

No. 714,141.

Patented Nov. 25, 1902.

H. G. CADY.
SPIROMETER TOY.

(Application filed Dec. 26, 1901.)

(No Model.)

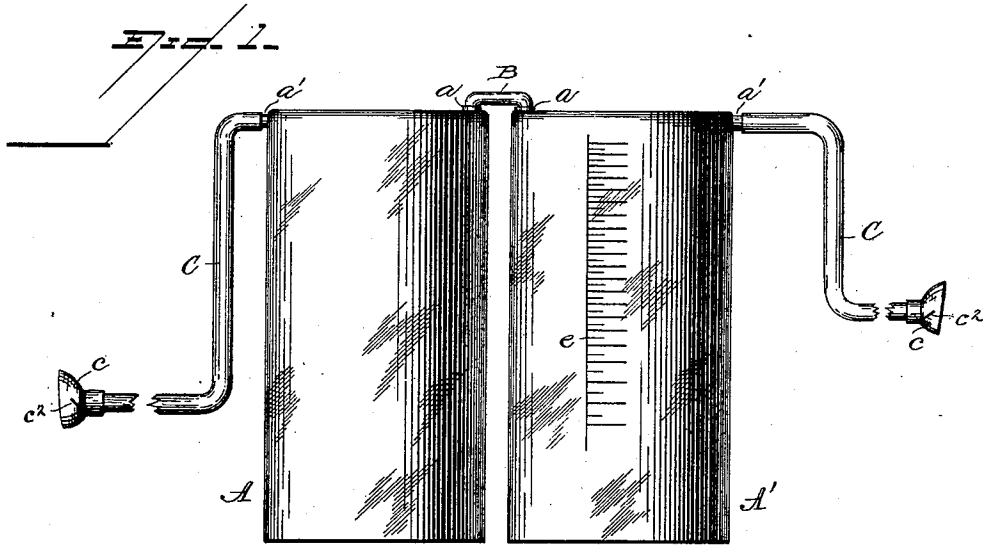
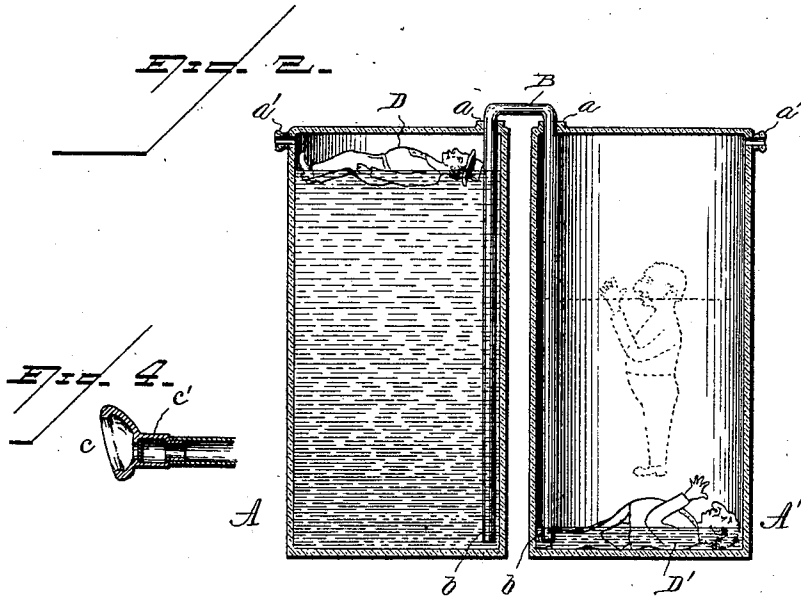
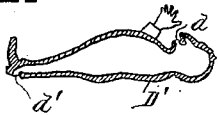


Fig. 3.

Witnesses
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by

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UNITED STATES PATENT OFFICE.

HENRY GORDON CADY, OF PINE BLUFF, ARKANSAS.

SPIROMETER TOY.

SPECIFICATION forming part of Letters Patent No. 714,141, dated November 25, 1902.

Application filed December 26, 1901. Serial No. 87,210. (No model.)

To all whom it may concern:

Be it known that I, HENRY GORDON 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 Spirometer Toy, of which the following is a full and exact specification.

The object of this invention is to provide a simple and inexpensive toy which will not only afford amusement, but will also serve to exercise the lungs and test their capacity.

With the above objects in view the invention consists of two transparent jars connected by a bent tube depending therein and flexible tubes connected to openings in the upper ends of the jars, one of said jars being nearly filled with water, together with floating figures located in the jars, whereby the water in one jar may be forced into the other by inhalation or exhalation and motion imparted to the figures.

The invention further consists in the particular construction and combination of parts, all as will be hereinafter fully set forth, and specifically pointed out in the appended claims.

In the accompanying drawings, which form a part of this specification, Figure 1 is a side elevation of a spirometer toy constructed in accordance with my invention. Fig. 2 is a vertical sectional view. Figs. 3 and 4 are detail sectional views.

Referring to said drawings, A and A' designate glass jars or receptacles, which are closed with the exception of the openings *a* and *a'* in the upper end thereof, the opening *a* being located in the top near one side of the jar, while the opening *a'* is preferably located in the side near the top, and a nipple is formed at the opening *a'* to receive a flexible tube C, through which air is forced into the jar or withdrawn therefrom. The jars A and A' are connected by a bent glass tube B, the members *b b* of which are passed through the openings *a* and depend in the jars, so that their lower ends will be but a slight distance above the bottom of said jars. The openings *a* are sealed around the bent tube, so that the jars will be perfectly air-tight at this joint.

One of the jars, A, is normally filled with water to near the top, air being compressed in the other jar to retain this level, and in

the jar A is a hollow figure D, preferably in the shape of a man floating upon the water in a horizontal position. The other jar, A', contains a body of water which normally merely covers the lower end of the bent tube, the air in this jar being compressed, as hereinbefore stated, to maintain the larger body of water in the other jar, and in said jar A' is a figure D' to represent a man with his hands raised. The lower end of the figure D' is preferably weighted, so that said figure will be disposed vertically when the water is forced from the jar A into jar A' and is provided with holes *d* and *d'*, so that it will sink in the water.

In the operation of the device air is blown into the jar A above the body of water therein, which will force the water from said jar into the jar A' through the bent tube, and as said jar A' is provided with a graduated scale the capacity of the lungs may be measured. The exhalation of the lungs is thereby tested by blowing into the jar A through the tube C, it being understood, of course, that the tube C, attached to said jar A', is closed. An inhalation test may be had by closing the flexible tube C, connected to jar A, and then inhaling through the tube C, connected to jar A'. In either case the hollow figures will be moved up and down, and the figure D' will change from one position to another and will sink in the water as the air passes therefrom through the opening *d*.

The device will therefore not only provide a very amusing toy, but also form an exerciser for the lungs, as well as a test of their capacity.

The device can be manufactured at comparatively small expense.

Having thus described my invention, I claim—

1. In a spirometer toy, the combination, of the closed transparent jars A and A', a bent tube B extending through the top of said jars to near the bottom thereof, floating figures in the jars, and tubes connected to openings in the upper ends of said jars, the said jars containing water, substantially as shown and described.

2. In a spirometer toy, the combination, of the closed transparent jars or vessels, a bent tube B extending through the top of said jars

to near the bottom thereof, floating figures in
the jars one of which is weighted at its lower
end or foot portion, tubes connected to open-
ings in the upper ends of the jars, and means
5 for closing said tubes, the jars containing wa-
ter, substantially as shown and for the pur-
pose set forth.

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

HENRY GORDON CADY.

Witnesses:

L. T. SALLEE,
A. T. LOVING.