

No. 677,015.

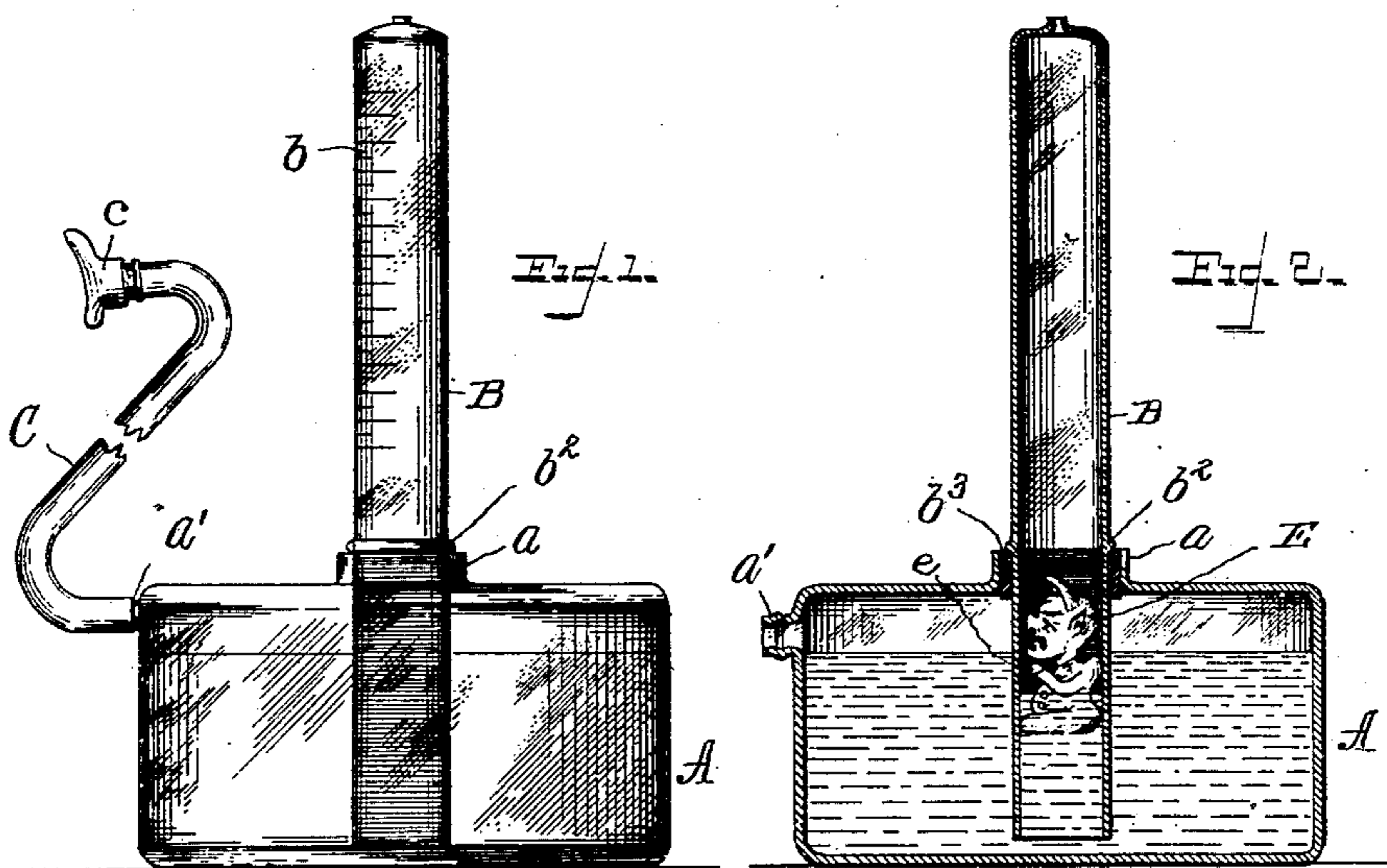
Patented June 25, 1901.

H. G. CADY.

TOY.

(Application filed Aug. 11, 1900.)

(No Model.)



Witnesses
Frank S. Maguire
Charles L. ...

Henry G. Cady,
Inventor,
By John B. Thomas & Co.,
Attorneys

UNITED STATES PATENT OFFICE.

HENRY G. CADY, OF PINE BLUFF, ARKANSAS.

TOY.

SPECIFICATION forming part of Letters Patent No. 677,015, dated June 25, 1901.

Application filed August 11, 1900. Serial No. 26,640. (No model.)

To all whom it may concern:

Be it known that I, HENRY G. CADY, a citizen of the United States, and a resident of Pine Bluff, in the county of Jefferson and State of Arkansas, have invented a Toy, of which the following is a specification.

The primary object of this invention is to provide a simple, effective, and compact toy which shall not only afford pleasure and amusement, but will be also beneficial and useful in exercising the lungs and measuring their capacity.

To this end, therefore, the invention provides a spirometer toy in which the air expelled from the lungs acts upon a body of water or other fluid contained in a vessel or bottle and forces the fluid upward in a tube depending in the vessel, the said tube having an opaque lower portion and transparent upper portion coacting with a floating figure normally located in the opaque portion of the tube and carried up by the column of water into the upper transparent portion of the tube.

With these ends in view the invention consists of a toy comprising a bottle containing water or other fluid and a tube having a bead by which it is suspended in the bottle, the portion of the tube below the bead being opaque and the portion above said bead transparent and provided with graduations, combined with a floating figure having an index, the said figure being normally located in the opaque portion of the tube, all as will be hereinafter described and claimed.

In the accompanying drawings, which form a part of this specification, Figure 1 is a side elevation showing the preferred form of closed vessel and depending tube. Fig. 2 is a sectional view showing the application of the float.

In carrying out my invention I employ a bottle A, which is provided at its upper end with a flanged mouth *a* and an air-inlet opening *a'*, the latter being located at the upper end of one side of the vessel, though it may be in the top, if desired. This vessel is preferably made of glass and is partly filled with water or any other fluid. Passed into the vessel through the mouth *a* and extending nearly to the bottom of said vessel is a glass tube B, into which the water is forced by blowing into the bottle through the air-inlet,

and in order that the pressure of air in the vessel may be accurately measured the upper transparent portion of said tube B is provided at one side with a graduated scale *b*. Connected to the air-inlet *a'* is a flexible tube or blowpipe C, provided at its outer end with a mouthpiece *c*, of any approved shape, and through this tube the air which is expelled from the lungs is led into the upper part of the vessel A, above the water-level therein.

The upper end of the tube B may be either open or closed; but in the event it is closed a longer tube would have to be employed to provide sufficient space for the compression of air in the upper part of the same. It is therefore preferable to have a small vent in the upper end of the tube B. The tube B is formed with a shoulder *b²*, which rests upon the mouth of the bottle A and supports the lower end of said tube a slight distance above the bottom of said bottle, a cork or packing *b³* being placed around said tube.

To provide the amusing feature of the toy, a floating figure E is placed in the tube B, so as to be carried up by the water as it ascends in the tube, the said figure being of comical design and provided with an index-finger *e*, adapted to travel over the gage-marks. It is intended that said figure shall not be seen when the water is at its normal level, and therefore the lower end of the tube B is colored or opaque to hide said figure. When the water rises in the tube, by blowing into the bottle through the blowpipe the figure will quickly come into view in the upper transparent portion of the tube and form a very amusing feature.

A device of the construction shown and described provides a simple, compact, and inexpensive toy for exercise, innocent amusement, and test, and being easily operated and positive in action will be accurate, serviceable, and pleasing.

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

1. A toy, comprising a bottle A having a flanged mouth *a* and air-inlet *a'*; a glass tube having a bead *b²* by which it is supported in the bottle with its lower open end slightly above the bottom of said bottle, the portion of the glass tube below the bead being opaque

and the portion above said bead being transparent, and a floating figure movable in the tube, the bottle being partly filled with water to locate said figure normally in the opaque
5 portion of the tube; together with a blowpipe connected to the air-inlet, as herein shown and described.

2. A toy, comprising a bottle A having a flanged mouth a and an air-inlet a' ; a glass
10 tube having a bead b^2 by which it is supported in the bottle with its lower open end slightly above the bottom of said bottle, the portion of the glass tube below the bead being opaque and the portion above said bead

being transparent and provided with gradu- 15
ations; a floating figure movable in the tube and having an index, the bottle being partly filled with water to locate said figure normally in the opaque portion of the tube, and a blow-
pipe connected to the air-inlet, as shown and 20
described.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

HENRY G. CADY.

Witnesses:

A. T. LOVING,
J. B. DONEY.