(Model.) 2 Sheets—Sheet 1.

C. F. DIETZ.

TIME PIECE DIAL.

No. 328,112. Patented Oct. 13, 1885.

Fig. 1.

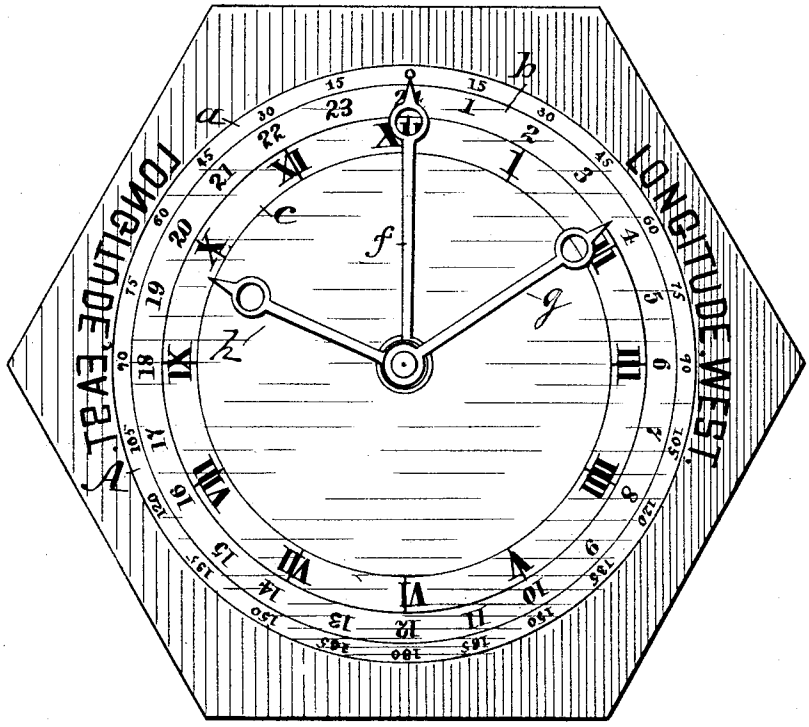
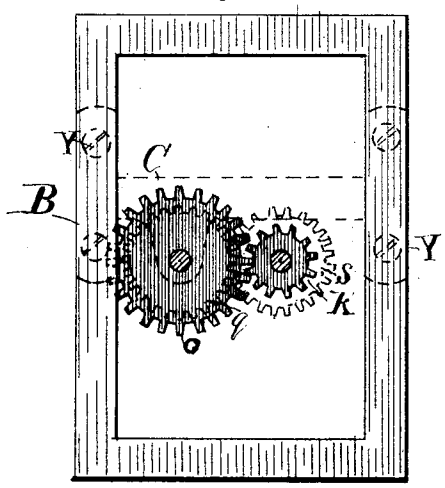


Fig. 4.



WITNESSES

W. S. Odell

C. P. Crandall

INVENTOR

Christophe F. Dietz

By Daniel Breed *Attorney*

N. PETERS. Photo-Lithographer. Washington, D. C.

(Model.) 2 Sheets—Sheet 2.

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Fig. 2.

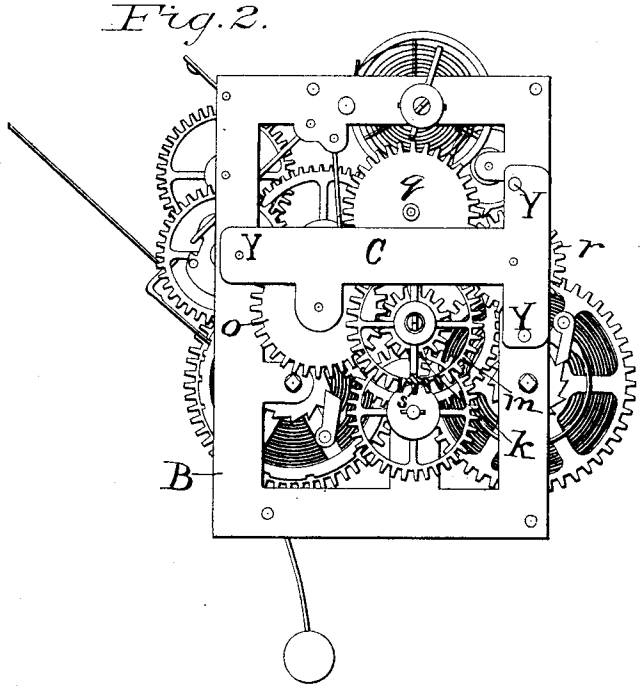
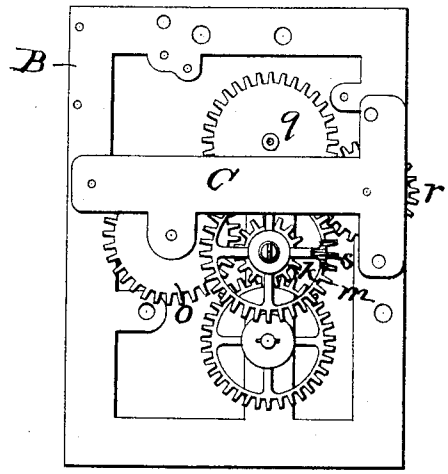


Fig. 3.



Witnesses:
Gottfried Dietz.
George L. Edel

Inventor:
Christoph F. Dietz

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

CHRIESTOPH FRIEDERICK DIETZ, OF NEW ORLEANS, LOUISIANA.

TIME-PIECE DIAL.

SPECIFICATION forming part of Letters Patent No. 328,112, dated October 13, 1885.

Application filed January 22, 1885. Serial No. 153,675. (Model.)

To all whom it may concern:

Be it known that I, C. F. DIETZ, residing at New Orleans, Louisiana, have invented an Improvement in Universal Time-Pieces, of which the following is a specification.

The invention relates to a novel attachment suitable for connection to a time-piece and designed to enable the time-piece to be set to the proper time on any circle of longitude, (meridian,) as hereinafter explained, and pointed out in the claim appended.

In the drawings, Figure 1 represents a front view of the face of a clock to which the attachment is connected. Fig. 2 is a view showing the train of an ordinary clock and the train of the invented attachment connected therewith. Fig. 3 is one form of train that will actuate the attachment, and Fig. 4 shows a simpler train for the same purpose.

Referring to the accompanying drawings by letter, A designates a dial (Fig. 1,) having three hands, each secured to and turning on separate arbors. The hand marked *g* is the ordinary minute-hand, and makes a complete revolution once in every hour. The hand marked *h* is the ordinary hour-hand, and makes two revolutions in twenty-four hours. The hand marked *f* makes one revolution in twenty-four hours, being so geared to the hand *h* as to permit this.

The dial-plate has adjacent to its periphery three circles or numbers. The interior one, *c*, of which is marked with the twelve Roman numerals in the ordinary manner. The adjacent circle of numbers, *b*, is marked with twenty-four equal parts, the twenty-four-hour mark corresponding with the twelve-hour mark on the interior circle. The outermost circle, *a*, is marked with three hundred and sixty degrees. The zero-mark of these degrees is at the top of the dial and corresponds with the twenty-four and the twelve-hour marks on the interior circles. The marks or graduations run down on each side from zero to the mark of one hundred and eighty, which is at the lowest point of the dial-plate. The marks on the outer circle, *a*, are to indicate degrees of longitude.

In Fig. 3 the rectangular frame B of an ordinary clock-train is shown, and connected therewith is a frame, C, to support the attachment. The outer plate of the latter frame is T-shaped and is screwed down on the clock-frame at the points Y Y.

The gear-wheel *m* is that wheel of the clock-train that is connected with and turns the shaft that carries the hand *h*, making two revolutions in twenty-four hours. *k* is a wheel secured on the shaft of the wheel *m* and revolving in the same time.

o is a gear-wheel secured on an arbor turning in bearings in the auxiliary T-shaped frame. The wheel *o* has twice the number of teeth as the wheel *k*, and gears therewith, so that it makes one revolution to two of the wheel *k*.

The wheels *q* and *r* are intermediate gears, turning on arbors having proper bearings in the frame of the clock-train or in the auxiliary frame. These wheels connect the gear-wheel *k* and the gear-wheel *s*, which is secured to a sleeve turning loosely on the arbor of the gear-wheel *m*, and makes one revolution to two of the said wheel, being of equal size to the gear-wheel *o*. The gear-wheel *s* is secured to the arbor that carries the hand *f*, so that the latter revolves once in twenty-four hours. As the hands are connected by a regular train of wheels the moving of any one gives the others movement in their proportionate degrees.

From the foregoing description it is evident that if the clock is set at Greenwich to Greenwich time the time of day at any longitude east or west from Greenwich can be shown by moving the hand *f* to that point of longitude west or east from zero, the east longitude being to the right or with the motion of the hand, and the west longitude to the left or in reverse to said motion.

If a person should move to a place of different longitude the clock can be set in the indicated manner to show the proper time. The latitude has no bearing on the case, as all points on the same meridian have the same time.

Having described my invention I claim—

In a universal time-piece, the combination of the dial A, marked with the longitude-circle *a*, the degrees of which run from 0 to 180

on each side, the circle *b*, having twenty-four equal divisions, and the circle *c*, having twelve equal divisions marked with the Roman numerals, the zero-points of which circles all correspond with the hand *f*, making one revolution in one day, the hand *h*, making two revolutions in one day, and the hand *g*, making one revolution in each hour, substantially as specified.

CHRISTOPH FRIEDERICK DIETZ.

Witnesses:
GOTTFRIED BETZ,
GEORGES L. SEL.