

No. 664,289.

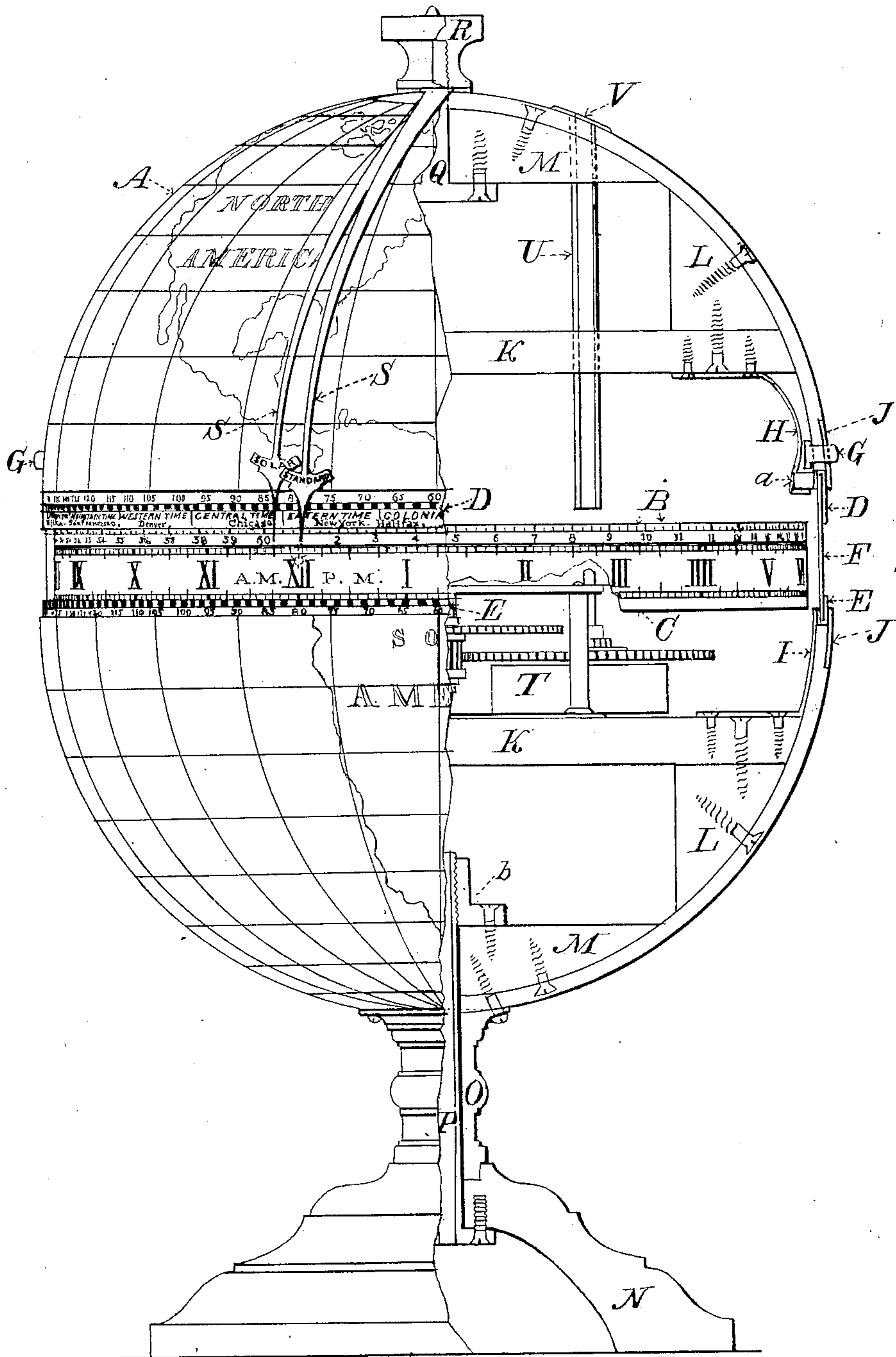
Patented Dec. 18, 1900.

G. W. RAMAGE.
GEOGRAPHICAL TIME GLOBE.

(Application filed Sept. 5, 1899.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

Fig. 1.

INVENTOR

John W. Higginson
Arthur T. Farnwell

George Wood Ramage

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2 Sheets—Sheet 2.

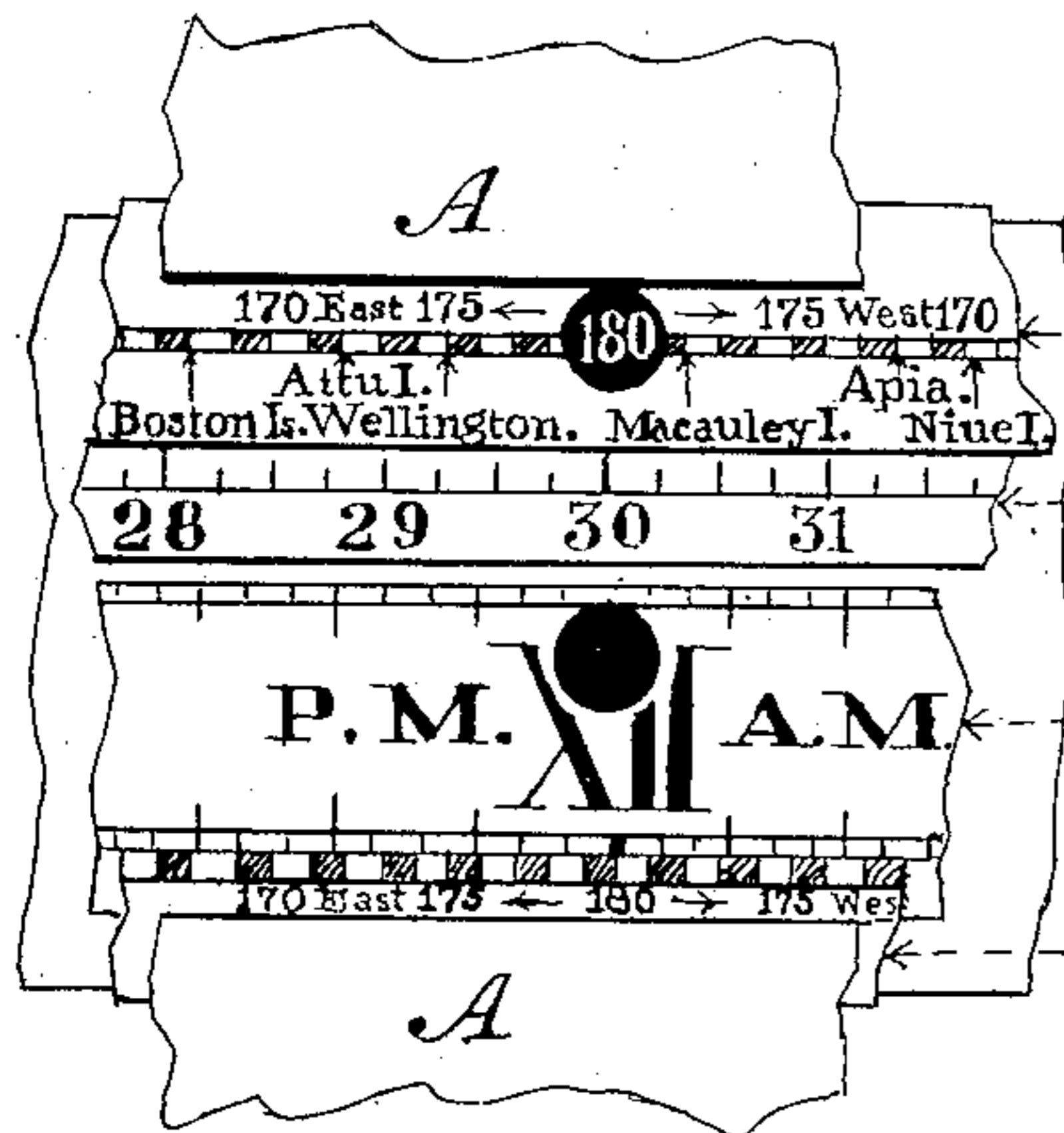


Fig. 2.

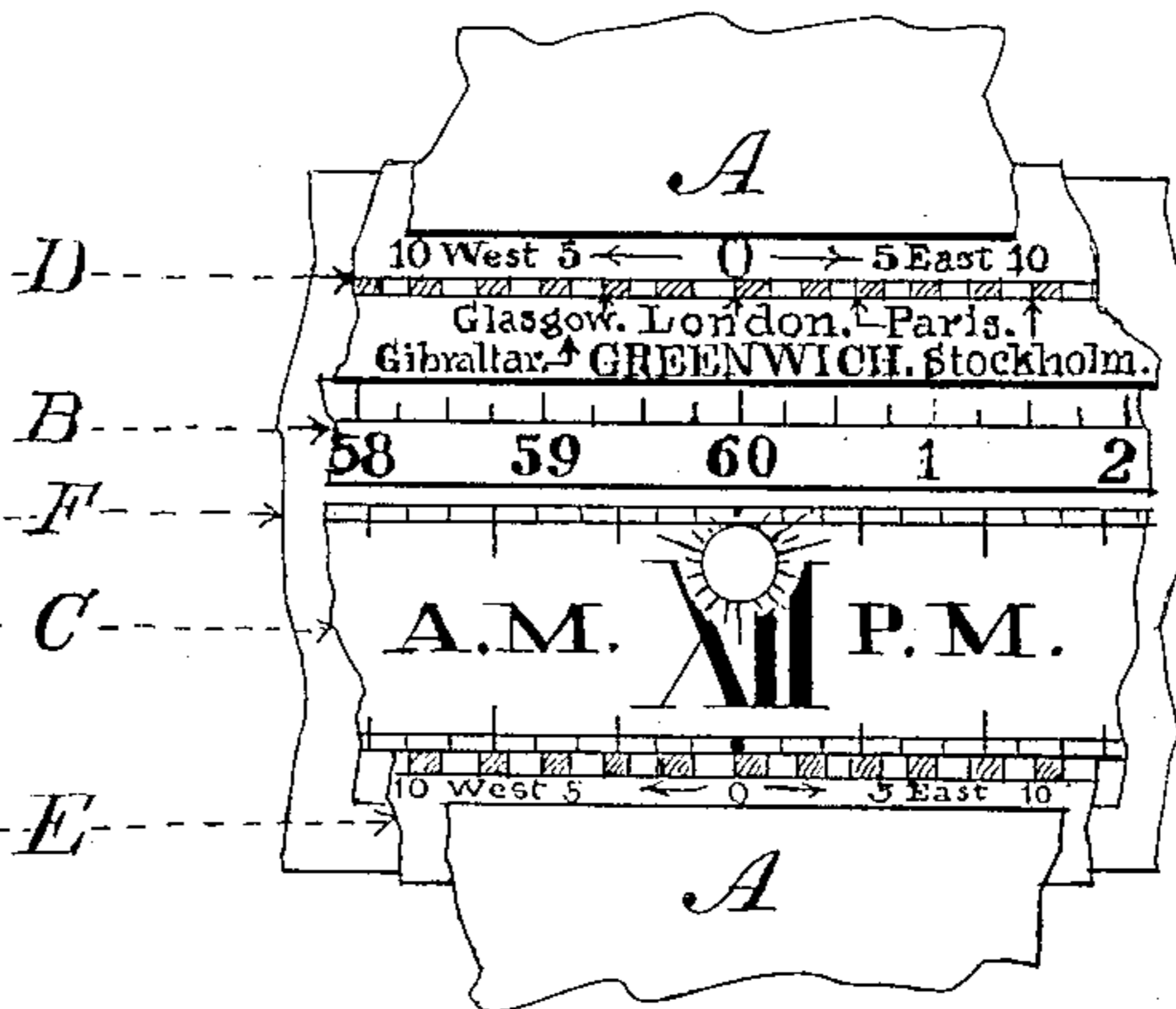


Fig. 3.

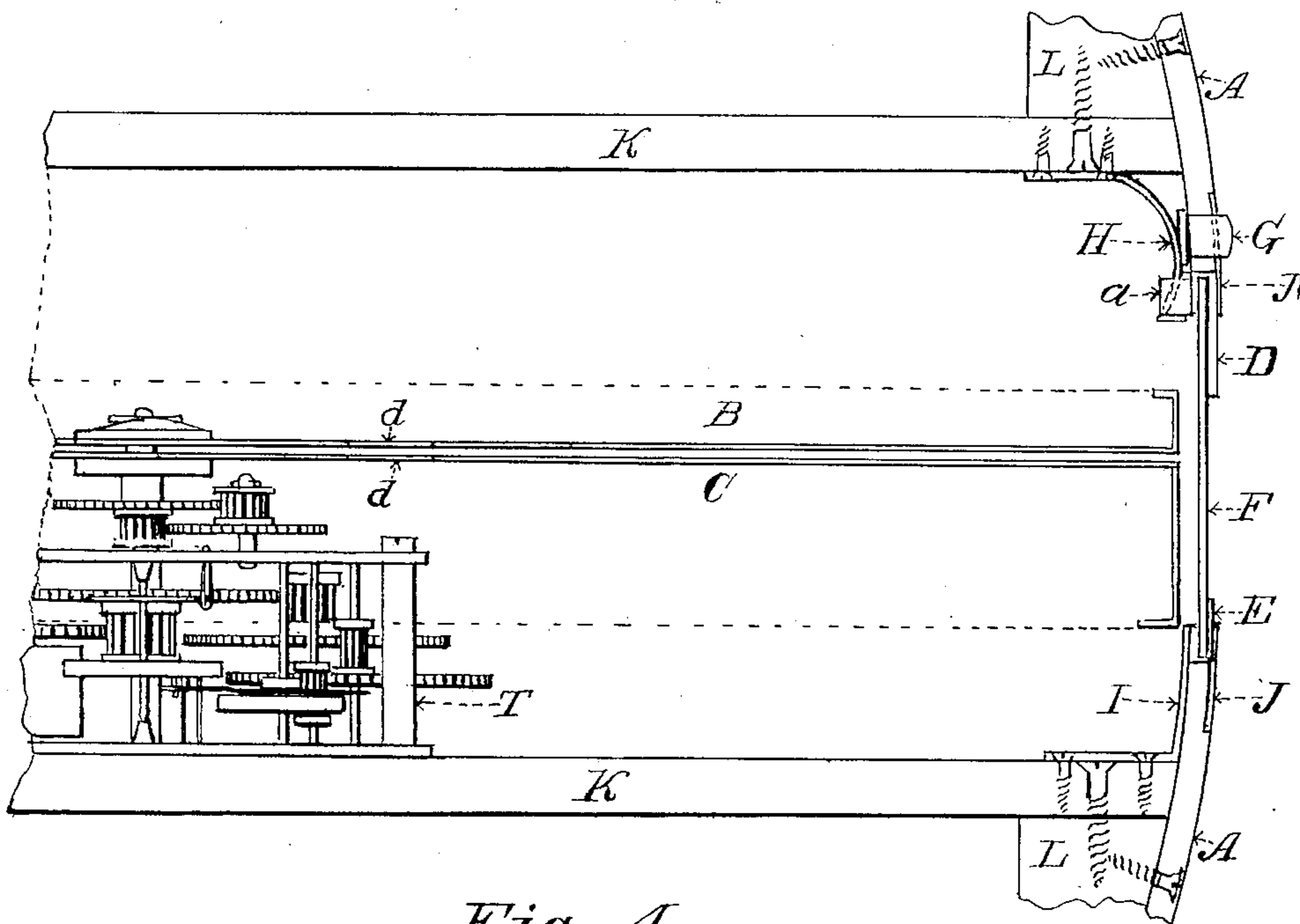


Fig. 4.

WITNESSES:

John M. Bridgman
Arthur T. Timewell

INVENTOR

George Wood Ramage

UNITED STATES PATENT OFFICE.

GEORGE WOOD RAMAGE, OF CHICAGO, ILLINOIS.

GEOGRAPHICAL TIME-GLOBE.

SPECIFICATION forming part of Letters Patent No. 664,289, dated December 18, 1900.

Application filed September 5, 1899. Serial No. 729,573. (No model.)

To all whom it may concern:

Be it known that I, GEORGE WOOD RAMAGE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Globe Chronometer or Clock, of which the following is a specification.

My invention relates to improvements in globe chronometers or clocks in which horizontally - revolving circular dials, pointers, and a circular crystal with rims attached, in conjunction with an ordinary terrestrial globe or circular case, either stationary or revolving, (but for purpose of illustration is made stationary,) and clockwork, are made to show the time at all points of the world at the same moment with the relation of the time at any one point to that of all other points, the mean solar and standard times where standard time is used, on which part of the earth it is night and on which part day time, at what particular moment during the twenty-four hours it is the same day of the week and the same date of the month in all parts of the earth, where the legal day and date of the world as adopted by civilized nations begin and end and what part of the world is a day and date ahead of the balance, gives the geography as well as the time of the world, causes the beholder to naturally read time correctly, and in addition to its special features can be used for any purpose for which the ordinary clock is employed. I attain these objects by the mechanism illustrated in the accompanying two sheets of drawings, in which—

Figure 1 is in part an elevation and in part a vertical section of the chronometer or clock, showing the various parts as regards their relation to each other. Fig. 2 is an elevation of a section of a globe A, crystal F, rims D and E, and dials B and C at the meridian of one hundred and eighty degrees of longitude east and west from Greenwich at the hour of twelve midnight. Fig. 3 is an elevation of a section similar to Fig. 2 at the meridian of Greenwich at the hour of twelve noon. Fig. 4 is a vertical section of a portion of structural and working parts through center of globe.

Similar letters refer to similar parts throughout the several views.

The globe A, with strengthening-disks M M

and K K, together with crystal F and rims D and E, base N, and pedestal O, constitute the framework of the chronometer or clock.

A represents a hollow globe made of two hemispherical sections divided at the equator by a transparent annular band or crystal F, with rims D and E, to which the hemispheres are properly fitted and secured, as hereinafter described.

B represents an annular dial, which is made to make one revolution every hour, the face of which is divided into equal spaces numbered from "1" to "60," the number of minutes in an hour, and these spaces are subdivided into fractions of a minute, and is termed a "minute-dial." This dial is intended for use only at the point or within the hour-belt of standard time where chronometer or clock is used, reference being had to divisions on hour-dial C for minutes at all other points.

C represents an annular dial, similar to the minute-dial B with the exception of having a deeper or broader face, which is made to make one revolution every twenty-four hours, the face of which is divided into twenty-four equal spaces in two sections properly numbered, one section representing the hours from one a. m. to twelve noon and the other the hours from one p. m. to twelve midnight, constituting the twenty-four hours of the day, these spaces being subdivided into fractions of an hour, the hours of twelve noon and twelve midnight having designating-marks in addition to numerals, as hereinafter explained, and this is termed an "hour-dial."

D represents the upper rim of crystal F, on which is placed the degrees of longitude from "0°," or the meridian of Greenwich, east and west to "180°," properly marked and numbered, the hour-belts of standard time, designated by different colors and names, such as "Eastern time," and names of towns or cities opposite their respective degrees of longitude, or other suitable matter.

E represents the lower rim of crystal F, on which is placed the degrees of longitude, properly marked and numbered, similar to and corresponding with those on rim D, or other matter, as may be desired.

F represents a crystal which is set into and securely attached to rims D and E and may

be made of any transparent substance having sufficient strength to sustain the weight of upper hemisphere of globe A.

G G represent push-buttons which operate
5 spring-fastener H.

H represents a spring-fastener operating in connection with catch *a*, one being placed on the inner surface of either side of globe A.

I represents a metal strap, four or more in
10 number being placed equal distances apart around circumference of globe and securely fastened to inner side of rim E and to disk K.

J J represent metal bands placed around outer surface and securely fastened to upper
15 and lower hemispheres of globe A and making a part thereof.

K K represent disks fitted closely to inner surface of upper and lower hemispheres of globe A.

20 L L represent supports firmly secured to inner walls of hemispheres, to which disks K K are fastened.

M M represent disks made convex on one side, so as to fit inner surface of upper and
25 lower ends of globe A, to which they are securely fastened.

N represents a base, which may be of any design or made of any suitable material.

O represents the pedestal, which is made
30 hollow for the reception of bolt P. It is securely fastened to globe A and fitted into a socket in base N in such a manner as to allow of its turning therein.

P represents a hollow or tubular bolt so
35 made as to enable a wire to be passed through it in case it is desired to operate the mechanism within the globe by electricity. It is firmly attached to the base N and having a thread at its upper end is screwed through a
40 nut *b*, which is fastened to disk M.

Q represents a solid bolt attached to disk M at top of inner surface of globe and projecting through globe, with a thread cut on its outer end to receive thumb-screw R.

45 R represents a thumb-screw fitted on bolt Q, so as to screw down tight on globe A.

S S represent pointers or hands of different colors, curved so as to fit circumference of globe A and marked, respectively, "Stand-
50 ard" and "Solar" or otherwise, which are fitted at their upper ends over bolt Q and held in a stationary position by thumb-screw R. Their use is to point to the degree of longitude of the place at which chronometer or
55 clock is used, one being made to point to the degree indicating or marking mean solar time and the other to the degree marking standard time or any other points, as may be desired.

T represents clockwork which operates dials
60 B and C, any suitable clockwork answering the purpose, that shown in accompanying drawings forming no part of my present invention.

65 U represents a tube placed perpendicularly directly over the winding-post of clockwork, through which key is passed for winding purposes, and V represents a keyhole.

Figs. 2 and 3 are sections of elevations, in which A A represent sections of globe; D and E, upper and lower rims; F, crystal, and B
70 and C dials, Fig. 2 representing section at one hundred and eighty degrees of longitude east and west from Greenwich at the hour of twelve midnight, which hour is marked by a black disk, besides numerals "XII." Fig. 3
75 represents section at the meridian of Greenwich at the hour of twelve noon, or at the same moment of time as represented in Fig. 2, at which moment it is the same day of the week and date of the month at all points of
80 the earth. As soon as the hours of twelve have passed these points a new day and date has begun at "180°," after which time that part of the earth where the new day and date is in vogue includes the territory of the earth's
85 surface included in the degrees of longitude east from the black disk at "180°" to that at the hour of twelve midnight, and the time in all territory in opposite direction from "180°" is a day and date behind. Thus at all places
90 on the earth's surface to the left from "180°" to the hour of twelve midnight it would be, say, Saturday, August the 25th, and at all places to the right from the "180°" to the
95 hour of twelve midnight it would be Friday, August the 24th, which, lessening as the earth turns on its axis, would end when the hour of twelve midnight marked on hour-dial C again stood opposite the "180°" marked on rim D
100 and a new day and date—Sunday, August the 26th—would begin. A line may be placed on the map covering globe A to indicate the irregular course representing the one hundred and eighty degrees of longitude, as provided
105 by international agreement, for the purpose of marking time correctly.

Fig. 4 shows a vertical section of one-half or all that is necessary to show to illustrate working parts and mode of construction. A A represent sections of a globe. B represents a
110 minute-dial, and C an hour-dial, *d d* indicating slots cut therein for the purpose of moving regulator and to allow key to pass through for winding clockwork T, these dials being so
115 adjusted to clockwork as to allow of their being moved forward or backward by hand by turning minute-dial B in similar manner as that used in setting the hands of an ordinary clock forward or backward without injury to
120 the mechanism. D represents the upper and E the lower rims of crystal, and F the crystal, fitted closely into rims D and E and securely fastened therein. G represents a push-button, and H a spring securely attached to disk
125 K at one end and at the other fitted snugly into a slot and over the under side of catch *a*, which is firmly attached to inner side of rim D. I represents a metallic strap firmly attached at one end to inner side of rim E and
130 at the other secured to disk K, the rims D and E, crystal F, spring and catch H *a*, which is operated by push-button G, together with strap I, forming the connection between the upper and lower hemispheres of globe A, the

crystal F also protecting and lighting the faces of dials B and C. J J represent metallic bands which are placed around and flush with the outer surface of the upper and lower hemispheres of globe A and firmly attached thereto for the purpose of adding strength thereto and being made to project beyond the rims of hemispheres provide secure sustainers for crystal-rims D and E. K K represent disks of wood or other suitable material made in a true circle and fitted closely to inner surface or wall of globe A, acting as braces for holding hemispheres in true position and as supports or foundations for structural and operating parts. L L represent supports firmly attached to inner surface or wall of globe A, to which disks K K are securely fastened. T represents a clock-movement which operates dials B and C, the gearing for the hour-dial being so constructed as to make one revolution every twenty-four hours, while that for the minute-dial revolves once every hour.

The hour-numerals always showing in advance of those of minutes belonging to succeeding hour causes the observer to naturally read the time properly as "ten hours and twenty minutes" ("ten twenty") instead of the usual "twenty minutes past ten."

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A geographical globe bisected on the equator and having its sections arranged with an interval between them, in combination with a transparent annular band occupying the said interval, fastening devices which

hold the said band to the said sections and rotary time-indicating devices arranged within the same, substantially as set forth.

2. A geographical globe bisected on the equator and having its sections arranged with an interval between them, in combination with a transparent annular band occupying the said interval, fastening devices for holding the said band to the said sections, rotary time-indicating devices arranged within the said band, and means of support which hold the said globe stationary with respect to said devices, substantially as set forth.

3. In combination with two juxtaposed annular dials having different systems of graduation marked thereon and mechanism for independently rotating them, an inclosing relatively stationary geographical globe which is bisected and permits the said rings to be inspected through the annular interval between its parts, a transparent band occupying the said interval and two pointers on the exterior of the said globe and applied to the said rings respectively, substantially as set forth.

4. In combination with inclosed time-keeping mechanism, a globe divided into two sections, a transparent band occupying the interval between the said sections, spring-fasteners for holding the upper section to the said band and push-buttons protruding through the said globe to facilitate the release of the said fasteners, substantially as set forth.

GEORGE WOOD RAMAGE.

Witnesses:

JOHN W. BRIDGMAN,
ARTHUR T. TIMEWELL.