(No Model.)

S. S. BUTLER.

PRISMATIC TOY.

No. 301,561. Patented July 8, 1884.

FIG. 1.

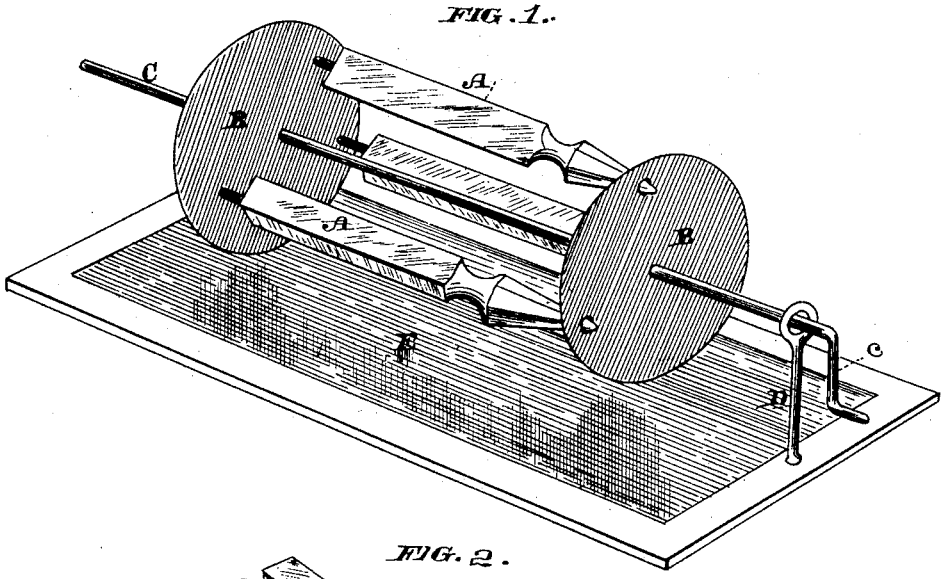


FIG. 2.

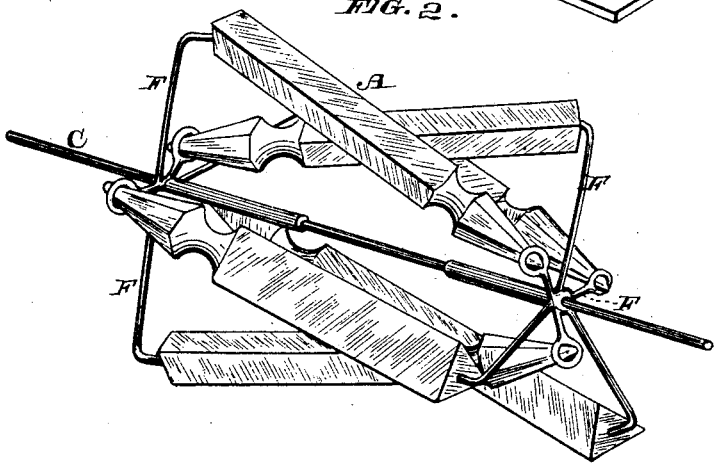
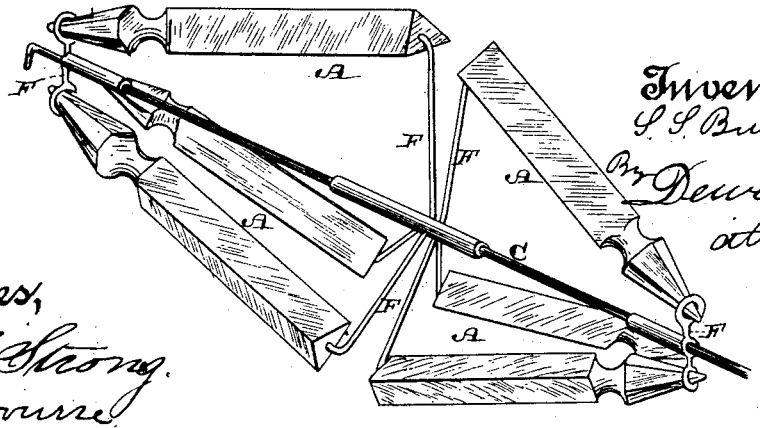


FIG. 3.



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UNITED STATES PATENT OFFICE.

SAMUEL S. BUTLER, OF LOS GATOS, CALIFORNIA.

PRISMATIC TOY.

SPECIFICATION forming part of Letters Patent No. 301,561, dated July 8, 1884.

Application filed January 7, 1884. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL S. BUTLER, of Los Gatos, county of Santa Clara, in the State of California, have invented an Improvement in Prismatic Toys; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to the class of toys, and more particularly to a toy designed to reflect the sun's rays in a number of widely-distributed and ever-varying prismatic colors.

My invention consists in a series of prisms mounted in a frame and adapted to be rotated on a common axis, said prisms to be used either with or without a reflecting surface or mirror over which they rotate, as I shall hereinafter fully describe by reference to the accompanying drawings, in which—

Figure 1 is a view of my prismatic toy. Figs. 2 and 3 are modifications of the arrangement of the prisms.

The object of my invention is to provide a toy both entertaining and instructive.

A represents the prisms. In Fig. 1 I have shown three, each of which is mounted horizontally on disks B at each end, and each is adapted to be rotated on its own axis, while all can be rotated on a central axis or shaft, C, upon which the disks or flanges B are secured. This shaft has upon one end a small crank, *c*, which serves as a means for turning it, and it is supported in a horizontal position by means of the standards D, in whose tops it is journaled.

E is a mirror, in the frame of which the standards D are supported. The rotating series or frame-work of prisms is thus mounted over the mirror. This toy is designed to be placed on the window-sill, the mirror lying thereon. The room may be darkened, and but little light admitted, except those rays which are caught by the prisms and the mirror. The prisms throw the colors over the walls of the rooms, and the mirror increases their number materially. By rotating the prism-frame the colors are made to travel rapidly, dancing about, varying in form and position, crossing each other's paths, and producing upon the whole an effect interesting and wonderful. The change of each prism upon its own axis provides for further adjustments, and any one may be set at the best angle to produce the best result.

I carry my idea further into several modifications relating to the change in the manner of mounting the prisms. This one which I have been describing is probably the simplest form; but by changing the angle of the prisms with regard to each other and to the general system I am enabled to produce more wonderful and beautiful results. Thus in Fig. 2 I have double the number of prisms, each being inclined oppositely to those adjoining, the alternate ones being set at similar inclinations. In this I dispense with the disk-flanges and use wire frames F, secured to the central axis. These frames consist each of three short and three long arms, alternating in each, the long ones in one being opposite to the short ones in the other, whereby the proper inclination is effected. By using this mount or series of prisms the colors are more widely distributed over the walls, being thrown to either side, and when used in connection with the mirror and rotated they produce an effect not only beautiful but bewildering, and well adapted to interest the operator. Again, in Fig. 3 I show a mount in which the prisms are inclined from center to ends, the series being larger in diameter in the middle. This also distributes the prismatic colors to a good advantage.

This device as a toy is well adapted to serve its purpose. Its possibilities of amusement and instruction are great, and it is fit not merely for children in years and size, but those of a larger growth. The endless variety of shapes, due to the angle at which the rays are received, the intensity of some of the spectrums contrasting with those in which the colors are faint or not visible, which makes the best, most beautiful, and the confusing and rapid motions of each when the frame is rotated, all tend to fix the attention, please the eye, and create wonder. With the mind so prepared, it is an easy matter to direct it in the paths of instruction, and to render familiar in childhood those truths which will never be forgotten, and the possession of which even in rudimentary shape will be of great advantage in the subsequent acquisition of knowledge.

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

1. A toy consisting of a series of prisms mounted in a frame adapted to be rotated, whereby the prisms revolve about a common

center, substantially as and for the purpose herein described.

2. In a toy, a series of prisms mounted in a frame adapted to be rotated, whereby the prisms revolve about a common center, in combination with a mirror over which said frame is mounted, substantially as herein described.

3. In a toy, the horizontal parallel prisms A, the flange-disks B, and the central shaft, C, in combination with the mirror E and the standards D, supporting the shaft and prisms over the mirror, substantially as herein described.

4. In a toy, the horizontal parallel prisms A, the flange-disks B, in which said prisms are mounted and adapted each to rotate on its own axis, and the central axis or shaft, C, in combination with the mirror E and the standards D, set in its frame, and in whose tops the shaft C is mounted to rotate, substantially as herein described.

5. In a toy, the central shaft, C, the wire frames F, having long and short arms, as described, and the prisms A, mounted in said arms at opposite inclinations, in combination with a mirror above which said prisms are supported and adapted to revolve, substantially as herein described.

6. In a toy, the prisms A, mounted on a frame having a central axis, said prisms being arranged in pairs inclosing an obtuse angle, in combination with a mirror above which they are mounted to revolve on their common axis, substantially as herein described.

In witness whereof I have hereunto set my hand.

SAMUEL S. BUTLER.

Witnesses:
S. H. NOURSE,
H. C. LEE.