B. VOLKMAR.

CHRONOLOGICAL CHART.

APPLICATION FILED OCT. 18, 1907.

915,254. Patented Mar. 16, 1909.

Fig. 1.

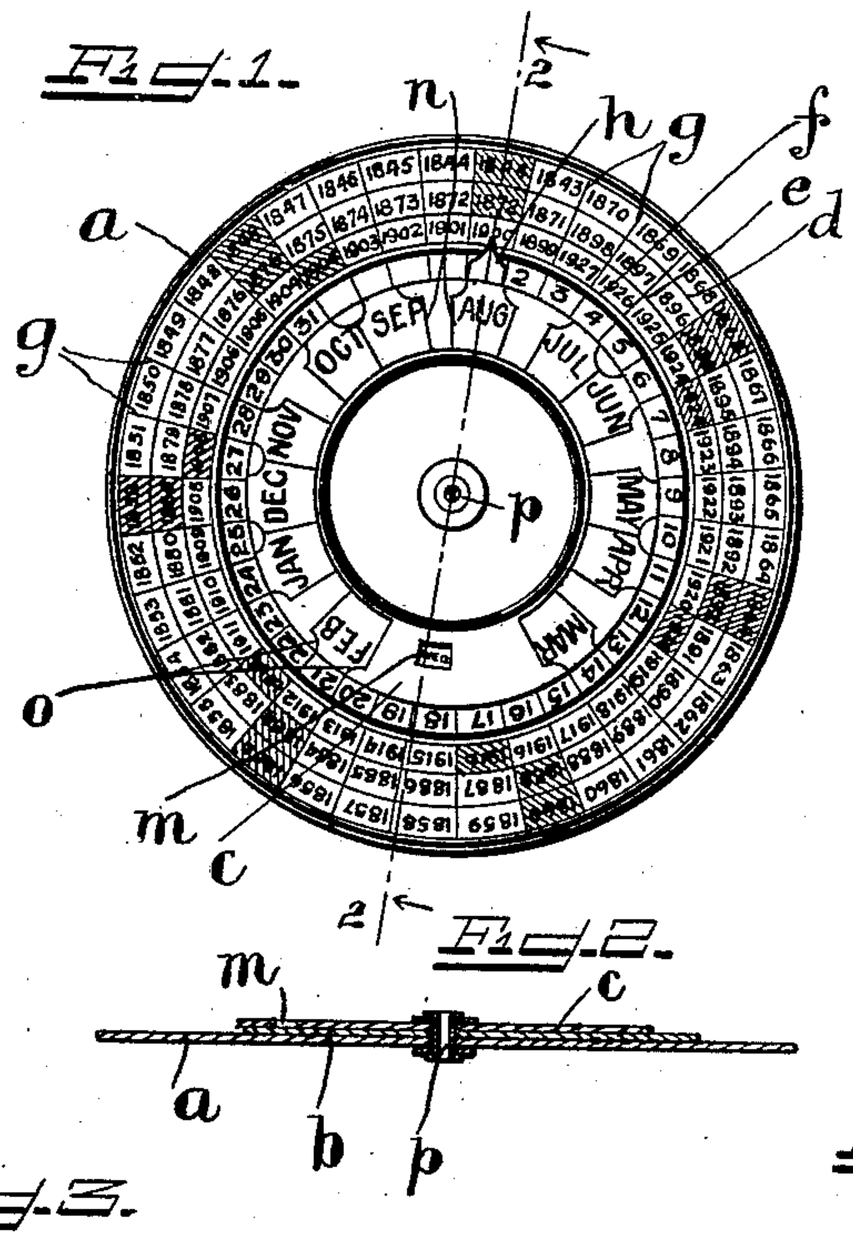


Fig. 2.

Fig. 3.

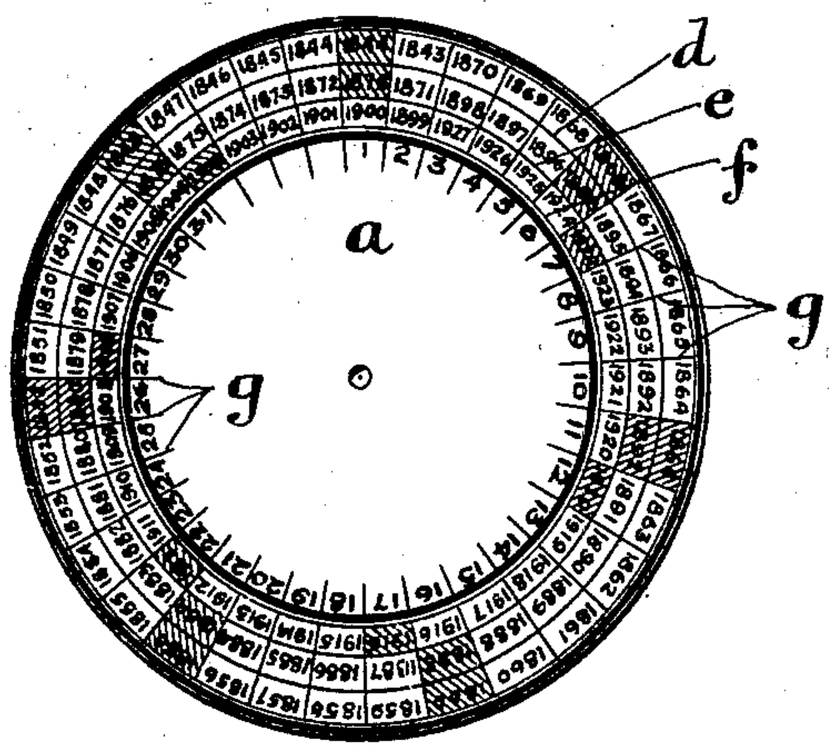


Fig. 4.

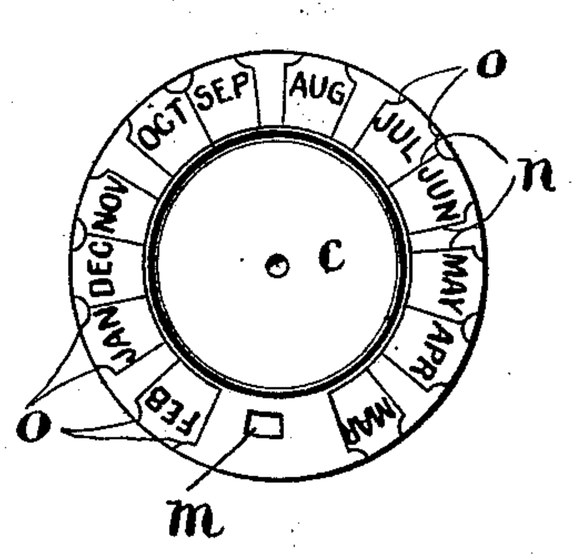
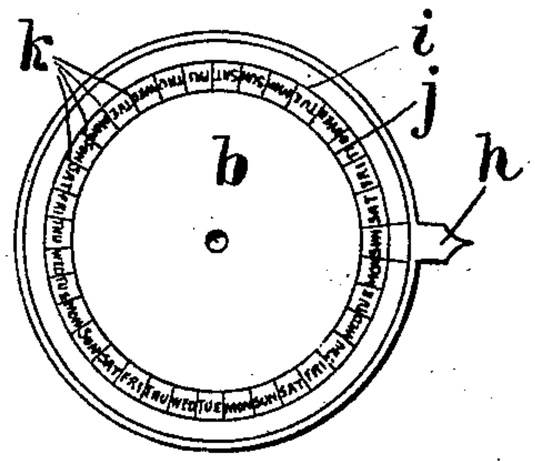


Fig. 5.



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UNITED STATES PATENT OFFICE.

BERNHARD VOLKMAR, OF NEW YORK, N. Y.

CHRONOLOGICAL CHART.

No. 915,254. Specification of Letters Patent. Patented March 16, 1909.

Application filed October 18, 1907. Serial No. 397,956.

To all whom it may concern:

Be it known that I, BERNHARD VOLKMAR, a citizen of the United States, residing at the borough of Bronx, city, county, and State of New York, have invented certain new and useful Improvements in Chronological Charts, of which the following is a specification, reference being had therein to the accompanying drawings, which form a part thereof.

My invention relates to chronological charts, and more particularly to a type thereof which has movable parts which may be adjusted relative to each other so as to bring the days, months, and years indicated on said separate parts into any desired position relative to each other.

Heretofore various devices known as "perpetual calendars" have been devised, whereby on which day of the week the first day of a month or week comes may be located, and a calendar for the entire week or month presented to the user by an adjustment locating and indicating said day of the month and of the week. It is not my intention, however, in this device, to provide a perpetual calendar of this character.

The main object of my invention is to provide a chronological chart containing thereon a sequence of years, the numbers of the days of the month, and the days of the week, so associated and so adjustable, that by the mere adjustment of the parts containing such data, the particular day of the week upon which any date of preceding or succeeding years fell, may be determined accurately, and indicated precisely, without the necessity for any computation whatever.

It is the further object of the invention to provide a device of this character which will contain no complicated or expensive mechanisms, and which may therefore be produced sufficiently inexpensively to adapt it to use as an advertising medium for gratuitous circulation as supplements to papers.

The invention consists primarily in the combination of a plurality of superimposed disks adapted to be pivotally connected, having indicated thereon respectively a sequence of years, and the days of the month, the days of the week, and the calendar months, said disk containing the days of the week having an index finger, and said disk containing the months of the year having an opening therein and having thereon means whereby each month may be brought into register with any day of any month indicated on said first mentioned disk; and in such other novel features of construction and combination of parts as are hereinafter set forth, and described, and more particularly pointed out in the claims hereto appended.

Referring to the drawings:—Figure 1 is a plan view of the assembled device; Fig. 2 is a sectional view on the line 2—2 of Fig. 1; Fig. 3 is a plan view of the disk containing the years and the days of the month; Fig. 4 is a plan view of the disk containing the months of the year, and Fig. 5 is a plan view of the disk containing the days of the week, and the index finger.

Like letters refer to like parts throughout the several views.

In the embodiment of my invention, shown in the drawings, the device consists of three superimposed disks *a*, *b*, and *c*, adapted to rest one upon the other, and to be pivotally connected centrally thereof so as to rotate about a common axis, relative to each other; an arrangement which affords simplicity of structure and such compactness as to permit the device to be produced inexpensively, and to avoid its being gotten out of order through repeated use. This arrangement is also necessary to permit the parts to be adjusted relative to each other in a manner to carry forward the purposes of the invention.

The disk *a* has near its outer edge a plurality of concentric circles *d*, *e*, *f*, indicated thereon, and a plurality of radial lines *g* partitioning the spaces between the said circles into a plurality of distinguishable panels or spaces. In the spaces so formed, the years are arranged in sequence from right to left, the number of spaces thus provided being such that those years in which the days of the week in each month are the same, are contained in the same column, between the same radial lines *g*.

To accommodate the device to the changes in the weekly calendar from year to year, due to a leap year, the numerals indicating leap years are repeated, and some means are employed to distinguish the first numeral of the leap year from the second, as by a variance in the coloring of the panel or space containing the first numeral of the repeated numerals of any year. Arranged within the circle *f* between the radial lines *g* and in sequence, are the numbers of the days of the month. In the drawings these numbers are

shown as extending from left to right but such an arrangement is not essential, it being merely necessary that they should extend in the same direction as the days of the week contained on the dial *b*. It will be observed that 31 days are numbered on this disk, and there are four vacant spaces between the numerals 31 and 1, which are not required for the purpose of this chart. It will thus be seen that the year numerals and month numerals are fixed relative to each other, and are in part alined in radial columns.

Mounted on the disk *a* so as to be above the space within the day numerals, is a disk *b* of smaller diameter than the disk *a*, which is provided with a finger *h* adapted to project across any space for the day numerals and clearly indicate any column of year numerals. This disk *b* has printed or otherwise indicated thereon a plurality of concentric circles *i j* divided into a plurality of panels or spaces by radial lines *k* coincident with the lines *g*, and within said panels or spaces I indicate the days of the week arranged in sequence, and extending from left to right, or in the same direction as the days of the month on the disk *a*.

Mounted on the disk *b* is the disk *c* which is of the same diameter as the disk *b* so as to entirely conceal the indicated days of the week except through a small opening *m* extending therethrough. This opening coincides in dimensions with each of the spaces or panels formed by the lines *i*, *j*, *k* and is adapted to register therewith. Printed or otherwise indicated on this disk, and arranged in sequence from right to left, or inversely to the arrangement of the days of the month and of the week on the other two disks, are the months of the year. Lines *n* separate the periphery of said disk into a plurality of panels or spaces, and each said panel or space is provided with an index line or lines *o* to facilitate the proper positioning of the disk in the manner and for the purpose hereinafter described. These panels or spaces are not, however, disposed at equal distance apart, being spaced with relation to the day of the week exposed when the disks are so positioned as to designate on which day of any month any day therein occurs.

The various disks are superimposed as shown and described to permit them to be conveniently and quickly manipulated or shifted relative to each other, and any described means, as the eyelet and washers *p* may be applied centrally thereof, to permit the disks to be severally rotated.

The operation of the herein described chart is substantially as follows:—In order to more clearly understand this mode of operation, it must be understood that in various professions and businesses, it is desirable to ascertain on what day of the week a certain date, past or future, occurred or will occur, such information being particularly valuable to banking houses, and to attorneys in preparing cases, and to commercial houses in anticipating on what day commercial paper is due. In no sense is the device designed for use for giving general information as a calendar and this construction and mode of operation is not such as to adapt it for this purpose. It will be observed by reference to the column of figures that under ordinary conditions the same day of each month will occur on the same day of the week once in every twenty-eight years the exception being found in the drawings when the year 1900 was not a leap year. To determine exactly on what day of the week any date occurred, it is merely necessary to rotate the disk *b* until the index finger *h* indicates the column of figures contained within the spaces or panels formed by the lines *d*, *e*, *f*, and *g*. If the day desired to be determined is during the months of January or February, of a leap year, the index finger should be caused to register with those spaces wherein the numbers of the year are indicated, as being leap years, by different coloring or otherwise, and if on a leap year, after the month of February with the repeated number of that year. When the disk *b* is so positioned, the disk *c* is rotated until the lines *o* of any particular month are brought into register with the day of the month about which information is desired, the disk *b* being held in the position indicating the year as heretofore described. When the disks are so positioned, the opening *m* will be directly above one of the spaces or panels formed by the lines *i*, *j*, *k*, which space or panel will contain the day of the week upon which the date indicated by the three disks falls. To better illustrate this mode of operation reference is had to Fig. 1 of the drawing wherein it was desired to determine on what day of the week the 21st day of February 1872 fell. It will be observed that in this view the finger *h* points directly to the column containing the year 1872 wherein it is indicated that this year was a leap year; and that the index lines *o* lead to the number 21, it will be observed that when the disks are in this position, the word Wednesday appears through the opening *m* indicating that the 21st day of February 1872 was a Wednesday. If, however, it were desired to indicate on what day of the week the 31st day of October 1872 fell, it would be necessary to rotate the disk *b* to the left one space, where the number of the year 1872 is repeated, thus indicating that the 31st day of Oct. 1872 fell not on a Wednesday, but on a Thursday. Whatever day may be selected, it will be found that the chart works with invariable accuracy and that its scope is limited only to the desired size of the chart. It will be observed that

when the disks are positioned as described, no computation is required, nor is it necessary to consult any specific tables or charts to determine how to locate the disks for information as to any particular date or year. It will also be observed that the year and the approximate day of the month, and the day of the week being known, the exact day of the month may be ascertained by locating the disk *b* to indicate the year, and turning the disk *c* until the day of the week is exposed, when the exact day of the month will be indicated by the lines *o*. As an example, if it be desired to know what the second issue day for Letters Patent during October, 1877, was, it is merely necessary to indicate the year 1877 with the index finger *h* and turn the disk *c* until it reaches some day of the month about the middle. Then by turning slowly forward, it will be found that the second Tuesday of October 1877, fell on the ninth.

The construction and arrangement of the various disks and the manner of presenting the data thereon not only insures a compactness making the operation of the device convenient, and insuring accuracy, but is such as to leave ample space for printing directions for using or advertising matter thereon. It is also such that the various disks may be so printed separately as to adapt the device to use in what is now generally known as "cut out" supplements to papers, magazines and other publications.

Having described the invention, what I claim as new and desire to have protected by Letters Patent, is:—

1. As a new article of manufacture, a chronological chart comprising a plurality of superimposed disks pivotally connected, having indicated thereon respectively a sequence of years, and the days of the month, the days of the week and the calendar months, means whereby said disk containing the days of the week may be accurately positioned relative to any indicated year, means whereby said disk containing the months may be accurately positioned relative to any indicated day of the month, and means exposing a day of the week appearing on one of said disks.

2. As a new article of manufacture, a chronological chart, comprising a plurality of superimposed disks pivotally connected, having indicated thereon respectively a sequence of years, and days of the month, the days of the week, and the calendar months, said disk containing the days of the week having an index finger and being of a diameter to expose the sequence of years and the days of the month, and said disk containing the months of the year being of a diameter to conceal the days of the week and having an opening therein so disposed as to expose a single day of the week therethrough, and also having thereon indicating means whereby each month may be brought into register with any day of any month indicated on said first mentioned disk.

3. As a new article of manufacture, a chronological chart comprising three disks superimposed one upon the other, the bottom disk being of larger diameter than the second, the said bottom disk having arranged thereon in concentric circles an indicated sequence of years, the numbers indicating leap years being once repeated, said numbers being arranged in columns so as to indicate those years on which the same day of the week occurs on the same date, and also having arranged in sequence the days of the month, the middle disk having indicated thereon in sequence the days of the week and arranged in circles repeated so as to equal the number of columns of years and an index finger on the top disk having indicated thereon the months of the year and having an opening therein of the same radius as the circle of the days of the week and indicated lines whereby each month of the year may be caused to register with any day of the month, said two last mentioned disks being of a diameter which will expose the numerals on said first mentioned disk.

In witness whereof I have hereunto affixed my signature this 14th day of Oct., 1907, in the presence of two witnesses.

BERNHARD VOLKMAR.

Witnesses:

T. T. WENTWORTH,

GEORGE MCCAY.