

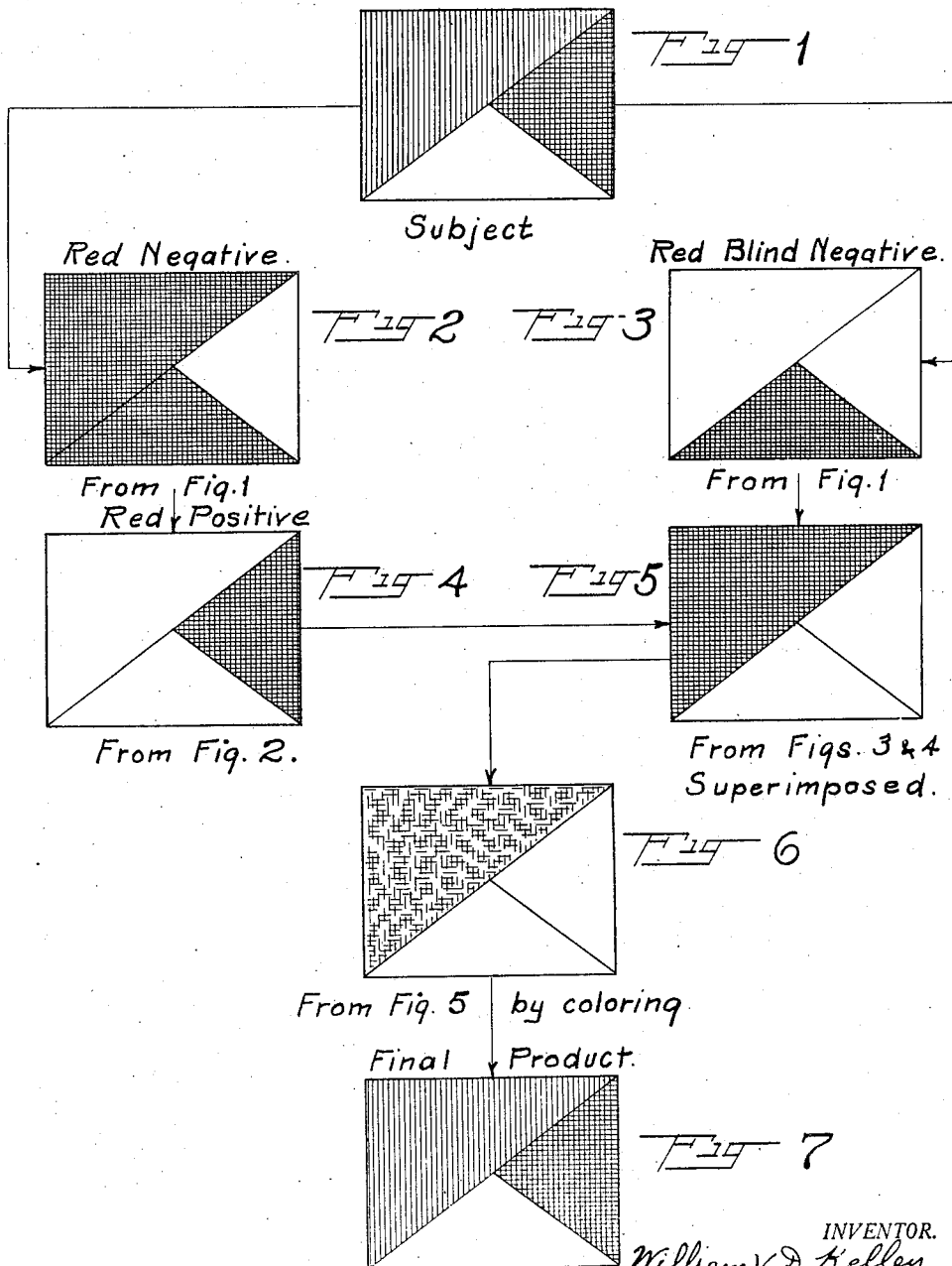
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COMBINED BLACK AND WHITE AND COLORED IMAGE PHOTOGRAPHY

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From Fig. 5 by a second printing using Fig. 2.

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COMBINED BLACK AND WHITE AND COLORED IMAGE PHOTOGRAPHY

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This invention relates to photography and particularly to color photography.

A principal object of this invention is the production on a carrier of a composite photographic image of a subject which when viewed by transmitted light or as projected on a screen will exhibit an image fairly comparable in general characteristics with an ordinary black and white photographic image of that subject and will in addition exhibit a fairly approximate true color value of at least one color of the subject.

A further object of this invention is the formation of a product as hereinbefore specified which will appear in a single coating on one side only of a carrier.

In describing the invention in detail and particular specific applications of the invention selected for the purpose of illustrating the principle of the invention, reference will be had to the accompanying schematic drawings and the characters of reference thereon designating like parts in the several views, and in which:

Figure 1 is a schematic illustration of a colored subject; Fig. 2 is a red filter or red color selection negative of Fig. 1; Fig. 3 is a red blind negative of Fig. 1, that is, the ordinary black and white negative; Fig. 4 is a positive made from Fig. 2; Fig. 5 is a print representing red color values only; Fig. 6 is Fig. 5 colored by my process; Fig. 7 is the finished print.

For the purpose of explaining the principle of my invention and the application thereof I have selected a subject which I have illustrated by Fig. 1 of the drawings. This subject is to be considered as being colored in the areas shown, as red, white and black and as indicated on the drawing.

In carrying out my invention I first make a red color selection negative of the subject Fig. 1, and also an ordinary black and white negative. The red color selection negative is illustrated by Fig. 2 and the black and white negative by Fig. 3.

From my red color selection negative Fig. 2 I then make a printing positive Fig. 4.

Using Fig. 3 and Fig. 4, as negatives, I make a print Fig. 5. This print I develop

in an acid diamidophenol bath for about 3 minutes and wash.

In order to color the print Fig. 5, I tone in a bath as follows:

Ammonium metavanadate.....	1 gram	55
Oxalic acid.....	2 grams	
Water.....	200 ccs.	

The above are boiled for fifteen minutes. Then there are added:

Oxalic acid.....	15 grams	60
Potassium ferricyanide.....	15 grams	
Water to make.....	1 liter	

I find that about fifteen minutes treatment by this bath is sufficient.

After treatment by the above stated bath I wash and then clear in a bath as follows:

Potassium metabisulphite.....	5 grams	
Ammonium bromide.....	5 grams	70
Water.....	1 liter	

After treatment by this bath for about 10 minutes I wash and dry.

The treatment by the clearing bath acts to convert any of the products produced in the gelatine to such condition that they will not redevelop without exposure.

The print is now in the condition shown by Figure 6.

I next, using the negative Fig. 2, print using the print Fig. 6 as the receiver, and thereby form a black and white key image that is a minus red image comparable to ordinary black and white photography.

After printing I develop as usual in acid diamidophenol, wash, fix in sodium thio sulphate, and wash.

After the treatment with the vanadium salt bath the print became a lemon or yellow color in those regions corresponding to the red regions of the original subject. I must next change this yellow to a red.

I do this by treatment for above fifteen minutes in the following bath:

Fuchsine crystals.....	2.5 grams	95
Chrysoidine Y.....	10.0 grams	
Glacial acetic acid.....	10.0 ccs.	
Water.....	4.0 liters	

After treatment by this bath the print is

washed and is then finished by drying giving a product illustrated by Fig. 7.

Of course instead of a record of the reds such other color as is desired to show in the finished print is not excluded by the specific illustration and description of red.

Although I have particularly described the construction of one physical embodiment of my invention and explained the operation and principle thereof and of my process used for the production thereof, nevertheless I desire to have it understood that the form selected is merely illustrative, but does not exhaust the possible physical embodiments of the idea of means underlying my invention or the extent of the applicability of my process.

What I claim and desire to secure by Letters Patent of the United States is:

1. A transparent carrier coated on one side only with gelatine having a reduced silver image of the minus reds in the original subject and a toned color representation of the red in the original subject.

2. The method of producing a photograph having a reduced silver image of the minus reds in the original subject and a toned color representation of the red color in the original subject, which consists in producing a representation of the red color in the emulsion of a carrier developing and toning this representation and then after clearing printing into the same emulsion using a red color selection negative of the subject as the negative.

3. A transparent carrier coated on one side only with gelatine having a reduced silver image of the blacks and whites and all colors in an original subject except one and a toned color representation of that one color therein.

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