

1,344,913.

Patented June 29, 1920.

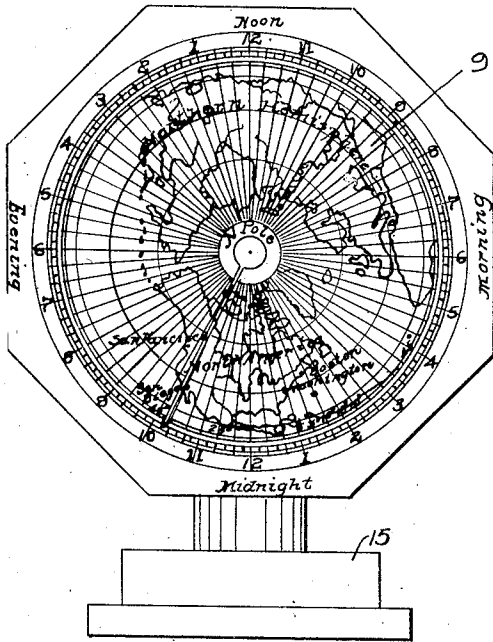


Fig. 1.

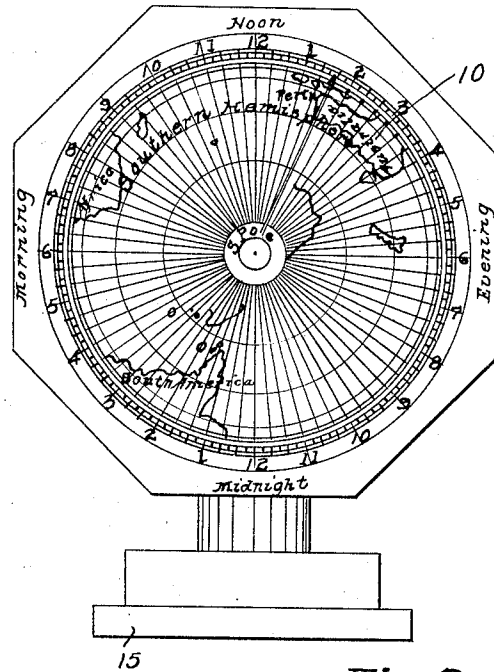


Fig. 2.

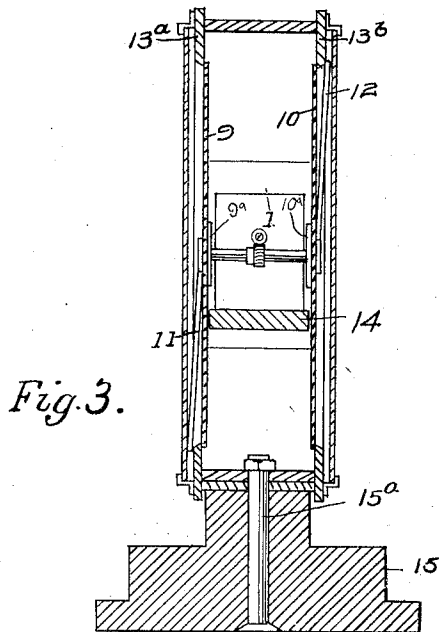


Fig. 3.

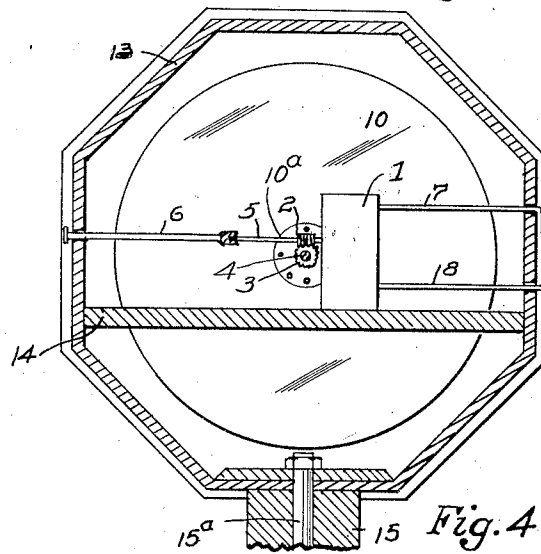


Fig. 4

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CLOCK.

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To all whom it may concern:

Be it known that I, JOHN T. LONG, a citizen of the United States, residing at San Diego, in the county of San Diego and State of California, have invented certain new and useful Improvements in Clocks, of which the following is a specification.

My invention relates to a clock and the objects of my invention are first, to provide a clock which will indicate the time of day at all locations upon the earth's surface simultaneously, second to provide a clock of this class which is provided with two faces oppositely disposed, the one provided with a map of the Northern Hemisphere and the other with a map of the Southern Hemisphere and a clock works intermediate said faces with an axis extending to the faces on opposite sides and with a hand on each side over each face adapted to revolve with these hemispheres once in each twenty-four hours, the one moving in clockwise direction and the other in the opposite direction, third, to provide a clock of this class in which the ordinary clock works may be used but that portion operating the minute hand may be eliminated if desired, fourth, to provide a clock of this class which is simple and economical of construction, durable, and which will not readily deteriorate or get out of order, and fifth, to provide a clock of this class which may be used by teachers with students relative to longitude and time.

With these and other objects in view as will appear hereinafter, my invention consists of certain novel features of construction, combination and arrangement of parts and portions as will be hereinafter described in detail and particularly set forth in the appended claims, reference being had to the accompanying drawings and to the characters of reference thereon which form a part of this application in which:

Figure 1 is a side elevational view of the clock, Fig. 2 is a side elevational view of the opposite side of said clock, Fig. 3 is a transverse sectional view through the middle thereof, showing some of the parts in elevation to facilitate the illustration, and Fig. 4 is a sectional view through the middle thereof at a right angle thereto and showing some of the parts in elevation to facilitate the illustration.

Similar characters of reference refer to similar parts and portions throughout the several views of the drawings.

The conventional clock works 1, worm pinion 2, worm gear 3, shaft 4, shaft 5, setting key 6, regulating shaft 7, winding shaft 8, disks 9 and 10, hands 11 and 12, casing 13, support 14, and base 15 constitute the principal parts of my clock.

The clock casing 1 incloses an ordinary or conventional clock works; however, that portion of the clock works pertaining to the operation of the minute hand may be eliminated if desired. The regulating shaft is provided with an extension 7 which extends outwardly through the outer side of the casing 13 so that the same may be regulated from the outside, also, the winding shaft is extended by a shaft 8 which extends outside so that it is readily accessible for winding. The shaft to which the hour hand is secured in the ordinary clock is extended and on it is secured a worm pinion 2 which meshes with a worm gear 3 of larger relative size. This is for the purpose of reducing the speed of the hour hand, the hands on this clock only making a revolution in 24 hours instead of a revolution in 12 hours in the ordinary clock structure. Secured on the shaft 4 at each end are flange members 9^a and 10^a to which are secured the disks 9 and 10 and pivotally mounted on the disks 9 and 10 are the hands 11 and 12 which extend outwardly as shown in Figs. 1, 2, and 3 of the drawings. They are provided with a large contact surface to provide friction against the outer surface of the disk so that they turn with the disk ordinarily but permit the hand to be turned by holding the disk and the hand may be turned to any position over the face of the disk. The disk 9 is provided on its outer surface with a map of the Northern Hemisphere with the parallel and meridian lines thereon. The disk 10 is also provided on its outer surface with a map of the Southern Hemisphere with the parallel and meridian lines thereon and particularly showing cities and particular locations on the maps. The sides 13^a and 13^b are each provided with dials with numerals running from 1 to 12 in half its circumference and from 1 to 12 in the other half. The numbers running in anti-clockwise direction in the Northern Hemisphere's side, as shown best in Fig. 1 of the drawings and the side 13^b is similarly marked except that the numbers run in clockwise direction. This is in connection with the Southern Hemisphere and between the numbers is a

graduated scale for determining fractions of hours. Each of these sides is provided at the top with the word "Noon", at the bottom with the word "Midnight", at one side "Evening", and on the other side, "Morning". The frame 13 is pivotally mounted on the base 15 by means of a bolt 15^a extending up through the lower side thus permitting the casing 13 to be revolved on the base 15.

10 The operation of the clock is as follows:

It is wound in the ordinary manner and the disks carrying the maps revolve with the shaft, one revolution in 24 hours. The hand is moved by holding the disk to a position so that it covers the location where the clock is to be used, for instance, if the clock is located in the Northern Hemisphere the hand on the disk is moved to the proper position, if it is located in the Southern Hemisphere the hand on the disk carrying the map of the Southern Hemisphere is moved to the position of the location. If it is desired to tell the time of day at any place on the face of the globe it is done by locating the meridian lines close to the place at which it is desired to determine the time and following this meridian line outwardly the end of it is adjacent to the numeral indicating the time on the face of the clock so that the time at the location may be readily determined, the clock being turned on the base 15 if it is desired to determine the time on a different hemisphere.

Though I have shown and described a particular construction, combination, and arrangement of parts and portions I do not wish to be limited to this particular construction, combination, and arrangement but desire to include in the purview of my invention the construction, combination, and arrangement substantially as set forth in the appended claims.

It is obvious that with this construction there is provided a clock in which the time of day at any place on the face of the globe may be readily determined as well as a service clock for determining the time of day in the place where the clock is located; that the structure is simple and eco-

nomical of construction, easy to operate and understand.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is—

1. In a clock of the class described the combination with an ordinary clock works, of a shaft at right angles to the hour hand shaft, means operatively connecting said shaft with the hour hand shaft whereby the speed is reduced one-half, a disk secured on each end of said shaft, a map of the Northern Hemisphere secured on the outer surface of one disk, a map of the Southern Hemisphere secured on the outer surface of the other disk, a hand secured to each of said disks by frictional contact and extending radially from the center, a casing supporting said clock works provided with a dial with the numerals 1 to 12 on each half circumference of said dial, the numerals on the side on which the Southern Hemisphere is located running in clockwise direction and those on the opposite side running in anticlockwise direction.

2. In a clock of the class described the combination with an ordinary clock works, of an additional shaft at right angles to the hour hand shaft, gear means operatively connecting said shaft with the hour hand shaft whereby the speed is reduced, a disk secured on each end of said shaft, a map of the Northern Hemisphere secured on the outer surface of one disk, a map of the Southern Hemisphere secured on the outer surface of the other disk, a hand secured to each of said disks by frictional contact and extending radially from the center and a casing supporting said clock works provided with a dial with the numerals 1 to 12 on each half of the circumference of said dial, the numerals on one side running in opposite direction to the numerals on the other side.

In testimony whereof I have hereunto set my hand at San Diego, California, this 29th day of October, 1918.

JOHN T. LONG.