No. 849,683.

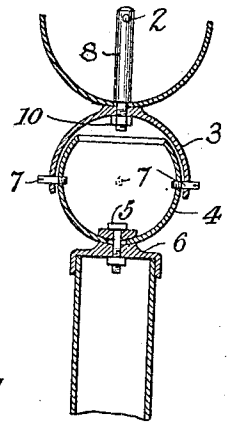
PATENTED APR. 9, 1907.

E. G. HEWITT.

SUN DIAL.

APPLICATION FILED OCT. 18, 1905.

Fig. 1



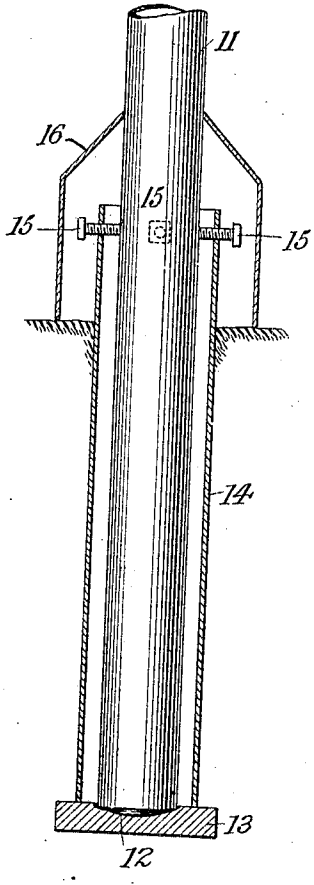


Fig. 2

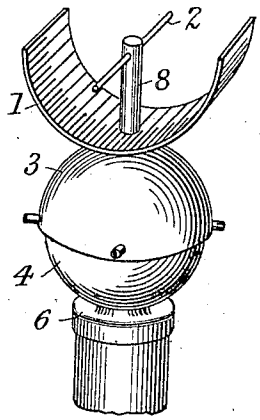
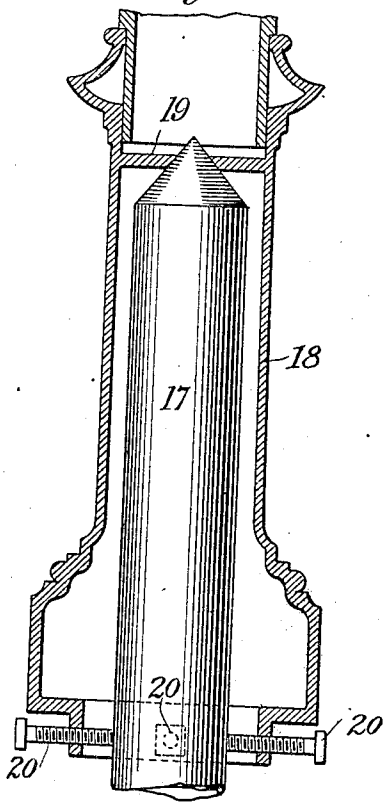


Fig. 3



Witnesses
Raphael Netter
L. L. Dunham.

Edward G. Hewitt Inventor
By his Attorneys
Kerr, Page & Cooper.

THE NORRIS PETERS CO., WASHINGTON, D. C

UNITED STATES PATENT OFFICE.

EDWARD G. HEWITT, OF NEW YORK, N. Y.

SUN-DIAL.

No. 849,683. Specification of Letters Patent. Patented April 9, 1907.

Application filed October 18, 1905. Serial No. 283,238.

To all whom it may concern:

Be it known that I, EDWARD G. HEWITT, a citizen of the United States, residing at New York, in the county of Kings and State of New York, have invented certain new and useful Improvements in Sun-Dials, of which the following is a specification, reference being had to the drawings accompanying and forming part of the same.

My invention relates to sun-dials, and has for its chief object to provide a device of this kind which shall be simple in construction and efficient in operation and withal of pleasing appearance.

In carrying out my present invention it is intended that the instrument should be constructed with reference to the particular latitude in which it is to be set up—that is to say, that its gnomon be inclined to the horizontal at approximately the angle of the earth's axis to the horizon at the particular latitude. As it is impracticable to make this angle more than approximately accurate at the factory, provision is made for adjusting the device within a reasonable range after it is set in place so that its readings will possess the desired degree of accuracy, at least so far as concerns the parallelism of its gnomon with the earth's axis.

In the annexed drawings I have illustrated two slightly-different embodiments of the invention.

Figure 1 is a vertical section of the preferred form. Fig. 2 is a perspective view of the "dial" with the parts which support the same on its pillar. Fig. 3 is a vertical section of another form.

The shadow-receiving device which I prefer to employ consists of an arc-shaped member 1, and at the axis thereof is supported a rod 2, constituting the gnomon. The arc-shaped dial 1 is mounted on a hollow hemispherical member 3, which is in turn supported by the spherical member 4. The latter may be a complete sphere or may be open at the top, as shown, for readier access to its interior to adjust the bolt 5, which secures it to the cap 6. The upper member 3 fits loosely enough on the lower sphere 4 to permit adjustment of the former in the manner of a ball-and-socket joint. The upper member is so adjusted that the gnomon 2—that is, the axis of the arc-shaped dial member 1—is inclined to the horizontal plane represented by the cap 6 at an angle approximately that of the latitude of the locality in which the instrument is to be set up, after which the two are secured together by screws 7, three or more in number, passing through holes properly located. The standard 8, which carries the gnomon, may be provided with a reduced part or bolt 9, passing through the dial 2 and hemisphere 3 to secure the three together through the instrumentality of a nut 10.

The cap 6 is mounted in the top of a column 11, preferably a pipe of suitable size, which extends into the ground a few feet and rests in a socket 12 in a base-block 13. Surrounding the pipe and spaced a slight distance therefrom is a casing 14, forming a well in which the column or pipe is supported. Near the top of the casing are three or more screw-bolts 15, extending through the same and bearing on the pipe, as shown. To give a more ornamental finish to the whole, as well as to protect the well and adjacent parts, a cover 16 of more or less cylindrical form with a conical top is provided. It is capable of being raised on the column to expose the screws for the purpose of adjustment, &c.

When the instrument is received at the place where it is to be used, the base-block and casing are sunk in the ground, and the column 11 is then set in place. If upon examination it is found that the gnomon when arranged in the meridian with the upper end pointing toward the pole is not as nearly parallel with the earth's axis as is desired, the screws 15 are turned in or out, as may be necessary, thus rocking the pedestal 11 on the base 13 and causing a corresponding change in the position of the gnomon. When the proper adjustment is obtained, the cap or cover 16 is lowered, concealing the screws and protecting them, as well as the mouth of the casing 14. If the adjustment which may be obtained by shifting the pedestal is not sufficient to give the desired degree of accuracy, the upper hemisphere 3 may be removed and the lower member 4 shifted on its support, such movement being permitted by reason of the size of the opening through which the bolt 5 passes. After replacing the upper member the screws 15 may be manipulated, if necessary, to secure the final adjustment.

In the form shown in Fig. 3 the column 17 is immovable. The dial (not shown) is car-

ried by a hollow pedestal or casing 18, provided with a horizontal plate 19, having an opening serving as a socket to receive the conical or otherwise suitably-formed top of the column, as shown. At the base of the pedestal are three or more screws 20, bearing on the column. It will be evident that if the screws be turned in or out the pedestal will be shifted correspondingly about the upper end of the column as a center. In this way the desired adjustment of the instrument is obtained.

It will be observed that the instrument may be adjusted at any time as often as desirable, so that any slight changes in the position of the column produced by moisture in the ground, heat, or cold, &c., may be readily corrected.

The forms herein shown are those which I prefer; but it is evident that the invention is capable of other embodiments; nor is the particular type of dial essential to the generic invention or the particular devices shown for connecting it with the pedestal or support.

What I claim is—

1. The combination with a sun-dial, of a vertical column, a casing surrounding the column, means for relative adjustment between said column and casing, a cap on the column, a hollow spherical body on the column and connected thereto by a bolt passing through the cap and body, a hemispherical support for the sun-dial adjustably mounted on said body and inclosing the same, and means for securing said body and support together in adjusted position.

2. The combination with a sun-dial, of a support a spherical body rigidly connected thereto, a hollow, hemispherical support for the dial adjustably mounted on the said body and inclosing the same, and means for securing said body and support together in adjustable position.

EDWARD G. HEWITT.

Witnesses:
S. S. DUNHAM,
A. E. MAHAN.