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2,153,166

PHOTOGRAPHIC MATERIAL

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Fig. 1.

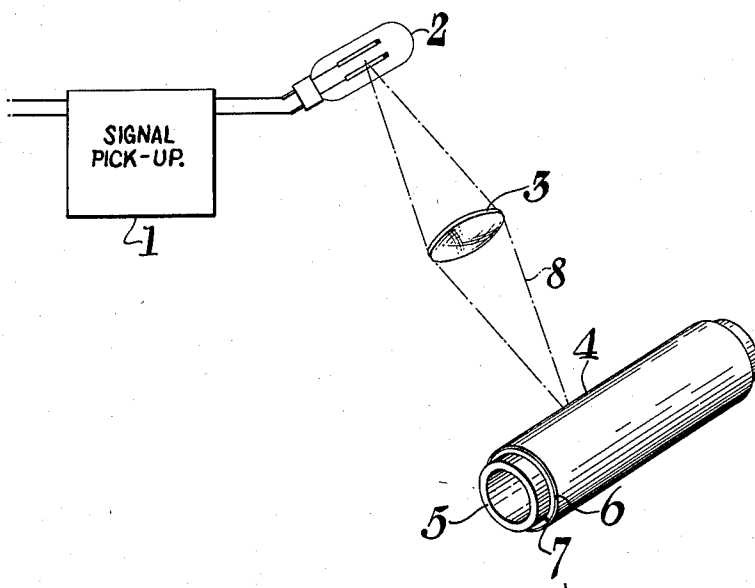
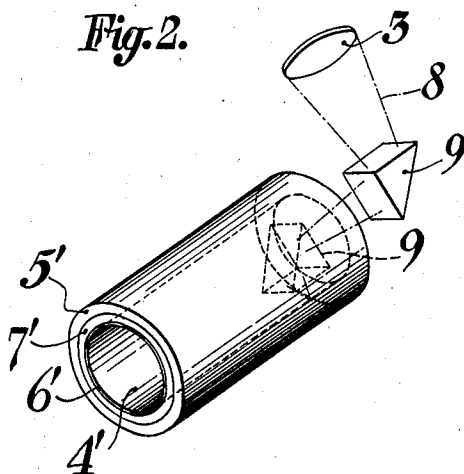


Fig. 2.



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UNITED STATES PATENT OFFICE

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PHOTOGRAPHIC MATERIAL

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4 Claims. (Cl. 95—8)

This invention relates to photosensitive materials such as a silver halide emulsion in a colloid or a bichromated gelatin. It relates particularly to the means of supporting such photosensitive materials.

In the transmission of pictures by wire or in television it is customary to scan the original and to transmit consecutively the signals representative of each elemental portion of the picture thus scanned. As is well known to those skilled in the art, this signal is picked up at the receiving station and, in any one of a number of ways, is employed to modulate another scanning beam impinging on a photosensitive surface such as a fluorescent screen or a photographic film. It is an object of the invention to provide a photographic material particularly suitable for receiving such a record.

The scanning of a photographic film is also employed in some of the proposed methods for making color separation negatives intended for color press-printing. A principal object of the invention is to provide a photographic material which will be particularly useful in this type of work. As will be pointed out below, the arrangement of the photographic material according to the invention is such that it is particularly convenient for being scanned, processed and when processed, for being composed into compound pictures and/or used in the preparation of printing plates.

According to the invention a photographic emulsion is coated on a cylinder in a manner such that it may be stripped therefrom and then employed in the well known applications to which stripping film is put.

Other objects and advantages of the invention will be pointed out in the following description of two embodiments of it, which is given in connection with the accompanying drawing in which—

Fig. 1 shows a (partially diagrammatic) perspective view of a scanning recording system employing the invention.

Fig. 2 similarly shows another embodiment of the invention.

In photo-telegraphy, a picture or an original scene is scanned and the resultant signal in electrical form is transmitted by wire or radio telegraphy to the receiving station. Many such arrangements are well known. At the receiving station, an electric circuit operates as a signal pick-up, which controls some form of light valve such as a glow lamp 2. Various types of light valves equivalent to the glow lamp 2 are well

known in sound motion picture work and are described in detail in that art.

The light from the glow lamp 2 is modulated in accordance with the signal received and passes through an optical system indicated as a lens 3 which focuses it on a photosensitive surface 4. The photosensitive surface 4 is mounted on a cylinder 5 which is rotated in any well known manner on a screw (not shown). Thus the light represented by the broken lines 8 scans the photosensitive surface 4 in a manner well-known to those skilled in this art.

According to the invention this photosensitive surface 4 is mounted on the cylinder 5 in the following way. The cylinder 5 is coated with a thin layer of film base such as cellulose nitrate. This film base is indicated on the drawing as a layer 7. This intermediate layer 7 is secured to the cylinder 5 in such a manner that it may be stripped therefrom. The photosensitive material such as a silver halide emulsion is then coated as a layer 6 on this intermediate layer 7 in a manner which will insure good adhesion between these layers. Since the intermediate layer 7 comprises a cylinder fitting closely about the cylinder 5, it is not necessary to provide as firm an adhesion between these layers as in the case of flat stripping film which is usually placed in a slightly acidic solution after fixing in order to facilitate stripping.

As shown in Fig. 2, the sensitive layer 6' and intermediate layer 7' may be coated on the inside of the cylinder 5'. When using this embodiment of the invention the light is directed to the inner sensitive surface 4' by means of two reflectors 9.

The preferable procedure when using the invention is to expose the film, to process it on the cylinder, then to cut the film lengthwise of the cylinder along the boundary of the recorded picture and to strip the film therefrom. The stripped film is similar to that obtained using the ordinary stripping film supplied to the graphic arts and may be employed in any of the well-known manners such as mounting on a glass plate adjacent to portions of other stripped film negatives. In this connection, the thinness of the stripped film presents a real advantage over an ordinary relatively thick film. It will be obvious that the cylinder 5 should be made of such materials that it will not affect the photographic processing solutions. In the preferable embodiment of the invention this cylinder 5 is rigid such as glass or metal, although for some purposes it may be desirable to have this cylinder 5 made of

semi-flexible material and mounted on a rigid cylindrical framework or solid cylinder while it is being exposed to the scanning means.

When an ordinary film is wrapped on a cylinder before receiving a transmitted picture, there is necessarily an overlap or a butt joint at the edges of the film. In this case, care must be exercised to insure that the scanning means is exactly synchronized so that the edge of the picture being transmitted falls along this butt joint. The advantages of the present invention in this connection are apparent, namely; it is not necessary to cut the film until after it has been processed and the exact location of the edge of the picture determined.

I wish to point out that the invention is of the scope of the appended claims and not limited to the specific structure shown.

What I claim and wish to protect by Letters Patent of the United States is:

1. A photographic material comprising a cylindrical base, a flexible transparent intermediate layer adhering to one surface thereof closely, firmly, unbrokenly and in a manner to be stripable as a unit therefrom when slit lengthwise of the cylinder and a second layer coated firmly

on the surface of the intermediate layer which surface is the one not in contact with the cylindrical base, said second layer carrying a photosensitive material.

2. A device of the character described comprising a rigid substantially cylindrical base, a flexible film which is also substantially a complete cylinder in intimate contact with the outer surface of the rigid base said film being readily removable as a unit from the base when slit lengthwise of the cylinder and a light sensitive photographic layer securely coated on the outer surface of the film to be removable therewith.

3. A device of the character described comprising a rigid cylindrical base, a flexible film coated on the outside of the base unbrokenly and detachably as a unit when slit lengthwise of the cylinder and a light sensitive photographic layer carried by the film.

4. A device of the character described comprising a cylindrical base, a flexible film adhering to, and when slit lengthwise of the cylinder readily removable from, the inner surface of the base and a photosensitive layer securely coated on the film to be removable therewith.

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