

(No Model.)

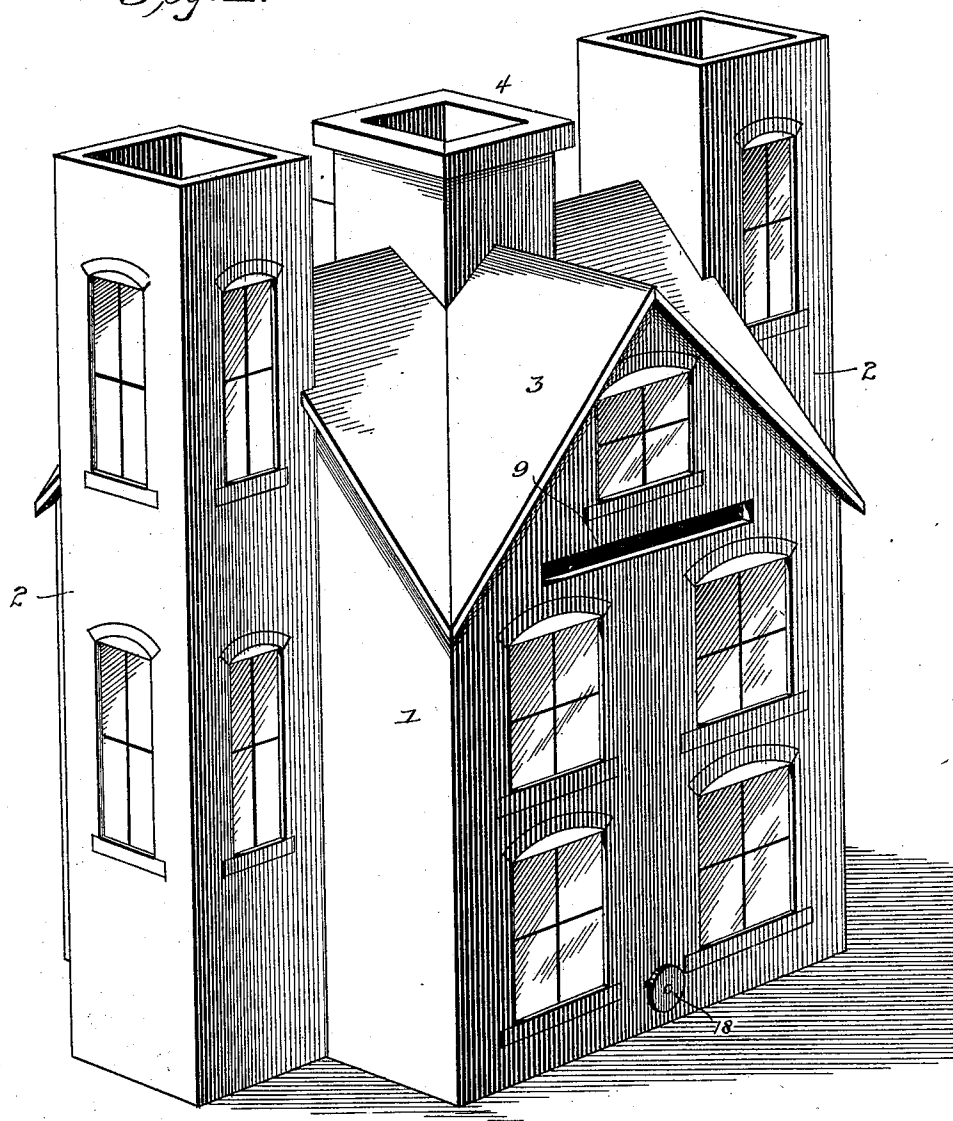
2 Sheets—Sheet 1.

E. B. NEWCOMB.
TOY.

No. 581,080.

Patented Apr. 20, 1897.

Fig. 1.



Inventor
Evander B. Newcomb,

Witnesses

E. H. M. M. M.
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By *his* Attorneys,

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2 Sheets—Sheet 2.

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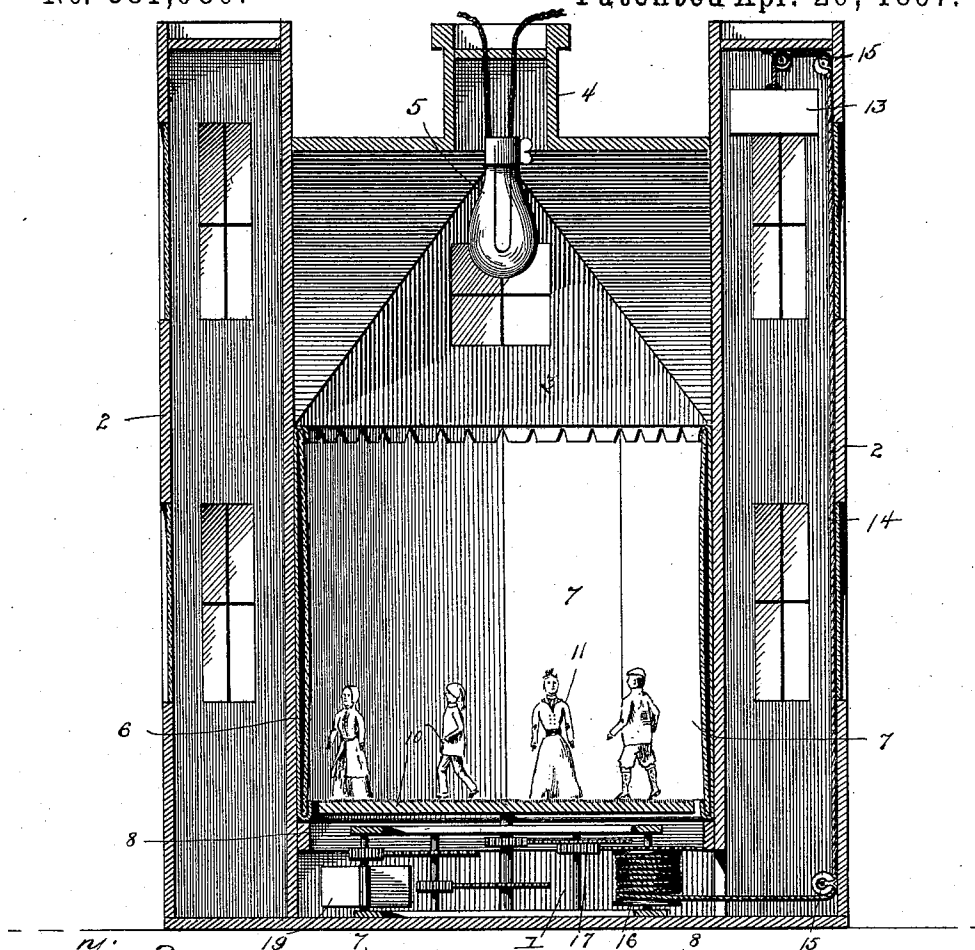


Fig. 2.

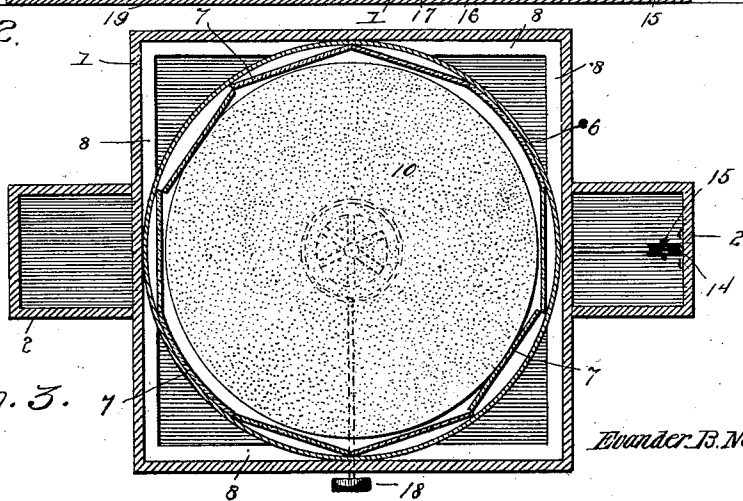


Fig. 3.

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UNITED STATES PATENT OFFICE.

EVANDER B. NEWCOMB, OF ST. LOUIS, MISSOURI.

TOY.

SPECIFICATION forming part of Letters Patent No. 581,080, dated April 20, 1897.

Application filed May 27, 1896. Serial No. 593,295. (No model.)

To all whom it may concern:

Be it known that I, EVANDER B. NEWCOMB, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented a new and useful Toy, of which the following is a specification.

My invention relates to games and toys; and the object in view is to provide a mechanical toy depending for the entertainment provided thereby upon an optical delusion.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a toy constructed in accordance with my invention. Fig. 2 is a vertical central section of the same. Fig. 3 is a horizontal section.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

The casing of the toy embodying my invention may be constructed in any desired fanciful shape, that illustrated in the drawings consisting of a main portion or building 1, upon opposite sides of which are arranged towers 2, the roof 3 of the main building being removable to give access to the interior, and the vertical hollow extension 4 at the center of the cover or roof 3 being designed to contain an illuminating device, such as a lamp 5 or its equivalent. The windows in both the main body and towers of the building may be of stained glass or its equivalent.

Arranged within the main portion 1 of the casing is a vertical fixed cylinder 6, which in the construction illustrated consists of sheet metal rolled in a cylindrical form and having turned upper and lower edges to engage panels 7, of reflecting material, such as glass or its equivalent. These panels are disposed in relatively angular positions and may be flat or curve-surfaced alternately, the curved surfaces being either concaved or convex transversely or longitudinally for a purpose hereinafter explained. The reflecting-cylinder is preferably removably fitted in the casing and rests upon supporting-cleats 8 upon the side walls of the body portion 1, an ob-

servation-opening 9 being provided in one of said side walls contiguous to the upper edge of the cylinder, whereby the observer may look over the upper edge of the contiguous side of the cylinder and see the inner surface of the opposite side thereof to a point approximately half-way between the upper and lower ends of the cylinder.

Mounted in the lower end of the cylinder and approximately fitting the bore thereof is a rotary table or disk 10, carrying objects or figures 11 of any desired kind and number. In the construction illustrated the figures represent men and women and the surface of the table or disk is whitened, as by raw cotton, to give the appearance of ice upon which the figures are supposed to be skating, and by rotating the table or disk and observing the reflections of the objects in the paneled or broken surface of the cylinder the number of objects appears to be vastly multiplied and the figures appear to be winding around and about each other in a manner closely resembling that seen upon the floor of a skating-rink. The figures cannot be seen through the observation-opening inasmuch as the line of vision of the observer strikes the opposite side of the reflecting-cylinder at a point above the plane of said figures, and inasmuch as each surface or panel of the reflecting-cylinder not only reflects the objects directly, but reflects the reflections of the objects as they are formed in the other surfaces or panels, no idea of the number of objects can be obtained. By varying the surfaces of the panels, making some flat and others curved, the apparent heights of the objects are varied as they pass and re-pass before the observer.

Any suitable means for communicating rotary motion to the spindle 12 of the table or disk may be employed, such, for instance, as a weight 13, suspended in one of the towers of the casing upon a cord 14, which, after traversing suitable direction-pulleys 15, is reeled upon a drum 16, and speed-reducing gearing 17 connecting the spindle of the drum with the spindle of the table or disk, whereby the device is adapted to run for several hours. A brake 18, consisting of a pin slidably mounted in the front of the casing, is arranged to engage the teeth of one of the gears to check

the movement of the driving mechanism, and a fan-governor 19 is suitably connected with the gearing to regulate the movement thereof.

It will be understood that a music-box or similar device for attracting attention may be operatively connected with the mechanism above described, such device, however, forming no part of my present invention, and therefore not being illustrated in the drawings.

From the above description it will be seen that the essential feature of the invention resides in providing an inclosure of which the walls are formed by or provided with a broken reflecting-surface consisting of contiguous mirrors or their equivalents forming sections of the reflecting-surface, said mirrors being disposed at obtuse interior angles. This arrangement of mirrors enables the observer to see a plurality of reflections of a single object located within the space inclosed by the reflecting-surface or in front of the concave portion of the reflecting-surface toward which the line of vision is directed. Hence the number of figures on the moving platform is multiplied by the number of mirrors within the range of vision of the observer. Furthermore, by employing a rotary platform, or one in which different portions move in approximately opposite directions, (as with diametrically opposite points of a rotary platform,) the reflections of the figures in the mirrors are also caused to move in opposite directions, and hence have the appearance of crossing each other's paths. Furthermore, by employing a rotary platform, which causes each figure to turn, and hence present its different sides successively to the reflecting-surface located outside of the path of the figure, the reflections of the figures have the appearance of turning, as in dancing, skating, and similar recreations.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

1. A toy having a stationary concave reflecting-surface consisting of a continuous series of panels arranged to form interior angles, and a revoluble object-carrying device located in the space inclosed by said reflecting-surface, and out of line of observation, substantially as specified.

2. A toy having a concave reflecting-surface consisting of a plurality of panels arranged to form interior angles, and a movable platform carrying objects arranged in front of for simultaneous reflection by all of said panels, and out of the line of observation, substantially as specified.

3. A toy having an interior or concave reflecting-surface formed by a plurality of panels arranged to form interior angles, movable

objects arranged within the space inclosed by the reflecting-surface for simultaneous reflection thereby and disposed out of the line of observation, and means for imparting motion to the objects whereby a plurality of objects at different distances from and reflected in the same panel are moved in opposite directions, substantially as specified.

4. A toy having an inclosure provided with a surrounding wall having an interior reflecting-surface consisting of a plurality of panels arranged to form interior angles, and a rotary platform carrying objects arranged within the inclosure for reflection in said panels, the objects being out of the line of observation, whereby objects at diametrically opposite points on the platform move in opposite directions, and whereby each object has appearance of turning upon its own axis while describing a path around the axis of the platform, substantially as specified.

5. A toy having a reflecting-cylinder provided with an interior reflecting-surface consisting of angularly-disposed panels having, respectively, flat and curved faces, a rotary platform mounted in the cylinder, and carrying objects for reflection in the panels, said objects being out of the direct line of vision through the observation-opening, and means for operating the platform, substantially as specified.

6. A toy having a casing provided in its front side with an observation-opening, a reflecting-cylinder removably fitted in the casing and consisting of a sheet-metal shell having intumed upper and lower edges, and reflecting plates or panels arranged in a circular series within the shell and engaged at their upper and lower extremities by the intumed edges thereof, said cylinder being supported by fixed cleats within the casing, a rotary platform or disk arranged in the lower end of the cylinder and approximately fitting the same, said platform carrying objects for reflection in said plates or panels and out of the direct line of vision through said observation-opening which is disposed above the upper edge of said cylinder, and means for communicating motion to the platform or disk, substantially as specified.

7. A toy having a casing comprising a central main compartment and a contiguous hollow tower, an observation-opening being formed in the front wall of the main compartment, a removable cover or roof for the main compartment having a hollow extension for an illuminating device, the interior of said extension being in communication with the interior of the main compartment, a reflecting-cylinder arranged within the main compartment, a rotary platform or disk mounted in the lower end of the cylinder and carrying objects for reflection in the surfaces of the cylinder, and means for communicating rotary motion to the platform including a drum connected by speed-reducing gearing with the

spindle of the platform and a weight mounted in said tower and flexibly connected with the drum, substantially as specified.

5 8. A toy comprising two members, one member consisting of a concave reflecting-surface having a plurality of panels arranged to form interior angles, and the other member consisting of a platform carrying objects for reflection by the several panels of the reflecting-
10 surface, and out of the line of observation,

one of said members being movable independently of the other, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

EVANDER B. NEWCOMB.

Witnesses:

ED. NEWCOMB,

THOS. HENSCHEL.