E. R. WILSON.

INDEX CARD.

APPLICATION FILED AUG. 28, 1916.

1,259,320. Patented Mar. 12, 1918.

Fig. 1.

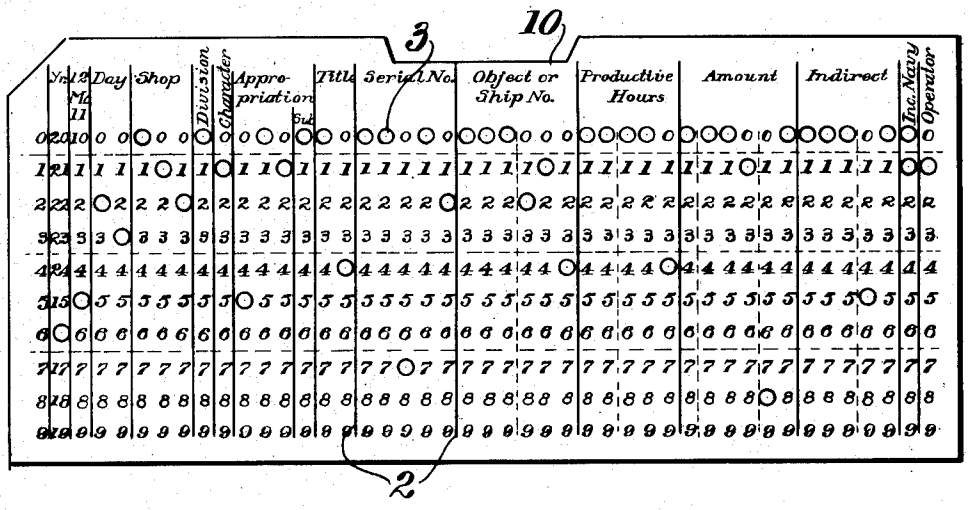
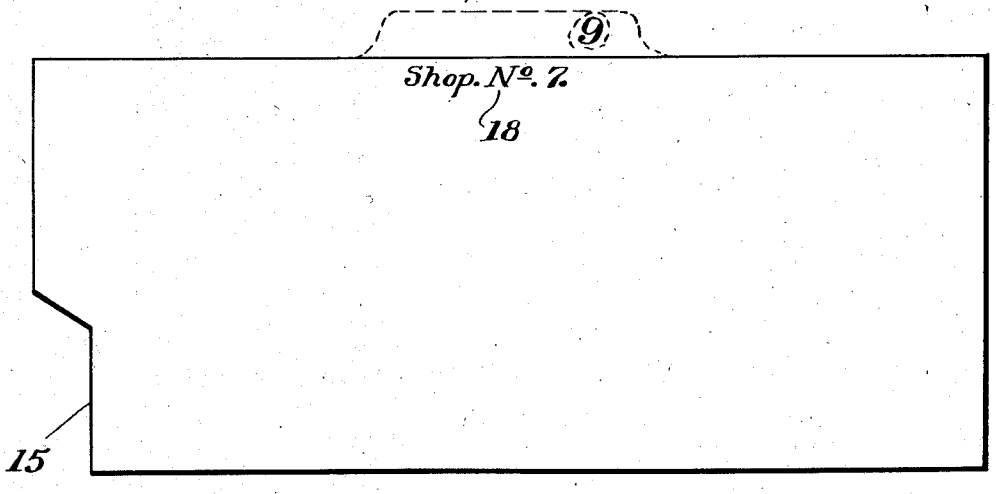


Fig. 2.



WITNESSES:

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INDEX-CARD.

1,259,330. Specification of Letters Patent. Patented Mar. 12, 1918.

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To all whom it may concern:

Be it known that I, EDWARD R. WILSON, a citizen of the United States, residing at Alameda, in the county of Alameda and State of California, have invented new and useful Improvements in Index-Cards, of which the following is a specification.

This invention relates to an improved form of card particularly adapted for use in connection with the Hollerith tabulating and other machines.

The cards utilized in connection with these machines are similar to regular card index cards, being somewhat larger than the standard size universally used. Upon these cards are printed what are technically known as fields, each field representing a department, class, operation, hour, burden, order No., man No., piece; in fact any desired classification can be used in the fields provided according to the needs or requirements of the business to which the machines are applied. These cards are adapted to be filed like ordinary card index cards, for ready reference by using in connection therewith an index card provided with a projecting tab. In actual practice it is necessary to run the cards which have been separated, classified and indexed, through the tabulating machines practically speaking every day, as additional data is constantly being punched or added to the cards. It is however impossible to feed the index cards through the tabulating machines without removing the classification or tabbed index cards as the projecting tabs with which said cards are provided, cannot be handled by the feeder. The tabbed index cards are therefore removed and each classification of cards or job lot must be fed through the machine separately in order that the operator may know the shop making the charge. This manner of feeding cards through the machine is a great drawback to the operation of the tabulator as the cards are easily disarranged, and considerable time is lost which might be otherwise employed.

The object of the present invention is to overcome these difficulties by providing data, and index cards which are so shaped that they can all be fed through the tabulating machine, as will hereinafter be more fully described.

Further objects will also hereinafter appear.

The invention consists of the parts and the construction and combination of parts as hereinafter more fully described and claimed, having reference to the accompanying drawing in which:—

Figure 1 is a view of the improved data card.

Fig. 2 is a view of the index card used in connection with the data cards when filing.

The Hollerith machines are designed for compiling statistics of any kind or character, and they are especially valuable when utilized in connection with cost accounting. The machines can best be described as a system, as there are practically two tabulating machines, and a card punching machine utilized to secure the finished result.

First is the card punching machine operated by hand, next is the card sorting machine operated by electricity, and third the tabulating machine proper also electrically operated.

The cards utilized in connection with these machines are similar to the regular card index cards, being somewhat larger than the standard size universally used.

Upon these cards are printed what are technically known as fields, each field representing a department, class, operation, hour, burden, order No., man No., piece, in fact any desired classification can be used in the fields according to the needs or requirements of the business to which the machines are applied. The fields are defined by vertical lines 2 spaced varying distances apart between which appear numerals from 0 to 9. Some fields contain but one perpendicular row of numerals while others have 2, 3, or more according to requirements or arrangement of members, or of lots to be handled in each field. The card to be punched is placed in the punching machine which is a simple device used on a desk or table, and holes are punched in the card by the operator striking keys resembling the keys of an ordinary adding machine. Any data appearing upon order blanks, time cards, or forms of any kind can be transferred to these cards when properly designed or laid out in fields, to contain the data required through this punching process which produces small round holes such as indicated at 3 (see Fig. 1) removing the numerals represented thereon thus forming a combination of amounts or numbers suitable for sorting or tabulating purposes. As an illustration see Fig. 3, a card can be made

up with fields representing months, days, shop, division, character, appropriation, title, serial No., job or shop No., production, hours, amount, indirect, inc. navy, operator.

As the cards pass through the punching machine from field to field, the holes punched will have a numerical value which represents a known or classified symbol. Beginning at the left of the card, the first field is numbered from 1–9 inclusive and the other fields indicated by printed words at the top, provided for other required data.

After any quantity of cards are punched they are ready for the succeeding operation of sorting by a card sorting machine. A quantity of punched cards is here placed in a holder at the top of the sorting machine without any regard to order whatever, and issue therefrom properly sorted into any predetermined arrangement as through the medium of a very ingenious mechanism the cards are sorted and dropped into the proper pockets according to the punches appearing upon them. After sorting into groups and passing through a tabulating machine, the cards can be returned to the sorting machine. Ordinarily the punched cards will go through many sortings according to the various fields represented on the cards. By way of a simple illustration we may presume that cards representing several months are placed in the sorting machine and are sorted according to months and the totals or net results are secured; then sorted again by days; the first sorting representing twelve sub-divisions, the second representing as many sub-divisions as there are working days in the month, the cards may then be sorted according to shops and following this they may again be sorted by divisions, appropriations, etc., and the operation may be repeated until all the fields in the cards have been taken care of. After each sorting the cards are tabulated by the tabulating machine, the final totals of the various sortings naturally providing an automatic check. While the cards are passing through the machine a stop is automatically made each time a certain number of cards representing a shop or class has been fed through. This is accomplished by providing what is known as stop cards such as shown in Fig. 2. This enables the operator or checker to secure the total from the dials of the adding mechanism and to make his record of the result upon forms provided for that purpose, the machine being started after each automatic stop by depressing a button which closes a circuit through an electric motor by which the machine is driven.

As previously stated in the preamble of the specification the cards are not only used in connection with the machine, but are also used as card index cards which are filed away for future reference and for re-use. For the purpose of classifying and indexing the cards thus filed, it has been the common practice to employ index cards provided with a projecting tab 9 as indicated by a dotted line on Fig. 2.

In actual practice it is necessary to run the cards which have been separated, classified and indexed, through the tabulating machine practically speaking every day, as additional data is constantly being punched or added to the cards. It is however impossible to feed the index cards in quantities through the tabulating machines without removing the classification or index cards, as the projecting tabs 9 with which said cards are provided cannot be handled by the feeding head 7. The tabbed index cards must therefore necessarily be removed from between the cards, and each classification of cards or job lot must be fed through the machine separately in order that the operator may know the shop or classification making the charge. This manner of feeding cards is a great drawback to the operation of the tabulating machine, as the cards are easily disarranged, and considerable time is lost that might be otherwise employed.

The whole invention involved in the present instance is the provision of a data card such as shown in Fig. 1 and an index card such as represented by Fig. 2 in which the projecting tab 9 has been entirely removed. The data card shown in Fig. 3 is provided with a notch 10 which may be either elongated, oval or round in its upper edge, which is positioned approximately midway between the ends of the card. The index card proper shown in Fig. 2 is similar to the card 3 with the exception that the elongated notch 10 is eliminated while a stop notch is formed at one end, as shown at 15. The stop notch in operation causes a pair of contacts to close a circuit in the tabulating machine and automatically brings the machine to a stop whenever a stop or index card is reached. A space is therefore provided for the printing of the index data, for instance shop No. 7 is shown in Fig. 4. This signifies that the cards following said index card all come from shop No. 7 and that the charges or amounts punched on said cards will have to be charged to shop No. 7. Cards constructed as shown on Figs. 1 and 2 are easily filed away for ready reference and in fact are more durable as no projecting tabs are provided which are liable to be broken away or mutilated. The notches 10 form a line of depression in the upper face of a stack of filed cards, through which the printed matter on an index card can be viewed. Furthermore it can readily be seen that as the index cards are equal in

size to the main data cards, it will be entirely unnecessary to remove the index cards when the cards as a whole are to be fed through the tabulating machine. The time lost in removing the index cards as has previously been the case, and the chances of disarrangement are thus entirely obviated.

The working advantage of the notch cards provided is best illustrated with a problem of getting detailed costs by shops from jobs. Without this notch, unless the machine is equipped with an extra counter for group indication, the charges from each shop must be fed through the machine separately in order that the operator may know the shop making the charge. If equipped with a group indicator each job order would have to be fed separately if tabbed index cards are employed as they cannot be fed through the machine. The additional counter for the group indicator also makes a more expensive installation and takes up more floor space.

With the notch cards in use, the notch acts as a window when the cards are filed. The ordinary stop cards properly labeled such as shown in Fig. 4 will then act as classification or index cards. Any number of cards can therefore be fed into the tabulating machine, the only restriction being the length or capacity of the feeding table.

Summing up, the main advantages of the notched card may be stated as follows; the use of the notched card permits of filing the cards indexed for handy reference; permits their being fed through the tabulator with the filing intact, which permits subdivision of an account to be tabulated or recorded, simultaneous with the tabulation of the account, and also permits several of these sub-divided indexed accounts being placed in the feed at once to be tabulated and recorded in their order, in this manner saving manual labor, time and errors which might otherwise take place.

The index card shown in Fig. 2 is in reality nothing more or less than the stop card used in connection with the ordinary cards now in general use with the Hollerith tabulating machine. The only difference being that by the provision of the elongated notches 10 it is possible to print index data such as shown at 18 directly on the stop card thus doubling its function inasmuch as it serves both as an index card and as a stop card.

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

1. Combination filing and tabulating machine cards comprising data cards and combination index and stop cards, said last-named cards being rectangular in shape and having a notch formed in one end and said data cards also being rectangular in shape and having an elongated notch formed in the upper edge.

2. Combination filing and tabulating machine cards comprising data cards, each having an alined notch formed in its upper edge and combination stop and index cards each having a notch formed at one end.

3. Combination filing and tabulating machine cards comprising data cards, each having an alined notch formed in its upper edge midway between its ends, and combination stop and index cards, each having an alining notch formed at the lower corner of one end.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

EDWARD R. WILSON.

Witnesses:
H. H. Hay,
L. E. Paulson.