

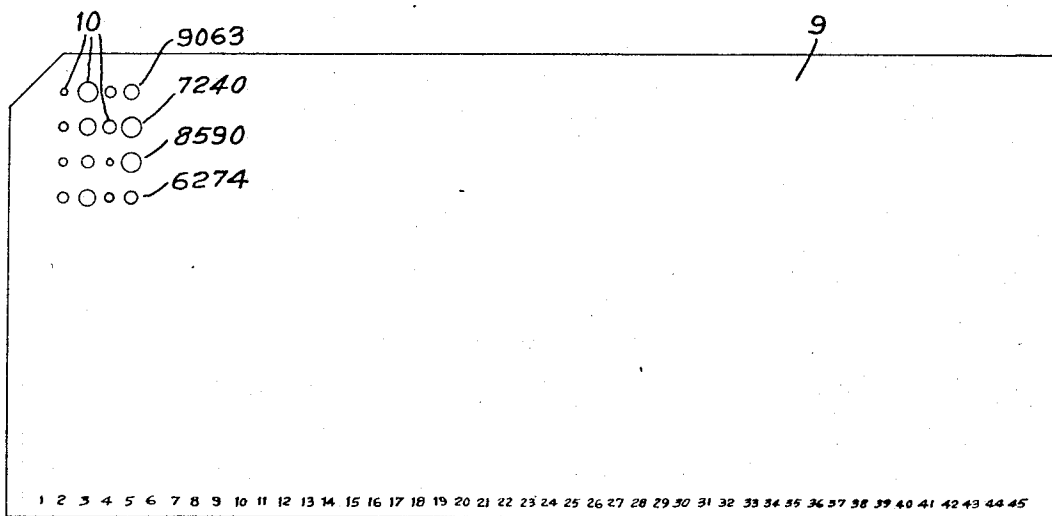
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TABULATING CARD

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TABULATING CARD

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Original application April 30, 1935, Serial No. 19,032, now Patent No. 2,113,634, dated April 12, 1938. Divided and this application May 7, 1937, Serial No. 141,216

1 Claim. (Cl. 235—61.12)

This application is a division of the application of Gustav Tauschek, Serial No. 19,032, filed April 30, 1935 (now Patent No. 2,113,634, dated April 12, 1938), and which application is a continuation in part of the application of Gustav Tauschek, filed October 31, 1929, Serial No. 403,854.

The present improvements relate particularly to tabulating cards employed for controlling the operation of devices in card controlled machines used for statistical and calculating purposes. In the description of several known types of cards the use of such cards is assumed.

One well-known type of tabulating card known as the Hollerith type of card comprises a rectangular card divided into vertical columns and each vertical column is provided with a plurality of index point positions over which are usually superimposed printed digits. At one of these positions a perforation is made and the location of the perforation indicates the digital value to be represented in that column.

In the Tauschek type of card the digit is expressed by a commensurate number of perforations of the same sizes in the column.

Obviously, the number of digits that can be expressed in either the Hollerith or Tauschek type of card is limited by the number of vertical columns and in the present state of the art a maximum of eighty digits or characters are designated.

Another form of tabulating card comprises the combinational hole type used in the Peirce type of tabulating machines. In general it may be stated that the combinational hole type of card can designate somewhat more data than the card of the Hollerith type, but the number of designations is also limited by the number of columns in which the perforations are made.

There are other variations of the above three well-known forms of cards but their disadvantages preclude their use as commercial embodiments, due to the difficulty in perforating the cards, effecting their analysis, etc.

In contrast to the three main form of cards and their variations, namely, in which the representation of the perforation is determined solely by the position of a control perforation in a column, or by the number of perforations as in the Tauschek type of card, or by the combination of perforations, and in each type independent of the sizes of the perforations, the present invention is based upon a novel construction of card in which control perforations or designations at the single index point positions

may be of sizes differing from each other and such differences in sizes, made preferably in accordance with the numerical values to be expressed, may be employed to control statistical and calculating operations.

The controlling devices in the machine are, therefore, not set into action differentially in accordance with the position of the perforations in the columns of the card, but such perforations, independently of their position, effect their control simply by their particular sizes. The size of the perforation made at a common index point position determines the differential adjustment of the controlling devices.

The improved type of tabulating card may be constructed of materials other than cards such as, metal plates, strips or the like.

Various other objects and advantages of the invention will be obvious particularly from the following description of one form of record member embodying the invention and from an inspection of the accompanying drawing, and the invention consists of certain new and novel features of construction of a tabulating card set forth and claimed hereinafter.

In said drawing there is shown a tabulating card 9 which may be of a standard size which is at the present time used in commercial tabulating machines. At the bottom there is printed a series of numbers which number the columns, and the card may comprise forty-five columns, each of which contains twelve index point positions. The card may be perforated by holes 10 at these index point positions to represent five hundred and forty digits in a manner now to be explained.

The "0" digit is preferably represented by the largest hole and the "9" digit is preferably represented by the smallest hole. The card is shown partly perforated to represent by perforations therein in the four horizontal columns the following numbers: 9063, 7240, 8590, and 6274 which amounts are each entered in separate totalizers. The tabulating machine is provided with totalizers which can be split by omitting the transfer mechanism between certain wheels to provide for any number of totalizers. Each multi-denominational number of a series of numbers to be added is represented by a number of perforations preferably arranged in a horizontal line. For example, the number —9063— is represented by perforations in the first horizontal line of the columns 2-5 and is added in the totalizer comprising totalizer wheels related to columns 1-6. The next number to be added in this totalizer would

also appear perforated in the same horizontal line of columns 1-6 of the successive card. Hence a card can control a machine that can be provided with an exceedingly large number of totalizers and can totalize a large number of values.

Contrasting to prior practice each index point is perforated to represent a selected digit and only one index point position is necessary to represent any digit, as compared to prior arrangements where a complete card column is necessary to represent a single digit.

Obviously the numbers can be expressed by perforations arranged in vertical columns as well, and it is evident that the card perforations can vary in shape, size and material and may be circular in form as shown, or may take other forms varying equally in transverse dimensions without departing from the spirit of the invention.

A machine for analyzing cards of the above type and accumulating the numbers designated thereon is shown in the aforementioned patent and is claimed therein in combination with the novel construction of the tabulating card shown herein and which is claimed per se in the following claim.

While there has been shown and described and pointed out the fundamental novel features of the invention as applied to a single modification, it will be understood that various omissions and substitutions and changes in the form and de-

tails of the device illustrated and in its operation may be made by those skilled in the art without departing from the spirit of the invention. It is the intention therefore to be limited only as indicated by the scope of the following claim.

What is claimed is as follows:

An individual record card provided with character representing apertures and serving as a transient entry control member to effect in its passage through analyzing means of a card controlled statistical machine the control of entries therein, said card being of such paper stock material as to resist deformation of the apertures by the analysis thereof, and being provided with index point positions located at the intersections of several columns and several transverse rows and provided at said index point positions with a plurality of apertures varying progressively in size by varying equally in two transverse dimensions for designating a plurality of different characters comprising an entry, each of said index point positions receiving an aperture of a size dependent upon the character to be represented at that index point position, and each row or each column of apertures representing an entry, whereby the full capacity of the card with respect to its index point positions may be utilized for controlling one or more entries.

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