(No Model.)

W. W. WHITCOMB.

DEVICE FOR REPRESENTING THE MOTIONS OF THE EARTH AND MOON.

No. 327,631. Patented Oct. 6, 1885.

Fig. 3.

Fig. 2.

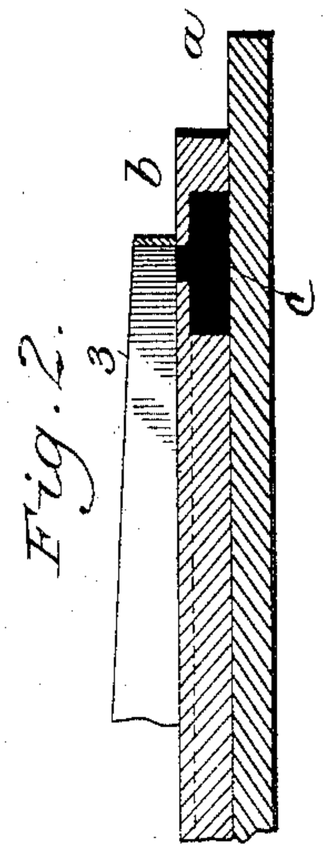
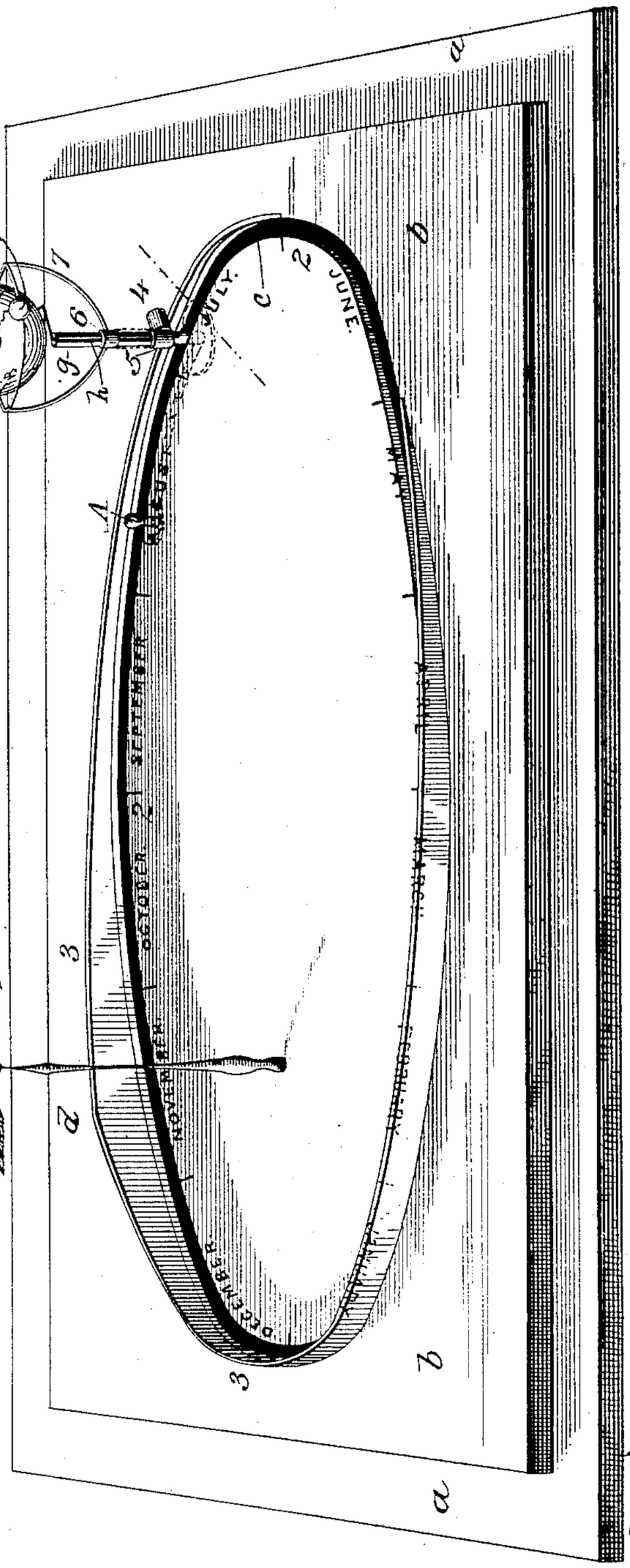


Fig. 1.



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DEVICE FOR REPRESENTING THE MOTIONS OF THE EARTH AND MOON.

SPECIFICATION forming part of Letters Patent No. 327,631, dated October 6, 1885.

Application filed July 8, 1885. Serial No. 171,031. (No model.)

To all whom it may concern:

Be it known that I, WILSON W. WHITCOMB, a citizen of the United States, residing at Batavia, in the county of Genesee and State of New York, have invented a new and useful Ecliptical Lunar Globe, of which the following is a specification.

My invention relates to improvements in globes, and is designed to produce a device for illustrating the relative movements of the earth and moon as they actually occur, that can be readily used for educational purposes.

In the description reference is had to the annexed drawings, in which Figure 1 represents a perspective of the device; Fig. 2, a section through a portion of the base and track, and Fig. 3 a detail plan view of the traveling portion of the device with the globe-standard sectioned.

The base *a* has on it a platform, *b*, provided with an elliptical undercut channel, *c*, forming a guiding-track. Surrounding this channel or track for nearly its entire length is a track, 3, slowly or gradually rising on an incline till it reaches its highest point, *d*, and then gradually declining to the level of the top of the part *b* at a point near the beginning of the ascent.

Within the channel are wheels or roller-disks *e* and *f*, respectively, the smaller one, *e*, having a handle, A, which projects above the surface of the platform *b*, and connected by a series of flexibly-joined links to the larger one, *f*, which supports a standard, *g*, on the upper end of which is sustained a globe, 1, representing the earth, the axis being at the proper angle.

Surrounding the globe is a ring, 8, sustaining on it a ball, 10, which latter represents the moon.

The ring 8 is supported by a bracket, 7, raised from a sleeve, 6, on the standard.

A collar, 5, surrounds the standard below the sleeve 6, and has connected to it a roller, 4, the shaft of which enters a slot, *h*, in the standard, and prevents the collar from turning on said standard, but permits a longitudinal travel thereon. Any suitable means of connection between the collar and the sleeve may be used—as, for instance, a loose collar, (shown in dotted lines,) or an extension of either collar 5 or sleeve 6.

At the proper po nt in the ellipse is raised a post carrying an arrow or other representative device, 9, to designate the sun. An arrow is preferred, as it can be directed toward the globe, and thus indicate the direction of the sun's rays. The arrow is placed on a level with the line on the globe used to show the apparent path of the sun.

The operation of the "earth" globe and the "moon" ball, as shown in the drawings, is not automatic, and must be turned by hand, though the said operation may be easily accomplished by the use of any approved train of gearing usually applied for the purpose.

The wheels *e* and *f* may turn loosely in their bearings, thus facilitating the forward movement of the device.

As the device is advanced, the roller 4 ascends the track, lifting the frame 7 8 and the ball 10, the said movement corresponding in time and height to the ascending node of the moon, and having reached the highest point *d* the descent commences, ending at a short distance from the incline.

Divisions 2, at a proper distance apart and at the inner edge of the channel, represent the calendar months, and are so named.

The track may be made of rubber or other flexible material, and be movable, thus permitting the adjustment backward or forward, as the case may be, for showing the actual position of the moon at any time.

I claim—

1. In a planetarium, in combination with a guiding-track for earth and moon representative bodies, a track coincident therewith and ascending and then descending in the line of travel of said bodies, the said inclined track acting upon the moon-representing body to raise and lower the same, substantially as and for the purpose specified.

2. In a planetarium, in combination with a traveling globe-supporting standard, a ball or globe having a support movable longitudinally on said standard, and an ascending and descending track acting upon said ball, substantially as and for the purpose specified.

3. In a planetarium, the combination, with an earth-representing globe mounted upon a standard, of a moon-representing globe or ball mounted on a frame fixed to a loose sleeve on said standard, a collar on said standard having a projecting roller, an elliptical guid-

ing-track for said standard, and an ascending and descending track for the said roller, substantially as and for the purpose specified.

4. In a planetarium, the combination, with traveling globes representing the earth and moon, of a standard supporting the same, and having at its base a wheel, an undercut channel of elliptical form receiving said wheel and forming a guiding-track for the globes, a handle flexibly connected to said standard and traveling in said channel, and a track imparting to the moon representation a vertical movement, substantially as and for the purpose specified.

WILSON W. WHITCOMB.

In presence of—
CARLOS A. HULL,
GEORGE H. HOLDEN.