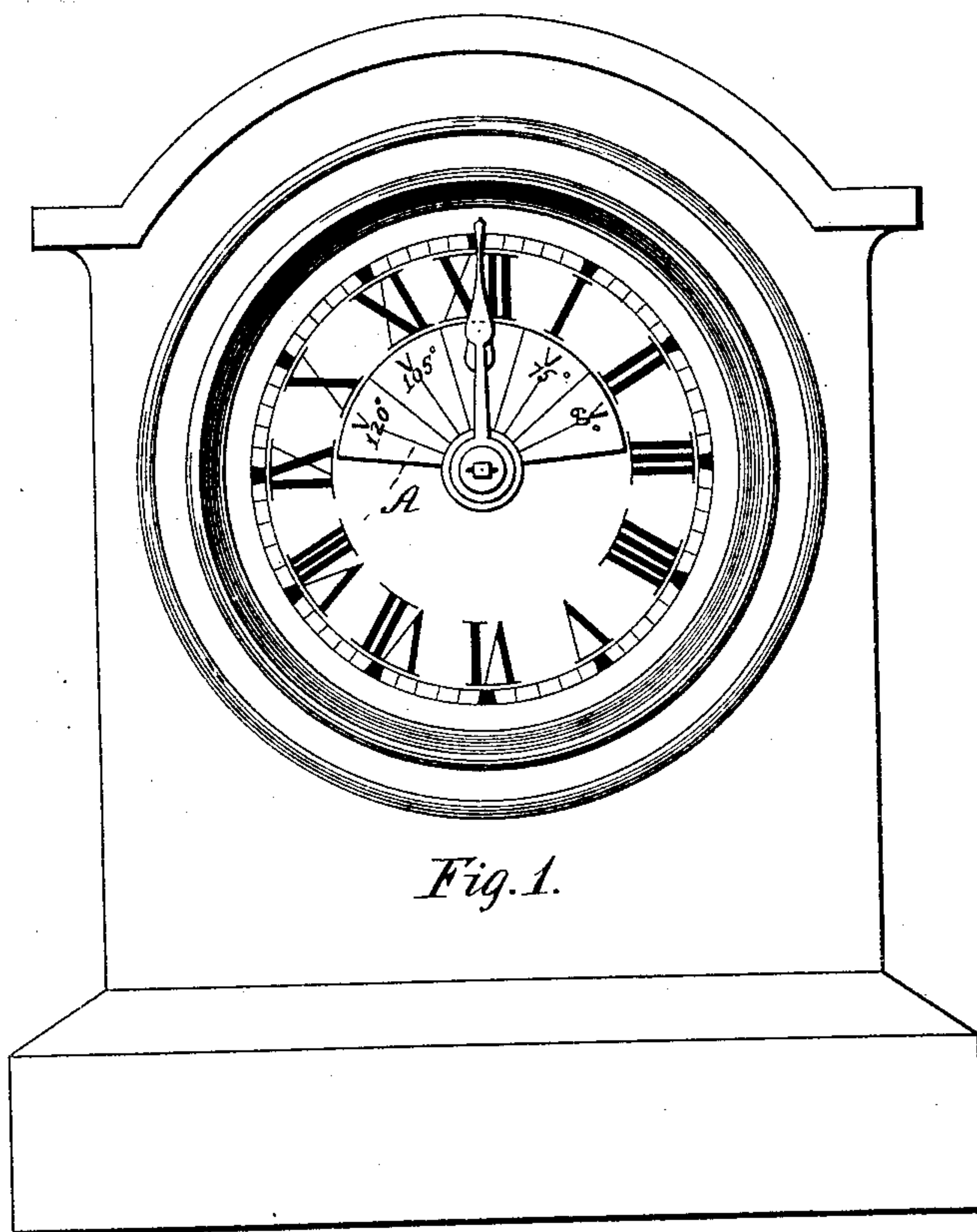


(No Model.)

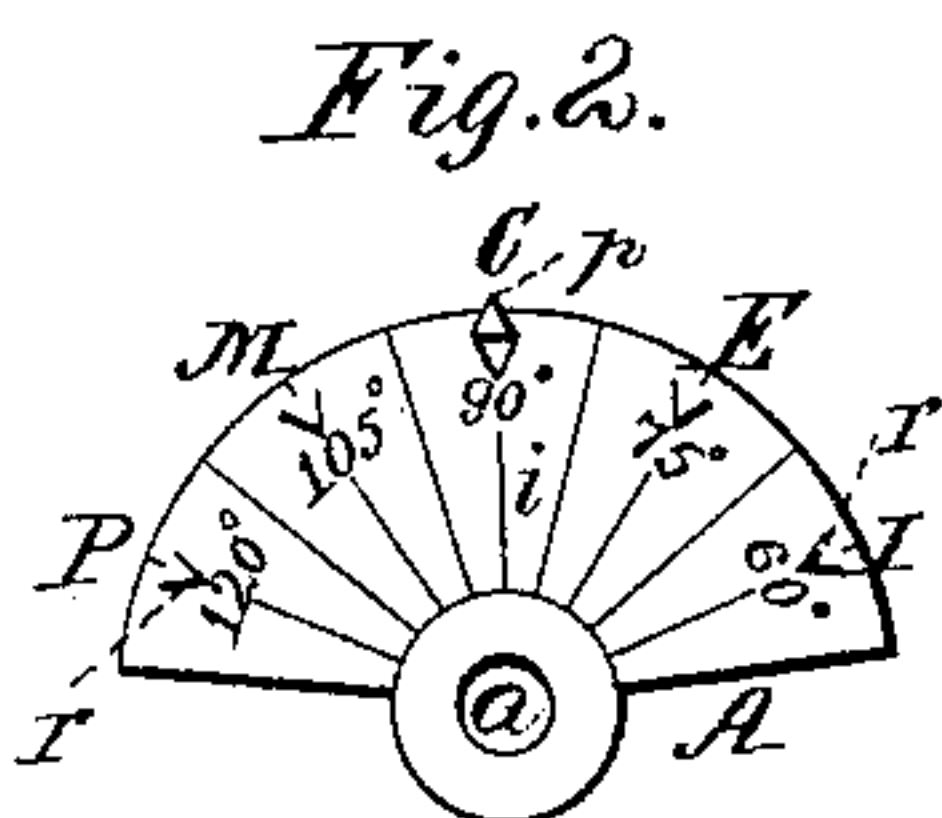
J. STERN.  
TIME PIECE DIAL.

No. 319,035.

Patented June 2, 1885.



*Fig. 1.*



*Fig. 2.*

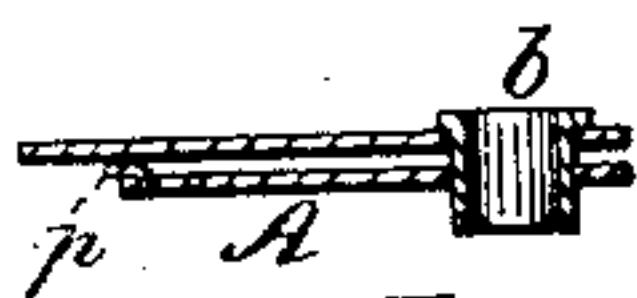


Fig. 4.

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# UNITED STATES PATENT OFFICE.

JONATHAN STERN, OF SAVANNAH, GEORGIA.

## TIME-PIECE DIAL.

SPECIFICATION forming part of Letters Patent No. 319,035, dated June 2, 1885.

Application filed December 20, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, JONATHAN STERN, of Savannah, in the county of Chatham and State of Georgia, have invented a certain new and Improved Attachment for Watches and Clocks; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, and to the figures and letters of reference marked thereon.

Since what is known as the "standard" time has been generally adopted, it frequently becomes important for a person located in one of the time belts or districts to be able to ascertain with facility exactly what time it is at a given moment in either of the other time belts or districts; and it is therefore the object of my present invention to provide a simple contrivance adapted to be applied to an ordinary watch or clock, and which will indicate to the person inspecting the watch or clock the exact time in each of the several remote time belts or districts, as well as that of the belt or district in which the person happens to be at the time.

My invention will be best understood from the following description, taken in connection with the accompanying drawings.

Figure 1 of said drawings indicates a plan view of a clock provided with my improved attachment; Fig. 2, a plan view of the attachment removed; Fig. 3, a sectional view showing the manner of applying the attachment to the arbor of a clock-hand, and Fig. 4 a view of a modification.

Similar letters of reference in the several figures denote the same parts.

The attachment which forms the subject of my invention consists of a sector-shaped plate, A, having a perforation, *a*, for receiving the arbor *b* of the hour-hand, and divided into five sections or parts, lettered in the drawings I, E, C, M, and P, respectively, and corresponding to the time of the sixtieth, seventy-fifth, ninetieth, one hundred and fifth, and one hundred and twentieth meridians, which obtain in what are known as the "Intercolonial," "Eastern," "Central," "Mountain," and "Pacific" belts or districts of the stand-

ard system. This sector-shaped plate may be made of paper, thin metal, or other light material having sufficient stiffness, and its sections may be marked with letters or characters corresponding to the different time-belts, or with the conventional colors employed for designating said time-belts, or provided with either or all of these means of designation. By preference, also, I provide a line of indication (lettered in the drawings *i*) in each of the sections or divisions for the purpose of indicating the center of the belt or district covered by the time of the particular meridian of which that section is the exponent.

The plate, constructed as described, is applied to the arbor of the hour-hand in the manner shown in Fig. 3, its outer periphery coming within the numbers on the face of the time-piece, so as not to obscure them.

To set the attachment, it is placed so that the hour-hand of the time-piece will lie centrally of the section or division on the plate which indicates the time-belt of the place where the time-piece is located. Then as the time-piece is performing its ordinary accustomed duties in measuring the time of that particular place, the plate attachment traveling with its hour-hand gives the time in any of the other time-belts. For instance, if the time-piece is in Savannah, Georgia, and is to be set to the standard time of that place, which is that of the central or ninetieth meridian division, the hour-hand will be placed on the central line passing through the ninetieth meridian on the plate. Then when it is twelve o'clock in Savannah we will find by referring to the location of the sections on the card and the corresponding hour-indications on the dial that it is ten o'clock in the one hundred and twentieth meridian division, eleven o'clock in the one hundred and fifth, one o'clock in the seventy-fifth, and two o'clock in the sixtieth meridian division. So, too, we find that when it is ten minutes past twelve in Savannah it is just ten minutes later in the other divisions, the difference in time in each successive division being just one hour from that of its predecessor. By thus adjusting the indicating-plate to the standard time at any



particular division the time in the other divisions will be automatically indicated, and can be instantly ascertained by examining the face of the time-piece. It therefore follows  
5 that if we know in what time-belt a given place is we can tell with precision the difference between the standard time of that place and the standard time of any other place, and make our calculations accordingly.  
10 I propose to make the indicator-plates of various sizes, to suit any watch or clock of conventional gage, and furnish them to the trade, so that any person can have one adjusted to his watch, or can adjust one himself without  
15 trouble. I also propose to, in some cases, provide each plate with an indicator or pointer—such as *p* in Fig. 2—arranged in one or the other spaces of the plate, for the purpose of serving as a guide for setting the attachment to the time of the particular meridian or  
20 time-district, or to cut or stamp out a tongue in each space, as represented by *r* in said Fig. 2, any one of which tongues can be turned up and outward, as desired. When the pointer or turned-out tongue is employed, the hour-  
25 hand of the time-piece might be entirely dispensed with and the plate mounted upon an ordinary arbor corresponding to the arbor of the hand.  
30 The great advantage of my invention lies in the fact, however, that it can be attached

to any ordinary watch or clock by an ordinarily skillful person without in any way injuring or defacing the time-piece or interfering materially with its correctness as a time-keeper. 35

The invention is applicable as well to clocks and watches that are not themselves automatic time-keepers, indicating in connection with such devices the comparative times of different time-belts in the same manner. 40

A modification of the invention is shown in Fig. 4, consisting of a curved plate designed to be marked off after the manner of plate A in the other figures, and capable of being connected to the hour-hand of any ordinary clock or watch by means of little upturned lugs or clips *ss*, arranged in pairs, as shown, one pair for each time-division. 45

Having thus described my invention, I claim as new— 50

The time-indicating plate divided into the divisions of standard time, and having in each of the divisions a tongue which can be turned outward to serve as a pointer, and having also an opening for the accommodation of the hour-shaft of a time-piece, substantially as described. 55

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