June 24, 1930. P. C. SEEL 1,765,944

METHOD OF PREPARING SOUND AND PICTURE FILMS

Filed March 30, 1929

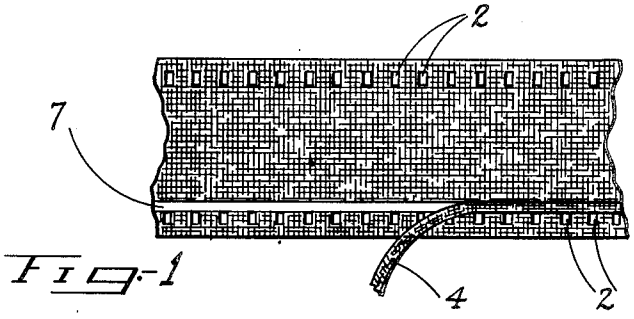


Fig.-1

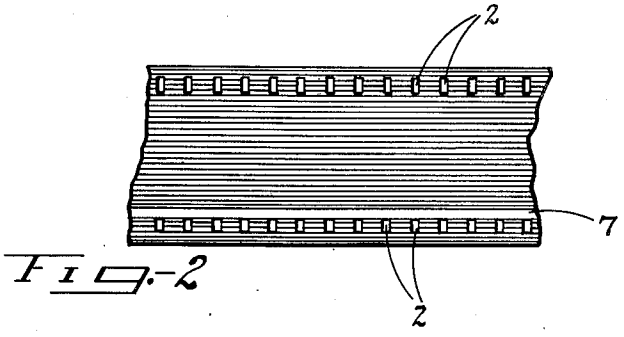


Fig.-2

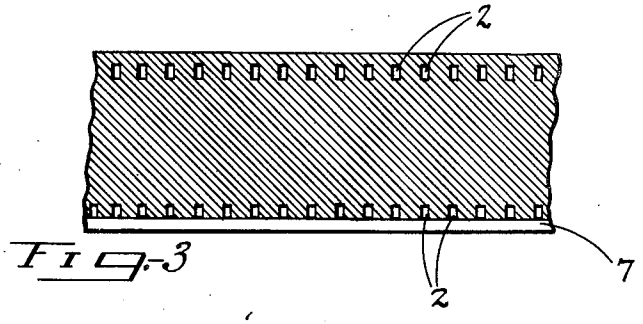


Fig.-3

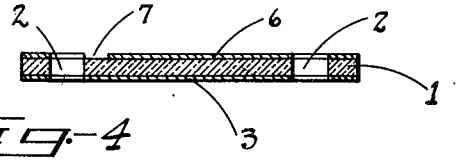


Fig.-4

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UNITED STATES PATENT OFFICE

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METHOD OF PREPARING SOUND AND PICTURE FILMS

Application filed March 30, 1929. Serial No. 351,243.

This invention relates to films for use in the reproduction of synchronized sound and motion pictures and to methods for manufacturing said films.

In order to present certain pleasing effects in connection with the reproduction of motion pictures it has become the practice to employ various tinted films but it has been found that certain of these tints now in use seriously interfere with the reproduction of sound records formed on such films because so much of the light is absorbed thereby.

It has therefore been proposed to leave the sound track or the sound record portion of the film transparent by preventing the tints or dyes from being applied thereto. However, much difficulty has been encountered in preventing the dye from flowing on this portion of the film.

In accordance with one feature of the present invention novel methods are disclosed to keep the sound record portion of the film free from tint or dye while the remaining portion of the film is tinted to give desired color effects. As one of its aspects the invention includes a layer fastened to the film overlying the sound track to prevent the tint or dye from coming into contact with the sound track portion of the film support. In another of its forms the invention includes the method of keeping photographic sound records free from tint while the remainder of the film is colored which comprises the steps of attaching a removable layer to the film support overlying the sound track and then applying the tint or dye to the entire support surface of the film after which the removable layer with the dye adhering thereto is removed.

For a more complete understanding of the invention reference is made to Fig. 1 showing a section of tinted film with a removable, protective, adhesive strip partially removed from the sound track, while Figs. 2 and 3 represent sections of tinted film made following the herein disclosed novel methods in which the sound track in the case of the film shown in Fig. 2 is indicated as being positioned between the two series of perforations and in which that of Fig. 3 is represented as having the sound track on the margin thereof; and Fig. 4 is a cross-sectional view of the portion of film shown in Fig. 2.

In the drawings, 1 represents a support of plastic composition such as cellulosic material provided with a series of perforations 2 along each margin and carrying a coating 3 of sensitized material on one surface. In tinting this film according to one method, a strip of adhesive material 4, which may be adhesive tape or which may be flexible metal or rubber, attached by means of a suitable adhesive, is applied on the rear of the film support in a position to overlie the sound track. The rear surface of the support including the strip of adhesive material is then coated with a layer 6 of a suitable dye or tint. After the layer of dye has dried, the flexible band of adhesive is stripped from the film leaving a clear area 7 above the sound track having sharp, well defined edges as shown in Figs. 2, 3 and 4. While two different locations of the sound track are shown in Figs. 2 and 3, the invention is not limited as to these locations.

I have also found that a satisfactory method of producing a clear sound track includes coating the sound track portion of the film on its support side with some water soluble material which is removable in the developing, fixing or washing processes and then to tint the full width of the support side of the film. This water soluble material may be soft gelatin, gum arabic, starch, dextrine or soluble cellulose acetate. These materials may be applied to the film support in exact superimposed relation with the sound track by means of a stencil or by a printing

roller or by means of a brush. At any time after the dye has dried, the water soluble layer with the tint adhering thereto is dissolved away in an aqueous solution. This material may be removed in this way before the film is printed or if necessary before it is marketed.

A further modification of this invention includes covering the sound track of the film on the support side thereof with a material to which the dye will not adhere. A material suitable for this purpose consists of paraffin dissolved in toluene which is applied in the sound track portion over the film support as a transparent layer. Suitable tint or dye in an organic solvent is applied to the entire surface of the film support. It will be found that the dye will not adhere to the portion of the film so treated but the remainder of this surface is attacked and has the desired color incorporated therein.

I consider as included in my invention all other modifications and equivalents as may fall in the scope of the appended claims.

What I claim is:

1. In connection with a photographic film having exposure areas and a related sound track, the method of tinting the exposure areas while keeping the sound track untinted which comprises applying a removable adhesive layer impervious to tinting material overlying the sound track and applying the tint to all of one side of said film including said layer.

2. In connection with a photographic film having exposure areas and a sound track arranged in parallel relation, the method of tinting the exposure areas while keeping the sound track untinted which comprises applying an adhesive layer impervious to tinting material overlying the sound tracks, applying the tint to all of one surface of said film including said layer, and removing the layer.

3. In connection with a photographic film having exposure areas and a sound track arranged in parallel relation, the method of tinting the exposure areas while keeping the sound track untinted which comprises applying an adhesive layer impervious to tinting material overlying the sound track, applying the tint to all of one surface of said film including said layer, and dissolving said layer from the film.

4. In connection with a photographic film having a series of exposure areas and a sound track, the method of tinting said exposure areas while keeping the sound track free from the effect of the tint at the time of reproduction which comprises applying a layer of water soluble material on the support side of the film overlying said sound track and capable of protecting the film beneath it from an applied tint, applying a color layer over the support side of the film including said water soluble layer, and then washing away said layer and the adhering dye with water.

5. A photographic film having a series of exposure areas and a related sound track area, a strip overlying the sound track area, said strip being soluble in an aqueous solution, and a tinted layer covering all of said areas, the strip being removable and protecting the portion of film beneath it from being tinted.

Signed at Rochester, New York, this 25th day of March, 1929.

PAUL C. SEEL.