Aug. 19, 1941. J. W. BROOKS 2,253,107

COLOR INDEX DEVICE

Filed July 31, 1939

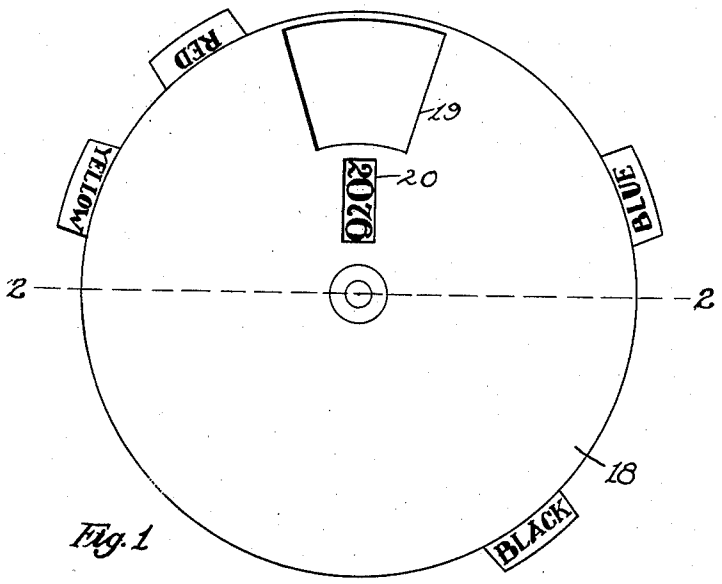


Fig. 1

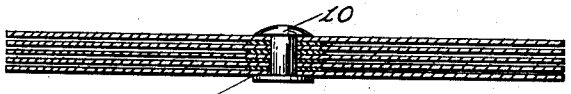


Fig. 2

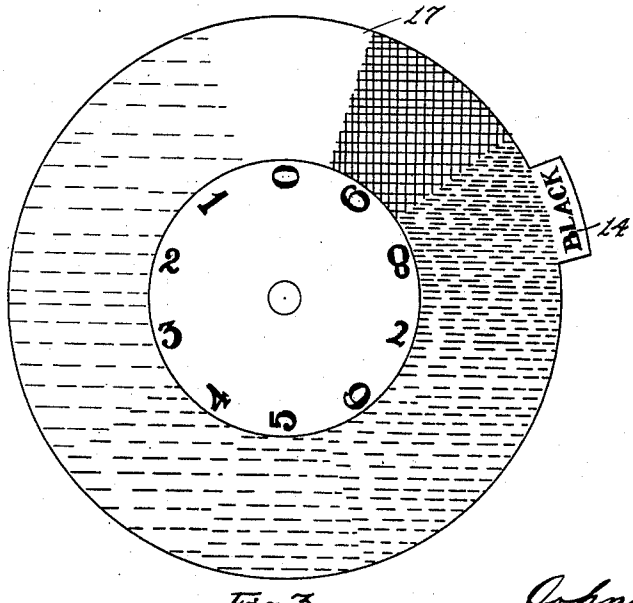


Fig. 3



Fig. 4

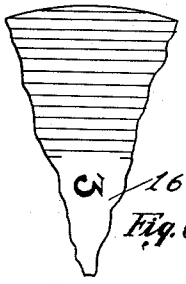


Fig. 5

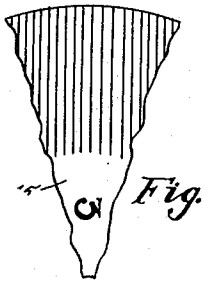


Fig. 6

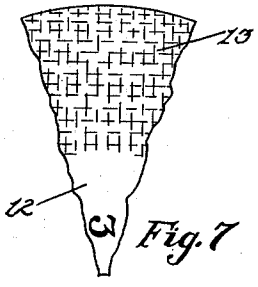


Fig. 7

Inventor
John Woolson Brooks
By Owig & Hague
Attys.

Patented Aug. 19, 1941 2,253,107

UNITED STATES PATENT OFFICE

2,253,107

COLOR INDEX DEVICE

John Woolson Brooks, Des Moines, Iowa

Application July 31, 1939, Serial No. 287,607

2 Claims. (Cl. 88—14)

The object of my invention is to provide a device of simple, durable and inexpensive construction whereby an operator may readily, quickly and easily set the several discs to position for visually presenting substantially every shade, intensity and value of the primary colors, and at the same time automatically visually display an identification mark, by which the operator may accurately determine the particular hue intensity and value then being displayed by the device, and which mark may thereafter be used as a key by which the operator may return the device to position for displaying the hue intensity and value designated by said key mark.

By means of my device an operator may make a record of the key symbols of a very large number of color shades and intensities, and these key symbols or numbers may be applied to paints, inks and the like so that when a desired shade has been selected, the operator need only refer to the key number thereof and thereby be able to purchase paints, etc., of the exact shade thus selected and identified.

In the accompanying drawing:

Figure 1 shows a plan view of my improved color index device;

Figure 2 shows a sectional view on the line 2—2 of Figure 1;

Figure 3 shows a plan view of the black halftone screen disc;

Figure 4 shows a segment of the black screen;

Figure 5 shows a segment of the blue screen;

Figure 6 shows a segment of the red screen; and

Figure 7 shows a segment of the yellow base disc.

The color index device is composed of five discs, superimposed and held together by a rivet upon which the discs are freely rotatable; between the discs are washers 11 to hold the discs separated and to minimize friction and wear.

The lower disc 12 is made of opaque material, and on its upper surface there is imprinted a series of segmental shaped color arrangements, one segment being yellow, as shown at 13 in Fig. 7, and the remainder being of increasingly less intensity of yellow, the final segment being white. A somewhat similar color arrangement is shown in Fig. 3, which illustrates the black disc. These segments extend from the periphery of the disc to a point about midway of the disc toward its center, and on the space between the segment and the center of the disc there is imprinted a symbol, one for each segment. In the present instance these symbols are numerals from 0 to 9. These figures on the disc are all arranged in a circle concentric with the disc and relatively close to the center of the disc. On the periphery of the disc there is an outwardly extended lug 14 to form a handle.

The next disc above is marked 15. It is provided with a corresponding number of segments occupying the same relative position as those of the lower disc. This disc 15 is made of transparent material. One of the segments is imprinted with red color and the remainder with shades of red progressively decreasing in intensity. The color element is also transparent. Each segment is provided with an identification numeral, and these are arranged in a concentric circle, spaced from the center of the disc outwardly relative to the numbers on the lower disc, as shown in Fig. 6.

The next disc above, 16, is like the disc just described except that the color is blue.

The next disc above, 17, has a similar structure and segment arrangement and is made of halftone screen having a network of fine black dots, through which, as is well known, the light may penetrate between the dots. One segment has the black dots close together, and the remaining segments have the black dots progressively more widely separated, and the last segment is free from the dots, as shown in Fig. 3.

Above the disc 17 is a cover or mask 18, also disc-shaped. It is formed with a segmental opening 19 corresponding to the segments of the color discs, and also with a slot 20 of such size and shape that one of the numbers on each of the four color discs may be viewed through the slot where they will appear as a four digit numeral, as shown in Fig. 1.

The color discs have such degree of transparency that when the segment of highest intensity and value of an upper disc is in line with the opening 19, sufficient light will pass through all of the discs so that the color shades of all the lower discs may be clearly viewed so that each of said color shades or intensities will exhibit its contribution to the blended color combination visible to the operator. In view of the foregoing it is obvious that the color segments cannot be of maximum intensity and value. Hence, there are many shades, particularly the darker ones, which could not be produced by the color discs alone. I have successfully solved this difficulty by the use of the half-tone screen having segments with networks of fine black dots, which segments are of graduated transparency and by which the color shade desired may first be brought into view with the clearly transparent

segment of the half-tone disc in line with the opening 19, and thereafter by moving the black disc any desired darkening intensity or value of the selected color may be obtained.

In practice the operator first manipulates the color discs to obtain the desired shade, and then moves the black disc to obtain the desired intensity and value. Thereupon, a numeral on each disc is displayed through the opening 20 consecutively arranged as a four digit numeral. This exact color shade may thereafter be readily and easily displayed by simply bringing the same numbers to position in registration with the opening 20.

A very large number of color shades and intensities and values may be obtained, and each may be conveniently and positively identified by the four digit numeral displayed for every such shade or intensity.

By the use of the term "network" of fine black dots, or the like, I mean that the black markings shall have spaces between them for the free passage of light, and I do not desire to be understood as implying that said markings must be round dots or the like.

I claim as my invention:

1. A color index device, comprising a series of discs of transparent material arranged one above the other and independently rotatably mounted at their central position, each disc having a series of segmental portions provided with different color values, each disc also being provided with a numeral for each of said segmental portions, an opaque cover for the discs having an opening through which one of the said segments may be viewed, and another opening through which said numbers may be viewed, said numbers being so positioned upon the discs that when the discs are set to a desired position the numbers on the various discs will be in line and closely associated, to present a readily readable designated number with one digit from each disc.

2. A color index device, comprising a series of discs of transparent material arranged one above the other and independently rotatably mounted at their central portions, each disc having a series of segmental portions provided with different color values, each disc also being provided with a numeral for each of said segmental portions, an opaque cover for the discs having an opening through which one of the said segments may be viewed, and another opening through which said numbers may be viewed, said numbers being so positioned upon the discs that when the discs are set to a desired position the numbers on the various discs will be in line and closely associated, to present a readily readable designated number with one digit from each disc, said colored segments being extended to the periphery of the disc, said opening in the cover being extended substantially to its periphery, and the discs and cover being of substantially the same diameter, whereby the index may be placed upon a colored surface and the operator may visualize the color of the discs and the color with which it is to be compared in a single line of vision.

JOHN WOOLSON BROOKS.