J. COLLICOTT.

Kaleidoscopes.

No. 147,480. Patented Feb. 17, 1874.

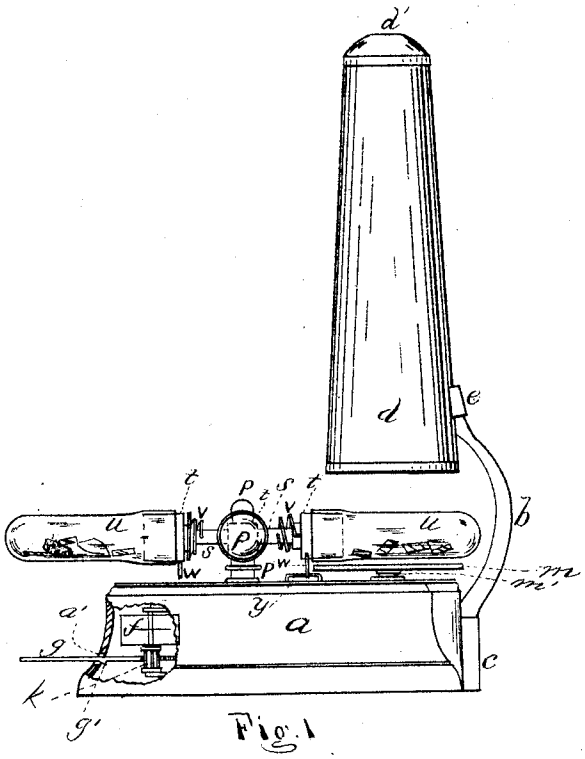

Fig. 1

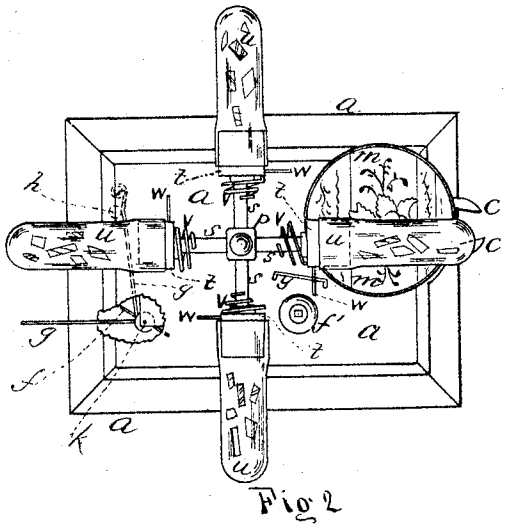

Fig. 2

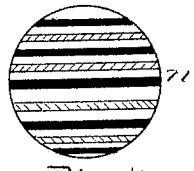

Fig. 4.

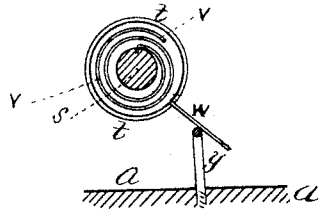

Fig. 3.

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UNITED STATES PATENT OFFICE.

JOHN COLLICOTT, OF WEST ROXBURY, MASSACHUSETTS, ASSIGNOR TO JOHN S. ADAMS, OF SAME PLACE.

IMPROVEMENT IN KALEIDOSCOPES.

Specification forming part of Letters Patent No. **147,480**, dated February 17, 1874; application filed December 9, 1873.

To all whom it may concern:

Be it known that I, JOHN COLLICOTT, of West Roxbury, in the county of Norfolk and State of Massachusetts, have invented a new and useful Improvement in Kaleidoscopes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing and to the letters of reference marked thereon.

By means of this invention a greater range of blended forms, shapes, colors, &c., is provided than is found in the ordinary kaleidoscope, and its value as an article of amusement, and also as an aid in arts of design, is proportionately greater than the kaleidoscope now in general use.

The nature of my improvement is fully described below.

In the accompanying drawing, Figure 1 is a side elevation of my improved kaleidoscope, with a small portion represented as broken out in order to show the method of starting and stopping the clock-work machinery within. Fig. 2 is a plan of the same with the kaleidoscope-tube and standard removed.

Similar letters of reference indicate corresponding parts.

a is a box, of any suitable material. *b* is a standard, the lower end of which slips into the rest *c* at the rear end of the box *a*. It can be easily removed when desirable. *d* is an ordinary kaleidoscope-tube, constructed with reflectors in the ordinary manner. *d'* is the opening at which the eye is placed. *e* is a socket, into which the standard *b* slips when supporting the kaleidoscope-tube *d*. Inside the box or case *a* is what is usually termed clock-work machinery, actuating certain portions of my device, as below described.

As I claim nothing new in this clock-work, no portion of it is illustrated excepting that shown in the broken-out portions of Figs. 1 and 2.

f shows the position of the fly-wheel. *g* is a bent spring-rod or regulator, as is shown (partially in broken lines) in Figs. 1 and 2. It is attached to the inner side of the box *a*, and, after being pressed by the pin or screw *h* against the lantern-wheel *k*, (which meshes into a spur-wheel connected with the clock-work,) bends at a right angle, and passes out of the box *a* through the opening *a'*. When in the position shown, it prevents the machinery from starting by pressing against the wheel *k*.

When my device is operated, the regulator *g* is pulled out, and the notch *g'*, upon the under side of the same, is set against the outer edge of the opening *a'*, and, remaining there, allows the machinery to actuate the kaleidoscope. *m* is a round table, set immediately under the tube *d*, and revolving by means of a socket, *m'*, which fits over and upon an arbor projecting through the box *a*, and connected with the clock-work within. This table is ornamented with various colors and devices calculated to delight the eye when viewed through the tube *d*. Various-colored disks, either plain or ornamented in any manner, as in Fig. 4, are placed, either one or more at a time, upon different parts of the table *m* when it is revolving, and produce pleasing effects. *p* is a hub and socket, fitting upon an arbor proceeding from the clock-work within the box *a*. Projecting from the hub are four spokes or arms, *s*. Fitting loosely upon these arms *s* are four stopples, *t*, which hold and carry four glass tubes or chambers, *u*, containing bits of colored glass, tinsel, &c. The stopples *t* and arms *s* are attached to each other by spiral springs *r*. A short rod, *w*, projects from each stopple *t*, and drags upon the upper surface of the box *a*. As the stopple *t* and glass-chamber *u* reach the table *m*, the rod *w* strikes a bridge, *y*, over which it rides, and when dropping upon the other side shakes up the contents of the chamber *u*, so as to present a new view each time it passes under the tube *d*. Fig. 3, which is a vertical section cut through the arm *s* and bridge *y*, well illustrates the operation of the spring *v* and rod *w* as the latter is passing over the bridge *y*.

Of course I do not confine myself to any particular number of glass-chambers.

It will readily be seen that, upon drawing out the regulator *g*, and catching it upon the box *a*, the clock-work starts and causes the table *m* and the chambers *u* to revolve. The

table *m*, having more or less disks upon it, pleases the eye until a chamber, *u*, passes over the surface, when an entirely different view is presented, which, owing to the shaking it receives, as it passes over the bridge *y*, is never repeated. Thus an indefinite number of views, beautifully blended, may be produced, all appearing automatically.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The rotating table *m*, actuated by ordinary clock-work machinery, and placed under the kaleidoscope-tube *d*, constructed and arranged substantially as described.

2. The combination, with the hub *p* and arms *s*, of the stopples *t* and glass-chamber *u*, all actuated by the clock-work machinery within the box *a*, as above described.

3. The combination of the bridge *y* with the hub *p*, arms *s*, stopples *t*, spiral springs *v*, and rods *w*, arranged as above described, and operated by clock-work machinery, for the purpose of shaking or jarring the glass-chambers *u* with their contents, as above specified.

4. The combination of the revolving chambers *u*, attached by the stopples and arms *t s* to the hub *p*, with the rotating table *m*, both actuated by the clock-work machinery, in the manner above set forth.

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Witnesses:

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