Jan. 8, 1935. D. McMASTER 1,987,072

PHOTOGRAPHIC BAND

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Fig. 1.

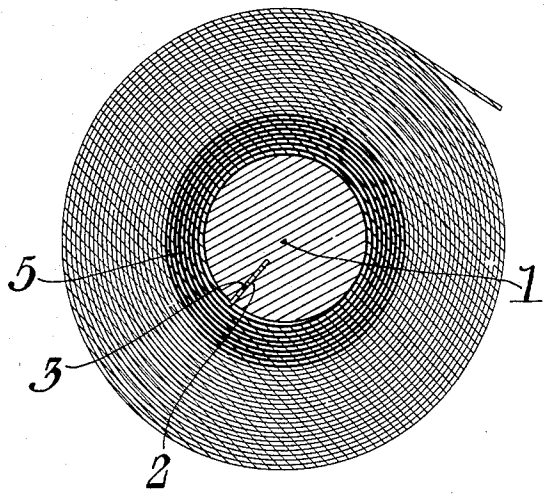
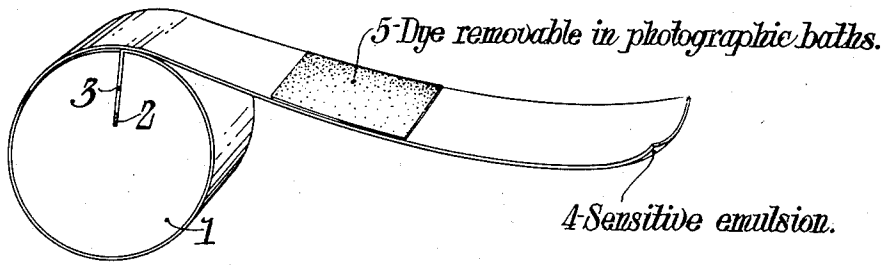


Fig. 2.



Inventor:
Donald McMaster,

By Newton W. Perrin

Attorney.

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PHOTOGRAPHIC BAND

Donald McMaster, Rochester, N. Y., assignor to Eastman Kodak Company, Rochester, N. Y., a corporation of New York

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4 Claims. (Cl. 95—8)

This invention relates to a visual indication useful to warn of the approach of the end of a roll of sensitive material and particularly of direct positive paper as it is used in a camera.

Direct positive paper is used for the production of positives by the reversal process, the paper being supplied in long rolls for use in a camera in which there is some form of mechanism for cutting off individual pictures or series of pictures after exposure. These exposed strips are then subjected to a developing process including successively developing, bleaching, re-exposure and redevelopment.

The present invention relates to an improved means for warning the operator of the camera of the approach of the end of the roll of paper. I have found that a simple and efficient method of doing this is to apply to the rear surface of the roll over a comparatively short area near the inner end a visible indication which will be removed in the course of processing. This will be noted by the operator as he is developing the picture but will be entirely removed so that, when the picture is delivered to the customer, no indication will remain upon it.

In a preferred embodiment of my invention, I apply to the rear surface of the paper a solution of a dye which may be applied together with a colloid carrier. The following formula is given as an example:

Water	75 c.c.
Water soluble nigrosine	0.5 gram
Water soluble cellulose acetate phthalate triethanolamine salt (approximately 35% phthalyl) (10% aqueous solution)	25 c.c.
Thymol (0.5%) in ethyl alcohol	5 c.c.

The solution is applied by ordinary coating apparatus, such as a brush, and dries in about thirty seconds at ordinary temperature. It gives a mark which is plainly visible under red safelights of the type ordinarily used with positive papers. Much of the dye dissolves out during development and the remainder is completely dissolved in the successive baths, particularly the clearing bath and the redeveloping solution.

Dyes of the type specified, that is, water-soluble acid dyes, are very soluble in the alkaline developing solutions and in the wash water. The addition of the thymol-alcohol solution is for the purpose of decreasing frothing. It is to be understood that the above example is merely by way of illustration and that any other material, which is plainly visible before or during the processing but which is completely removed or disappears during the processing, would be available.

Reference will now be made to the accompanying drawing, in the figures of which the same reference characters indicate the same parts and in which:

Fig. 1 shows a section of a roll of paper upon a core, and

Fig. 2 shows a perspective view of the inner end only of the paper as it is practically all unwound from the core.

The core 1 has a slot 2 within which is fixed the inner end of the strip of paper 3 which is coated on one surface 4 with a sensitive emulsion throughout its length. Over an extended area 5 which ordinarily would be of a length sufficient for the making of several pictures, there is coated the colored layer. This is preferably a sufficient distance from the end of the roll so that the operator observes the indication but will be warned of the approach of the end of the paper in time to insert a new roll into the camera before the first one is completely exhausted. The colored area may continue to the end of the roll as indicated in Fig. 1 or may be only a limited area at a distance from the end as indicated in Fig. 2.

I consider as included in my invention all modifications and equivalents coming within the scope of the following claims.

Having thus described my invention, what I claim as new and desire to be secured by Letters Patent of the United States is:

1. A rolled band having a photographically sensitive layer over one surface and having on its other surface, near the inner end of the band only, a limited area coated with a layer comprising a material that is visibly colored but which becomes invisible in ordinary photographic baths that edge of the limited area which is farthest from the inner end of the band being at a definitely predetermined distance such that it may be used as an indication of the nearness of such end.

2. A rolled band having a photographically sensitive layer over one surface and having on its other surface, near the inner end of the band only, a limited area coated with a strongly colored dye which is removed in ordinary photographic baths that edge of the limited area which is farthest from the inner end of the band being at a definitely predetermined distance such that it may be used as an indication of the nearness of such end.

3. A rolled band having a photographically

sensitive layer over one surface and having on its other surface, near the inner end of the band only, a limited area coated with a layer comprising a strongly colored dye which is removed in the baths of a photographic reversal process that edge of the limited area which is farthest from the inner end of the band being at a definitely predetermined distance such that it may be used as an indication of the nearness of such end.

4. A rolled band having a photographically sensitive layer over one surface and having on its other surface, near the inner end of the band only, a limited area coated with an aqueous acid dye having the properties of being strongly colored and of being readily removable in an alkaline bath that edge of the limited area which is farthest from the inner end of the band being at a definitely predetermined distance such that it may be used as an indication of the nearness of such end.

DONALD McMASTER.