

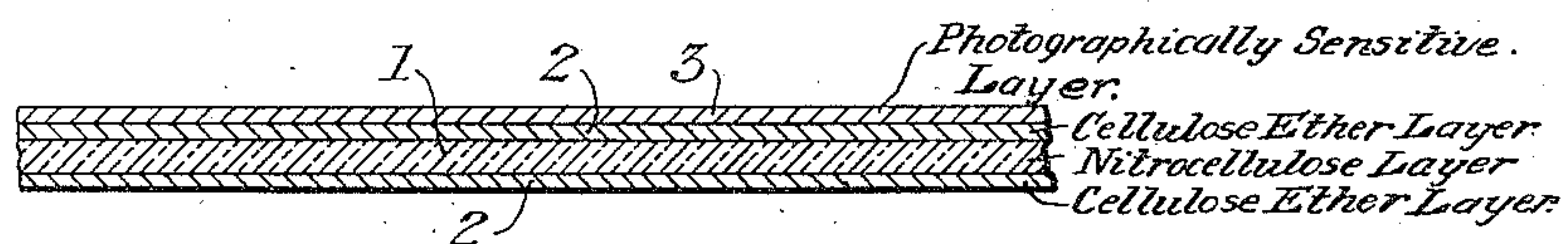
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1,441,142.

S. J. CARROLL.

PHOTOGRAPHIC FILM AND COMPOUND SUPPORT.

FILED FEB. 25, 1921.



WITNESS

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# UNITED STATES PATENT OFFICE.

STEWART J. CARROLL, OF ROCHESTER, NEW YORK, ASSIGNOR TO EASTMAN KODAK COMPANY, OF ROCHESTER, NEW YORK, A CORPORATION OF NEW YORK.

## PHOTOGRAPHIC FILM AND COMPOUND SUPPORT.

Application filed February 25, 1921. Serial No. 447,846.

*To all whom it may concern:*

Be it known that I, STEWART J. CARROLL, a citizen of the United States of America, residing at Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Photographic Film and Compound Supports, of which the following is a full, clear, and exact specification.

This invention relates to a photographic film with a compound cellulosic sheet which is particularly adapted for use as a support in photographic film. The object of this invention is to provide a film with a support having the usual qualities demanded by commercial conditions in the photographic art, which will also possess a diminished rate of burning, and will be so constituted that the markings due to electrical discharges (commonly called "static") are prevented or very greatly minimized. Other objects will hereinafter appear.

Ordinary photographic film, particularly such as is used in motion picture work, generally embodies a support of nitrocellulose. As usually composed, this support has the essential qualities for commercial work. But I have found that it can be improved so as to diminish the fire risk involved in handling it and so as to minimize the possibility of static. These desirable effects I have been able to accomplish by coating or varnishing both faces of the nitrocellulose support with a layer of cellulose ether, of the kind indicated in U. S. Patent No. 1,188,376, Lilienfeld, June 20, 1916. The compound cellulosic support thus produced is finally coated with the gelatino-silver haloid emulsion or other suitable photographic layer. If this layer be one that is especially sensitive, my compound base greatly minimizes the possibility of static trouble cropping out.

In the accompanying drawing the figure

is a sectional view on an exaggerated scale of a film embodying my invention.

The nitrocellulose support 1 carries on each face a cellulose ether layer 2, the sensitive layer 3 being carried on either ether layer 2.

By way of example, I may dissolve 100 parts of ethylcellulose in a compound solvent composed of 340 parts of benzol and 170 parts of ethyl alcohol. Some acetone may also be added to promote adhesion, if desired, as indicated in a copending application of Albert F. Sulzer, Serial No. 446,782, filed Feb. 21, 1921.

This film with its compound support is resistant to static, and the presence of slow-burning ether on the surface of the nitrate appreciably slows down the rate of combustion of the latter, thus diminishing the fire risk.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A photographic film having its sensitive layer carried on a compound support, the latter comprising a layer containing nitrocellulose bearing on each face a layer containing a cellulose ether.

2. A photographic film having its sensitive layer carried on a compound film support, the latter comprising a layer containing nitrocellulose coated on both faces with ethyl cellulose.

3. A compound support comprising a layer containing a cellulose ester bearing on each face a coating containing a cellulose ether.

4. A compound support comprising a layer containing nitrocellulose coated on each face with a layer containing a cellulose ether.

Signed at Rochester, New York, this 17th day of February 1921.

STEWART J. CARROLL.