Oct. 27, 1936. L. I. REPLOGLE 2,059,031

TIME FINDER DEVICE

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Fig. 1.

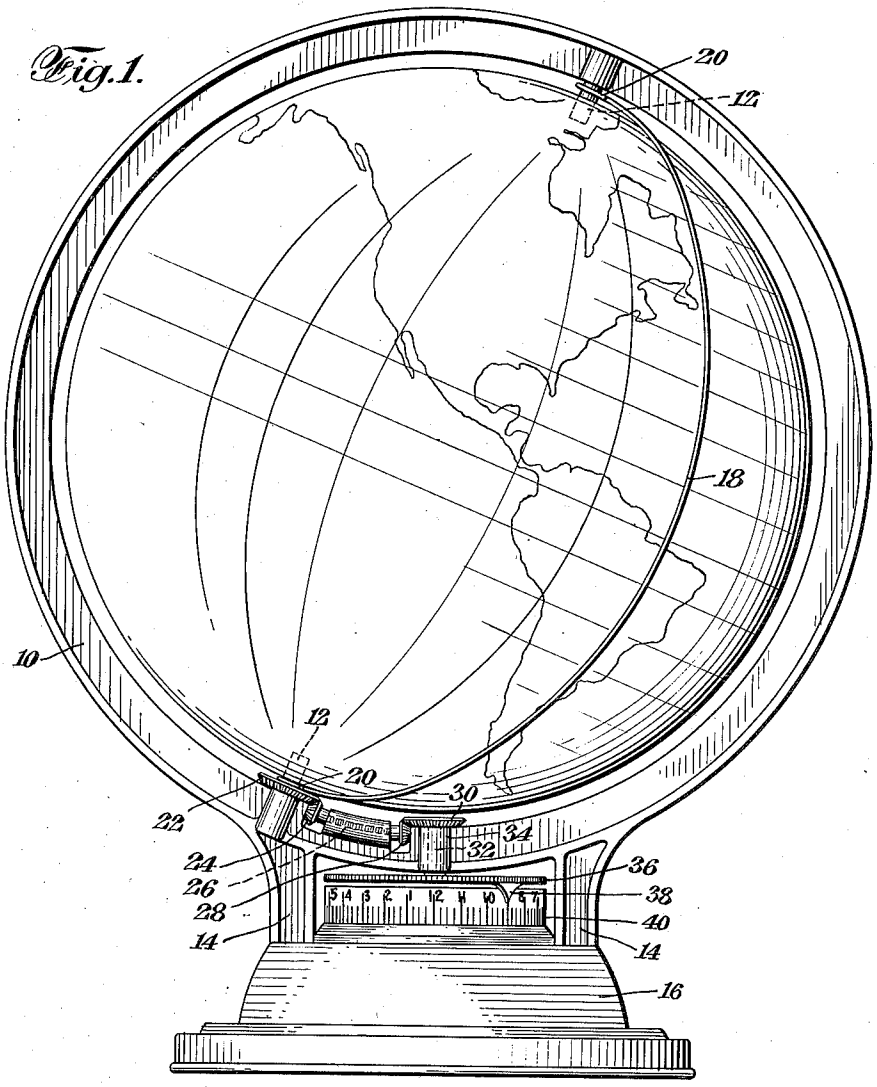
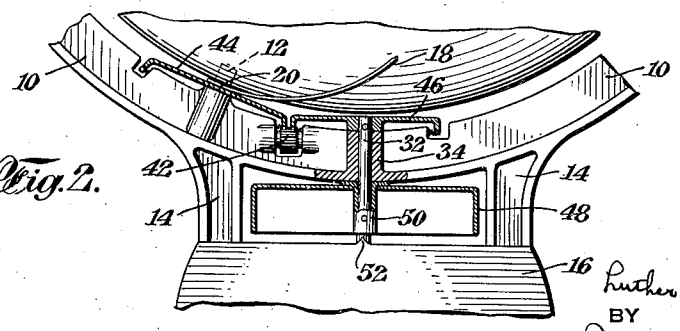


Fig. 2.



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TIME-FINDER DEVICE

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11 Claims. (Cl. 35—43)

My present invention is a time-finder device combined with a terrestrial globe enabling the user to determine quickly the time in any part of the world corresponding to the time in any other part; also to determine the difference in time between any places as well as other uses.

The device is of practical help to all who find it necessary to know and determine comparative times and for example, is useful to short-wave radio listeners since it enables them to determine not only relative time in distant parts of the world, but also local time corresponding to any given distant time.

With the above and other objects in view, preferred illustrative embodiments of the invention are shown in the accompanying drawing, and these embodiments will be hereinafter described with reference to the invention, and the invention will be pointed out in the claims.

In the drawing:

Fig. 1 is a front elevation of a preferred form of device within the invention; and

Fig. 2 is a fragmentary view of a portion of the device of Fig. 1 with which is incorporated a modification, the parts of which are shown partly in vertical section and partly in elevation.

I will now describe the invention by means of the devices illustrative thereof shown in the drawing.

10 is a fixed meridian ring having pintles or trunnions 12 which rotatably support the terrestrial globe. The ring 10 is supported by standards 14 upon the base 16.

18 is a wire or narrow strip or band formed into a semi-circle having circularly apertured end-pieces 20 received with bearing fit over the pintles or trunnions 12. This member 18 in the illustrative device takes the form of a semi-meridian rotatable about the same axis as the globe concentric with the surface of the globe and of slightly larger diameter so as to sweep over its surface. The lower end-piece 20 of the rotatable meridian is secured to the upper face of a bevel gear 22. This gear is supported by the lower trunnion 12 and turns freely thereon. It meshes with a bevel gear 24 on the end of a flexible shaft 26 rotatably supported as indicated by the fixed meridian ring 10. The opposite end of this flexible shaft carries a bevel gear 28 in mesh with a bevel gear 30. The last named gear is fixed on the upper end of a short vertical shaft 32 operatively supported in a vertical sleeve-bearing 34 on the fixed ring 10. This shaft projects beyond the lower end of the sleeve-bearing where it is secured and affixed to the center of a disc 36. This disc bears a pointer 38 adjacent its periphery which when the disc is turned travels around the periphery of a stationary cylindrical time-dial 40. This time-dial is conveniently mounted on the base 16 of the device concentric with the rotatable disc 36 between the standards 14 under the globe.

The gearing is, or may be, such that one complete circuit of the pointer 38 around the time-dial 40 causes the rotatable meridian 18 to make one complete rotation around the globe. The periphery of the time-dial is graduated in hours and sub-divisions thereof, the full scale representing 24 hours. This scale may consist of 12 hours in light faced characters to represent the hours before noon and may be followed by 12 hours in dark-faced or otherwise differentiated characters representing the hours after noon; or the scale may be simply numbered consecutively from 0 to 24; or other forms of time scales may be adopted or any combination of the foregoing.

To find the difference in time between any two places on the earth's surface the device of Fig. 1 is usable as follows:

Suppose the two places to be London and New York. The disc 36 is manually rotated to bring the pointer 38 to zero or to noon or otherwise, depending on the kind of scale used upon the time dial. The globe is then rotated by hand to bring London into registry with the rotatable meridian 18. The globe is then held stationary, while the disc 36 is manually rotated until the rotatable meridian is over New York. The difference in time between the two places is then readable from the scale at the pointer 38.

Again the device enables the user to determine the time in any part of the world corresponding to the given time in any other part.

For example, when it is 10 P. M. in London, what time is it in New York. The disc 36 is manually rotated until the pointer is at 10 P. M. on the scale. The globe is then rotated to bring London to the meridian 18. The globe is then held stationary while the disc 36 is operated to rotate the meridian 18 until it is over New York on the globe. The pointer 38 will then point to the hour on the scale for New York time corresponding to 10 P. M. London.

The modification in Fig. 2 comprises

(1) another form of gearing usable in lieu of the gears and flexible shaft of Fig. 1, and

(2) comprises a form of the device wherein the time-dial is made rotatable instead of being stationary and constitutes the manually operative member instead of the disc 36 of Fig. 1.

The same references are used in Fig. 2 as in Fig. 1 so far as applicable to designate the same parts; and therefore, such parts need no further description.

As to the new features in Fig. 2, **42** is a pinion on a short shaft turning freely in end-bearings located in the end walls of a notch in the fixed meridian ring. The two gears **44** and **46** are struck up from sheet metal to have toothed angularly disposed flanges. The gear teeth of these flanges mesh as shown simultaneously with the aforesaid pinion **42** which may be a lantern pinion consisting of spaced end-discs peripherally connected by cross-wires forming the teeth of the pinion and engaged by the teeth of the gears.

As in Fig. 1, the lower end-piece **20** of the semi-meridian **18** is secured to the face of the gear **44** which is supported for free turning on the lower trunnion **12**.

Also as in Fig. 1 the other gear **46** is fixed to the upper end of the vertical shaft **32** having its bearing in the vertical sleeve **34**. The difference is that in Fig. 2 the cylindrical time-dial **48** is rotatable and for this purpose has its hub **50** pinned or otherwise fixed to the projecting lower portion of the shaft.

Fig. 2 shows this time-dial **48** in section so that the graduations on its periphery are not shown but it will be understood that it bears graduations similar to those shown and described in connection with the time-dial of Fig. 1. A fixed pointer **52**, Fig. 2, is located at the periphery of this time-dial.

The device of Fig. 2 is used like the device of Fig. 1, the difference being that the time-dial is the manipulated element instead of the pointer-disc.

I have illustrated and described preferred satisfactory embodiments of my invention but it will be understood that changes may be made therein within the spirit and scope of the invention as defined in the appended claims.

What I claim is:

1. A time-finder device comprising the combination of a rotatable terrestrial globe; a rotatable meridian; and a time-dial and pointer rotatable relatively to each other, there being a driving connection between the rotatable meridian and the rotatable member of the aforesaid dial and pointer means.

2. A time-finder device comprising the combination of a rotatable terrestrial globe; a rotatable meridian; a time-dial and pointer rotatable relatively to each other; and gearing between the rotatable meridian and the rotatable member of the aforesaid dial and pointer means.

3. A time-finder device comprising a base, a terrestrial globe supported on said base for rotation about an inclined axis, a rotatable meridian, a stationary circular time-dial on said base, a pointer rotatable around said dial, and gearing between said rotatable meridian and pointer.

4. The time-finder device of claim 3 further characterized by there being a rotatable disc which supports the pointer and which is connected by the aforesaid gearing to the rotatable meridian and which is manually engageable and operable.

5. A time-finder device comprising a base, a terrestrial globe supported on said base for rotation about an inclined axis, a rotatable meridian, a rotatable time dial on said base, a stationary pointer therefor, and gearing between said meridian and said time-dial.

6. A time-finder device comprising the combination of a rotatable terrestrial globe; a rotatable meridian; a time-scale and pointer movable relative to each other; and gearing between the rotatable meridian and the movable member of the aforesaid time-scale and pointer means whereby 15° rotary movement of the meridian corresponds to one hour on the scale.

7. A time-finder device for a terrestrial globe comprising a globe element and a meridian element, one of said elements being movable relative to the other, a time dial member and a pointer member rotatable relatively to each other, and a driving connection between said rotatable element and said rotatable member.

8. A time-finder device for a terrestrial globe including in combination a terrestrial globe element and a meridian element, one of said elements being movable with respect to the other, a time dial member and a pointer member movable with respect to the time dial member and operative connections between said movable element and said pointer member.

9. A time-finder device for terrestrial globes comprising in combination a base, a terrestrial globe rotatably mounted on said base, a stationary meridian element, a semi-meridian element movable with respect to said globe and said stationary meridian element, a time scale member and a pointer member movable relative to each other and operative connections between said semi-meridian element and said movable element.

10. A time-finder device for terrestrial globes including in combination a base, a fixed meridian element, said globe being positioned within and rotatably mounted with respect to said fixed meridian element, a semi-meridian element movably mounted with respect to said globe and said fixed meridian element, a time indicating means, and operative connections between said movable meridian element and said time indicating means whereby movement of said movable meridian element will be correspondingly translated by said time indicating means.

11. A time-finder device for terrestrial globes including in combination a base, a fixed meridian element supported on said base, a globe positioned within said fixed meridian element and mounted to rotate relative to said fixed meridian element, a movable meridian element mounted to rotate on the same axis on which said globe rotates, time indicating means and an operative connection between said movable meridian element and said time indicating means whereby movement of the movable meridian element is translated into a time indication.

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