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E. C. ALBREE.  
PUNCHING AND PRINTING SYSTEM.

APPLICATION FILED MAR. 28, 1905.

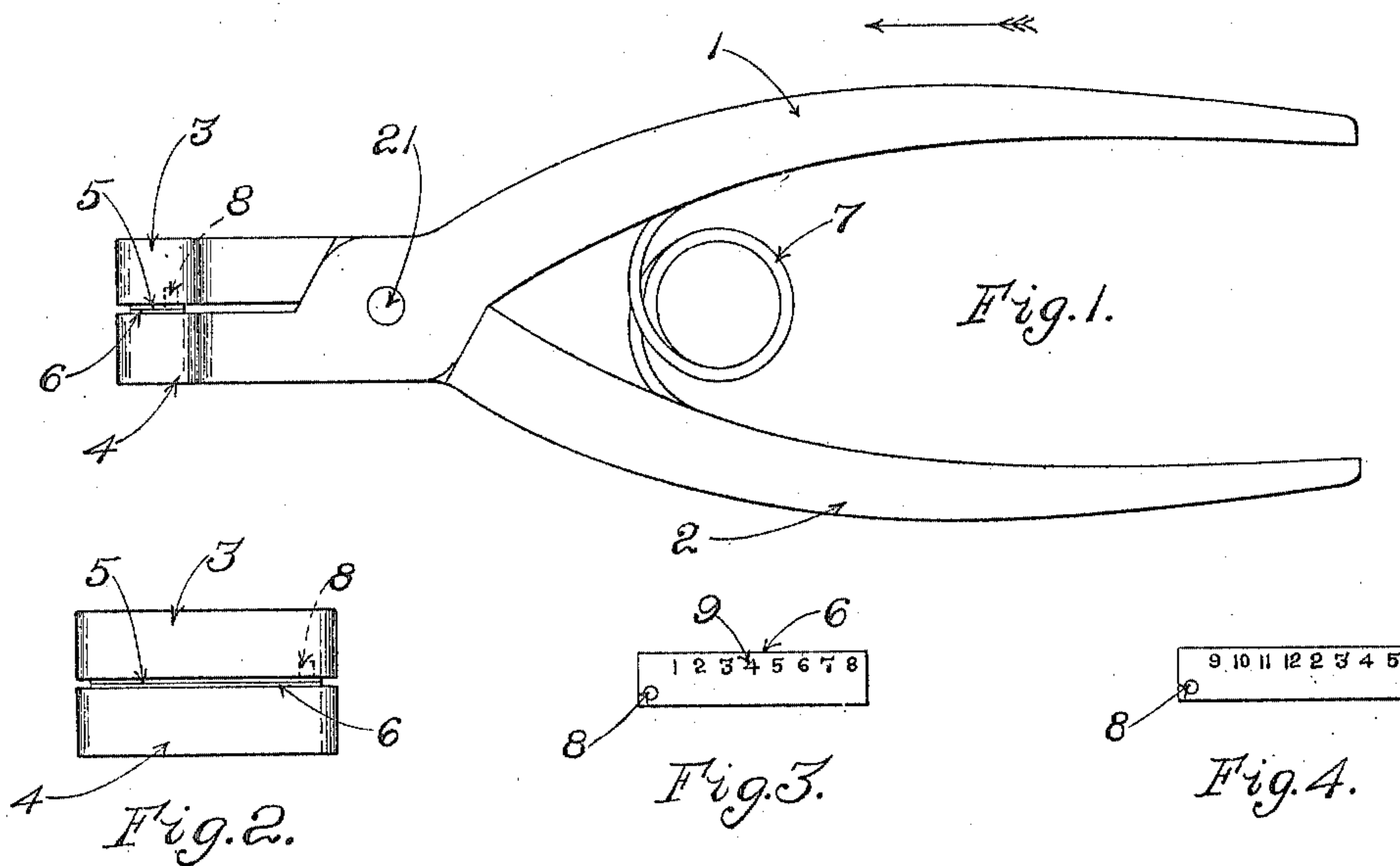


Fig. 5.

Fig. 6.

[illegible]

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Fig. 7.

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# UNITED STATES PATENT OFFICE.

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## PUNCHING AND PRINTING SYSTEM.

No. 817,291.

Specification of Letters Patent.

Patented April 10, 1906.

Application filed March 28, 1905. Serial No. 252,498.

*To all whom it may concern:*

Be it known that I, EDWARD C. ALBREE, a citizen of the United States, residing at Swampscott, county of Essex, State of Massachusetts, have invented a certain new and useful Improvement in Punching and Printing Systems, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention has for its object to provide a new and improved means of recording upon cards or similar articles the amounts and value of the labor expended by a workman in a factory or other place, so that the timekeeper may know at a glance and without performing any mental operation what is the total amount or value of the labor which has previously been performed by each of the various workmen.

In the operation of my invention I employ some instrumentality which impresses upon a properly-prepared record-card a mark indicating the amount of labor performed up to the time the impression is made, and at the same time a set of figures or other suitable characters corresponding to the periods of the next working day, properly located with regard to the first-mentioned impression, so that these characters may be substantially consecutive with the set of characters the last of which is indicated by the first-mentioned impression. Upon the record-card I place convenient and suitably-arranged total figures, after the manner indicated in my previous application filed February 21, 1905, Serial No. 246,748.

In this specification I have used the term "canceling means" as covering any means suitable for indicating the end of the period of work. This may include any convenient designating means, as a punch, which entirely removes one of the printed figures upon the card, or it may be a type which makes a mark over or alongside of one of the characters printed upon the card. I have used the phrase "printing means" as covering any means by which the new set of characters may be impressed upon the card—as, for instance, a pair of dies suitable for producing raised or embossed characters upon the surface of the card, or ordinary type with inking apparatus. In practice I have found it convenient to employ a punch for the canceling means and dies for the printing means.

In this specification I have described the canceling and printing means as embodied in a punch similar in structure to a pair of pincers, since that is the simplest embodiment of the invention now known to me and is the form in which I have put the invention into actual operation. I contemplate, however, the use of my invention in connection with a time-clock or other similar means provided with total-recording apparatus by which the grand total of all the cards punched may be kept.

My invention will be fully understood from the following specification, taken in connection with the accompanying drawings, and the novel features thereof are pointed out and clearly defined in the claims at the close of this specification.

Referring to the drawings, Figure 1 is a side view of a hand-punch adapted to operate the canceling and printing means. Fig. 2 is an end view of the jaws of the same. Fig. 3 is a plan of a die forming one of the jaws of the hand-punch. Fig. 4 shows a modification of the die shown in Fig. 3. Fig. 5 shows a blank record-card suitable for use with the hand-punch shown in Fig. 1, the said card being upon the scale of Figs. 2 and 3. Fig. 6 shows a record-card having the record of a week's labor impressed upon it by a hand-punch employing a die like that shown in Fig. 3. Fig. 7 is a similar card with a record upon it made by the die shown in Fig. 4.

In the drawings there is shown a punch and a series of record-cards adapted to be used in a factory which opens at eight o'clock in the morning and closes at five o'clock in the afternoon, with an intermission between twelve and one o'clock.

Referring first to Fig. 1, there is shown a hand-punch suitable for making the desired record upon the card to be described hereinafter. It consists of two members 1 and 2, pivoted at 21 in the form of the well-known hand-punch.

The forward extremities of the members 1 and 2 are formed, as shown at 3 and 4, (see Fig. 2,) for the reception of a pair of dies 5 and 6. The members 1 and 2 of the hand-punch are held apart by means of a spring 7, against the tension of which the two dies 5 and 6 are brought together upon a record-card or other suitable article inserted between them. The lower die 6 is formed, as



seen in Fig. 3, with the canceling member 8 located at the back left-hand corner looking in the direction of the arrow in Fig. 1, which is substantially the direction in which a person using the punch views the card and punch. Arranged in a line across the die is a series of raised type 9, printing the characters "1," "2," "3," "4," "5," "6," "7," and "8," which indicate the hours of labor performed in a working day. The upper die 5 is provided with corresponding indentations, so that raised or embossed characters are formed upon the record-card when the two dies are pressed together.

In Fig. 5 there is shown a blank record-card A for a man obtaining ten cents per hour. The card is divided longitudinally into fifty-seven spaces B. A shorter card may be employed, if desired, for the one shown gives spaces for overtime work. The first of the spaces at the left-hand of the card is used for the abbreviations "C," indicating the days of the week. The card is also divided transversely into seven rows of these spaces B, six for the days of the week and one, the seventh or uppermost, for total figures "D," after the manner indicated in my application filed February 21, 1905, Serial No. 246,748. The total figures may be printed either in a row adjacent the spaces for the days of the week or upon the back of the card, being located wherever most convenient in the manner described in my previous application just referred to. In preparing the card for use I print upon it the abbreviations "C" and the total figures "D." I also fill in the first eight spaces B for each of the days of the week with the figures "1," "2," "3," "4," "5," "6," "7," and "8," as may be seen in the card shown in Fig. 5. The object of this is to make the card so that it can be used for a workman who starts in work on some day other than Monday.

The spaces B correspond in size to the type used in the dies of the punch, and the canceling means 8 (see Fig. 3) is placed with relation to the type 14 so that it is in the center of the space below and next to the left of the type printing the character 1.

I will now describe the manner in which the laborer's hours of work and their value are recorded upon the card A. When the workman comes in Monday morning at eight o'clock, card A is handed to him in the condition shown in Fig. 5. If he works the full day, leaving at five o'clock, he hands the card A to the inspector as he goes out, and the inspector punches the card as shown in Fig. 6 at E, canceling the character "8," which indicates that the workman has done eight hours of work. The operation of canceling the figure 8 also prints the figure corresponding to the dies in the proper place, the character "1" appearing in the space in what may be called "Tuesday row" next

beyond the punch-mark, (indicated at E in Fig. 6.) A person taking up the card at any time thereafter will see immediately that the value of the labor done on Monday by this workman was eighty cents, that being the amount in the row of total-figures D, opposite the punch-mark E.

On Tuesday let it be supposed that the workman leaves the factory at twelve o'clock and does not come back again that day. As he goes out the inspector cancels the character "4" in the Tuesday row, which was printed there the day before, as indicated at F. At the same time the figures for the next day's work are printed upon the card. The record-card then shows that he did four hours' work on Tuesday and added forty cents to the amount already earned.

On Wednesday he works until three o'clock, or six hours, the card being canceled at G, and the new set of figures for the next day being impressed upon the card A, as previously described.

On Thursday he works five hours, the card being canceled as shown at H, and so on throughout the week, his card being canceled at the numeral indicating the number of hours which he has worked during the day. The new set of characters for the next day are impressed upon the card in the proper location as each canceling operation takes place.

I have shown the card A as canceled at I on Friday for a full day's work and at K on Saturday for a half day's work. It will be seen that the workman has earned \$3.50 during the week, that being the number in the column of total figures opposite the last cancelation. The correctness of this result is obvious, and a person desiring at any time to know the amount which the workman has earned has only to glance at the total figure opposite the last punch-mark to find the proper amount.

It is more convenient under certain circumstances to have dies of the hand-punch of Fig. 1 arranged to print numerals indicating the hours of the working day. In such cases I provide a pair of dies adapted to print the figures "9," "10," "11," "12," "2," "3," "4," and "5," the record of a week's work.

In Fig. 7 there is shown a card M for use with the die of Fig. 4 and prepared with the figures "9," "10," "11," "12," "2," "3," "4," and "5" printed against the abbreviations for the days of the week. The said card M has impressed thereon the record of a week's work. In using the die of Fig. 4 the inspector cancels the figure corresponding to the hour at which the workman leaves the factory. Fig. 7 shows that the workman left at noon on Tuesday and at three o'clock on Thursday and that he earned four dollars and twenty cents during the week. This form of card permits the inspector to punch the card at the hour indi-



cated by the clock when the card is presented by the workman, thus saving one mental operation.

It will be seen from the foregoing that my invention makes it possible, therefore, for the inspector or timekeeper to pass in at any time in the week the time-cards of the laborers under his charge, and these cards will each of them indicate the total value of the labor performed by the workmen without any further operation or mental process on the part of the timekeeper.

What I claim is—

1. The combination of canceling means adapted to record a value upon a spaced card by obliterating one of a series of characters upon the said card and printing means impressing upon the said card a new set of characters beginning at the point just canceled.

2. The combination of canceling means adapted to record the value upon a spaced card by obliterating one of a series of characters upon the said card and printing means impressing upon the said card a new set of characters consecutive with those before the cancellation-mark.

3. The combination of canceling means adapted to record a value upon a spaced card by obliterating one of a series of characters upon the said card, printing means impressing upon the said card a new set of characters, the said canceling means and the said printing means being positioned with relation to each other so that the printing means

impress the characters in the spaces next beyond the space occupied by the character obliterated by the said canceling means.

4. The combination of canceling means adapted to record a value upon a spaced card by obliterating one of a series of characters upon the said card, and printing means impressing upon the said card a new set of characters, said canceling means and said printing means being so placed with relation to each other that the first of this new set of characters is in the space next beyond the mark made by the canceling means and in the row adjacent the row in which the cancellation-mark is located.

5. The combination with a spaced record-card provided with a set of characters in consecutive spaces thereon, whereby the said card is adapted to record a value by the obliteration of one of the said series of characters, canceling means for obliterating one of the said series of characters, and printing means operatively connected with the said canceling means whereby a new set of characters consecutive with the characters before the cancellation-mark is impressed on the card in spaces thereon.

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

EDWARD C. ALBREE.

Witnesses:

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