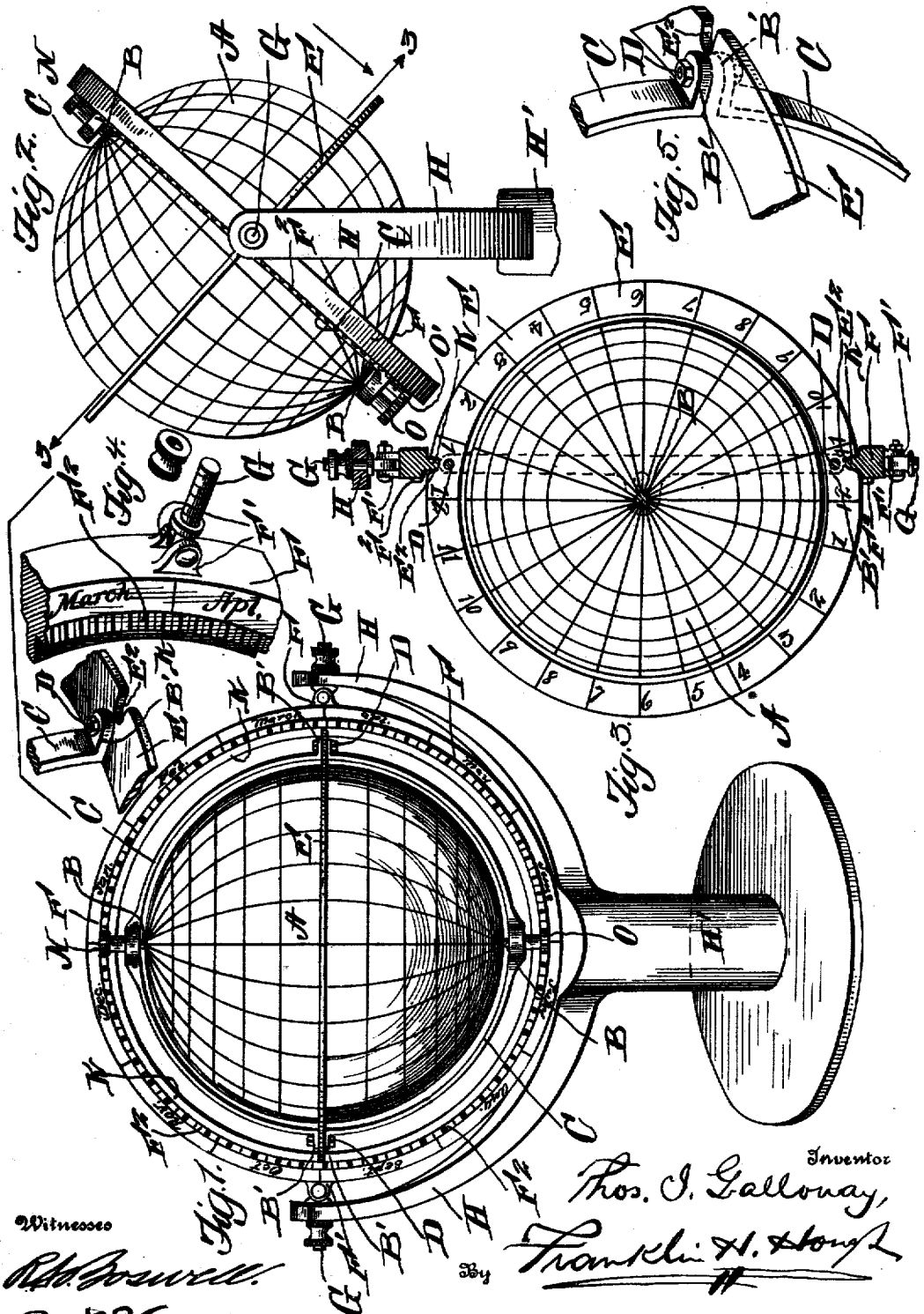


T. I. GALLOWAY.
EDUCATIONAL APPLIANCE.
APPLICATION FILED DEC. 3, 1908.

932,852.

Patented Aug. 31, 1909.



Witnesses

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EDUCATIONAL APPLIANCE.

932,852.

Specification of Letters Patent.

Patented Aug. 31, 1909.

Application filed December 3, 1908. Serial No. 465,813.

To all whom it may concern:

Be it known that I, THOMAS I. GALLOWAY, a citizen of the United States, residing at Menard, in the county of Randolph and State of Illinois, have invented certain new and useful Improvements in Educational Appliances; and I do hereby 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 the letters of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in educational appliances and consists in apparatus for indicating the relative annual and axial daily movements of the earth.

The invention comprises various details of construction, combinations and arrangements of parts which will be hereinafter fully described and then specifically defined in the appended claims.

I illustrate my invention in the accompanying drawings, in which:—

Figure 1 is a perspective view showing a globe with an apparatus embodying the features of my invention. Fig. 2 is a side elevation of the apparatus. Fig. 3 is a sectional view on line 3—3 of Fig. 2, and Figs. 4 and 5 are detail perspective views of a part of the invention.

Reference now being had to the details of the drawings by letter, A designates a globe having a polar axis B and the ends of said axis are journaled in the semi-circular bars C. The free ends of said bars are outwardly turned as at B' and are adapted to be held together by means of bolts D. E designates a circular equatorial band which has holes therein to receive said bolts D, whereby the said band may be held in a fixed relation with reference to the equatorial circumference of the globe. Said equatorial band E is divided into spaces bearing numerals indicating the hours of the day from 1 to 12 p. m. and 1 to 12 a. m. to indicate the different times at different locations about the earth's circumference.

A band, designated by letter F, is adapted to pass about the polar circumference of the globe and is divided into spaces indicating the various calendar months of the year and said band is provided with lugs F', shown clearly in detail view Fig. 4 of the drawings,

and in said lugs the pintles G of the screw G' are mounted, the threaded portions of said screw passing through an aperture in the arms H of the standard H'. Upon the inner circumference of said ring or band F is an annular rib or flange K seated in a recess E² in the equatorially disposed band E, shown clearly in Figs. 3 and 4 of the drawings, and serves as means for guiding the band E as it turns with the globe. Said band F has a series of cog teeth F² about the same and adapted to be engaged by pinion wheels, which will be presently described, and affording means whereby, as the globe is moved by the hand of the operator, it may be given two rotary movements indicating normal movements of the globe about its axis and its annual movement in the solar system.

Pivoted to one end of the polar axis is a pinion N which is adapted to mesh with said cog teeth upon the end F and at the opposite end of the polar axis is a pinion O which is in mesh with a pinion wheel O' which in turn is in mesh with said gear teeth upon the band F, thereby affording means for giving the globe a rotary movement upon its axis as the globe revolves in its diurnal movement.

In operation, the parts of the apparatus being assembled as shown, in the event of the operator pressing upon the globe and causing a partial revolution to be imparted to the latter by the teeth of the pinion wheels engaging the teeth upon the ring or band F, a polar axial movement will be imparted to the globe, giving the correct relative movements of the earth in its daily rotary movements and also in its annual revolution in the solar system. By this apparatus, it will be noted that, when the globe is turned to any degree to indicate local time, the time of the day will be indicated upon the graduated band or ring, as will be readily understood.

What I claim to be new is:—

1. An educational appliance, comprising a globe with the polar axis, semi-circular bars in which the ends of the polar axis have bearings, a graduated band passing about the equatorial circumference of the globe and fastened to the ends of said bars, a graduated flanged band passing about the polar circumference of the globe, said equatorial ring having grooves therein which are engaged by the flanges on the band about the polar circumference of the globe, and gear

mechanism for causing the globe to rotate upon its axis as a partial rotary movement is imparted thereto, as set forth.

2. An educational appliance, comprising a globe with the polar axis, semi-circular bars in which the ends of the polar axis have bearings, a graduated band passing about the equatorial circumference of the globe and fastened to the ends of said bars, a graduated flanged band passing about the polar circumference of the globe, said equatorial ring having grooves therein which are engaged by the flanges on the band about the polar circumference of the globe, pinions mounted upon the ends of the polar axis, and gear teeth upon the band which passes about the polar circumference of the globe adapted to mesh with said pinion wheels, as set forth.

3. In combination with a globe, semi-circular bars in which the axis of the globe has bearings, pinion wheels pivotally mounted upon the ends of said axis, a graduated band passing about the polar circumference of the globe and having a series of cog teeth thereon, a stand having arms, screws fastened to said band at points diametrically opposite and mounted in said arms, semi-circular bars in which the ends of said axis have bearings, the ends of said bars being bent to form flanges, an equatorial graduated band passing about the globe, bolts passing through the flanged ends of said bars and equatorial band, one of said pinions meshing with the gear teeth of the band which passes about

the polar circumference of the globe, an intermediate pinion meshing with the other polar pinion and also with said cog teeth, as set forth.

4. In combination with a globe, semi-circular bars in which the axis of the globe has bearings, pinion wheels pivotally mounted upon the ends of said axis, a graduated band passing about the polar circumference of the globe and having a series of cog teeth thereon, a stand having arms, screws fastened to said band at points diametrically opposite and mounted in said arms, semi-circular bars in which the ends of said axis have bearings, the ends of said bars being bent to form flanges, an equatorial graduated band passing about the globe and having recesses in the edge thereof adapted to be engaged by an annular rib or flange upon the band which passes about the polar circumference of the globe, bolts passing through apertures in the flanged ends of said bars and equatorial band, one of said pinion wheels meshing with the cog teeth upon the band passing about the polar circumference of the globe, an intermediate pinion meshing with the pinion at the other end of the axis and also with said cog teeth, as set forth.

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

THOMAS IOWA GALLOWAY.

Witnesses:

I. L. BAILEY,
E. A. RHEUX.