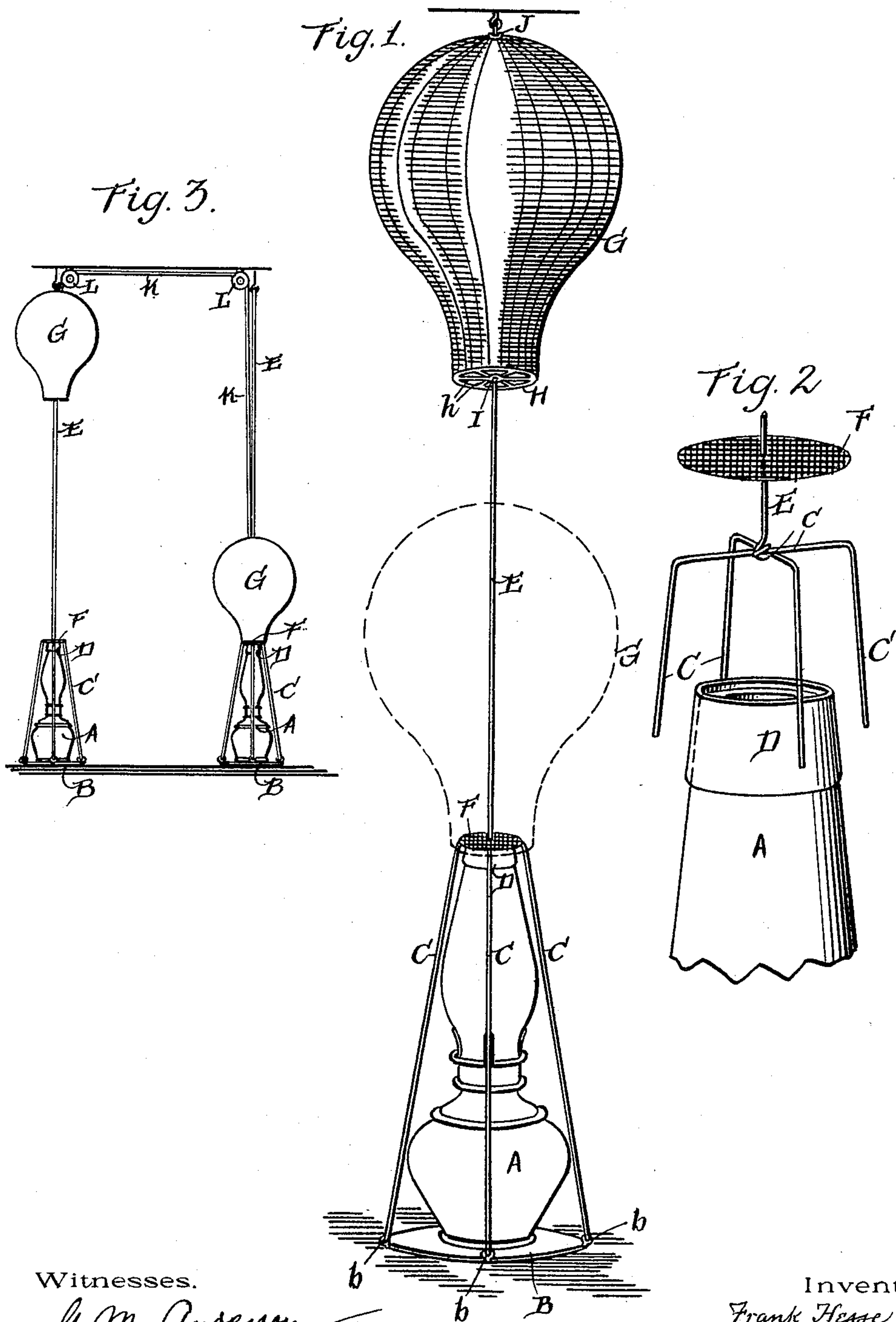


(No Model.)

F. HESSE.
HEAT OPERATED TOY BALLOON.

No. 583,306.

Patented May 25, 1897.



Witnesses.

G. M. Anderson
Philip C. Masi.

Inventor.

Frank Hesse,

by E. W. Anderson,
his
Attorney.

UNITED STATES PATENT OFFICE.

FRANK HESSE, OF CLARKSVILLE, IOWA.

HEAT-OPERATED TOY BALLOON.

SPECIFICATION forming part of Letters Patent No. 583,306, dated May 25, 1897.

Application filed March 6, 1897. Serial No. 626,239. (No model.)

To all whom it may concern:

Be it known that I, FRANK HESSE, a citizen of the United States, and a resident of Clarksville, in the county of Butler and State of Iowa, have invented certain new and useful Improvements in Heat-Operated Toy Balloons; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation of an elevation of the invention as in operation, lower position of balloon being shown in dotted lines. Fig. 2 shows parts of invention whose places are on top of lamp-chimney separated for better illustration. Fig. 3 is an elevation of modification of invention.

This invention is designed to provide a device of novel and unique character for the purpose of a toy and also as an attraction for show-windows and other displays.

With this object in view the invention consists in the novel construction and combination of parts, all as hereinafter described, and pointed out in the appended claims.

Referring to the accompanying drawings, the letter A designates an ordinary coal-oil lamp, which is placed, it may be, upon the floor or upon a table or other suitable support.

B is a metallic disk which is placed underneath the lamp and is provided with a number of eyes *b*. Attached to said eyes are a number of wires C, which extend up around the lamp and converge toward their upper ends, which are connected at *c* centrally over the top of the chimney.

D is a tapered metallic sleeve which is placed on the upper portion of the chimney and which has eyes or bearings *d*, through which the wires C pass.

E is a wire which is connected at its upper end to the ceiling or to some other overhead object and at its lower end to the wires C at the point *c*, where said wires are connected to each other.

F is a piece of wire-gauze or other foraminous non-inflammable material which is placed over the top of the chimney.

G is a toy balloon made of paper, silk, or other material suitable for the purpose. In its lower end or neck is a distending-ring H, from which is supported, by radial arms or wires *h*, a central guide-ring or eyelet I, through which and through another small eyelet or guide J in the top of the balloon the wire E passes.

In the operation of the device the lamp is lighted, and as soon as the air in the balloon becomes sufficiently rarefied it commences to move upward on the wire E until it reaches the ceiling or some intermediate point which is considerably above the lamp. Here it remains until the air therein becomes cooled or condensed to such a degree as to cause it to fall. A second rarefaction of the air therein then takes place, and it again rises and in this manner continues to move alternately up and down on the wire so long as the lamp is lighted. The wire-gauze F prevents the balloon from catching fire and also insures its square seating when it returns to the lamp.

Although I have shown and described the device as being applied to a lamp, it is obvious that it may be applied equally well to a gas-jet or other source of heat. I also remark that I do not wish to limit myself to the exact construction and arrangement which I have shown and described.

In Fig. 3 I have shown two of the above-described devices arranged adjacent to each other, the two balloons being connected by a cord K, which passes over a pulley L or other bearing, so that as one of the balloons moves up on its wire the other one will move down, and reversely.

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

1. The combination with a heating device, of a vertically-supported guide above the same, and a toy balloon loosely mounted on said guide to move up and down thereon, substantially as specified.

2. The combination with a heating device, of a vertical guide-wire above the same, of a toy balloon mounted on said wire and provided with guide and centering devices at the top and bottom, substantially as described.

3. The combination with a heating device, of a vertical guide-wire above the same, a toy

balloon on said wire and having centering and guide devices at its top and bottom, and a piece of wire-gauze, or the like, between the heating device and the balloon, substantially
5 as specified.

4. The combination with two heating devices, such as lamps, of a vertical guide-wire above each of said devices, a toy balloon mounted upon each of said wires and free to
10 move thereon, a cord connecting the two balloons, and an intermediate bearing for said cord, substantially as specified.

5. The combination with a lamp, of a frame

around the same, a vertical wire attached at its lower end to said frame and at its upper
15 end to an overhead support, and a toy balloon mounted on said wire and free to move thereon, together with a guard between the balloon and the lamp, substantially as specified.
20

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

FRANK HESSE.

Witnesses:

LOUIS SLIMMER,
J. R. FLETCHER.