

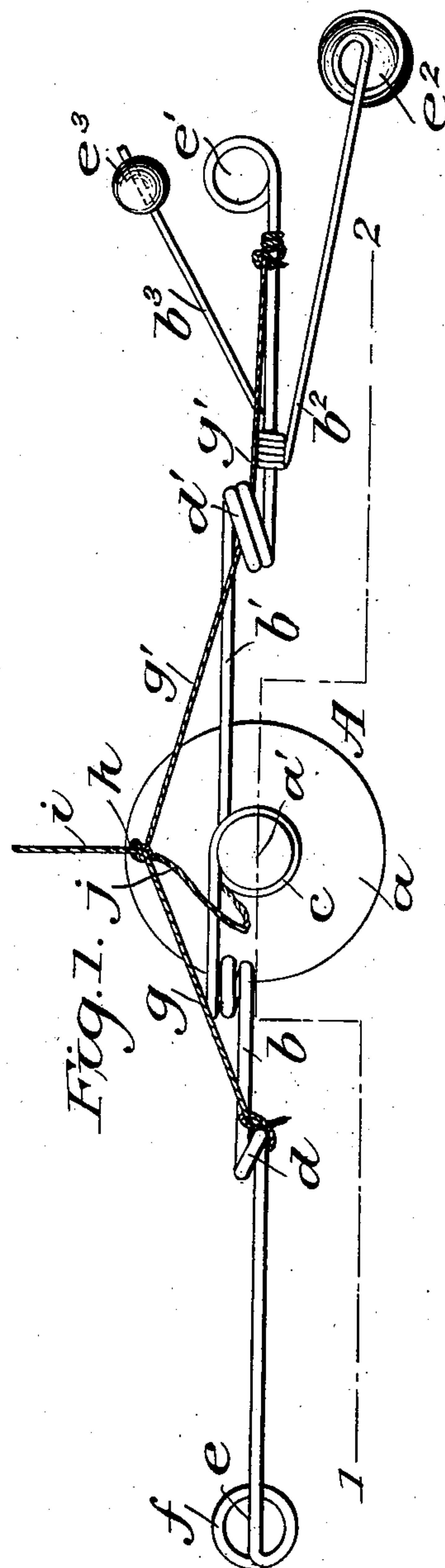
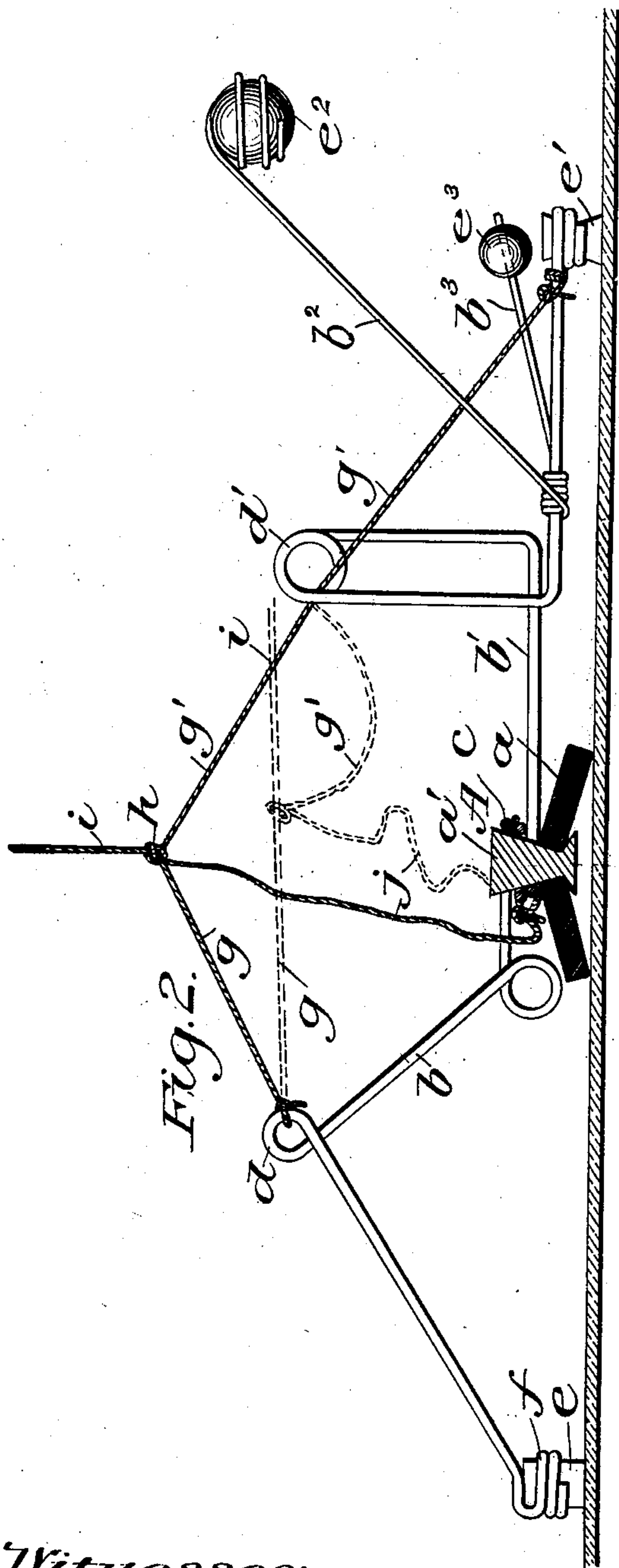
No. 755,984.

PATENTED MAR. 29, 1904.

I. D. WORCESTER.
TOY.

APPLICATION FILED AUG. 31, 1903.

NO MODEL.



Witnesses:
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UNITED STATES PATENT OFFICE.

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TOY.

SPECIFICATION forming part of Letters Patent No. 755,984, dated March 29, 1904.

Application filed August 31, 1903. Serial No. 171,423. (No model.)

To all whom it may concern:

Be it known that I, IRA D. WORCESTER, a citizen of the United States, and a resident of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and Improved Toy, of which the following is a full, clear, and exact description.

This invention relates to improvements in that class of toys known as "tick-tacks," the object being to provide a more efficient yet inexpensive toy of this character that may be readily attached to a smooth surface, such as glass, and operate to cause a tapping noise to attract attention or to afford amusement.

I will describe a toy embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both figures.

Figure 1 is a plan view of a toy embodying my invention viewed at right angles to the surface to which the same is attached. Fig. 2 is a cross-section of same on line 1 2, Fig. 1, and at right angles to said surface.

The toy comprises a suction device A, a tapper *e*, composed of hard material, and an arm *b*, of hard material connecting said tapper with said suction device. The arm is made of sufficient rigidity to enable it to "stand out" from the suction device, and thus support the tapper in any desired position with reference to the suction device—that is, in distinction from the tapper's being "suspended" or hanging down therefrom, as is necessarily the case when the tapper is connected to the suction device by means of material such as cord or soft rubber.

The suction device is composed of a disk *a*, of yielding material—such, for instance, as rubber—having a projection or knob *a'*, said knob being a body of metal, hard rubber, or other material impervious to air, inserted in and projecting through a hole in the center of said disk. Other styles of suction device may be used, the one here described being adopted as the most easily made. The arm *b* is composed of flexible wire, attached to said suction device by being coiled around the knob *a'* thereof

and attached to the tapper *e*, preferably in the same manner, and having a loop or projecting branch *d*, to which an operating-string *g* is attached. Said loop or projecting branch extends to and affords a support for said operating-string at a point farther from the surface to which the suction device is attached than the point of attachment of the arm *b* to said suction device A is from said surface. By affording a support for the operating-string at a point so located as described said arm and tapper may be operated by means of said string from a direction substantially in line with the surface to which said device is attached. Such a support for the operating-string may be made in other ways; but without said support the toy cannot be operated from a direction parallel with the surface to which it is attached.

The arm *b* is sometimes made very flexible, a coiled spring being used, if desired, or it is sometimes made quite rigid, in which case the elasticity of the suction device, even if the arm be rigidly connected therewith, permits of sufficient movement of said arm for the purposes of the toy. Other material than metal may be used for said arm, provided it be hard and of sufficient rigidity to support the tapper in other than a suspended or hanging position with reference to said suction device. Various methods of attaching said arm to the suction device and to the tapper may be employed. In some cases a separate tapper may not be provided, the hard arm serving in its stead. The tapper may be supported so that it will be normally out of contact with the surface to which the device is attached; but its operation is more under the control of the operator when held normally with considerable pressure against said surface. Attached to said suction device A is a second arm *b'*, with tapper *e'* attached thereto and a loop or extension *d'*, to which an operating-string *g'* is connected, said loop or extension providing a place for attaching or supporting said operating-string at a point substantially the same distance from the surface to which said device is attached as is the point *d* of the arm *b* and for the same purpose.

The toy may be thus compounded by adding any number of arms and tappers, and the arms may be made of different lengths or of different degrees of flexibility, or both, so
5 that the tappers will not strike the surface in unison.

The operating-strings g g' may be worked independently, or they may be connected together at h and be worked simultaneously by
10 a single string i attached thereto.

The arm b' also supports a plurality of tappers e^2 e^3 , connected therewith by means of flexible wire arms b^2 b^3 of different lengths or of different degrees of flexibility, or both, said
15 tappers being supported normally at different distances from the surface to which said device is attached. With this arrangement the tappers strike said surface in succession when the arm b' is drawn back and released. Said
20 arm may thus support any number of tappers. One of said tappers e^2 is sometimes made of considerable weight and is so placed that it may vibrate freely without striking the surface to which the device is attached. Its vi-
25 brations are communicated through the arm b' to the other tappers e' e^3 , connected with said arm, and cause each of said tappers to give a series of taps upon the said surface when said arm b' is drawn back and released.

30 In operation the toy is attached to a smooth surface, as a window-glass, by pressing the suction device thereon to expel a portion of the air from between it and the glass, when the outer atmospheric pressure will hold it
35 fast to the glass. Then by alternately drawing and releasing the operating-string the tapper or tappers are caused to make a tapping sound upon the glass. In the compound toy, with arms of different lengths and of different
40 degrees of flexibility, the tappers will strike the glass in succession. In a compound toy possessing one or more freely-vibrating arms and tappers, as described, the tappers will continue to tap the glass after the operating-
45 string is released, as previously described. The arms b b' may be rapidly vibrated by providing the operating-cord at short intervals with knots and allowing them to slip between the thumb and finger when drawing the hand
50 rapidly along said cord.

The strength and rapidity of the strokes which the toy is capable of delivering will depend for the most part upon the degree of flexibility or rigidity of the arms—the more
55 rigid the harder and more rapid the strokes, and vice versa.

While I have shown but one form of toy embodying my invention, various other forms of the toy, materials, and shapes of the dif-
60 ferent parts thereof and methods of their connection together may be employed without departing entirely from my invention.

I am aware that a toy of this character has been made in which a tapper was loosely sus-
65 pended from a suction device by means of a

cord or soft-rubber string. My present invention does not embrace such a construction. Instead of flimsy material, which cannot and in the construction cited is not intended to support the tapper in any other than a “sus-
70 pending” or hanging position, I employ an arm of hard material which must possess a considerable degree of rigidity and is capable of supporting a tapper in any desired position relative to the suction device.

75 It is the element of rigidity that enables the support for the tapper to be termed an “arm.” It gives the operator more control over the movements of the tapper, and thus makes the toy more efficient than one in which the tap-
80 per is loosely suspended or supported by any other than what may be termed an “arm of hard material.”

Having thus described my invention, I claim as new and desire to secure by Letters Patent—
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1. A toy comprising a suction device composed of a disk of yielding material with a knob of hard material extending through a hole in the center thereof, a flexible wire coiled
90 around said knob and extending outward therefrom to form a vibrating arm, and a tapper of hard material attached to said arm, for the purpose specified.

2. A toy comprising a suction device, a flexible wire attached thereto and extending out-
95 ward therefrom to form a vibrating arm, and a tapper of hard material attached to said arm, for the purpose specified.

3. A toy comprising a suction device, a flexible arm of hard material attached thereto, and
100 a tapper of hard material attached to said arm, for the purpose specified.

4. A toy comprising a suction device, an arm of hard material attached thereto, and means
105 for operating said arm, for the purpose specified.

5. A toy comprising a suction device composed of a disk of yielding material with a knob of hard material extending through a hole in the center thereof, and an arm of hard
110 material attached to said knob and bearing a tapper of hard material on its outer end, for the purpose specified.

6. A toy comprising a suction device, and a tapper of hard material supported therefrom
115 by a flexible arm of hard material, said arm being of sufficient rigidity to support said tapper in other than a suspended or hanging position relative to said suction device.

7. A toy comprising a suction device, and a
120 tapper of hard material supported therefrom by an arm of hard material of sufficient rigidity to support said tapper in any position with reference to said suction device.

8. A toy comprising a suction device, a flexi-
125 ble wire arm attached thereto, said arm supporting a tapper of hard material and being provided with an extension or loop for supporting an operating-string in a position farther from the surface to which the device is
130

attached than is the point of attachment of said arm to said suction device, for the purpose specified.

9. A toy comprising a suction device, a tap-
5 per of hard material supported therefrom by an arm of hard material, a string for operating said arm, and a support for said operating-string at a point farther from the surface to which the device is attached than the point of
10 attachment of said arm to said suction device, for the purpose specified.

10. A toy comprising a suction device, and a plurality of arms attached thereto, each arm carrying a tapper of hard material.

11. A toy comprising a suction device, a
15 plurality of flexible arms attached thereto, and tappers of hard material attached to said arms.

12. A toy comprising a suction device, an arm attached thereto, and a plurality of tap-
20 pers flexibly connected with said arm.

13. A toy comprising a suction device, and a flexible arm attached thereto, said arm having a plurality of branches each bearing a tapper.

14. A toy comprising a suction device, a
25 plurality of tappers supported therefrom, and means for simultaneously operating said tappers for the purpose specified.

15. A toy comprising a suction device, arms
30 connected therewith, and said arms supporting a plurality of tappers normally at different distances from the surface to which said device is attached.

16. A toy comprising a suction device and a
35 plurality of tappers supported therefrom by means of arms of different degrees of flexibility.

17. A toy comprising a suction device, an arm of hard material attached thereto and supporting a tapper of hard material, said arm
40 also supporting a relatively heavy body in such a position that it may freely vibrate, for the purpose specified.

18. A toy comprising a suction device, a flexible arm attached thereto, a tapper car-
45 ried by said arm, and said arm being connected with a freely-vibrating arm carrying a heavy body.

19. A toy comprising a suction device, a plurality of tappers connected therewith by
50 means of flexible arms, and one of said tappers being so situated that it may vibrate freely when the toy is operated.

20. A toy comprising a suction device, a metallic spring connected therewith, and a tapper
55 connected with said spring.

21. A toy comprising a suction device, a spring made of hard material connected therewith, and a tapper connected with said spring.

22. A toy comprising a suction device, a
60 tapper of hard material, and a metallic connection therebetween.

23. A toy comprising a suction device, a metallic spring connected therewith, and a tapper adapted to be held by said spring in pressing
65 contact with the surface to which the device is attached.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

IRA D. WORCESTER.

Witnesses:

J. E. WORCESTER,
I. W. BOULD.