March 4, 1924. 1,485,795

C. A. MALLERNEE

KALEIDOSCOPE

Filed Oct. 4, 1921

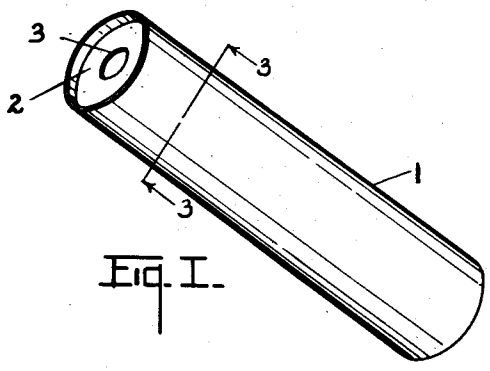


Fig. I.

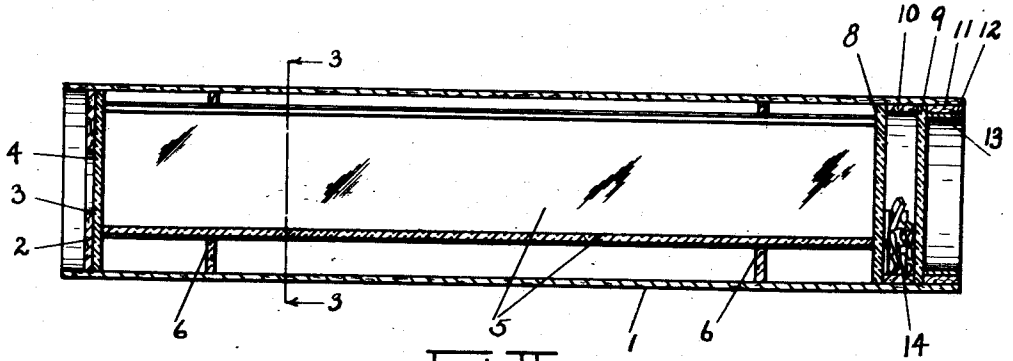


Fig. II.

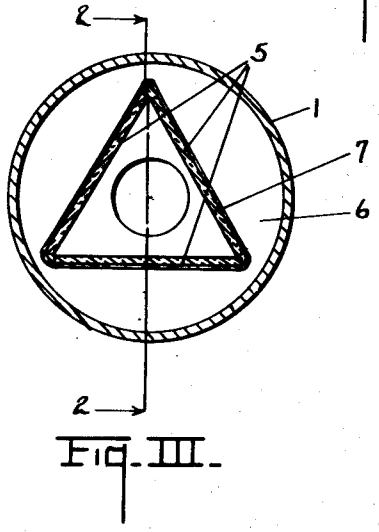


Fig. III.

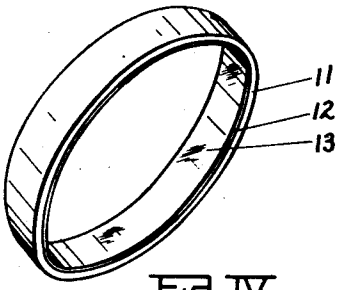


Fig. IV.

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UNITED STATES PATENT OFFICE.

CHARLES A. MALLERNEE, OF BATTLE CREEK, MICHIGAN.

KALEIDOSCOPE.

Application filed October 4, 1921. Serial No. 505,412.

To all whom it may concern:

Be it known that I, CHARLES A. MALLERNEE, a citizen of the United States, residing at Battle Creek, county of Calhoun, State of Michigan, have invented certain new and useful Improvements in Kaleidoscopes, of which the following is a specification.

This invention relates to improvements in kaleidoscopes.

The object of the invention is to intensify and secure a more or less sparkling effect to the transparent bits of glass or objects in the object holder.

Further objects, and objects relating to details and economies of construction and operation will definitely appear from the detailed description to follow.

I accomplish the objects of the invention by the devices and means described in the following specification. The invention is clearly defined and pointed out in the claims.

A structure which is a preferred embodiment of my invention is clearly illustrated in the accompanying drawing, forming a part of this application, in which:

Fig. I is a perspective view of my improved kaleidoscope.

Fig. II is a central longitudinal sectional view on line 2—2 of Fig. III.

Fig. III is a transverse detail sectional view taken on line 3—3 of Figs. I and II.

Fig. IV is an enlarged detail perspective view of the annular reflector disposed within the projecting tube at the object end of the kaleidoscope.

In the drawings similar reference numerals refer to similar parts throughout the several views and the sectional views are taken looking in the direction of the little arrows at the ends of the section lines.

Considering the numbered parts of the drawing by their numbers, 1 is the outer tube. 2 is the eye-piece, being a disk with a perforation 3 at the center. 4 is a glass disk within the eye-piece. 5 are triangularly disposed mirrors which are supported within the tube by disks 6, 6 containing triangular openings 7 and of such dimensions that they are well within the periphery of the disks and consequently considerably smaller than the outer tube 1.

The object compartment is formed by a pair of glass disks 8, 9, spaced by a ring 10 disposed there between and held by frictional contact against the ends of the triangular mirrors, the outer disk 9 being retained by ring 11 in the end of the tube.

Within the projecting end of the tube and within the ring 11 is disposed a polished metallic ring 12, the interior of which is cylindrical in form and polished sufficiently to make it a reflector 13.

It will be noted that the object case within which are preferably brilliant colored pieces of glass and other small objects 14 is of considerably larger diameter than the triangular tube formed by the mirrors. This enables a relatively large quantity of broken glass to be used adding materially to the extent and variety of design.

With this arrangement, it will further be seen that light is reflected and may be strongly reflected laterally against the objects that are exposed to view (particularly when the kaleidoscope is not pointed directly at the source of light), with the result that the edges thereof, being illuminated, give a distinct border effect and outline to the objects under certain conditions and also the reflecting edges of the objects cause further reflection of light, giving the effect of light sparkling jewels interposed between the said objects, producing a very pleasing effect.

My improved kaleidoscope could be made with the reflecting mirrors full size, but this would considerably impair certain effects of the reflected light. I desire to claim my improved kaleidoscope exactly as I have illustrated it and broadly as pointed out in the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. In a kaleidoscope, the combination of an outer case, triangularly disposed mirrors supported by disks having triangular openings within the outer walls of the said case, an eye piece at one end, an object supporting compartment formed between separated disks of glass of the full size of the said case retained by suitable rings, and an annular reflector with inner cylindrical surface disposed within the projecting end of the case having an inner cylindrical reflecting wall, as specified.

2. In a kaleidoscope, the combination of an outer case, triangularly disposed mirrors supported in the said case, an eye-piece at

one end, an object supporting compartment formed between separated disks of glass retained by suitable rings, and an annular reflector with inner cylindrical surface disposed within the projecting end of the case having an inner cylindrical reflecting wall, as specified.

3. In a kaleidoscope, the combination of an outer case, angular mirrors within the case, an object supporting compartment at the end of said case, and an annular reflector with inner cylindrical surface with an inner cylindrical reflecting wall disposed in proximity to the said object compartment to reflect light laterally into and through the objects contained therein.

4. In a kaleidoscope, the combination of an outer case, angular mirrors within the case, an object supporting compartment at the end of the case, and an annular reflector with an inner cylindrical surface with an inner reflecting wall disposed in proximity to the said object compartment to reflect light laterally into and through the objects contained therein.

In witness whereof I have hereunto set my hand and seal.

CHARLES A. MALLERNEE. [L. S.]