

PATENT SPECIFICATION



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401,963

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COMPLETE SPECIFICATION.

Improved Manufacture of Multi-colour Light Filters.

We, I. G. FARBENINDUSTRIE AKTIENGESELLSCHAFT, a Joint Stock Company organised according to the laws of Germany, of Frankfurt a/Main, Germany, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

- 10 Multi-colour light filters having different juxtaposed colour areas, more particularly those in which these colour areas are in the form of strips, have hitherto been made by cutting the strips out of the filter sheets and attaching them side by side on one of the cover glasses by means of Canada balsam, whereupon the second cover glass has been attached by means of Canada balsam on the filter strips on the first cover glass. This process is associated with certain drawbacks. For instance, the cut filter strips can only with difficulty be attached to the cover glass in such a manner that there is a sharp and straight demarcation between adjacent strips, this being a reason why the adjoining edges of two adjacent colour areas have been covered with a black line.
- 30 According to the present invention multi-colour light filters are made by producing on each cover glass a coloured colloid layer by a casting operation and shaping the filter areas to fit exactly to one another, when the glasses are put together, by cutting the dry filter layers on the cover glass. As, with this process the filter layers are permanently attached to a rigid support during the cutting operation they are not liable to distortion and can be joined accurately.

The coloured filter layers are cast on the cover glasses in approximately the distribution required in the finished filter, the filter strips which are to be adjacent in the finished filter being produced on different cover glasses. By removing the superfluous portions of each filter strip the colour areas are sharply defined so that, when superposing the cover glasses the colour areas are strictly contiguous.

The accompanying drawing illustrates by way of example the manufacture of

[Price 1/-]

Price 4s 6d

three colour zones and two black segments.

Fig. 1 shows the cover glass I bearing a green central filter layer *g* and two black segmental filter layers *s*;

Fig. 2 shows the cover glass II, one half of which is coated with a red filter layer *r*, while the other half is coated with a blue filter layer *b*.

The separation lines of adjacent filter coatings need not be exact, they need not be a straight line and the filter dyestuffs of one filter area may diffuse slightly into the adjacent filter areas, since the separation lines are removed during the subsequent treatment. The green filter strips on the cover glass I are now given the desired form, for instance, by cutting away superfluous parts by means of a knife or knife-like scraping device. In the same manner the black segments are given their form so that they exactly join the blue and red strips in the finished three-colour filter. After this operation the cover glass I has the appearance represented in Fig. 3; between the filter areas *s* and *g* there are two strips *a* of uncovered glass. The cover glass II is treated in the same manner and then assumes the appearance represented in Fig. 4; it has a red *r* and a blue *b* filter area and strips *a'* of uncovered glass into which there fit the filter areas of the cover glass I. Fig. 5 shows the finished three-colour filter obtained by uniting the cover glasses represented in Figs. 3 and 4.

In order to produce, for instance, a red filter strip the following solution may be used, the parts being by weight:—

| | | |
|-----|-------------------|--|
| 2.7 | parts flavazin L | |
| 1.8 | „ crystal ponceau | |
| 28 | „ gelatin | |
| 695 | „ water | |
| 5 | „ glycerin | |

665 parts of this solution being used per square metre.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. A process of manufacturing multi-colour light filters having different juxtaposed

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posed colour areas, which comprises casting at least one coloured filter layer on each of two cover glasses, drying this layer and giving it the desired form.

5 2. A process of manufacturing multi-colour light filters which comprises casting coloured filter layers on two cover glasses so that the colours applied to each cover glass are those which in the finished
10 filter alternate with the colours applied to the other cover glass, drying the said layers, giving them the desired form, and uniting the two cover glasses.

15 3. Multi-colour filters according to claims 1 or 2 comprising alternating filter strips arranged between two cover glasses,

each strip being directly attached to a cover glass without interposition of an adhesive layer.

4. Multi-colour filters according to
20 claims 1 or 2 comprising alternate filter strips arranged between two cover glasses, each strip being directly attached to a cover glass without interposition of an
25 adhesive layer and adjoining filter strips being exactly contiguous.

Dated this 7th day of April, 1933.

ABEL & IMRAY,
30, Southampton Buildings, London,
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Agents for the Applicants.

[This Drawing is a reproduction of the Original on a reduced scale.]

Fig. 1
I

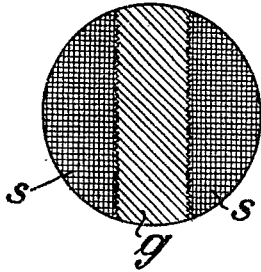


Fig. 2
II

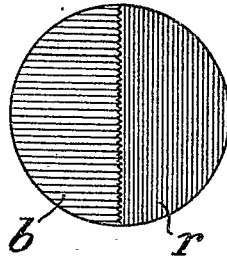


Fig. 3
I

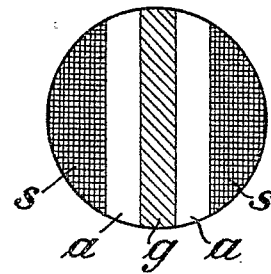


Fig. 4
II

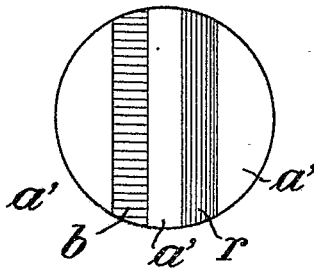


Fig. 5

