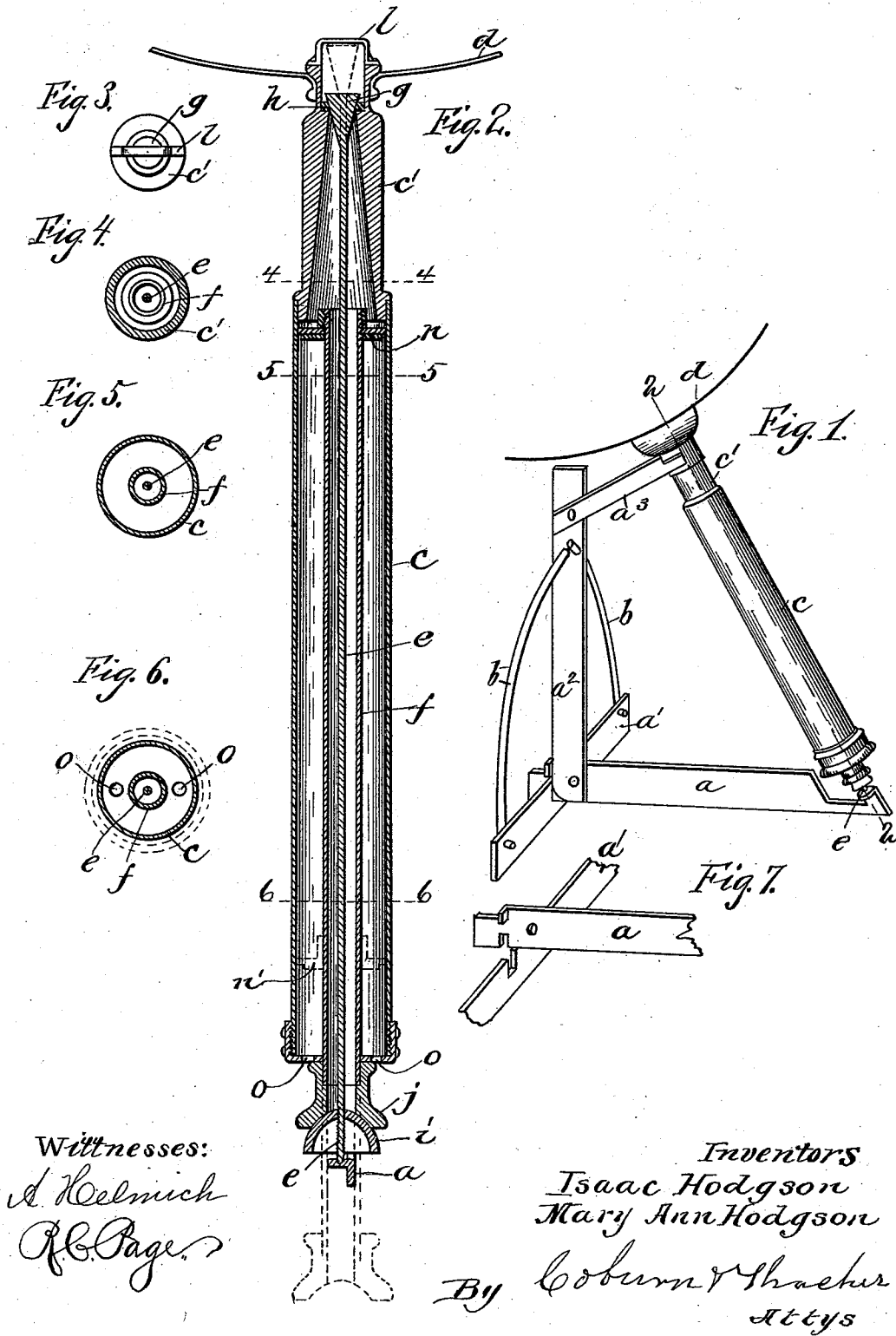


(No Model.)

I. & M. A. HODGSON.
GEOGRAPHICAL GLOBE.

No. 531,035.

Patented Dec. 18, 1894.



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UNITED STATES PATENT OFFICE.

ISAAC HODGSON AND MARY ANN HODGSON, OF CHICAGO, ILLINOIS.

GEOGRAPHICAL GLOBE.

SPECIFICATION forming part of Letters Patent No. 531,035, dated December 18, 1894.

Application filed February 19, 1894. Serial No. 500,724. (No model.)

To all whom it may concern:

Be it known that we, ISAAC HODGSON and MARY ANN HODGSON, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Geographical Globes, which is fully set forth in the following specification, reference being had to the accompanying drawings, in which—
Figure 1 is a perspective view of our apparatus; Fig. 2, a central, sectional view, taken at the line 2—2, Fig. 1. Fig. 3 is a top or plan view of the top valve-seat. Fig. 4 is a transverse, sectional view, taken at the line 4—4, Fig. 2. Fig. 5 is a transverse, sectional view, taken at the line 5—5, Fig. 2. Fig. 6 is a transverse, sectional view, taken at the line 6—6, Fig. 2; and Fig. 7 is a perspective view of a detached portion of the stand.

Our invention relates to improvements in geographical globes, and more particularly such as shown in Patent No. 488,071, issued to us December 13, 1892.

Our invention consists in the devices and combination of devices hereinafter fully described and made the subject matter of the claims hereof.

To enable those skilled in the art to understand how to construct and use our invention, we describe the same with particularity, the same letters of reference being used to designate the corresponding parts in the different figures of the drawings.

In inflatable and collapsible geographical globes such as we make, it is very essential that there be attached to the globe an air-pump for inflating the globe, and a valve which can be tightened to prevent the globe from leaking after it is inflated. It is also important that there be a stand for holding the globe in the proper inclination of its axis to represent the inclination of the globe to the sun, and it is also important that this stand be made so that it can be folded into a compact form and to occupy but a small space with the air-pump attachment and the globe when collapsed for convenient use or transportation.

In the accompanying drawings, a and a' represent the base-plates of the stand for the globe.

a^2 is the upright of said stand which is braced laterally to the base-plate a' by the braces b b .

a^3 is an arm forked or bifurcated at one end and pivoted to the upright a^2 at its other end.

c is the cylinder of the air-pump.

c' is the cylindrical stem or neck to which the globe d is attached. The globe d (a section only of which is shown in the drawings) may be attached to the neck or stem c' in any of the well-known ways of attaching a metallic stem or handle to a flexible, collapsible globe. When the globe is inflated and placed on the stand, as shown in Fig. 1, it is supported on the stem e of the valve g at its upper end and by the forked arm a^3 , so that it can be readily revolved to illustrate the revolution of the earth on its axis. The valve g rests, when closed, on the valve-seat, h , held in the top chamber of the neck or stem c' .

l is a cap-piece or stop on the top of the neck or stem c' over the chamber in its upper end to prevent the valve g from rising higher than in the position shown by the dotted lines in Fig. 2.

The valve-stem e of the valve g passes down through the tubular piston-rod f which carries the piston n of the air-pump. There is attached to the lower end of the tubular piston-rod f a mouth-piece, j , and there is also a curved nut i which is secured upon the lower end of the valve-stem e in such manner in connection with the mouth-piece j that it centers the valve-rod e in the tubular piston-rod and holds the puppet-valve g tightly in its seat h .

When it is desired to inflate the globe, the nut i is removed from the valve-stem e and the operator places the mouth-piece j to his mouth and blows through the tubular piston-rod f . The valve g immediately opens, passing into the position shown by the dotted lines in Fig. 2. He continues blowing until the globe is largely inflated, when he finishes the operation by means of the air-pump. To operate the air-pump, he takes hold of the mouth-piece j , covering the opening at the lower end of the tubular piston-rod f to prevent air from passing in when the pump is being used, the air being drawn into the cylinder of the air-pump through the openings

5 *o o* at its lower end. The piston *n* is constructed in any of the well-known ways of constructing an air-pump piston, and when the nut *i* is removed from the valve-stem *e* the piston *n* may be drawn down in the cylinder *c* as far as the position of the piston indicated by dotted lines, *n'*. At each stroke of the pump piston the puppet-valve *g* is raised from its seat to allow the air to pass
 10 into the globe, but on the back stroke of the piston the puppet-valve falls to its seat and prevents the air from escaping from the globe. When the globe is entirely filled, the nut *i* is screwed upon the lower end of the valve-rod
 15 *e* of the puppet-valve *g* and holds it firmly and tightly in its seat *h* in whatever position the globe may be placed. When it is desired to collapse the globe and fold the stand, it is necessary to remove, or partly remove, the
 20 nut *i* from the valve-stem *e*, so as to raise the puppet-valve from its seat when the air can escape freely from the globe through the neck or stem *c'* and tubular piston-rod *f*. The braces *b* are also removed when the arm *a*³
 25 will fold down upon the upright *a*², and that in turn will fold down upon the base-plate *a*. The base-plate *a* is detached from the base-plate *a'*, as shown in Fig. 7, and the whole apparatus is brought into a very small space
 30 for shipment or storage.

Having thus described the construction and operation of our invention, what we claim, and desire to secure by Letters Patent, is—

35 1. The hollow stem or neck-piece attached to a collapsible globe; a valve-seat and valve in said hollow stem or neck; an air-pump attached to the hollow stem or neck of the collapsible globe, the valve in the stem or neck operating in connection with the piston in
 40 the air-pump in inflating the globe; and suitable devices connected with the valve in the stem or neck for holding it tightly and firmly

closed to retain the air in the globe when in use.

2. The stem or neck-piece of a collapsible globe having a valve-seat; a valve carried in a chamber in said stem or neck-piece; an air-pump connected to said stem or neck-piece; a tubular piston-rod in said air-pump by which the piston is operated; a valve-stem attached to the valve in the neck or stem and extending through the tubular piston-rod of the air-pump; and a suitable mechanism to firmly secure the lower end of this valve-stem at the lower end of the tubular piston-rod.

3. A collapsible globe; a neck or stem connected thereto and through which the globe is inflated; a stand for said neck or stem provided with a pivoted, forked arm or rest for the neck of the stem, and having a bottom plate or piece supporting the lower end at the stem of the globe, the pivoted and bifurcated arm being so arranged as to hold the geographical globe at an inclination, and to admit it to revolve on its axis, substantially as and for the purpose specified.

4. A geographical globe; a neck or stem connected to said globe; a stand having a bottom plate or piece supporting the lower end of the stem of the globe; and an upright piece pivoted to the bottom piece; and an arm of a length shorter than that of the bottom plate or piece pivoted to the upper end of this upright piece, said arm being bifurcated at one end and adapted to support the stem of the globe whereby the globe and its stem can be readily removed from the stand and the stand folded, substantially as specified.

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