one of the component films.

In the first instance, a temporary smooth support for the film is made. For this purpose a solution of gelatin (*d*) is coated upon paper, glass, etc. (*c* in Fig. 2) and then dried. Afterwards a solution of nitro-cellulose in ether-alcohol, methyl-alcohol or other solvent is coated upon the gelatin film and also dried. After drying, the residual film (*e*) of the nitro-cellulose solution forms a smooth surface for the support of the component films, and this support may be repeatedly

used for this purpose. Upon this support an aqueous solution of gelatin which may contain a small addition of glycerin and some hardening agent in order to obtain the necessary pliability and solidity for the finished film is then coated as indicated at *a*, the thickness of the coating depending upon the desired thickness of the finished film. A nitro-cellulose solution, as *b*, is then coated upon the gelatin surface *a* and the film then allowed to dry. On account of the penetration of the nitro-cellulose solution (*b*) into the body of the gelatin (*a*) a very tenacious combination results. The intimately combined films (*a*) and (*b*) are then stripped from the nitro-cellulose coating (*e*) of the temporary support and form one of the component films. In the same way the second component film *a'*, *b'* is produced. Afterwards the exposed gelatin surfaces (*a'*) of both component films are brought together, moistened slightly and squeegeed together producing the finished film (Fig. 1). These films can be prepared by machinery in rolls of any length and in a width of one meter or even more. This process might be simplified by doubling a single component film after stripping in the middle with the gelatin surface inside and squeegeeing the two halves together.

Formerly it was usual in order to obtain an extra thick gelatin film to coat the gelatin solution twice, whereas by this process a double thickness of film can be obtained with a single coating.

The squeegeeing of the two component films does not occupy in practice any extra time as it can be performed simultaneously with the cutting up of the finished film into sizes.

What I claim is:

1. A process for manufacturing a gelatin film for photographic and other purposes coated on both sides with the residue of a nitro-cellulose solution consisting in squeegeeing together into intimate contact two layers of gelatin which have been previously coated with a protecting layer of collodion.
2. The herein described process for the manufacture of a gelatin film for photographic and other purposes, coated on both sides with the residue of a nitro-cellulose solution consisting in the preparation of two

component films by coating and drying upon a prepared temporary support in succession a gelatin and a nitro-cellulose solution, stripping these component films from their support, slightly moistening the exposed gelatin surfaces and bringing them into intimate contact by squeegeeing together.

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

JOHN HENRY SMITH.

Witnesses:

HERMANN HUBER,
JOSEPH SIMON.