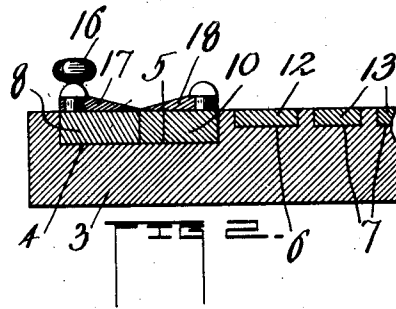


P. W. SOMMER.
 CALCULATING DEVICE.
 APPLICATION FILED MAR. 23, 1908.

944,218.

Patented Dec. 21, 1909.

FROM	TO		RATE 16	RATE 20	RATE 24	RATE 30
12.00	12.00	⊖	⊖	⊖	⊖	⊖
11.30	11.30					
11.00	11.00					
10.30	10.30					
10.00	10.00					
9.30	9.30					
9.00	9.00					
8.30	8.30					
8.00	8.00					
7.30	7.30					
7.00	7.00	9				
6.30	6.30	11	12 ²	14	14	14
6.00	6.00		12.00	1.32	2.40	2.88
5.30	5.30		11.30	1.24	2.30	2.76
5.00	5.00		11.00	1.16	2.20	2.64
4.30	4.30		10.30	1.08	2.10	2.52
4.00	4.00		10.00	1.00	2.00	2.40
3.30	3.30	16	9.30	1.52	1.90	2.28
3.00	3.00		9.00	1.44	1.80	2.16
2.30	2.30		8.30	1.36	1.70	2.04
2.00	2.00		8.00	1.28	1.60	1.92
1.30	1.30		7.30	1.20	1.50	1.80
1.00	1.00	17	7.00	1.12	1.40	1.68
11.30	11.30	18	6.30	1.04	1.30	1.56
11.00	11.00		6.00	.96	1.20	1.44
10.30	10.30	22	5.30	.88	1.10	1.32
10.00	10.00		5.00	.80	1.00	1.20
9.30	9.30	19	4.30	.72	.90	1.08
9.00	9.00		4.00	.64	.80	.96
8.30	8.30	19	3.30	.56	.70	.84
8.00	8.00		3.00	.48	.60	.72
7.30	7.30	4	2.30	.40	.50	.60
7.00	7.00		2.00	.32	.40	.48
6.30	6.30		1.30	.24	.30	.36
6.00	6.00	21	1.00	.16	.20	.24
5.30	5.30	20				
5.00	5.00					
4.30	4.30					
4.00	4.00					
3.30	3.30					
3.00	3.00					
2.30	2.30					
2.00	2.00					
1.30	1.30					
1.00	1.00					
TIME			16	20	24	30
			0	0	0	0



Witnesses
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Inventor
 Peter W. Sommer
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 Atty

UNITED STATES PATENT OFFICE.

PETER W. SOMMER, OF PEORIA, ILLINOIS.

CALCULATING DEVICE.

944,218.

Specification of Letters Patent.

Patented Dec. 21, 1909.

Application filed March 23, 1908. Serial No. 422,854.

To all whom it may concern:

Be it known that I, PETER W. SOMMER, a citizen of the United States, residing at Peoria, in the county of Peoria and State of Illinois, have invented certain new and useful Improvements in Calculating Devices; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention has reference to a calculating device for computing time spent by employees on specific work; such for instance as time consumed by employees or workmen in factories and similar industries who, during a day will be required to perform certain duties or work on different jobs in connection with different classes of work, and thereby not only will the wages earned be computed but the matter of showing the cost of production will also be thereby greatly facilitated.

A further object of the invention is a calculating device for computing elapsed time of employees and workmen in factories and similar industries, who are required to perform various duties or work on different jobs during a day; elapsed time, meaning the time spent on a certain piece of work or job, between the time of commencing and ending. The invention embodying further, means for deducting the noon hour or the time spent by an employee or workman for lunch, which is not such time as should be computed to ascertain the amount earned, particularly where such employee or workman is working and receiving his wages for work done per hour.

In the drawings, Figure 1 is a plan view of my improved calculating device, and Fig. 2 is a cross-section of so much of Fig. 1 as would appear on the line Y—Y, thereof.

3 designates a board, or what may be termed a table which may be of any suitable width and length. The width being determined by the character and number of parallel scales and the length being determined largely by the character of the time scales or charts and tabulated scales or charts, which will be further described. This board or table 3 is shown provided with a plurality of parallel and spaced longitudinal grooves 4, 5, 6 and 7. In groove 4 is carried a movable bar 8 provided with a time scale or chart 9 impressed in, embossed upon or other-

wise affixed to the top thereof. In groove 5 is carried, preferably, an immovable bar 10 provided with a time scale or chart 9. In groove 6 is carried, preferably, an immovable bar 12 provided with an elapsed time scale or chart 12^a which may be affixed to the bar 12 in any suitable manner, while in each of the grooves 7 are carried, preferably, immovable bars 13 provided with tabulated scales of wages 14. While I have said that the bars 10, 12 and 13 are immovable, I do not intend that they may not be removed or detached so as to substitute other elapsed time scales or charts or other tabulated scales of wages; or if desired, the elapsed time scale or chart and the tabulated scales of wages, instead of being attached or affixed to bars, as described, they may be made of celluloid strips and secured to the board or table 3, which may also be the case in connection with the time scale or chart 11.

The time scale or chart 9 is to indicate and corresponds to the time an employee or workman commences any job while the scale or chart 11 is to indicate and corresponds to the time an employee or workman ends or stops working on any job. The scales 9 and 11 are identical so far as the arrangement of the characters thereon are concerned, but the scale 9 is movable so as to bring any specified or predetermined unit or period of time appearing thereon coincident with any specified or predetermined unit or period of time appearing on the scale or chart 11, as will more fully appear by illustration, and for the purpose of indicating the number of hours spent by an employee or workman on any job. I have preferred to show the scales or charts 9 and 11 with the periods or units of time every half ($\frac{1}{2}$) hour, merely for the purpose of illustration and convenience in understanding the invention, with the time scale or chart and tabulated scales of wages made to conform thereto, but it is to be distinctly understood that the periods of units of time on the scales or charts 9 and 11 may be based on any other periods or units of time ranging from one (1) minute to one (1) hour, and the elapsed time scale and tabulated scales of wages made to conform thereto.

Attached to the lower end of the bar 4 and projecting transversely across and above the lower end of the board or table 3 and the base of the tabulated scales of wages, is a guide plate or bar 15

and said bar is provided with a plurality of openings, one capable of being passed over the scale 12^a so that the characters or numerals appearing thereon will appear through said opening, and for convenience will be indicated as 15^a; the other openings are adapted to be passed over the respective scales 14, with which they are alined, so that the characters or numerals appearing thereon will appear through each of said openings, and for convenience these openings will be indicated as 15^b. When the bar 8 and the guide bar or plate 15 are in their normal or inoperative positions, for instance that position shown in Fig. 1, the openings 15^a and 15^b are over the characters "0" which are at the base of the scales 12^a and 14 and appear through the openings as shown. Above the opening 15^a on the guide bar or plate 15 appears the word "Time" and above each opening 15^b appears a set of numerals or figures, for instance, "16", "20", "24", and "30" which are in line and coincide with the respective tabulated scales of wages 14 which contain at their head ends characters corresponding to those just referred to, which indicate the rate per hour at which an employee or workman may be employed. The word "time", when the opening below the same coincides with a character or numeral on the scale 12^a has reference to the elapsed time between any given time appearing on the scale 9 which has been caused to coincide with any given time on the scale 11. For the purpose of enabling a person to slide or move the bar 8 through the groove 4 in the board or table 3, a button 16 or some such similar device is secured to said bar.

It is customary when using such a calculating device as shown, for the employee, workman or some one who may be checking the beginning and ending of a piece of work performed by such employee or workman, to make a record of the same upon a suitable card intended for this purpose, the person then upon whom rests the responsibility of ascertaining the correct number of hours put in by such employee or workman and the amount of wages earned will find such information by the use of my device in the following manner: We will suppose that the card above referred to shows that an employee or workman began at "7:30" in the morning and stopped at "2:30" in the afternoon. To find the elapsed time between the commencing and ending of the work, as just indicated, the operator will grasp the button 16 and move the bar 4, say, thirteen units or until the unit "7:30" on the scale 9 of the said bar is opposite the unit "2:30" on the scale 11; such movement of the bar will move the guide plate or bar 15 to a position extending transversely across the elapsed time scale or chart 12^a and the tabu-

lated scales of wages, with the opening 15^a of the guide bar 15 coincident with the numerals or characters "6:30" on the scale 12^a which may be read through the opening in said bar indicating that six hours and thirty minutes were spent on the job, being the actual time worked, less the time for lunch which is not computed but automatically deducted; while the remaining openings 15^b in said guide bar 15 will coincide with the characters or numerals "1.04", "1.30", "1.56" and "1.95" appearing respectively on each of the successive scales 14 lying parallel with the scales 12^a, either of which will indicate the amount in dollars and cents earned for the six hours and thirty minutes, based of course on some one of the rates mentioned. The rates per hour appearing on the guide plate or bar 15 making it convenient for quick and ready reference and obviating the necessity of referring to the rate at the head of each of the tabulated scales of wages.

The number of hours indicated by the elapsed time scale between the time of beginning (7:30) and the ending (2:30) is based on the employee or workman taking 30 minutes for lunch, although computation could be made, as is apparent, in the above manner and for the purposes there shown without taking out the time for lunch or without including the amount earned.

To provide for taking out the time spent for lunch, whether that be thirty minutes or any other given time, I cover up so much of each of the scales 9 and 11 after twelve (12:00) o'clock as will include the time specified as the "noon hour". This may be done in several ways: covering up a part of the lower portions of such scales with supplemental time scales of celluloid or of other material or provide the adjustable plates or bars 17 and 18 each having slots 19, extending lengthwise thereof and having an adjustable relation with the screws 20 for locking the plates or bars 17 and 18 when adjusted. These plates or bars 17 and 18 are each provided with supplemental time scales or charts 21 and 22 which are in all respects similar to each other and with the scales or charts 9 and 11 and the characters or numerals thereof which denote the periods or units of time range from a suitable point of starting to "noon" or twelve (12:00) o'clock; thus, placing or adjusting the scales 21 and 22 so that their upper edges appear coincident with the units "12:30" it will appear that thirty (30) minutes has been deducted, which of course, will not appear in the computation, as above described.

While I have shown the guide bar or plate 15 provided with the openings 15^a and 15^b as specified through which readings may be made when computing elapsed time and

amounts earned, I wish it understood that the guide bar could be so adjusted that the upper edge of said bar would stop below a row of numerals, which would indicate the elapsed time and amount earned and thus obviate the use of such openings. For instance, instead of the numerals "6.30"; "1.04", "1.30", "1.56" and "1.95" appearing through the openings in the guide bar they would appear as the first transverse row of numerals above the upper edge of the guide bar.

Having thus fully described my invention what I claim and desire to secure by Letters Patent of the United States, is:—

1. In a calculating device, the combination of a board having three scales, one denoting a work commencing time scale, one denoting a work ending time scale, and the other denoting an elapsed time scale, a movable bar on which said commencing time scale is carried, whereby any specified unit of time on said scale may be brought coincident with any specified unit of time on the time ending scale, and a guide movable with said bar adapted to indicate on the elapsed time scale a predetermined period of time.

2. In a calculating device, the combination of a board having three scales, one denoting a work commencing time scale, one denoting a work ending time scale, and the other denoting an elapsed time scale, a movable bar on which said commencing time scale is carried, whereby any specified unit of time on said scale may be brought coincident with any specified unit of time on the time ending scale, and a guide movable with said bar adapted to indicate on the elapsed time scale the elapsed time between the designated coinciding units of time of the commencing and ending time scales, less a predetermined unit of time.

3. In a calculating device, the combination of a board provided with a plurality of scales, one having a plurality of scales, one having a plurality of units of time denoting a work commencing scale, one having a plurality of units of time denoting a work ending scale, one having a plurality of units of time denoting elapsed time between a specified time of commencing and ending a piece of work, and the remainder of said scales being tabulated scales of wages, a movable bar on which said commencing time scale is carried, whereby any specified unit of time on said scale may be brought coincident with any specified unit of time on the time ending scale, and a guide movable with said bar and time commencing scales and capable of co-operating with the other of said scales to indicate on the elapsed time scale a predetermined period of time, and to indicate on either of said tabulated scales of wages an amount due for the time shown on the elapsed time scale multiplied by a predeter-

mined rate associated with said tabulated scales of wages.

4. In a calculating device, the combination of a board provided with a plurality of scales, one having a plurality of units of time denoting a work commencing scale, one having a plurality of units of time denoting a work ending scale, one having a plurality of units of time denoting elapsed time between a specified time of commencing and ending a piece of work, and the remainder of said scales being tabulated scales of wages, a movable bar on which said commencing time scale is carried, whereby any specified unit of time on said scale may be brought coincident with any specified unit of time on the time ending scale, and a guide movable with said bar and time commencing scale and capable of co-operating with the other of said scales to indicate on the elapsed time scale the elapsed time between the designated coinciding units of time of the commencing and ending time scales, less a predetermined unit of time, and also to indicate on either of said tabulated scales of wages an amount due for the time shown on the elapsed time scale multiplied by a predetermined rate associated with said tabulated scales of wages.

5. In a calculating device, the combination of a board containing a time commencing scale, a time ending scale and a time elapsed scale, a movable bar having said time commencing scale thereon, a guide movable with said bar and capable of co-operating with said last mentioned scale, and means for deducting certain units of time of the time commencing and ending scales, whereby when elapsed time between two predetermined units of time of the first and second mentioned scales has been computed such computation will automatically deduct such units of time, which is not displayed by said elapsed time scale.

6. In a calculating device, the combination of a board, a plurality of scale members and scales thereon arranged in parallel rows on said board, one of said members having a slidable relation with said board and containing a time commencing scale, the remainder of said member having a relatively fixed relation with said board, one of said fixed members containing a time ending scale, one of the other of said members containing an elapsed time scale, and the remainder of said members containing wage scales, a guide attached to the slidable member and extending transversely across the time ending, elapsed time and wage scales, and provided with a plurality of openings through which appear the characters on said time ending, elapsed time and wage scales, as said guide is moved back and forth across said scales.

7. In a calculating device, the combina-

tion of a board having three scales, one denoting a work commencing time scale, one denoting a work ending time scale, and the other denoting an elapsed time scale, said
5 commencing and ending time scales arranged with overlapping sections, whereby a predetermined unit of time may be deducted from said scales, a movable bar on which said commencing time scale is carried,
10 and a guide movable with said bar and cooperating with said elapsed time scale for

denoting on said scale the elapsed time between certain coinciding characters on the time commencing and ending scales, less the amount deducted on said scales.

15

In testimony whereof I affix my signature, in presence of two witnesses.

PETER W. SOMMER.

Witnesses:

CHAS. W. LA PORTE,
LAURA E. CLAYPOOL.