W. G. VIALL.

TIME RECKONING DEVICE.

APPLICATION FILED JAN. 17, 1914.

1,153,469.

Patented Sept. 14, 1915.

2 SHEETS—SHEET 1.

Fig. 1.

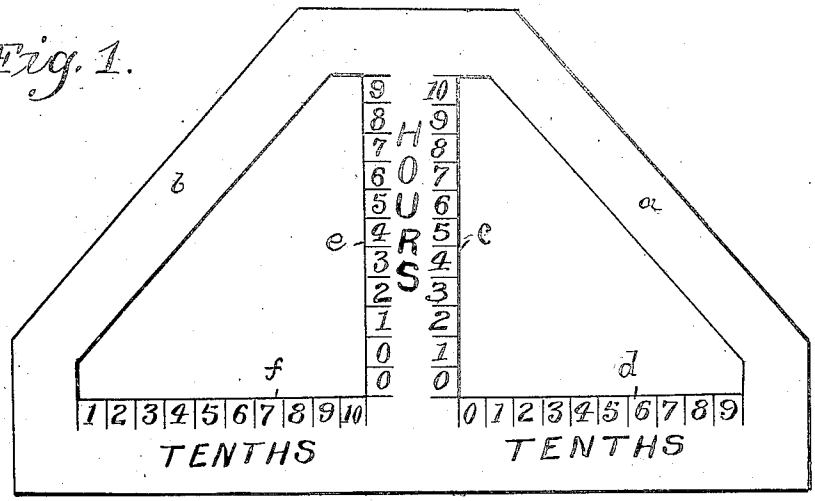


Fig. 2.

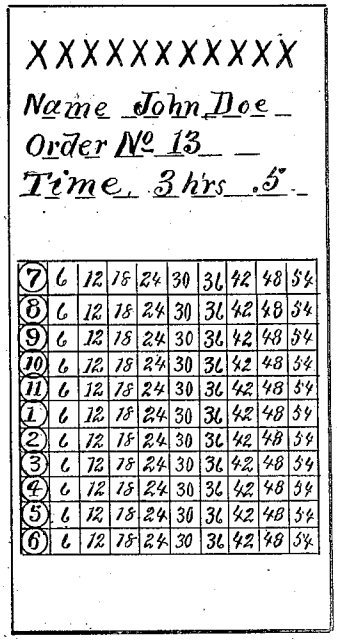


Fig. 3.

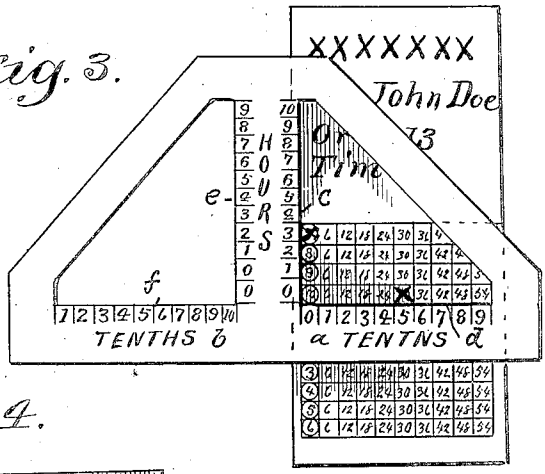
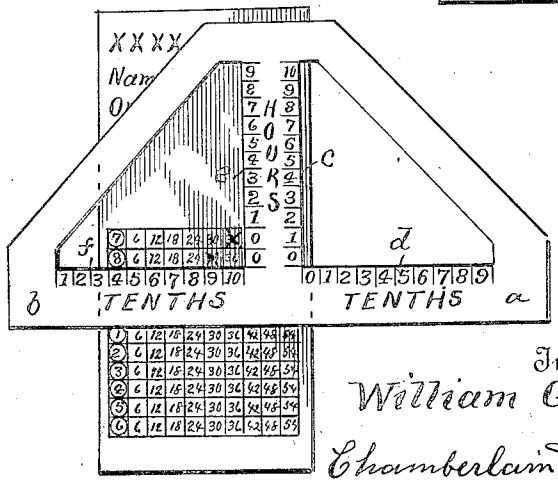


Fig. 4.



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2 SHEETS—SHEET 2.

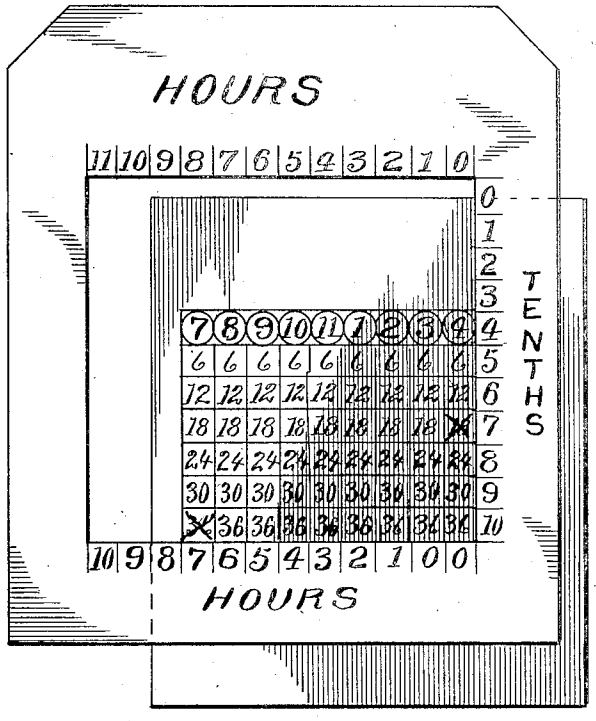
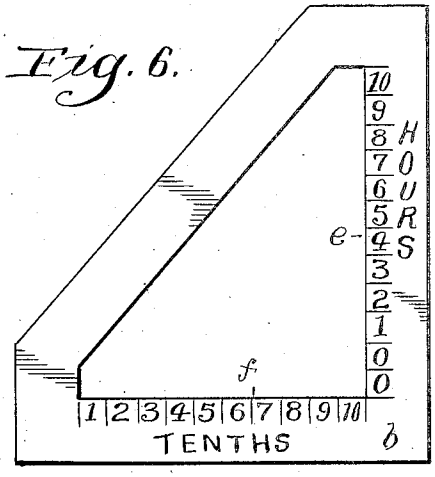


Fig. 5.

Fig. 6.



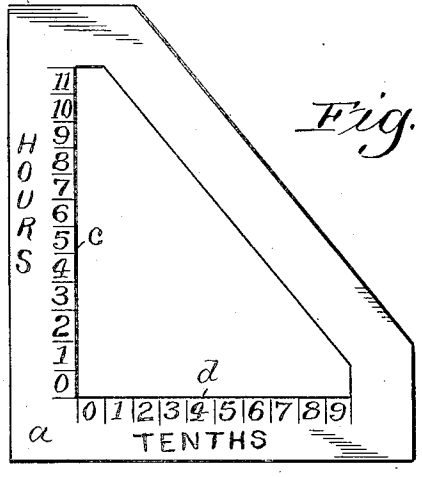


Fig. 7.

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UNITED STATES PATENT OFFICE.

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TIME-RECKONING DEVICE.

1,153,469. Specification of Letters Patent. Patented Sept. 14, 1915.

Application filed January 17, 1914. Serial No. 812,672.

To all whom it may concern:

Be it known that I, WILLIAM G. VIALL, citizen of the United States, and resident of Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Time-Reckoning Devices, of which the following is a specification.

This invention relates to time reckoning devices or in other words means for reading time cards such as are employed in factories and business places and for quickly computing labor cost findings and is commercially known as the Past-I-Meter system.

The object of the invention is to provide a simple and efficient device which may be used to advantage in connection with a simple, though specific form of time cards and whereby the time required by an accountant, may be shortened, in reckoning the findings of the time as indicated upon the cards, and whereby accuracy of said computations will be assured.

As will be apparent from the accompanying illustrations my invention may be carried out in several forms of devices without deviating from the essential features thereof and in order that the importance and value of the invention may be better understood I have shown it upon the accompanying drawings both separately and in connection with time cards such as it is designed to be used upon.

Referring to these drawings which form a part of this specification it will be noted that similar characters of reference are employed to indicate like parts throughout the several figures, and of which—

Figure 1 shows a top plan view of one form of my improved time reckoning device. Fig. 2 is a similar plan view of a time card such as my time reckoning device is designed to be used upon. Fig. 3 shows a front plan view of my improved device as placed upon a time card such as is shown in Fig. 2 and illustrating one application and use of the invention. Fig. 4 is a somewhat similar plan view of the same form of device as applied to a similar card, though in a different position and as used to reckon a different interval of time. Fig. 5 shows a slightly different manner of carrying out the features of my invention and applying it to a slightly different form of card, and, Figs. 6 and 7 show opposite side elevations of a further modified form of invention as will later be more specifically described.

I will first endeavor to explain the time cards as adapted by me for use in connection with my improved reckoning device and which are shown in Figs. 1, 2 and 5 so as to afford a better understanding of the purpose of the invention. While the general heading and reference information to be printed on these cards may vary to suit the different factory conditions, yet the principle involved in the arrangement of the numbers would be substantially alike and as shown upon the drawings. As will be seen these cards include several series of numbers as contained within circles and squares formed by a series of vertical and horizontal lines. The series of circles arranged along the edges of the card are to accommodate a series of numerals that are intended to represent the number of hours of labor in a day. These numerals as will be noted begin at the one end with the numeral 7 and include other numerals 8, 9, 10, 11, 1, 2, 3, 4, 5 and 6 thus providing for the reckoning of ten hours time and fractions thereof. The other square spaces arranged opposite to these hour numbers contain other numerals which represent fractions of the hours and are in the form of series and are read crosswise or away from the hour number. Each of the eleven series are alike and include nine numerals that indicate tenths of an hour. As will be seen each series begins with the numeral 6 and next comes 12, then 18, &c. 6 for instance represents one tenth of an hour, while 12 represents two tenths, 18 three tenths, &c. This form of reckoning the tenths of the hours is provided for each hour number 8, 9, 10, &c. More or less of these spaces may be used and thus can be divided into other fractions. The custom in factories is to provide each workman with a card of this kind, or if desired several cards one for each job or piece of work that he may be at. These cards are punched or marked by the foreman according to the time that the workman starts and finishes the piece of work or in other case his hours of labor for the day irrespective of what he has been doing. As for instance if he starts in at 7 in the morning and quits at 10.30 the hour number 7 is punched and likewise the number 30 in the tenths line. This obviously

means that the workman has put in three hours and 5/10. The cards are collected from time to time and taken into the main office where the accountant reckons the time as punched or indicated upon them. My improved reckoning device is brought into use by the accountant in quickly reckoning the time as indicated upon these cards and the method of using the same will next be described in connection with the illustrations.

Several forms of my device are shown in the several figures of the drawings, but all include the same essential features and thus clearly come within the scope of the invention. In practice these devices are preferably made of celluloid, but can be made of high grade card board or sheet metal or in fact any thin material and upon the face of which series of suitable spaced lines and reference characters may be printed. The device includes two graduated face portions *a* and *b* each of which has two inner edge portions *c* and *d* and *e* and *f* that are disposed at a right angle to each other, and each of which is provided with a series of graduations adjacent to the edges. The numerals upon one edge portion *c* of the face of the scale read from 0 to 10 and upon the other edge *d* from 0 to 9, while the numerals on one edge *e* of the other face read from 00 to 9 and on another edge *f* from 1 to 10 inclusive. The numerals arranged upon the edges *e* and *c* of the square are designated as hour numerals and the series adjacent to the other edges *f* and *d* of the square are designated as tenths of an hour. As for instance in Figs. 1, 3 and 4 I have shown a reckoning device which is cut from a piece of sheet material and having two triangular openings forming two straight edges intersecting each other and formed at a right angle one from the other. Two of the said edge portions being disposed upward parallel to each other, while the other two are arranged horizontally and in line with each other. The upwardly disposed edges are provided with a series of graduations and numbers which in practice represent hours, while the numbers indicated in the graduations of the horizontal edge portions represent fractions of an hour, as for instance tenths. This form of device is especially designed to be read in connection with a card such as is shown in Figs. 2, 3 and 4 and whereon the hour numbers are arranged along the side edge portion of the card.

In Figs. 6 and 7 I have shown substantially the same arrangement of graduations and numbers, but have indicated the same on the opposite sides of a single triangular form of scale instead of making it larger and having all reference lines and numbers upon one side as shown in Fig. 1.

Two series of characters are necessary upon both forms of squares in order to properly read all the check marks which may be indicated upon the time card. One of the scales as for instance that shown at the right in Figs. 1 and 3 being employed in connection with the reckoning of lapsed time, wherein the time of beginning is the even hour. As for instance in Fig. 3 the number 7 is checked, indicating that that was the time when the man went to work according to the card. It is again checked at 10.30 which indicates the quitting time, thus making three hours and 5/10 employment according to the card. Upon the other hand, in Fig. 4 it will be noted that we are using the scales upon the left and which are also like the scale shown in Fig. 6. In Fig. 4 we have the time card checked differently. According to it the party started work at thirty-six minutes past six which means 7/10 of an hour after seven and quit at eight-thirty. This shows the quitting time to be at the left of the beginning time, and readily indicating that the amount of time worked was nine-tenths of an hour. The two scales of figures and pairs of angularly disposed edges are necessary according to my improved system in order to make a perfect reckoning device and it is immaterial whether they are made up on the same side of the instrument or if they be marked upon opposite sides. It will also be noted from Fig. 5 that we may employ with equal advantage a card wherein the hour numerals are arranged along the top edge portion of the series of numerals indicated upon the card and wherein the tenths of an hour numbers are arranged horizontal as shown upon this card. In this connection I find it also necessary to employ a reckoning device cut from thin material and having an opening therethrough as shown. This device has the hour numbers along the bottom and top edge portions, while the fractions are arranged upon the right hand edge. As set this reckoning device would indicate that the starting point of employment was that of 7.36 a. m. and the quitting time 4.18. This readily indicates seven hours and 7/10 of an hour work. In this form one series of fraction numerals may be made to serve for both hour scales.

Having thus described my invention what I claim and desire to secure by Letters Patent is:—

1. A device of the class described, formed of a piece of sheet material having a central opening therein and including two inner side straight edge portions bordering the opening and arranged at a right angle to each other, a series of graduations upon the face of each of the said edge portions and including a series of lines arranged at equal distances apart, and a series of nu-

merals marking each of the said spaces one of the said series of numbers representing whole numbers and the other series representing fractions of numbers and adapted to be read with a series of numbers as printed upon a card for the purpose of obtaining the length of an interval of time from indications on a time card.

2. A device of the class described, formed of a piece of sheet material having a central opening therein and including two inner side straight edge portions bordering the openings and of substantially equal distances and which are at a right angle to each other, a series of graduations bordering the said edge portions and including a series of lines arranged at equal distances apart and a series of numerals marking each of the said spaces one of the said series reading from 0 to 10 inclusive and adapted to be read with a series of numbers as printed upon a card, the other series of numbers reading from 1 to 10 inclusive and indicating tenths and adapted to be read in connection with a further series of numbers upon the face of the same card and designed to indicate tenths of fractions of an hour.

Signed at Bridgeport in the county of Fairfield and State of Connecticut this 16th day of January A. D., 1914.

WILLIAM G. VIALL.

Witnesses:

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RUTH M. WORDEN.