July 10, 1928.

1,677,122

N. E. JOHNSON

TOY AND ADVERTISING NOVELTY

Filed March 12, 1923

Fig. 1.

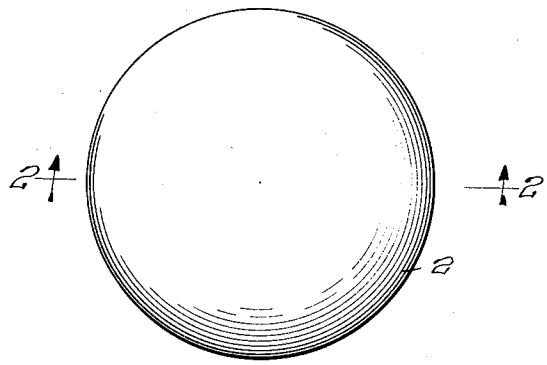


Fig. 2.

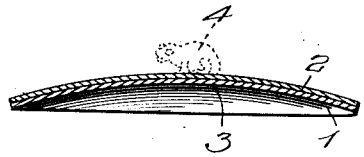
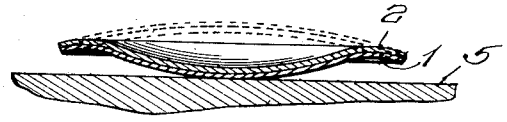


Fig. 3.



Witnesses:
W. P. Kilroy
Harry R. L. White

Inventor:
Norman E. Johnson
By Niles & Niles
Attys.

Patented July 10, 1928. 1,677,122

UNITED STATES PATENT OFFICE.

NORMAN E. JOHNSON, OF CHICAGO, ILLINOIS, ASSIGNOR TO SPENCER THERMOSTAT COMPANY, OF CAMBRIDGE, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

TOY AND ADVERTISING NOVELTY.

Application filed March 12, 1923. Serial No. 624,428.

My invention relates to an improvement in a toy or advertising novelty, and has among its objects the production of a device of the kind described which will be neat and attractive in appearance, simple, durable, reliable and satisfactory for use wherever found applicable. One of the objects of my invention is to provide a button or plate which, when placed upon a surface having a different temperature than that of said button, will cause the button to jump upwardly into the air in a startling manner. Another object of my invention is to provide a novelty as above described which shall have a suitable design, bas-relief of a separate piece secured thereto so as to be unitary therewith, and portraying any suitable object such as an animal or human being, so that when the button jumps into the air, the object portrayed thereon will move therewith in a life-like manner and increase the attractiveness and usefulness of the device. Many other objects and advantages of the construction herein shown and described will be obvious to those skilled in the art from the disclosures herein given.

To this end my invention consists in the novel construction, arrangement and combination of parts herein shown and described, and more particularly pointed out in the claims.

In the drawings, wherein like reference characters indicate like or corresponding parts,

Fig. 1 is a plan view of my device;

Fig. 2 is a section taken substantially on line 2—2 of Fig. 1; and

Fig. 3 is a section similar to that shown in Fig. 2, but with the device in operative position.

In the drawings, wherein I have illustrated one preferred embodiment of my invention, there is shown a plate, disk or button, preferably circular in outline, although this is not absolutely essential, and so constructed that opposite surfaces thereof have different coefficients of expansion. The disk is preferably formed of two materials, 1 and 2, secured together either during the manufacture of the sheet from which the buttons are stamped, or subsequent thereto, the manner of producing the button not forming a part of this invention.

The materials 1 and 2 have different coefficients of expansion, and preferably, one of the materials, as for instance the material 2 is so alloyed that it does not expand or contract, a metal such as invar being highly suitable for the purpose, while the metal 1 may be of brass or the like.

The button is dished or made concave, as at 3 (see Fig. 2). When the button is dished or flexed in a direction opposite to its normal dishing, that is, when it has been flexed to the position shown in Fig. 3, there is a tendency for the button to resume its normal shape, shown in Fig. 2. If the button is placed upon a surface 5 having a temperature different than that of the button, the surface 5 being colder than the button, one of the materials, as for instance the material 1, will contract and cause the button to jump upwardly from said surface because the other material 2 assists the contractive movement of the material 1 and tends to "straighten out" the disk to its normal shape.

In order to increase the attractiveness of the device and make it more suitable for ordinary use, a suitable advertisement or the like may be imprinted upon the upper surface of the button, as for instance about the exterior of the part 2, and if desired, a small statuette, bas-relief or the like, as shown at 4, may be formed thereon, this last mentioned part being preferably in the form of an animal or human being, so that when the button jumps up into the air, a life-like movement will be given to the object portrayed.

It is apparent that the device will operate thermostatically and automatically when flexed to the position shown in Fig. 3 and placed upon a surface having a different temperature than itself, for when the surface 5 is cooler than the button, the part I will contract, the part 2 tending to remain stationary and the button will straighten out or resume its normal dished position and snap upwardly into the air to a distance of five or six feet, or more.

Having thus described my invention, it is obvious that various immaterial modifications may be made in the same without departing from the spirit of my invention; hence I do not wish to be understood as lim-

iting myself to the exact form, construction, arrangement and combination of parts herein shown and described, or uses mentioned.

What I claim as new and desire to secure by Letters Patent is:

1. A toy comprising a concave disk of two layers of superimposed metal having different coefficients of expansion, and provided with a figure mounted upon the normally convex side of said disk, whereby when the disk is flexed in the direction opposite to the concavity and placed on a surface of a temperature different than its own, the disk will flex to its normal position and jump upwardly from said supporting surface.

2. A toy comprising a dished flexible member formed of two superimposed sheets of metal having different coefficients of expansion, one of said sheets having a relatively high coefficient of expansion adapted to cooperate with said other sheet to jump the member from a relatively cold support when said member is manually dished in a position opposite its normal dishing and is placed upon the cold support, and a figure mounted upon the normally convex side of said member.

3. A toy comprising a dished flexible member formed of two superimposed sheets of metal, one of said sheets having a relatively high coefficient of expansion and the other of said sheets having substantially no coefficient of expansion, the sheet having the relatively high coefficient of expansion being positioned upon the normal concave side of said member whereby when the member is manually dished in a direction opposite to its normal dishing and is placed upon a relatively cold support the member will suddenly return to its original shape and jump from the support and a figure mounted upon the normally convex side of said number.

4. A toy comprising a dished flexible member formed of two superimposed sheets of metal, one of said sheets having a relatively high coefficient of expansion and the other of said sheets having substantially no coefficient of expansion, the sheet having the relatively high coefficient of expansion being positioned upon the normal concave side of said member whereby when the member is manually dished in a direction opposite to its normal dishing and is placed upon a relatively cold support the member will suddenly return to its original shape and jump from the support, and a figure mounted upon the normally convex side of said member.

In testimony whereof, I have hereunto signed my name.

NORMAN E. JOHNSON.