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PHOTOGRAPHIC AND CINEMATOGRAPHIC FILM EMPLOYED
WITHOUT USE OF A PROTECTIVE PAPER STRIP
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Fig. 1.

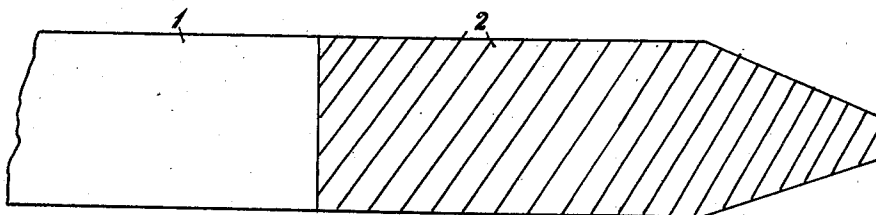
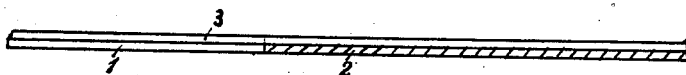


Fig. 2.



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PHOTOGRAPHIC AND CINEMATOGRAPHIC
FILM EMPLOYED WITHOUT USE OF A PRO-
TECTIVE PAPER STRIP

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8 Claims. (Cl. 95—9)

The present invention relates to coils of photo-
graphic and cinematographic film and more par-
ticularly to those in which no protective paper
strip is provided to protect the light-sensitive
emulsion against the action of light.

According to my invention, rolls of photo-
graphic and cinematographic films without any
protective paper strips are prepared in a simple
manner by applying on the film band on both ends
over the surface of the rear side of the film a dye
preparation which penetrates deeply the interior
parts of the support, which dries in a very short
time and which after drying is impermeable to
the actinic rays of light and insoluble in the usual
photographic developing baths.

The dye preparations which I use for this pur-
pose consist of a solution of a dye in an organic
solvent and preferably in an ether or ester of a
polyvalent alcohol, such as for instance glycol
or glycerin. When such a solution is used for
printing on the rear-side of both ends of a film
strip, the dye penetrates quickly and deeply into
the support layer and therefore is especially stable
to the action of the usual photographic develop-
ing liquors.

The selection of the color depends upon the de-
gree of sensitiveness of the light-sensitive layer
used in each particular case. It is not necessary
that the dye, when applied in a single layer, pos-
sesses the required impermeability to light, for
it will suffice that it keeps off the actinic rays
when applied in several layers. Dyes absorbing
the actinic light-rays are well known in the art
and those which are to be chosen in a special case
may easily be found by a simple experiment.

The following examples illustrate some dye
preparations that I use for my purpose.

Example 1.—A saturated solution of cerasin-red
(Schultz, Farbstofftabellen, VII ed., page 217, No.
532) in glycol acetate is prepared and printed on
the rear-side of both ends of a photographic film
strip having a support of nitrocellulose in such a
length that the film to be protected against the
action of light, when coiled on a spool, is covered
by two or three layers of its imprinted parts.

To enhance the fastness of the coloration, I
may add a colloid to the dye preparation which is
soluble in the solvent for the dye and which has
no ill effect upon the photographic emulsion. I
prefer to use for this purpose cellulose deriva-
tives, as for instance acetyl cellulose or an amino
derivative of cellulose.

Example 2.—100 parts by weight of a cold satu-
rated solution of cerasin-red in glycol acetate are
mixed with 50 parts of a solution of 5 per cent

strength of acetyl cellulose in glycol acetate and
the mixture is used to provide protective coloration
on the rear-side of a photographic film sup-
port in the manner described in Example 1.

When adding a colloid to the dye preparation
I need not employ a soluble dye. In this case
the soluble dye may be substituted wholly or in
part by an insoluble pigment which is finely dis-
persed in the solution.

Example 3.—1 part by weight of soot is care-
fully rubbed up with 30 parts of glycol acetate
and the whole is mixed with 15 parts of a solu-
tion of cellulose acetate of 5 per cent strength
dissolved in glycol acetate.

Finally, the coloration of the film support may
be protected by coating it with a colloid which is
not soluble in any solvent which may be used in
the subsequent treatment of the film. For this
purpose, too, cellulose derivatives may be used,
for instance a solution of benzyl cellulose of 1
per cent strength dissolved in a mixture of ace-
tone and benzene.

A film cartridge manufactured in this manner,
may be exchanged at day-light without danger of
exposing the sensitive layer to light. The process
of imprinting the both ends of the film strip can
easily be performed in the usual manufacturing
of photographic roll-films. The film support at
the moment of printing is very easily penetrated
by the dye, the drying occurs in a very short time,
so that the preparation of films in the manner
described can be carried out in the course of
manufacturing the films without difficulties.

It is obvious that the present invention is not
limited to the examples or to the details given
therein. Thus, for instance, as mentioned above,
other dyes may be used to prepare the light-ab-
sorbing coloration of the film ends. Instead of
glycol acetate mentioned in the examples, I may
use other derivatives of polyvalent alcohols, as
for instance hydroxy-propyloxy-ethane or an-
other ester or ether of glycol or glycerin.

In the accompanying drawing Fig. 1 represents
a view and Fig. 2 a section of the leading end of
a photographic film prepared according to the
present invention. The support 1 consisting of
a cellulose derivative shows an area 2 which has
been dyed in the way described above. On its
whole surface the support is coated with a light
sensitive emulsion layer 3.

What I claim is:—

1. In the process of manufacturing coils of photo-
graphic and cinematographic film for daylight
loading cartridges, the steps which comprise mix-
ing an actinic light-absorbing dye which is in-

- soluble in water and the photographic developing baths, with a derivative of a polyvalent alcohol selected from the group consisting of ethers and esters of polyvalent alcohols and applying the said dye solution to both ends of the film strips upon the surface of the rear side of the film in a length equal at least to one circumference of the coiled spool.
2. In the process of manufacturing coils of photographic and cinematographic film for daylight loading cartridges, the steps which comprise mixing an actinic light-absorbing dye which is insoluble in water and the photographic developing baths with a derivative of glycol and a cellulose derivative and applying the said dye solution to both ends of the film strips upon the surface of the rear side of the film in a length corresponding at least once with the circumference of the coiled spool.
3. In the process of manufacturing coils of photographic and cinematographic film for daylight loading cartridges, the steps which comprise mixing cerasin-red with a derivative of glycol acetate and a cellulose derivative and applying the said dye solution to both ends of the film in a length corresponding at least once with the circumference of the coiled spool.
4. In the process of manufacturing coils of photographic and cinematographic film for daylight loading cartridges, the steps which comprise mixing cerasin-red with a solution comprising glycol acetate and cellulose acetate and applying the said dye solution to both ends of the film strips upon the surface of the rear side of the film in a length corresponding at least once with the circumference of the coiled spool.
5. In the process of manufacturing coils of photographic and cinematographic film for daylight loading cartridges, the steps which comprise mixing soot with a solution comprising glycol acetate and cellulose acetate and applying the said dye solution to both ends of the film strips upon the surface of the rear side of the film in a length corresponding at least once with the circumference of the coiled spool.
6. In a daylight loading cartridge a roll film strip without protective paper strip and dyed on both ends on the rear side in a length corresponding at least once with the circumference of the coiled spool with a dye selected from the group consisting of cerasin-red and soot.
7. In a daylight loading cartridge a roll film strip without protective paper strip and dyed at both ends on the rear side in a length corresponding at least once with the circumference of the coiled spool with cerasin-red, said cerasin red having deeply penetrated the support.
8. In a daylight loading cartridge a roll film strip without protective paper strip and dyed at both ends on the rear side in a length corresponding at least once with the circumference of the coiled spool with soot, said soot having deeply penetrated the support.

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