

No. 718,326.

PATENTED JAN. 13, 1903.

U. DIEM.
KALEIDOSCOPE.
APPLICATION FILED SEPT. 7, 1901.

NO MODEL.

Fig. 1.

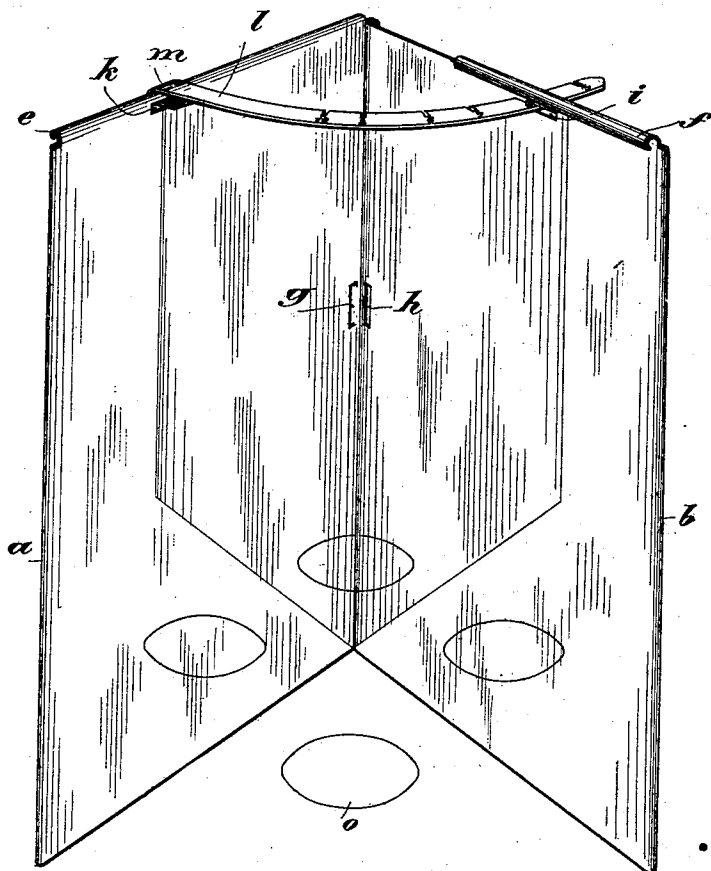
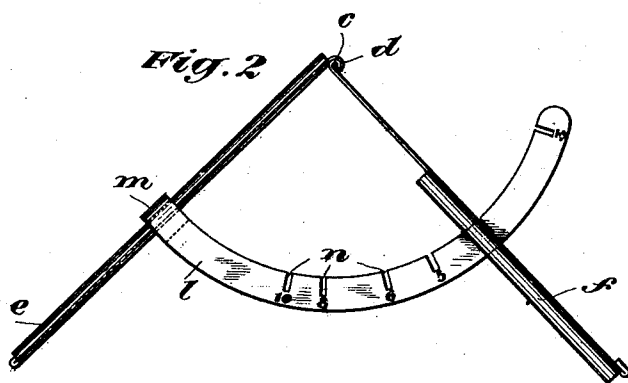


Fig. 2.



Witnesses:

W. E. Beall.

Inventor:

Ulrich Diem.
by *Henry O. Hagen*
att'y

UNITED STATES PATENT OFFICE.

ULRICH DIEM, OF ST. GALL, SWITZERLAND.

KALEIDOSCOPE.

SPECIFICATION forming part of Letters Patent No. 718,326, dated January 13, 1903.

Application filed September 7, 1901. Serial No. 74,679. (No model.)

To all whom it may concern:

Be it known that I, ULRICH DIEM, a citizen of the Republic of Switzerland, residing at St. Gall, Switzerland, have invented new and useful Improvements in Kaleidoscopes, of which the following is a specification.

This invention relates to a kaleidoscope comprising two reflecting metal plates, each of which is provided on at least one edge with a turned-over portion for the purpose of enabling the two plates to be hinged together by inserting the turned-over portion of one plate into the turned-over portion of the other plate.

Figure 1 of the accompanying drawings is a perspective view of one example of apparatus according to this invention, and Fig. 2 is a plan thereof.

Two rectangular reflecting metal plates *a* and *b* are each provided on two adjacent edges with turned-over portions *c f* and *e d*, of which the portion *c* lies in the turned-over portion *d*. The two metal plates are thus connected together like a hinge and can be placed at certain angles to each other, according to the number of reflections desired. Each metal plate is provided close to the turned-over portions with slots *g* and *k* and *h* and *i*, of which each of the slots *g* and *k* is arranged opposite to its corresponding slot *h* or *i* and adapted to receive a holding device comprising an arc-shaped flat bar *l*, which is turned over at one end *m*. The turned-over end *m* of the holding device can be inserted into the slot *g* or the slot *k* of one plate *a*, while its other end can be passed through the corresponding slot *h* or *i* of the other plate *b*. The arc-shaped bar is provided on its concave edge with a scale and with notches *n*, each of which is provided with a number which indicates how many times (once direct and the remainder reflections) an object *o* placed between the two metal plates appears when the metal plates are held at a certain angle to each other in consequence of a notch *n* on the arc-shaped bar engaging with the edge of one of the slots *i* or *h*.

The kaleidoscope is used in the following manner: It is held in the left hand and raised slightly, so that an object placed under it—for example, striped patterns, lace, embroidery, or plants—can be turned with the right hand and moved as desired. According to the angle formed by the plates 2, 3, 4, 5, 7, or 9

reflections of the object are obtained and the reflections appear in a circle around the object, so as to enable any desired combination to be obtained. Instead of being connected along their longitudinal sides the metal plates can also have the turned-over portions on their narrow sides inserted one into the other for the purpose of enabling objects having a greater length or width to be reflected.

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

1. A kaleidoscope comprising two rectangular reflectors of greater length than width having cooperating separable hinge members on one of their longer and on one of their shorter edges, for the purpose set forth.

2. A kaleidoscope comprising two rectangular reflectors having interlocking hinge members on one of their longer and on one of their shorter edges; in combination with means for adjusting the reflectors and locking them into different angular positions when hinged together, substantially as set forth.

3. A kaleidoscope comprising two rectangular metal reflectors having interlocking hinge members formed on one of their longer and on one of their shorter edges, and longitudinal slots proximate to said edges; in combination with a segment-bar adapted to engage a slot in one of the reflectors and pass through the slot in the other, said segment-bar provided with lock-notches adapted to engage the end wall of the slot through which it passes, for the purpose set forth.

4. A kaleidoscope, comprising two metallic reflectors of greater length than width, one of said reflectors provided with the hinge members *e, d*, and the slots *k* and *g*, the other reflector provided with complementary hinge members *c* and *f* and complementary slots *h* and *i*; in combination with the segment-bar *l* provided with notch graduations and having one of its ends hook-shaped, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ULRICH DIEM.

Witnesses:

JAMES BERNET-NUIBRA,
WILLY LEISCHER.