

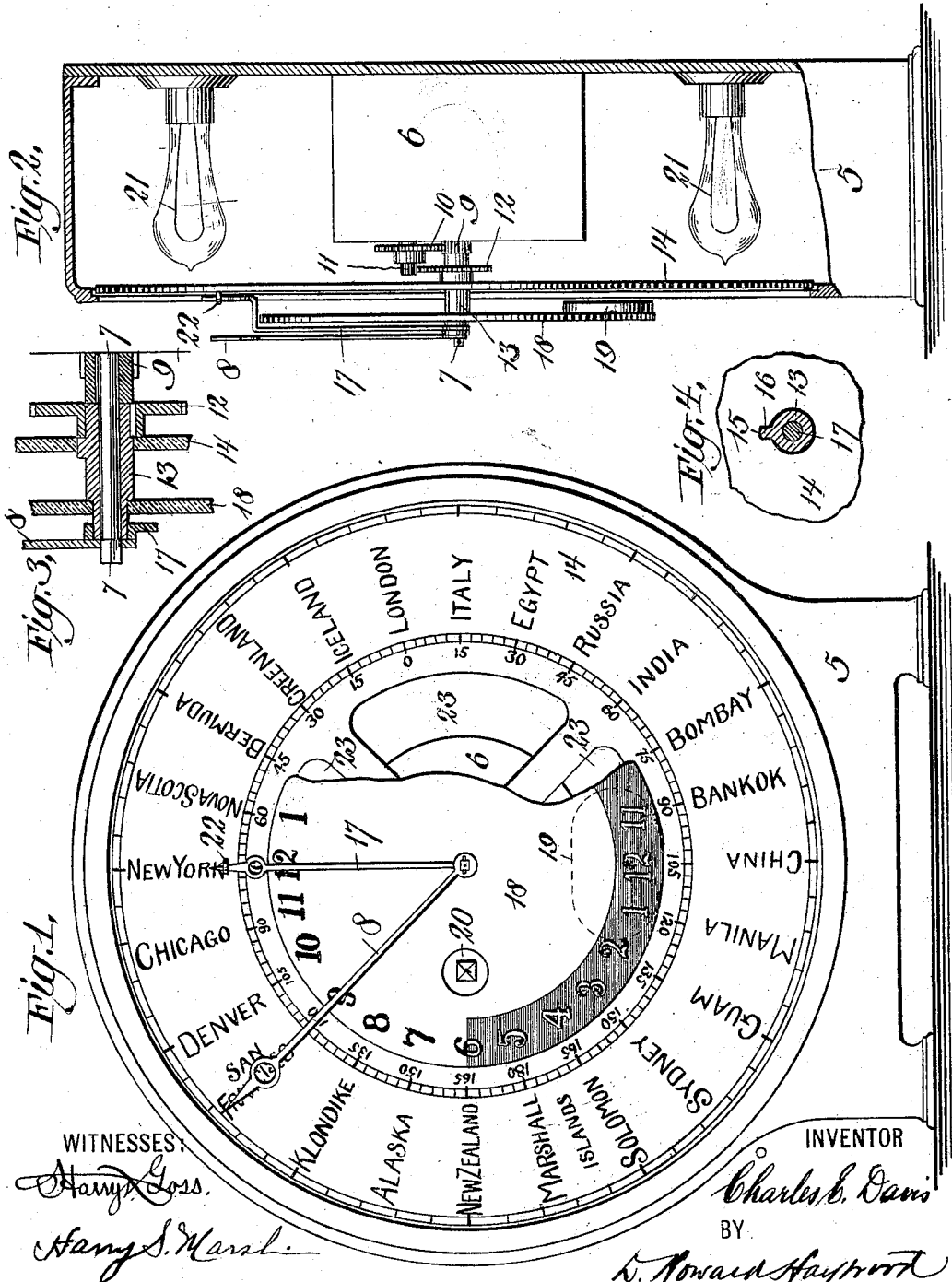
No. 693,953.

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C. E. DAVIS.
GEOGRAPHICAL CLOCK.

(Application filed May 23, 1900.)

(No Model.)



WITNESSES:

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GEOGRAPHICAL CLOCK.

SPECIFICATION forming part of Letters Patent No. 693,953, dated February 25, 1902.

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To all whom it may concern:

Be it known that I, CHARLES E. DAVIS, a citizen of the United States of America, and a resident of New York, county and State of New York, have invented certain new and useful Improvements in Geographical Timepieces, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

My invention relates to improvements in geographical timepieces; and it consists, primarily, in the provision of two disks adapted to be mounted upon the hour-sleeve of time mechanism, the one adapted to revolve in unison with the hour-sleeve upon which it is mounted and the other to be relatively stationary. Upon the relatively movable disk the names of various countries and some of the principal cities throughout the world are denoted, as are also degrees of longitude, and upon the relatively stationary disk are denoted characters representing the hours of the day and night.

My invention further consists in constructing the said disks of transparent or translucent material and in providing illuminating means behind said disks whereby the same may be illuminated.

The objects of my invention are, first, to produce a simple and effective geographical timepiece; secondly, to provide geographical time-disks and simple mechanism which may be easily and readily fixed to an ordinary clock as now in every-day use, and, thirdly, to provide a means for illuminating the same, whereby the time in any portion of the globe may readily be ascertained either in the day-time or night.

My invention further consists in certain novel details of construction and combination of parts, as shall hereinafter be more fully set forth.

I will now proceed to describe my invention with reference to the accompanying drawings and will then point out the novel features in the claim.

In the drawings, Figure 1 is a face view of a geographical timepiece embodying my invention. Fig. 2 is a side elevation of the same with the inclosing case in section. Fig.

3 is a detail cross-section, on an enlarged scale, showing the method of supporting the relatively stationary disk. Fig. 4 is a detail view showing the method of supporting the relatively movable disk.

Similar reference characters represent corresponding parts throughout the several views.

Reference character 5 designates an outer frame or casing, and 6 a clock mechanism of well-known or any desired construction. The minute-arbor 7 thereof extends forwardly, and upon this minute-arbor is mounted the minute-hand 8.

I have not shown in detail the actuating mechanism, gear-train, escapement, &c., which go to make up the mechanism of a timepiece, as such form no part of this invention, one of the features of this invention being that the geographical time-disks are adapted to be mounted upon any of the ordinary forms of timepieces now existing. It is desirable, however, that the timepiece shall have a twenty-four-hour dial and not a twelve-hour, as is more common. If, therefore, the timepiece is of such character as to give two complete revolutions of the hour-hand in twenty-four hours, or, in other words, is a twelve-hour timepiece, I preferably so change and arrange the gearing as to cause the hour-hand to make but one revolution in the twenty-four hours. Gearing corresponding to gears 9 10 11 12, as shown in the drawings, are in all timepieces, whether twelve or twenty-four hour timepieces. To convert a timepiece, therefore, from a twelve-hour to the twenty-four-hour timepiece it is only necessary to slip the gear-wheel 12, which is mounted fast upon that which is known as the "hour-sleeve" and which is here designated by the reference character 13, off the minute-arbor 7 and to remove the pinion and spur gears 11 and 10 off the stud upon which they are loosely mounted. Gears having the correct relationship may then be substituted whereby a single revolution of the hour-sleeve 13 will take place in every twenty-four hours. The hour-sleeve 13 is loosely mounted upon the minute-arbor 7 and revolves upon it, but independently thereof, the relationship of

speed being determined by the gears 12, 11, 10, and 9. The gear 9 is keyed or otherwise secured to the minute-arbor 7.

A disk 14 is provided, and upon the outer 5 face of the disk is denoted names of various cities and countries throughout the world. Degrees of longitude are also denoted thereon. The disk 14 is secured to rotate with the hour-sleeve 13, the hour-sleeve being preferably 10 provided with a projection or key 15 and the disk 14 with a corresponding keyway 16. The hour-hand 17 is secured to rotate with the disk 14, preferably by securing the point thereof to the disk by means of a small loop or staple 15 22, as shown. The ordinary way of securing the hour-hand to its sleeve is by friction of the hub; but in this case such method of securing the same would not be desirable, for the reason that it is highly essential that the 20 hour-hand 17 should absolutely maintain its correct relative position with the disk 14. The hour-hand 17 is secured to the disk 14 opposite the point at which the name of the city or country in which the clock is located 25 is denoted.

A second disk 18 is mounted loosely upon the hour-sleeve 13 and is adapted to remain relatively stationary thereon while the said sleeve is revolving. The disk 18 is provided 30 with a weight 19, which acts by gravity to maintain the disk in its correct position. The disk 18 is thus mounted upon the sleeve 13, but in no way partakes of its movement. A hole 20 is located in the disk 18 at about op- 35 posite the winding-arbor of the timepiece, and through this hole a key is adapted to be inserted for the purpose of winding up the timepiece.

The disk 14 has that portion which is lo- 40 cated behind the relatively stationary disk 18 largely cut away, as at 23, in order that said disk in its rotation shall obscure the winding-stem as little as possible. It is only at such times as the non-cut-away portions of the 45 said disk are passing in front of the said arbor that access thereto with the key is prevented.

I preferably make the disks 14 and 18 of transparent or translucent material—such, for instance, as ground glass—and upon the 50 surface of the transparent or translucent material I denote the names of countries or cities and degrees of longitude, hours of the day, &c. This may be done by printing or other- 55 wise producing them on the surface of the disk with an opaque material. I further arrange for an illumination, as by means of lamps 21, which I locate behind the disks and within the frame or casing 5. In this way I provide a geographical timepiece by which both at 60 day or night I am enabled at a glance to tell the time not only in the city or country in which I am residing, but simultaneously all over the world.

Around the outer edge of the lower half of 65 the disk 18 I preferably arrange a dark band or background for the hours of the night from six p. m. to six a. m. In this manner the fact as to whether the time denoted is day-time or night-time in any portion of the world is 70 readily and instantly observable.

It will be noted that though I may employ my invention in combination with a specially-constructed timepiece my invention is partic- 75 ularly adapted to application with timepieces of any ordinary construction.

What I claim is—

The combination with the revoluble hour-sleeve of a time mechanism, of a geographical disk and an hour-indicating hand secured 80 together at their respective hubs by both being fixedly mounted upon the said hour-sleeve, and further connected together by the outer end of the indicating-hand being secured to the face of the disk, and a second 85 disk loosely mounted upon the said hour-sleeve between the said first-named disk and the indicating-hand, and held relatively stationary in such position.

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