(No Model.)

O. H. WOODWORTH.

CLOCK ALARM.

No. 260,514. Patented July 4, 1882.

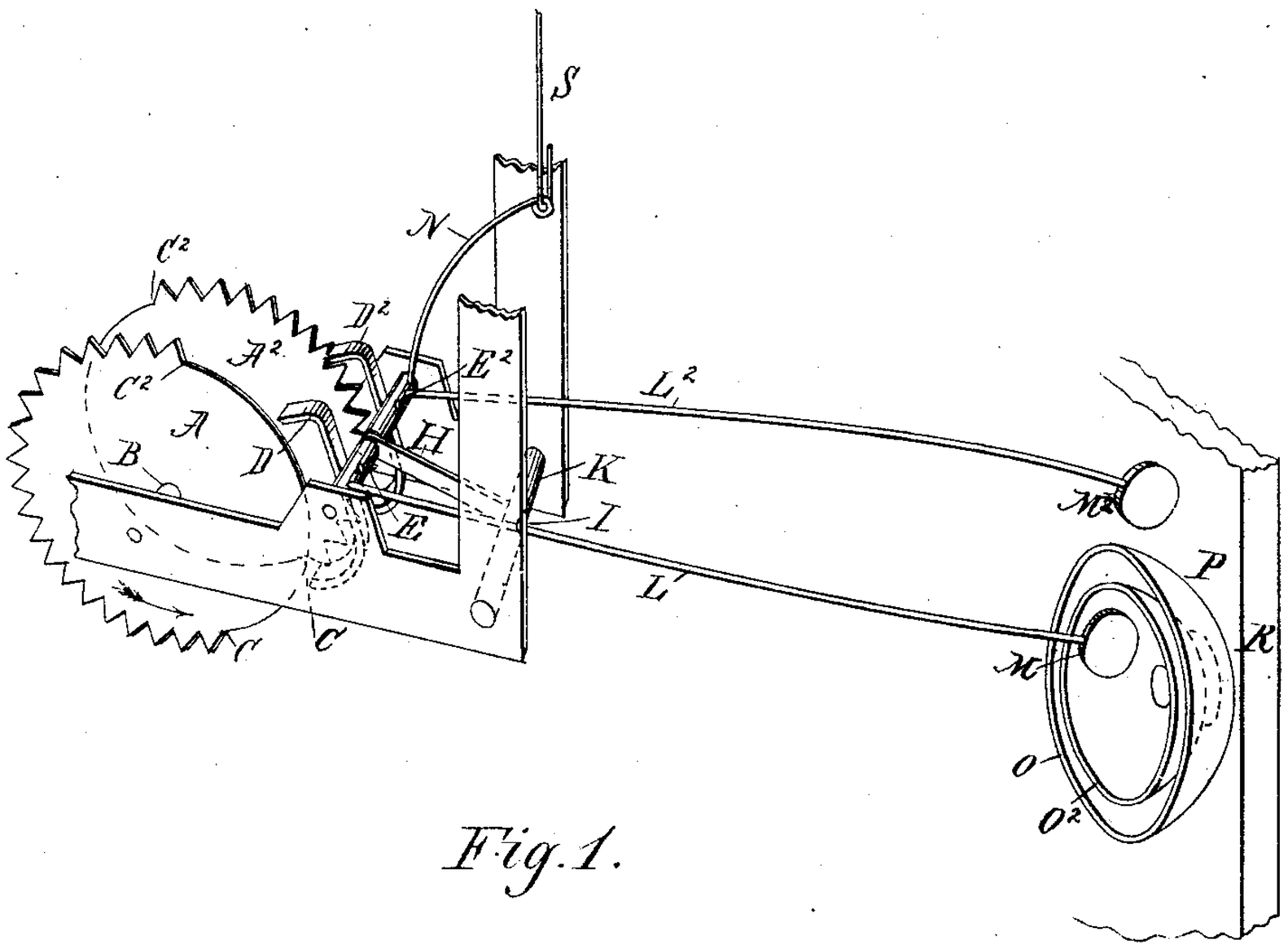
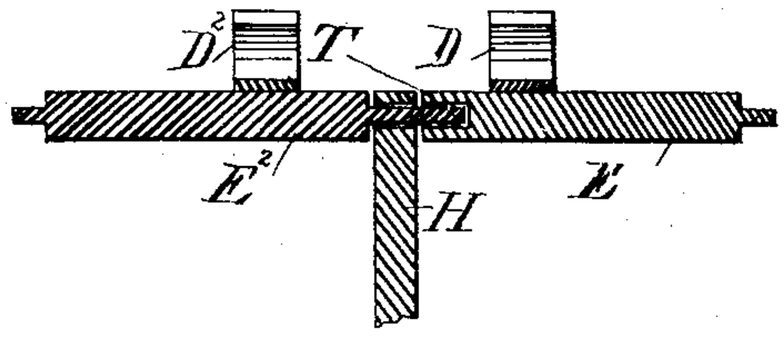


Fig. 1.

Fig. 2.



Witnesses.

Wm. H. Magley.

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UNITED STATES PATENT OFFICE.

ORSON H. WOODWORTH, OF COLUMBIA CITY, INDIANA.

CLOCK-ALARM.

SPECIFICATION forming part of Letters Patent No. 260,514, dated July 4, 1882.

Application filed March 20, 1882. (No model.)

To all whom it may concern:

Be it known that I, ORSON H. WOODWORTH, a citizen of the United States, residing at Columbia City, in the county of Whitley and State of Indiana, have invented a new and useful Improvement in Clock-Alarms, of which the following is a specification.

My invention relates to improvements in clock-alarms, whereby they are rendered more effective in their operation, and consequently more valuable as attachments to clocks; and the objects of my improvements are, first, to produce a double alarm; second, to produce an intermitting alarm, and third, to produce a discordant alarm by the use of two or more bells of different tones. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a general view of my invention with some adjacent parts; and Fig. 2 is a sectional view of the double-alarm compound shaft, showing the mechanism and action of the same.

Similar letters refer to similar parts in both views.

The alarm-spring, driving-wheels, ratchet, click, upper and lower plates, pinions, posts, and other portions are mostly omitted in the drawings, as not forming essential features of my invention.

A and A^2, Fig. 1, represent two similar alarm escapement-wheels, both firmly affixed to escapement-shaft B, as shown. Each of these wheels is devoid of escapement-teeth nearly one-half of its circumference, as from C to C^2 on each wheel.

To correspond with the two wheels two verges, D and D^2, are firmly fastened to the shafts E and E^2, respectively, in the ordinary manner. These two shafts are supported at their outer ends by the upper and lower plates of the alarm, in the usual manner, but at their inner ends they are held in position by support H, in connection with pivot T, which extends freely through shaft E, as shown in Fig. 2.

Support H is riveted to one of the posts K of the alarm, as shown at I. This support is made strong and stiff, and is firmly affixed to the post. The extension of pivot T through the support and into the end of shaft E is for the purpose of economizing space, so as to bring the two verges as nearly together as practicable. This pivot fits snugly in the support, as well as in the inner end of shaft E, and yet it fits loosely enough to turn freely in the support H, as well as to permit a free movement of shaft E on its inner end, as shown.

To the shafts E and E^2 are fastened the ordinary hammer-arms, L and L^2, carrying alarm-hammers M and M^2, one or both shafts being also provided with alarm drop-levers, N, which are applied in the usual manner, and connect with the clock-movement by wire S.

Two alarm-bells, O and O^2, are provided, the smaller, O, being placed in the larger, O^2, but not touching the same, the two being separated by washer P, and firmly attached to back or side of clock-frame R by means of the screw, as illustrated. The bells are the ordinary metal alarm-bells, and are of two different sizes and tones.

Operation: The alarm escapement-wheels A and A^2 being propelled in the direction of the arrow by the revolution of escapement-shaft B, it is evident that as the toothed portion of escapement-wheel A^2 comes in contact with verge D^2 it imparts motion to the same, and through it to its shaft E^2, hammer-arm L^2, and hammer M^2, thus producing an alarm on bell O^2 by hammer M^2, which alarm ceases when the toothless portion of wheel A^2 reaches verge D^2; but by the time this latter event occurs the toothed portion of wheel A reaches verge D, and, through its shaft E, hammer-arm L, and hammer M, produces an alarm on bell O, which latter alarm ceases when the toothless portion of wheel A reaches verge D. Thus a very effective and unusual alarm is produced—a double alarm, intermittent and alternating, first on one bell and then on the other, and then on both bells together.

This clock-alarm need not necessarily occupy any more space than those now in ordinary use, and the cost of its construction is but a few cents greater, while in its effectiveness as an alarm it is far superior to those of the ordinary pattern.

I claim as my invention—

The escapement-wheels A and A^2, having their teeth cut away on a portion of their peripheries, in combination with verges D and D^2, shafts E and E^2, support H, and pivot T, substantially as described and set forth.

ORSON H. WOODWORTH.

Witnesses:
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