

S. J. WALLACE.
GEOGRAPHICAL CLOCK.

No. 170,212.

Patented Nov. 23, 1875.

Fig. I.

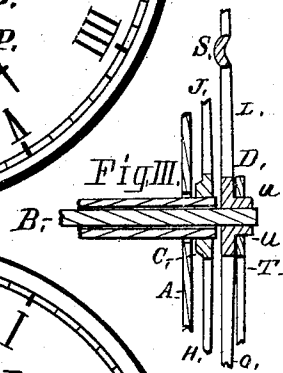
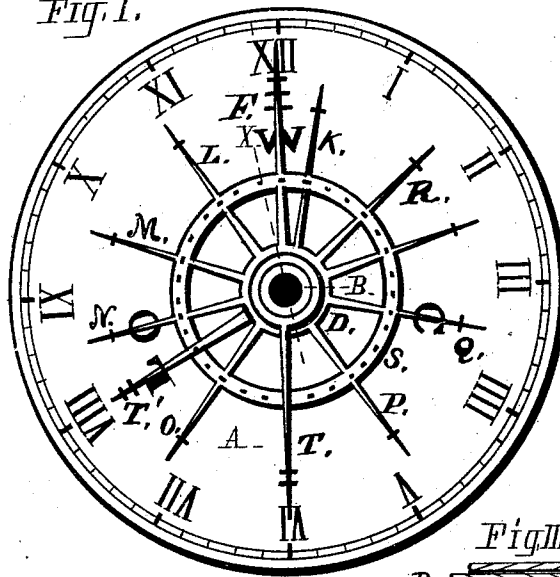
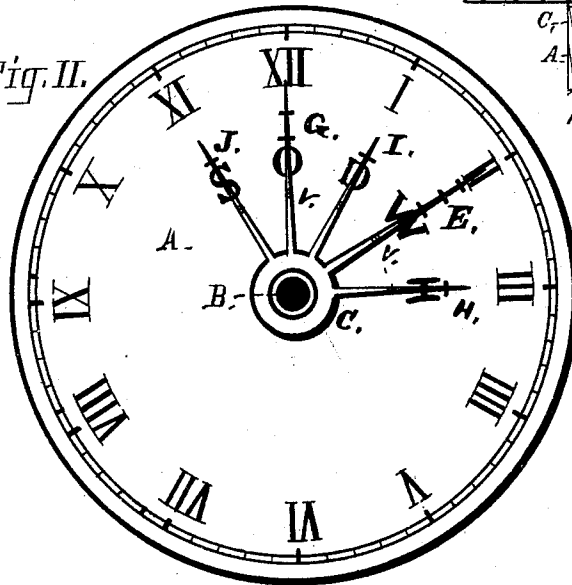


Fig. II.



Witnesses:
D. M. Tate.
W. W. Walker.

Inventor:
Samuel Jacob Wallace.

UNITED STATES PATENT OFFICE.

SAMUEL JACOB WALLACE, OF KEOKUK, IOWA.

IMPROVEMENT IN GEOGRAPHICAL CLOCKS.

Specification forming part of Letters Patent No. **170,212**, dated November 23, 1875; application filed September 29, 1873

To all whom it may concern:

Be it known that I, SAMUEL JACOB WALLACE, of Keokuk, Lee county, Iowa, have made an Invention in Watches and Time-Keepers, of which the following is a specification:

The object of this invention is to enable watches, clocks, and time-indicators to show on their faces, by means readily applicable to all, the time of different places, as where connecting railways, &c., use different standards of time. It is made substantially as set forth hereinafter, referring to the accompanying drawings, in which—

Figure 3 is a cross-section of a portion of Figs. 1 and 2 which show dial-faces, one with the hour-hands, and the other with the minute-hands.

The dial-face A has the ordinary or any suitable graduation of hours. The center spindle B is made in the usual or any suitable way for bearing hour and minute hands. The hour-hands C are shown in Fig. 2, and minute-hands in Fig. 1, for clearness. Each has a central disk fitted to its portion of the bearing-spindle, in the usual way; and each has a main pointer, E F, larger than the others, to keep a standard time which may be common throughout each country or large portion of the earth, as Washington time in the United States of America, and which may be readily obtainable everywhere by telegraph for correction. Each central disk C D also bears any suitable number of additional pointers, G H I K L M N O P, fixed in the same plane at distances from each other around the circle such as to show the relative time at the several places desired. These are made to be distinguished from each other by different colors. The hour-hands are made of bright colors, as red, gold, and silver colors, and various shades. The minute-hands are made with dark colors, as black, blue, and green, and various shades for distinction. They are also made with initial letters for the places designed for, or with any suitable emblems, or with the names. These disks, with sets of pointers, are formed by being cut by stamping out of sheet metal, and the several points colored suitably, and may be kept in stock for sale. When they are applied to use, any of the points not desired can be clipped off, thus

forming an improved article of manufacture and sale. If the points as so made on the article should not include ones in the exact position desired, one may be bent into place from one side. To strengthen the separate points and keep them in the same plane, so as not to interfere in moving round, they are connected by part S from one to another, which also keeps them in their fixed relation, so that, when the standard points are placed right, all the others must be right. With the minute-hands, this part S forms an entire circle, holding all in place, and effectually preventing interference with the hour hands. To make this more certain, this circle is bent down a little toward the hour-hands below the plane of the hands or pointers on it, so the circle may rub continuously if any hour-points should by accident be inclined to interfere. The hour-points are bent a little up at this place in their length, so as to prevent contact at any other place. The circle S has holes in it by which a broader local time-point can be riveted on; or may be screwed on, so as to be changeable for distant travelers who wish to vary their local indicator without changing or losing their standard time. The long flexible pointer T may be riveted to disk D, so as to bend around to show local time; or it may be fixed on a secondary disk borne by, but movable on, the same spindle, or on a circular shoulder, U, raised on disk D. The minute-pointers are arranged to show the exact time at each place, and the hour-pointers may be the same, or may be placed at hour distances apart, two, three, or more, sufficient for the territory desired, and marking these points fifteen degrees apart, it being easy to notice which point stands for the nearest hour meridian to indicate the number of the hour the minute-hand is pointing out.

Either set of pointers may be used along with single ordinary hands, and various modifications can be used in the shape of the hands, their size, length, colors, and ornaments to distinguish them apart, and some may be made with portions of different colors. The colors may be given by coating with different metals, as gold, nickel, copper, &c., by battery or otherwise, or by painting.

The center part fitting on the shaft may be

made thicker than the hands. For this the sheet metal is finished by running between rollers having suitable grooves to leave the sheet thicker in the line where the line of centers will come in cutting out.

The movable pointer T can be used as a special time-indicator for various purposes, without interfering with the regular running hands, in this way: at the moment of starting, this hand can be turned to twelve and let run, when it will show the exact time of running from that. If it is desired to stop at the end of a course to leave a record of time, this hand may be set on a separate portion of the shaft or otherwise, and arranged so as to be thrown into or out of gear whenever desired. The hour-hands may also be provided with a

movable hand when required, and in this case it could be arranged to actuate an alarm apparatus.

I claim—

1. The multiple-pointed index for time-indicators, having one of the points moving together made separate, so that it may be changed and set to show any local time without interfering with the regular indications of the remainder of the points, substantially as set forth.

2. The disks C, with radiating indices and perforated centers, substantially as set forth.

SAMUEL JACOB WALLACE.

Witnesses:

W. J. COCHRAN,
A. HOLLAND.