L. THURSTON.
Sun-Dial.

No. 213,009. Patented Mar. 4, 1879.

FIG. 1.

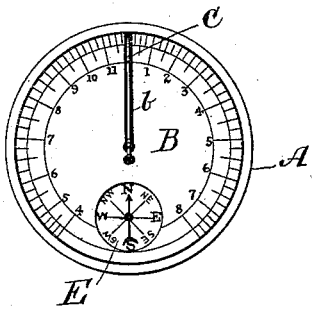


FIG. 2.

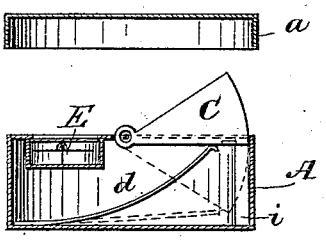


FIG. 3.

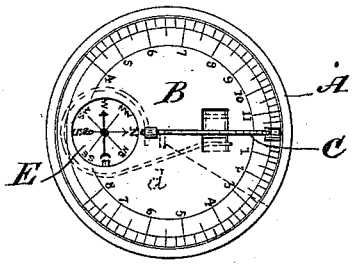


FIG. 5.

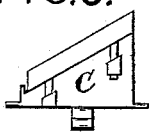
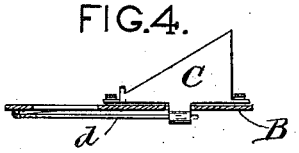


FIG. 4.



Witnesses
Henry Woodward.
John A. Stockman.

Inventor
Lycurgus Thurston
by L. Deane
Attorney.

UNITED STATES PATENT OFFICE.

LYCURGUS THURSTON, OF FINDLAY, OHIO, ASSIGNOR OF ONE-HALF HIS RIGHT TO J. VANDENBURG, OF SAME PLACE.

IMPROVEMENT IN SUN-DIALS.

Specification forming part of Letters Patent No. **213,009**, dated March 4, 1879; application filed January 27, 1879.

To all whom it may concern:

Be it known that I, LYCURGUS THURSTON, of Findlay, in the county of Hancock and State of Ohio, have invented certain new and useful Improvements in Pocket Sun-Dials or Solarscopes, of which the following is a specification:

Figure 1 is a plan view, showing the dial and compass combined. Fig. 2 is a central vertical section of the same device. Fig. 3 is a plan view, showing modification of construction. Fig. 4 is a detail in section of device as shown in Fig. 3. Fig. 5 is a detail showing a hinged and extensible gnomon.

The purpose of the present invention is to provide such improvements in pocket-dials or solarscopes as will enable the same to be put into the most compact form; and the novelty consists more particularly in a box having on its upper face the dial, with a hinged gnomon, which will be depressed by and held down when the box-cover is placed over the face of the dial, and, when the cover is removed, be returned to its erect position by means of a spring concealed within the box, all as will now be more fully and clearly set out and explained.

In the accompanying drawings, A denotes the box, in the upper part of which is placed the dial-face B, marked with numerals and signs, as is usual in dials, to indicate hour and minute points. C is the gnomon, hinged on or to the dial-face. It may be so hinged that it shall have a vertical movement in the slot *b* in the dial-face, as now shown in Fig. 1.

In this construction the gnomon will, when the box-cover *a* is taken off, be forced up into its position for use by the spring *d*, fixed inside the box; and when the cover is put upon the box, it will force down the gnomon, so that its upper end or point will be quite even with the dial-face. It may be well to provide guides *i* on the inside of the box for the gnomon to move in. Such construction might insure more certainty in movement of the gnomon.

While I have above shown in one way how the gnomon may be operated by a spring, it is very evident that in mere detail of construction this idea can be changed in many ways—as, for instance, in the manner shown in Figs. 3 and 4, where, instead of sliding vertically in a slot, the gnomon is adapted to be folded down flat upon the face of the dial when the box-cover is applied, but will, when the cover is off, be held vertically erect by the action of the spring on its arm.

For convenience in adjusting the dial for use, a compass, E, is also set in the dial-face. The compass can, of course, be used independently of the other parts when simply needed as a compass.

If desired, the gnomon may be made extensible, as indicated in Fig. 5, so as to give it any suitable degree of height.

As thus made, the solarscope can be put into a small, compact, and neat package when the cover is placed over the box, and in this shape can be readily carried in the pocket. The construction of the device is very simple, and requires but small cost.

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

1. In a sun-dial or solarscope, the combination of a hinged gnomon with a spring, substantially as and for the purposes set forth.

2. In a sun-dial or solarscope, the box A, having cover *a*, face B, suitably marked with hour and minute points, spring *d*, and hinged gnomon C, the whole constructed and combined substantially as shown and described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

LYCURGUS THURSTON.

Witnesses:
EPAPHRODITUS SNYDER,
PETER PIFER.