

COLOR CHART.

924,322.

Patented June 8, 1909.

8 SHEETS--SHEET 1.

Fig. 2

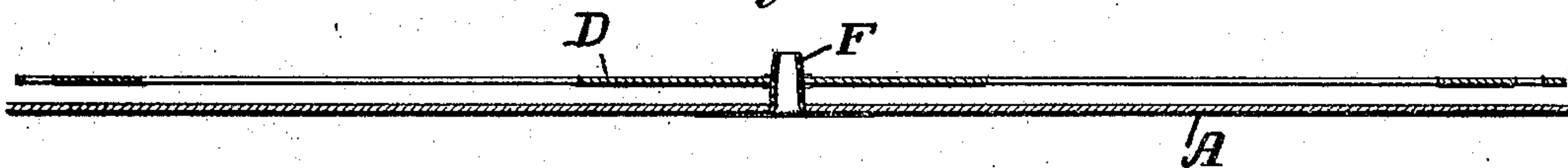
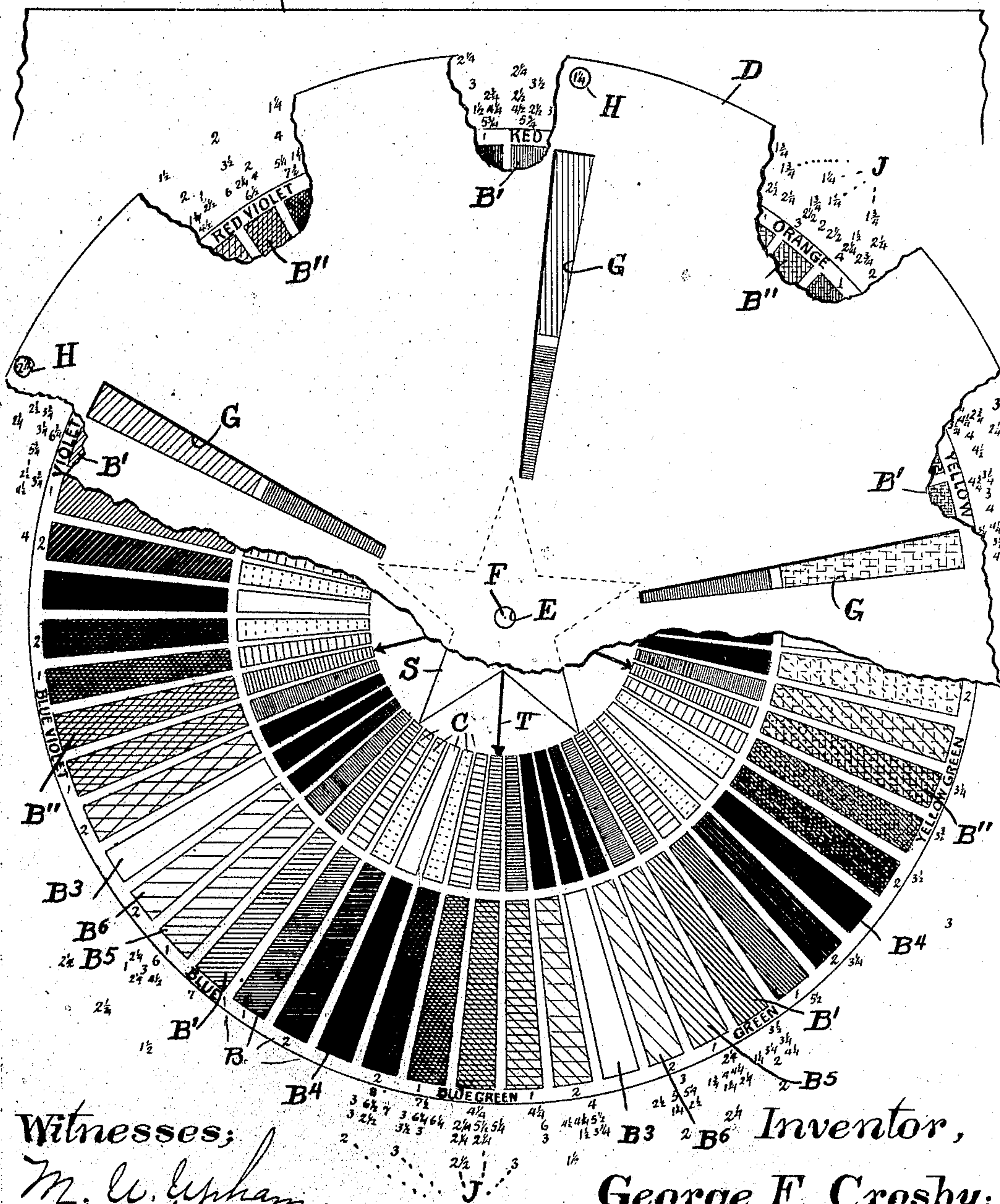


Fig. 1



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3 SHEETS—SHEET 2.

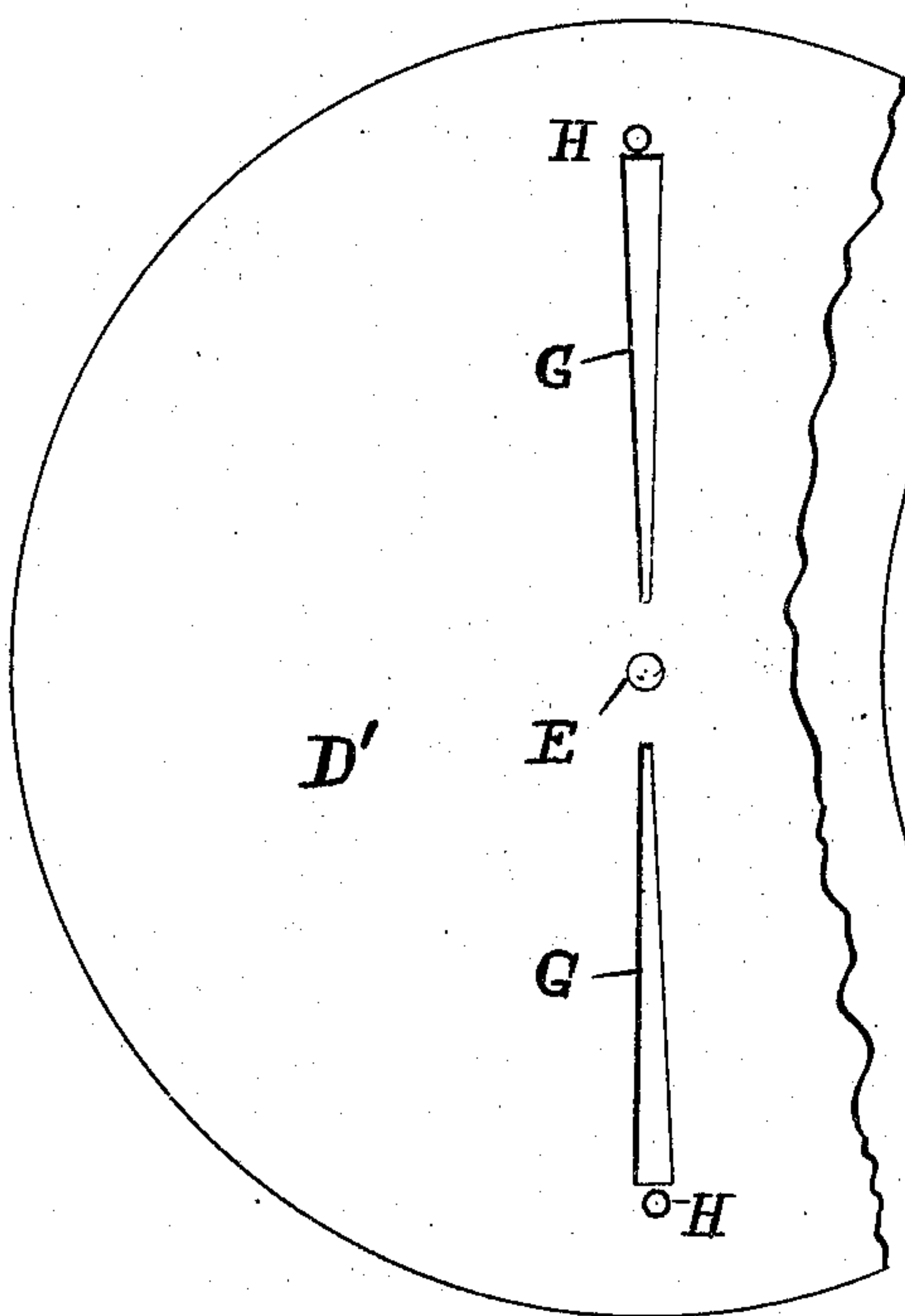


Fig. 5

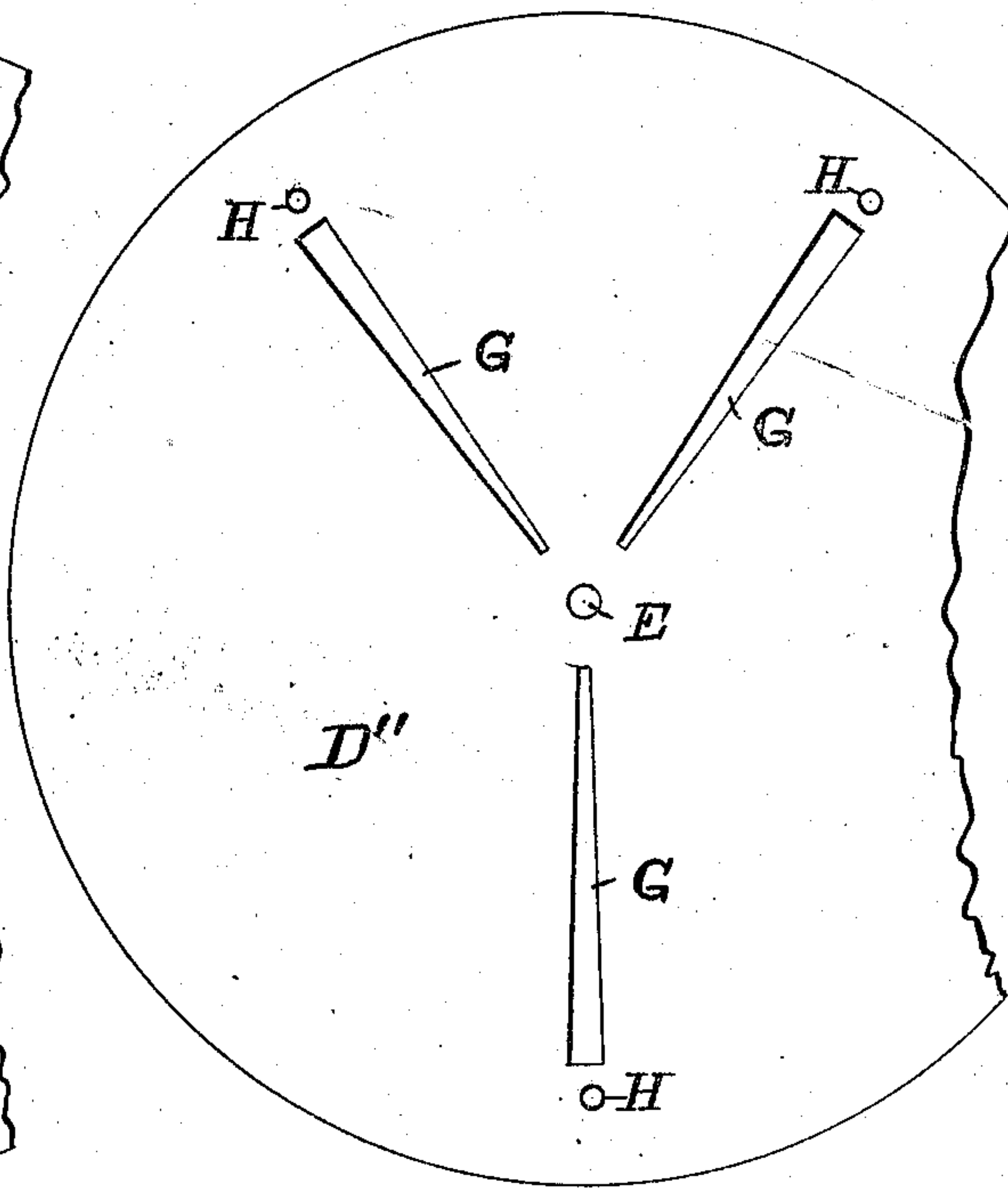


Fig. 4

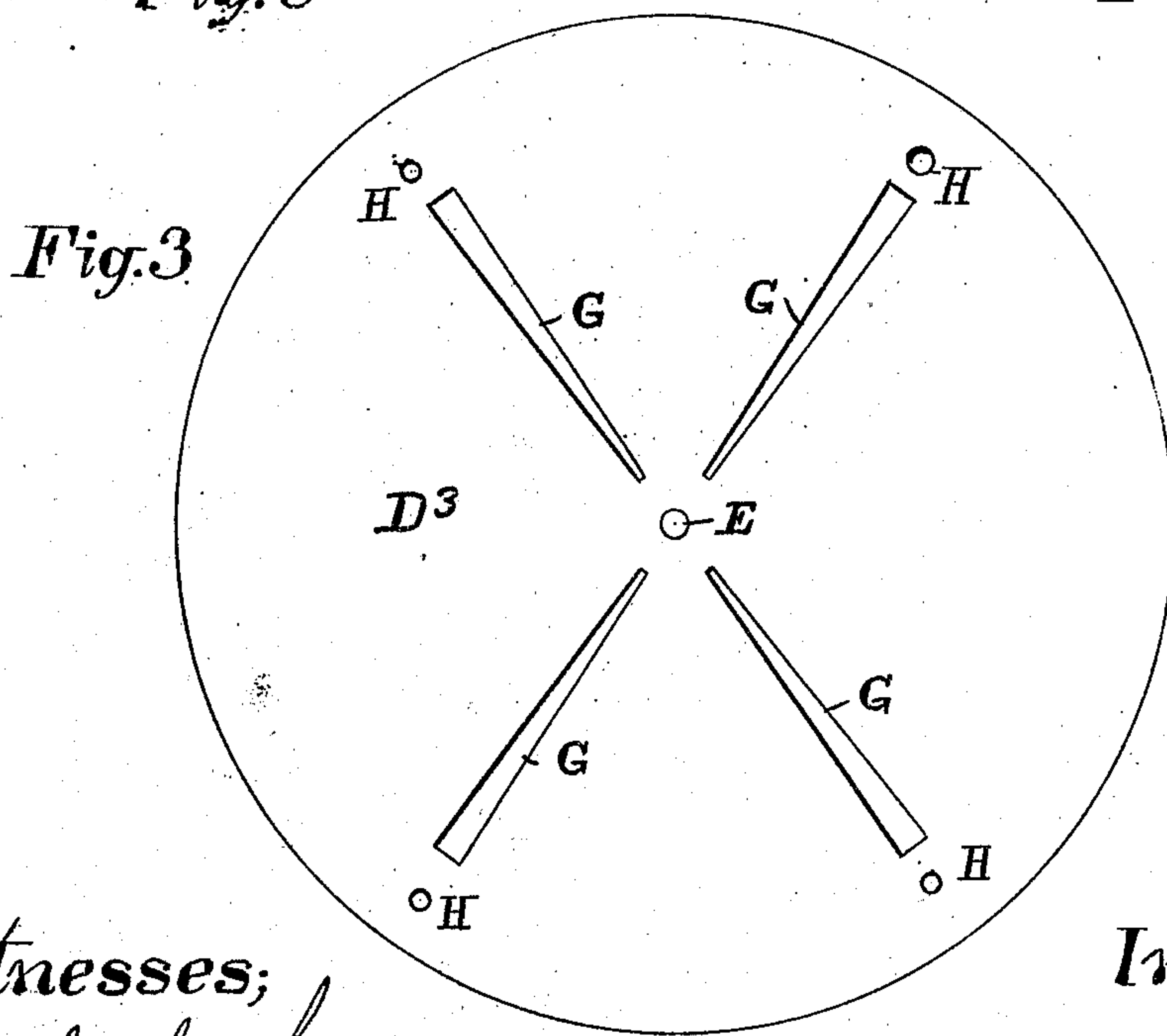


Fig. 3

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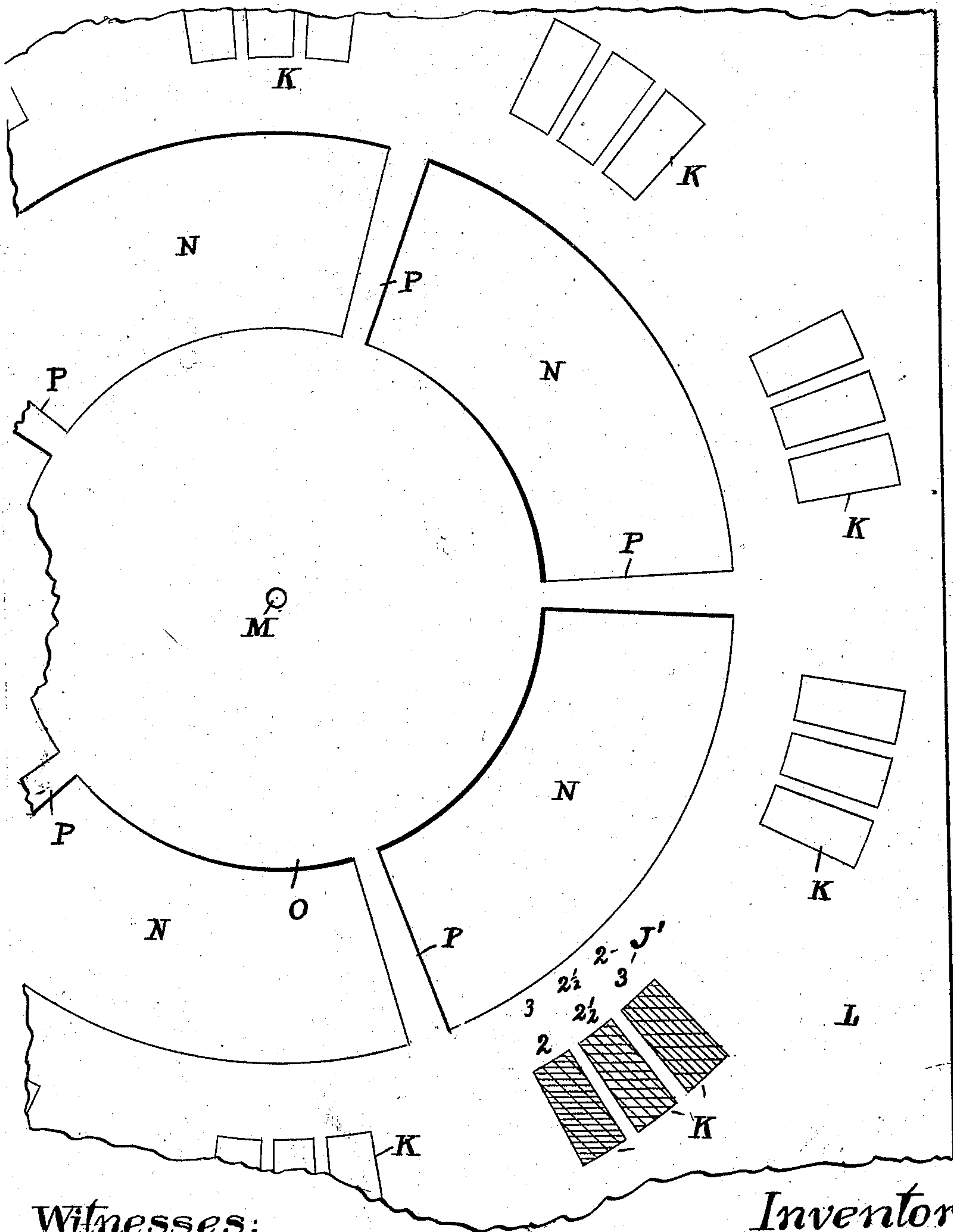
COLOR CHART.

APPLICATION FILED DEC. 5, 1908.

924,322.

Patented June 8, 1909.

3 SHEETS—SHEET 3.



Witnesses;

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Fig. 6

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UNITED STATES PATENT OFFICE.

GEORGE F. CROSBY, OF NEWTON HIGHLANDS, MASSACHUSETTS.

COLOR-CHART.

No. 924,322.

Specification of Letters Patent.

Patented June 8, 1909.

Application filed December 5, 1908. Serial No. 466,107.

To all whom it may concern:

Be it known that I, GEORGE F. CROSBY, a citizen of the United States, residing at Newton Highlands, in the county of Middlesex and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Color-Charts, of which the following is a specification.

The object of this invention is the construction of improved means whereby a printer, or other person interested in the proper harmonizing and balancing of colors, can determine quickly and with certainty what colors, tints and shades will most perfectly harmonize and contrast.

Referring to the drawings forming part of this specification, Figure 1 is a plan view of a color chart made in accordance with my invention, one of the masks used in connection therewith being represented as more or less broken away. Fig. 2 is a diametrical transverse section of the same. Fig. 3 is a face view on a smaller scale of the form of mask used for four-color combinations. Fig. 4 is a similar view, but with a part thereof broken away, of a three-color mask. Fig. 5 is a similar view of a two-color mask. Fig. 6 is a face view of an extension to the chart.

The color chart proper consists of a large card A bearing upon its face preferably sixty radially arranged strips B of various colors, tints and shades, in five equal groups. The strip B' of each group is one of the five primary colors, and are so designated on the chart within the circle immediately surrounding the same, as by the words "Red", "Yellow", "Green", "Blue", and "Violet". The color of each of the said five strips is indicated in the drawings by the shade lines appropriated therefor in the Patent Office "Rules of Practice."

Midway between every two of the colored strips B' is a strip B'' of a color combining equally the two colors of such strips B'. These combined colors are indicated in the drawings by combinations of the shade lines used on said two strips B'. These secondary color strips B'' are also accompanied on the chart by descriptive words, as "Blue green", "Yellow green", "Blue violet", "Red violet" and "Orange".

Half way between each strip B' and strip B'' is a strip of either white or black, the latter alternating so that on one side of "green" for instance is a white strip B³, and on its other side is a black strip B⁴. Between

each named strip, as "green" or "blue green", and a white strip B³ are two strips B⁵ and B⁶ of a lighter tint of such color, the one nearer the white strip being the lighter. In a like manner, between each named strip B' or B'' and a black strip, are two strips of the same color as such strip B' or B'' but of a darker shade, the one nearer the black strip being the darker. Such tints and shades are indicated in the drawings by the appropriate color-linings, but appropriately lighter or darker,—that is, either finer or heavier lines.

Within the row of strips B and each in radial alinement with the same, are similar strips C in different shades of gray. These shades vary from black, in alinement with the white strips B³, to white in alinement with the black strips B⁴; between such black and white strips C being five shades of gray grading from very dark to very light. Thus arranged, if the printer wishes to know what gray will be in best contrast with a specified color, he simply looks for the strip C in alinement with such color. For example, if the specified color be "blue green", shade 2 (that is, the second darker shade of said color, as indicated by the figure "2" to the left of the "blue green"), the gray indicated is one shade removed from white.

While this chart as thus far described is capable of use, its value is much enhanced by the employment of a mask D consisting of a circular card having a central opening or eyelet E fitting a pivot F rising from the card A, and formed with radial openings G through which certain of said strips can be surveyed. I prefer to provide four of these masks, one with two sight-openings G, another with three, another with four and the fourth with five. The first of these, the mask D' shown in Fig. 5, has said sight-openings diametrically opposite each other, whereby, when properly located on the chart, two oppositely positioned color strips B will alone be visible, as red and blue green, or orange shade 1, and blue, tint 1.

The mask D'' shown in Fig. 4 is formed with three sight-openings G, two a fifth of a circle apart, and the third diametrically opposite the median radius between said two. If this mask were placed on the chart with its first-named openings at red tint 1, and violet tint 1, then the third opening would expose green tint 1.

The mask D³ shown in Fig. 3 has its four sight-openings arranged in two diametrical

lines crossing at a fifth of a circle apart. This mask if placed to expose red tint 1, would also show violet tint 1, blue green shade 1, and yellow shade 1.

5 The mask D shown in fragments in Fig. 1, is supposed to be formed with five sight-openings equidistant from each other. This when positioned to expose red tint 1, will also reveal violet tint 1, yellow tint 1, green
10 tint 1 and blue tint 1, as shown partially in Fig. 1.

By thus employing an apertured mask, not only are the harmonizing and contrasting colors immediately discernible, but all
15 other colors are entirely concealed so that the user can clearly perceive the color-effects uninfluenced by any of the other colors.

30 A further function performed by my color-chart is that of indicating the proportional surface areas of the various colors to be employed in order to produce not alone a proper harmony of color-effects, but a proper balancing of the several colors selected. This is done by means of the small
25 holes H in the margins of the masks, and the numerals J surrounding the color chart. As shown in Fig. 1, these numerals are arranged in several concentric circles, and said holes in the masks are so located that one mask
30 will reveal the numerals in one or two of said circles of numerals; another mask's holes will exhibit the numerals in another circle or two; and another mask, another circle. These numerals are so calculated
35 that for any selected colors, the holes H exterior to the sight-openings G will show through them the numerals indicative of the relative proportions in area of the several colors. As shown in Fig. 1, the proper proportion to the whole area of the red tint 1
40 color is $1\frac{1}{4}$; of violet tint 1, $2\frac{1}{2}$; of green tint 1, though not shown as revealed by a mask-hole, would be $2\frac{1}{4}$; and in a similar manner would be exposed the numerals for the other
45 two colors; the entire five colors amounting to a total area of ten. In calculating these numerals, the relative intensities of the colors are taken into consideration, and the numbers for the brighter colors made smaller
50 than for the less intense colors and shades. This latter is very important, for the reason that color-combinations are not harmonious, neither do the colors balance each other, unless displayed in proper relative surface
55 areas. By giving the printer, or other person, a chart which gives him at a glance the relative figures for the areas of the several colors selected, his work is elevated from a mere matter of guess-work to one of scientific accuracy.

60 I have further improved this color chart by the construction of a removable extension by means of which the proportions and harmonies of certain colors on the chart with
65 respect to various middle color grays on such

extension, can be immediately determined. This is especially designed for the use of printers who wish to know what colors and what proportions of the same can be employed in printing upon stock of certain
70 middle-color grays.

By "middle-color grays" I mean different grays which vary from each other in their proportions of their constituent colors, as well as in their proportions of black or
75 white. In the gray strips C, the differences are wholly in the matter of light and dark, but in the blocks K on said extension L, the differences are in colors as well. Said extension consists of a large sheet of card-board
80 L having a central eyelet M for engagement with the pivot or pin F upon the chart A, and formed with openings N disposed for leaving a central disk O for covering the gray strips C, and spokes P for retaining
85 such central section or disk in place. I prefer to have these spokes P located and proportioned to cover the white strips B², while the outer periphery of said openings is designed to come just outside the color-terms,
90 "red", "blue", "green" etc., but to wholly cover the numerals J. Then on the space between such periphery and the middle color gray blocks K, are printed numerals J' giving the proper proportions in which certain
95 colors should appear if printed on a designated middle-color gray. For this purpose, of course one of the masks is used, its sight-openings G and the blocks K in alignment therewith showing the proper colors and
100 shades which will properly appear together, while the mask-holes H will expose the numerals J' which indicate the surface proportions of the same.

The object of the star S at the center of
105 the chart shown in Fig. 1, is to better enable the same to be used without the mask; the points of the star indicating the five primary colors, and the arrows T designating the secondary colors.

110 What I claim as my invention and for which I desire Letters Patent, is as follows, to wit;—

1. A color chart comprising a circular row of color-strips suitably arranged, and a mask
115 pivoted concentric with said row and formed with a plurality of sight-openings through which can be seen an equal number of harmonizing and contrasting colors.

2. A color chart comprising a circular row
120 of radially arranged color-strips disposed in a plurality of groups, each group consisting of a named color having at one side thereof a plurality of tints of the same color and at its other side a plurality of shades of the
125 same color, and a mask pivoted concentric with said row and formed with a plurality of sight openings through it.

3. A color chart comprising a circular row
130 of radially arranged color-strips disposed in

a plurality of groups, each group consisting of a named color having a black strip at one side thereof and a white strip at the other side thereof, and one or more tints of such color between it and the white strip, and one or more shades of such color between it and the black strip.

4. A color chart comprising a plurality of colors and shades and tints thereof, and an equal number of shades of gray located in juxtaposition thereto, said grays being disposed to have each thereof in proper contrast with a tint or shade of said colors.

5. A color chart comprising a plurality of areas of different colors having numerals associated therewith indicative of relative surface areas in which designated colors should be associated for proper balancing, and means for selecting a suitable color-

combination; said means being constructed to disclose such of said numerals as show the proper relative surface areas of the colors selected.

6. A color-chart extension comprising a card having a central pivot-opening, openings concentric with said pivot-opening disposed to leave radial arms uniting the portion of the card containing said pivot-opening and the outer portions of the card, and a series of color-strips on said exterior portion arranged close to said concentric openings.

In testimony that I claim the foregoing invention, I have hereunto set my hand this 2nd day of December, 1908.

GEORGE F. CROSBY.

Witnesses:

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BURTON P. GRAY.