

(No Model.)

J. A. BOWYER.
Tellurian.

No. 239,644.

Patented April 5, 1881.

FIG 1

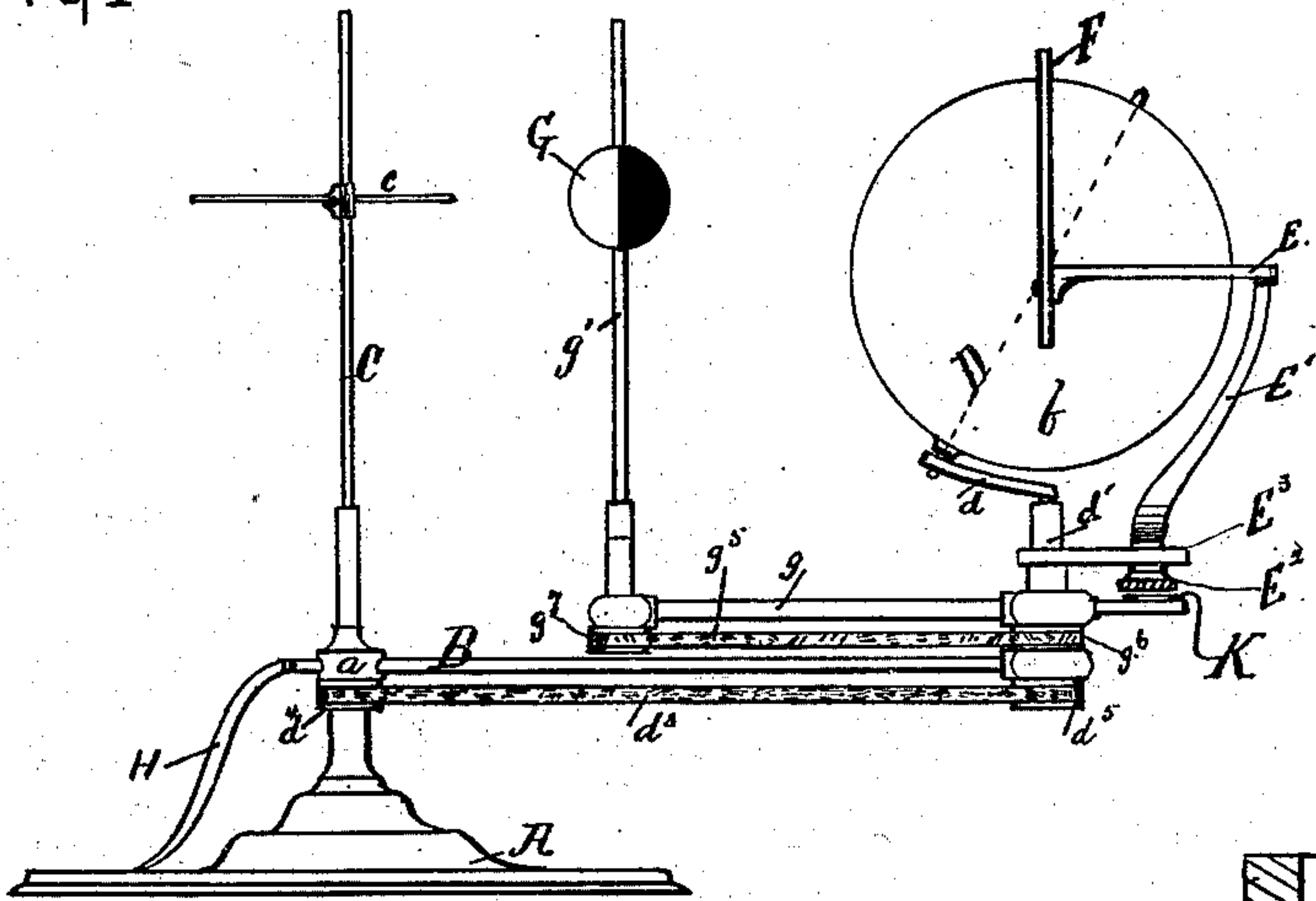


FIG 3

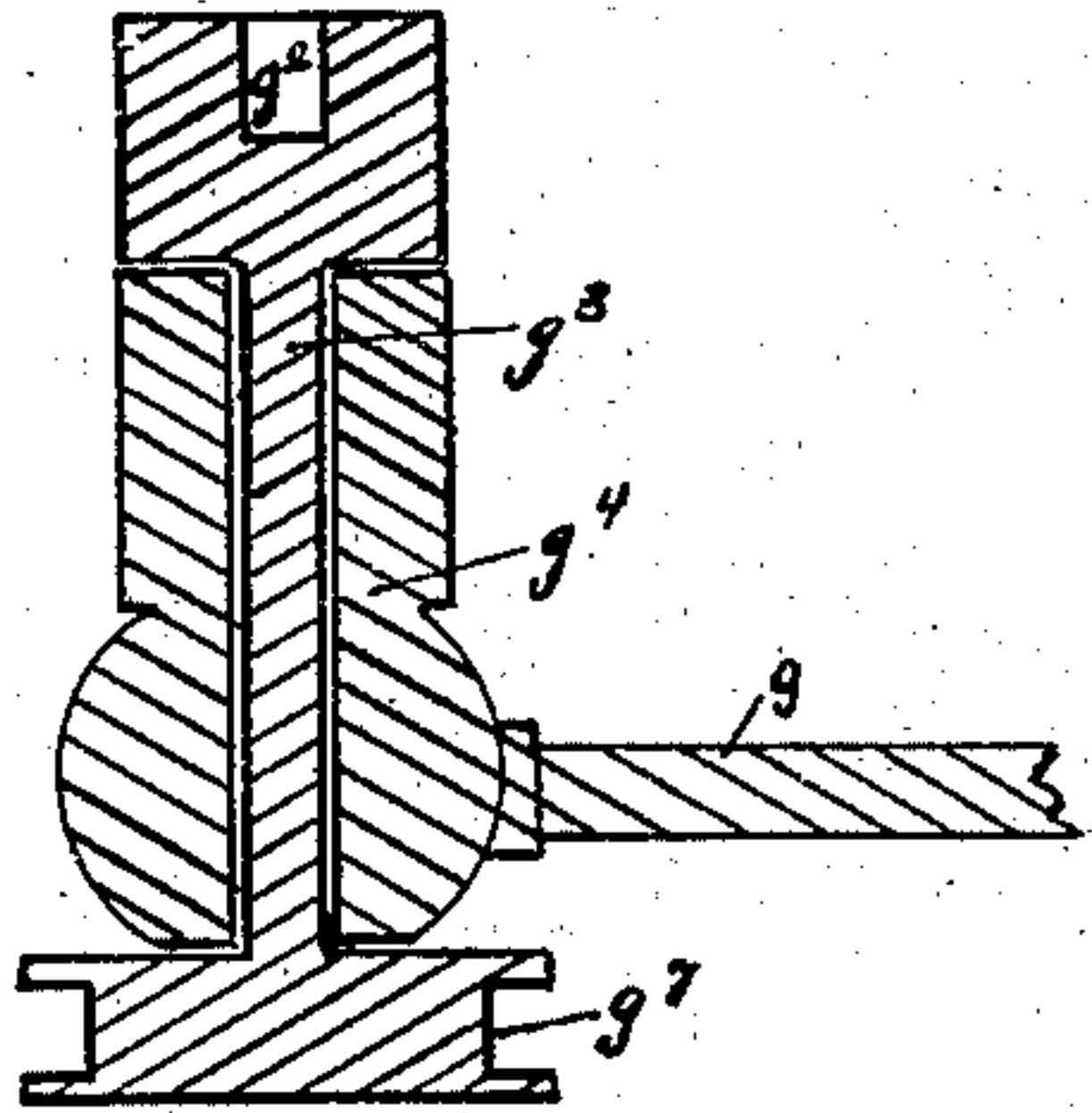
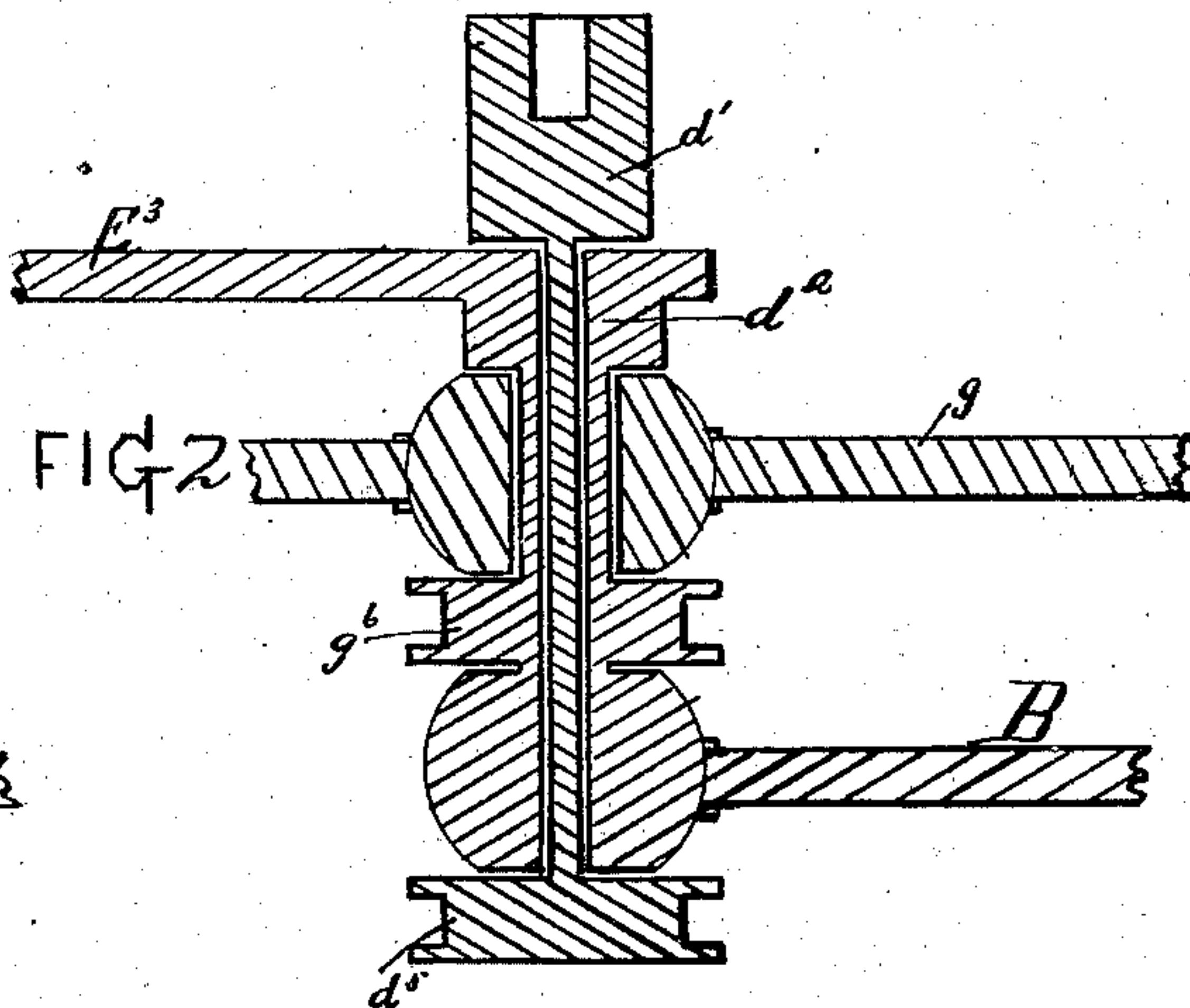


FIG 2



WITNESSES:

Everett Brown
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INVENTOR:

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UNITED STATES PATENT OFFICE.

JOHN A. BOWYER, OF LA PORTE, INDIANA.

TELLURIAN.

SPECIFICATION forming part of Letters Patent No. 239,644, dated April 5, 1881.

Application filed January 10, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. BOWYER, of La Porte, in the county of La Porte and State of Indiana, have invented certain new and useful Improvements in Tellurians, of which the following is a specification.

My invention relates to improvements in apparatus for illustrating various celestial and terrestrial phenomena; and the same consists in the novel construction, combination, and arrangement of the devices hereinafter described.

In the accompanying drawings, which form a part of this specification, and in which similar letters of reference indicate like parts, Figure 1 is a side elevation of a device embodying my invention. Fig. 2 is a central vertical section of the joint for mounting the earth-globe, and Fig. 3 is a like section of the joint for the moon-globe.

In said drawings, A represents the base-piece or pedestal, upon which the whole mechanism is mounted as a pivot.

B is the arm upon which the earth-globe *b* is mounted. The inner end of this arm B is provided with a socket, *a*, which fits on the pivot of the pedestal, so that the arm may turn or revolve upon the same.

The direction of the sun is indicated by the needle *c*, representing a ray of light therefrom, which is secured to the upright shaft C, mounted in the socket *a*, so that the needle will revolve with the arm carrying the earth-globe, and consequently always point directly toward the earth-globe as the latter is revolved. This needle is adjustable on the shaft C, so that it may be fixed in the plane of the ecliptic or other positions, as desired.

The axis D of the earth-globe is secured to the curved inclination-arm *d*, so as to indicate the inclination of the earth's equator to the ecliptic. The curved arm *d* is fixed rigidly to, but in such manner as to be readily removed from, the spindle *d'*, which works in the hollow sleeve *d''*, which sleeve is secured to the end of the arm B.

*d*³ is a band passing around the pulley *d*⁴, fixed rigidly to the pedestal, and the pulley *d*⁵, secured rigidly on the spindle *d'*, so that at each revolution of the earth-globe around the sun the spindle *d'* is caused to make one revolution on its own axis, thus causing the axis

of the earth-globe always to point in the same direction, and illustrating the seasons and the changed position of the day-and-night circle on the earth's surface, and other phenomena due to the inclination of the earth's axis.

E is a semicircle representing the ecliptic. It is supported on the curved arm E', which is secured by means of the clamping-screw E² to the slotted bracket E³, so as to be adjustable thereon. The bracket E³ is attached rigidly to the sleeve *d''*, so that the day-and-night circle F, which is secured to the ecliptic-circle E, will always remain at right angles to the direction of the sun as the earth-globe is revolved around the same.

G is the moon-globe, the light face of which is turned toward the sun. It is supported on an arm, *g*, mounted on and revolving about the sleeve *d''*. The moon-globe is mounted adjustably on the shaft *g'*, which fits in a suitable hole or socket, *g*², in the upper end of the spindle *g*³, which works in the hollow sleeve *g*⁴ on the end of the arm *g*.

*g*⁵ is a band passing around the pulley *g*⁶, rigidly secured to the sleeve *d''*, and the pulley *g*⁷, secured to the spindle *g*³, so that by means of said band and pulleys the moon-globe, as it is revolved about the earth-globe, is made to keep its light face always turned toward the sun, and thus exhibit the different phases of the moon.

By adjustment of the moon-globe to different heights on the shaft *g'*, the different positions of the moon in respect to the earth's equator and the ecliptic, and the effect of its changed position on the tides and other phenomena, may be illustrated.

H is a pointer or indicator attached to the arm B, for the purpose of indicating the earth's position in the heavens during the different seasons of the year, as the earth-globe is made to revolve about the sun upon the graduated base-piece or pedestal, which is graduated to show the signs of the zodiac, the months of the year, the points of the compass, the equation of time, and other things, if desired.

K is a compass mounted on an extension of the arm *g*, for the purpose of indicating the direction of the North pole in the use of the apparatus.

The different parts of the apparatus are made removable, so that they may be readily de-

tached from each other and reduced to a compact form for convenience in transportation and storage.

What I claim is—

5 1. In a tellurian, the combination of pedestal A with revolving earth-arm B, hollow sleeve d^2 , secured to the outer end of said arm, spindle d' , band d^3 , pulleys d^4 and d^5 , moon-arm g , mounted on sleeve d^2 and provided with
10 hollow sleeve g^4 , secured to its outer end, spindle g^3 , band g^5 , and pulleys g^6 and g^7 , all arranged and combined substantially as and for the purpose specified.

15 2. The combination of arm B, sleeve d^2 , spindle d' , bracket E^3 , secured to said sleeve for supporting the ecliptic-circle, moon-arm g , sleeve g^4 , spindle g^3 , band g^5 , and pulleys g^6

and g^7 , all arranged, combined, and operating substantially as specified.

3. The combination of the pedestal provided 20 with graduated base, arm B, provided with indicator H, moon and earth globes and sun-needle, mounted and arranged substantially as shown, sleeve d^2 , spindle d' , band d^3 , pulleys d^4 and d^5 , moon-arm g , sleeve g^4 , spindle g^3 , 25 band g^5 , pulleys g^6 and g^7 , bracket E^3 , curved arm E' , ecliptic-circle E, and compass K, secured to an extension of the arm g , all combined and operating substantially as described.

JOHN A. BOWYER.

Witnesses:

EVERETT BROWN,
EDMUND ADCOCK.