

N. D. CLARK.

Improvement in Toys.

No. 129,651.

Patented July 23, 1872.

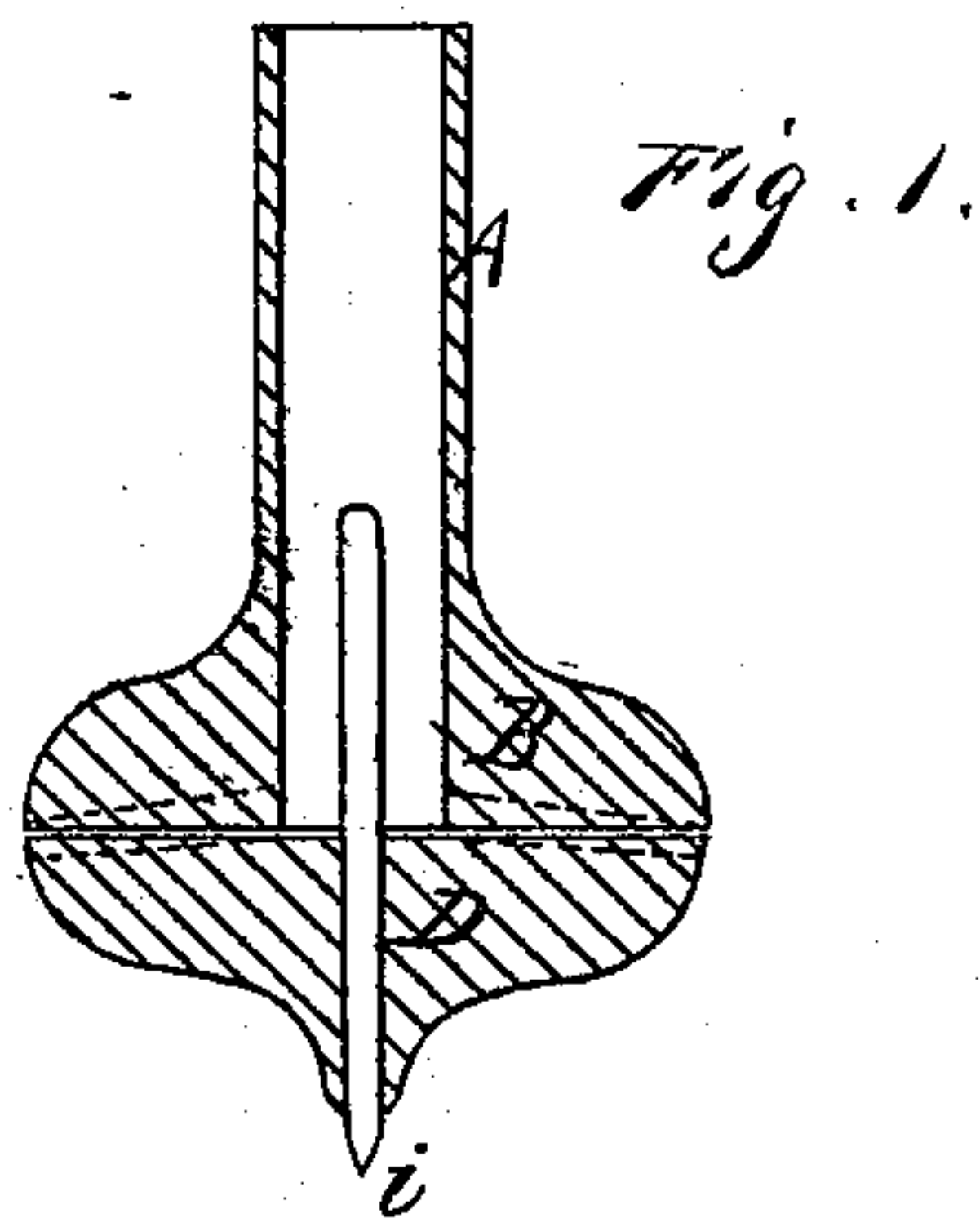


Fig. 2.

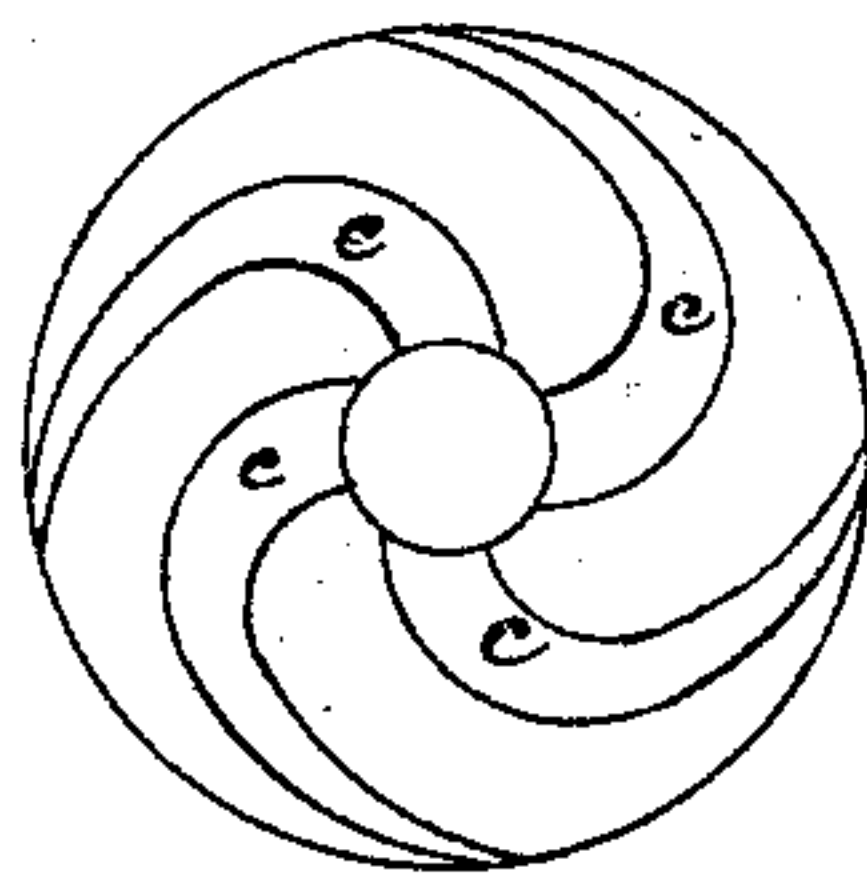
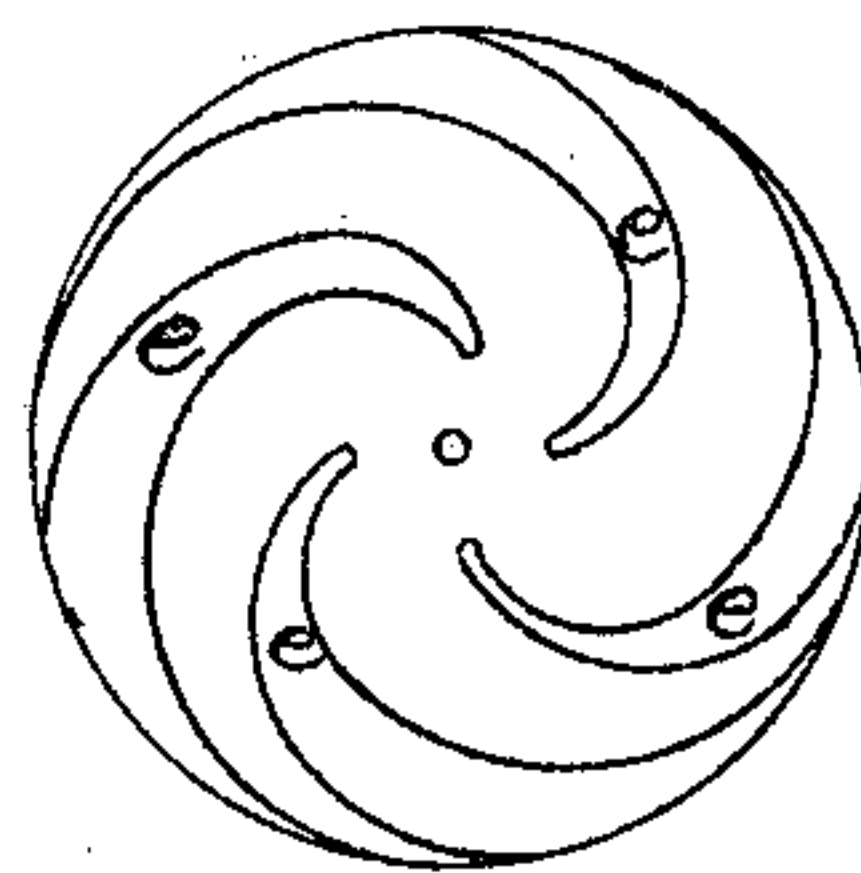


Fig. 3.



Witnesses

J. S. Boone
A. L. Harris.

Inventor

Nathaniel D. Clark
per Dewey & Co
Attys

UNITED STATES PATENT OFFICE.

NATHANIEL D. CLARK, OF OAKLAND, CALIFORNIA.

IMPROVEMENT IN TOPS.

Specification forming part of Letters Patent No. 129,651, dated July 23, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that I, NATHANIEL D. CLARK, of Oakland, Alameda county, State of California, have invented an Improved Motive Power; and I do hereby declare the following description and accompanying drawing are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention or improvements without further invention or experiment.

My invention relates to a new and improved toy device, and this device can be varied in size in proportion to the character of the force to be employed. The device represented in connection with and for the purposes of this application is a pneumatic toy top, the combination and application of force being such that the top is caused to spin by the force of the breath propelled through a tube and between the flat surfaces, which are provided with oppositely-curved grooves.

In order to explain my invention so that others will understand its construction and operation, reference is had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a sectional view of the top and stem. Fig. 2 is a bottom view of the stem. Fig. 3 is a top view of the top.

A represents a tube, having at one end a flange or head, B. The face of this flange or head, opposite the tube, is made flat, and the hole through the tube passes through the head. The face of this head is provided with grooves *c c c*, which commence at the hole in its center and are carried to the circumference in a curved line, as shown. I prefer the involute curve as being the most favorable for accomplishing the purpose; but the exact quality or nature of the curve is immaterial. D is a top, of semi-globular or other convenient shape, having a face, which is also provided with curved grooves *e e*, extending from its center to its circumference, but in a reverse direction to the grooves on the face of the head B, so that when the two faces are placed together the grooves will cross each other. The grooves *c c* in the face of the head B are deepest at the center, and gradu-

ally become shallow toward the outer edge of the disk, where they entirely disappear, while the grooves *e* begin shallow at the center and deepen toward the outer rim. A pin, *f*, extends outward from the center of the disk on the top D, so as to enter the hole in the tube A when the two disks or surfaces are placed together. Now, by placing the two surfaces together and forcibly blowing the breath through the tube A the top D will be caused to revolve with great rapidity, and it will remain suspended at a short distance from the surface of the head B without any apparent support whatever so long as a steady stream of air is forced through the tube. When the breath is expended, or the current of air through the tube ceases, the top will fall upon the pin or point *i*, upon which it will spin in the manner of an ordinary spinning-top.

As a spinning-top this device will be excellent, as the top can be caused to revolve in one place or upon any point, as upon the end of the finger, by first placing it where it is desired to spin and then causing it to revolve, as above described. The same effect will be produced when water, steam, or gas is forcibly driven through the tube between the grooved surfaces. The object in constructing the grooves on the opposite faces so that they curve in opposite directions is to produce counter-currents, so that as long as one of the disks remains stationary the force of the air, water, steam, or gas will be exerted upon the independent one.

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

The hollow shaft A with its enlarged end B, the lower face of which is provided with grooves which extend from its center to the circumference, in combination with the top D, the corresponding face of which is provided with counter-grooves, substantially as and for the purpose above described.

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

N. D. CLARK. [L. S.]

Witnesses:

G. W. THOMPSON,
E. F. COLTON.