(No Model.) 4 Sheets—Sheet 1.

C. N. HOYT.

CALENDAR TABLE AND CALENDAR.

No. 505,901. Patented Oct. 3, 1893.

Fig. 2.

MONTH TABLE							
6	5	4	3	2	1	7	a a1 a2
May	LY Feb OY Aug' Nov	Mch Nov	June	Sept Dec	LY Jan OY Apr Jul	Oct	
CENTURY YEAR TABLE							c c1 c2
7	6	5	4	3	2	1	
Sat	Sun	Mon	Tue	Wed	Thu	Fri	
A	G	F	E	D	C	B	

Fig. 3.

LY. 1 JAN. OY. 7 5 FEB., " 4	MAR. 4 APR. 1	MAY. 6	JUN
1800 4 1813 2	1826 7	1838 6	1850
1801 3 1814 1	1827 6	1839 5	1851
1802 2 1815 7	**1828 4**	**1840 3**	**1852**
1803 1 **1816 5**	1829 3	1841 2	1853
1804 6 1817 4	1830 2	1842 1	1854
1805 5 1818 3	1831 1	1843	
1806 4 1819 2	**1832 6**		
1807 3			

Fig. 1.

MONTH TABLE							
6	5	4	3	2	1	7	a
May	LY. Feb OY. Aug'	Mch Nov.	June	Sept. Dec	LY. Jan OY. Apr. Jul.	Oct.	A
CENTURY YEAR TABLE							c
7	6	5	4	3	2	1	
LEAP YEARS							
1820	1804	1816	1800	1812	1824	1808	d
1848	1832	1844	1828	1840	1852	1836	
1876	1860	1872	1856	1868	1880	1864	
	1888		1884	1896		1892	
ORDINARY YEARS							B
1809	1810	1805	1806	1801	1802	1803	
1815	1821	1811	1817	1807	1813	1814	
1826	1827	1822	1823	1818	1819	1825	
1837	1838	1833	1834	1829	1830	1831	
1843	1849	1839	1845	1835	1841	1842	e
1854	1855	1850	1851	1846	1847	1853	
1865	1866	1861	1862	1857	1858	1859	
1871	1877	1867	1873	1863	1869	1870	
1882	1883	1878	1879	1874	1875	1881	
1893	1894	1889	1890	1885	1886	1887	
1899	1900	1895		1891	1897	1898	

CALENDAR TABLE							f C g
5	4	5	2	4	7	6	
SUN	MON	TUE	WED	THU	FRI	SAT	2
MON	TUE	WED	THU	FRI	SAT	SUN	1
TUE	WED	THU	FRI	SAT	SUN	MON	7
WED	THU	FRI	SAT	SUN	MON	TUE	6
THU	FRI	SAT	SUN	MON	TUE	WED	5
FRI	SAT	SUN	MON	TUE	WED	THU	4
SAT	SUN	MON	TUE	WED	THU	FRI	3

b b

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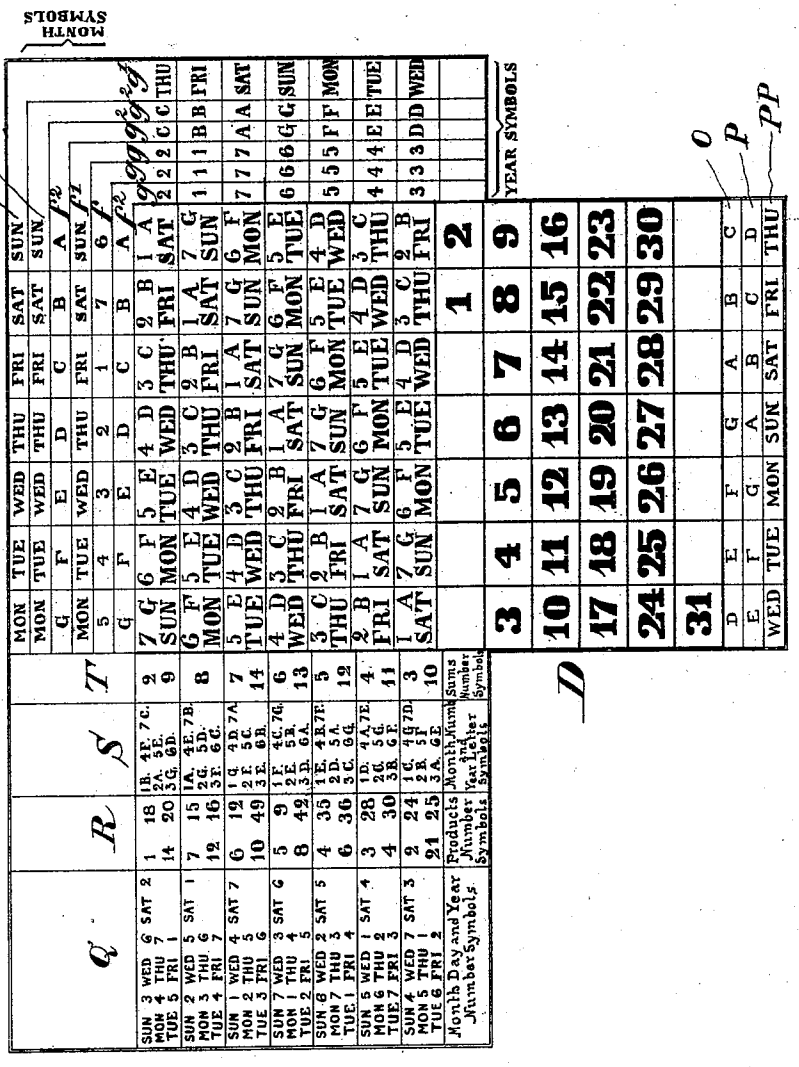
(No Model.) 4 Sheets—Sheet 2.

C. N. HOYT.

CALENDAR TABLE AND CALENDAR.

No. 505,901. Patented Oct. 3, 1893.

Fig. 4.



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4 Sheets—Sheet 3.

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CALENDAR TABLE AND CALENDAR.

No. 505,901.

Patented Oct. 3, 1893.

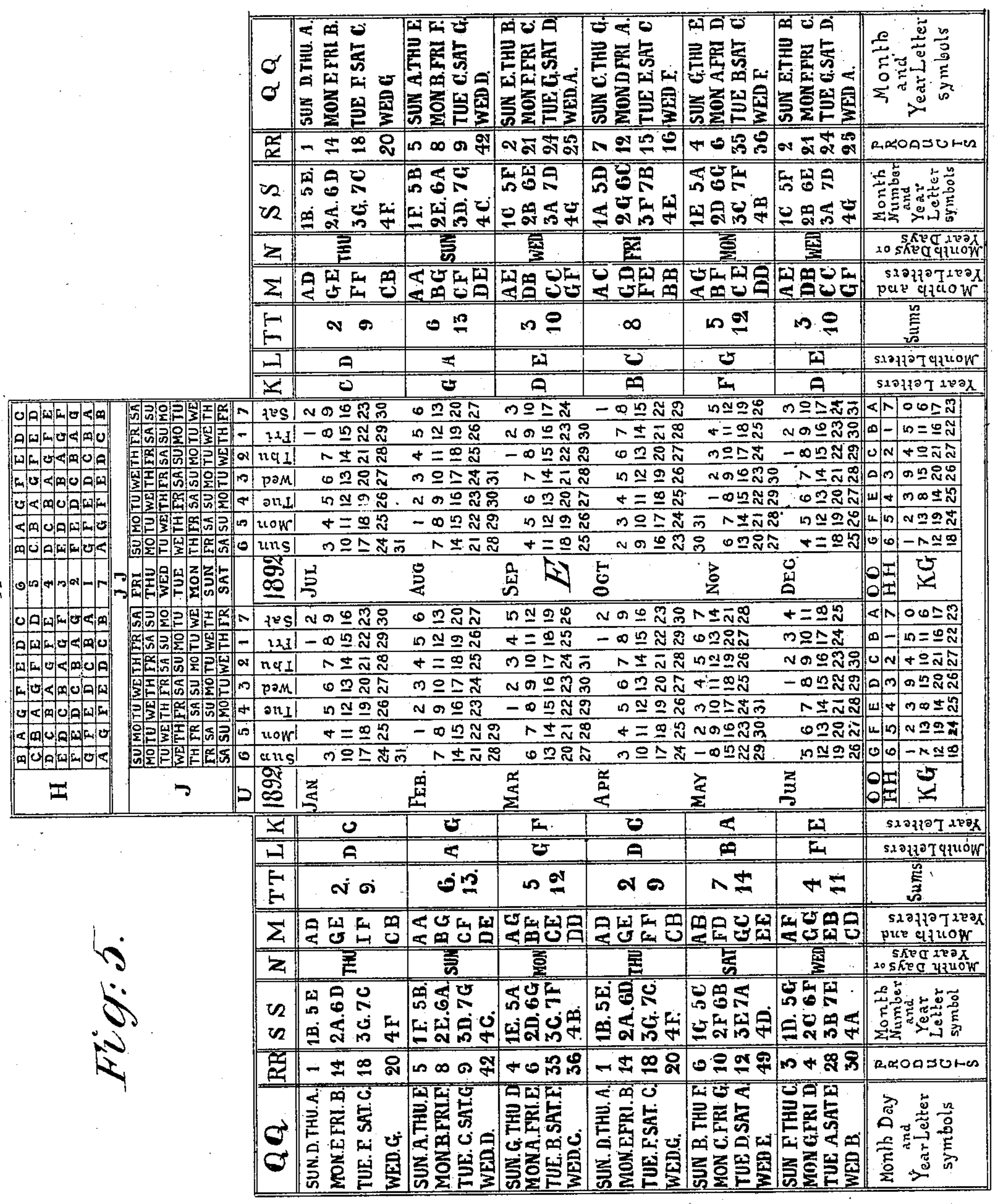

Fig: 5.

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(No Model.) 4 Sheets—Sheet 4.

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CALENDAR TABLE AND CALENDAR.

No. 505,901. Patented Oct. 3, 1893.

Fig: 7.

MONTH TABLE							
7	6	5	4	3	2	1	
B	A	G	F	E	D	C	
SAT	SUN	MON	TUE	WED	THU	FRI	
May	LY Feb. OY. Aug	Mch Nov	June	Sept. Dec	LY. Jan OY. Apr Jul	Oct.	

Fig: 8.

SAT	SUN	MON	TUES	WED	THU	FRI
8–15	7–14	6–13	5–12	4–11	3–10	2–9

DIRECTIONS Add the Number over the desired year to the one over the desired month. Over the sum at the bottom of the table will be the first day of that month. Use any Calendar table of which that is the first day.

Fig: 6.

MONTH TABLE							
6	5	4	3	2	1	7	
May	LY Feb. OY. Aug	Mch Nov	June	Sept. Dec	LY. Jan OY. Apr Jul	Oct	
CENTURY REMAINDER TABLE							
7	6	5	4	3	2	1	
0	1	2	3	9	4	5	
6	7	13	8	15	10	11	
17	12	19	14	20	21	16	
23	13	24	25	26	27	22	
6	5	4	5	2	1	7	

Symb. 1752 to 1899 — Symb. 1900 to 2299

WITNESSES:
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UNITED STATES PATENT OFFICE.

CHARLES N. HOYT, OF BROOKLYN, NEW YORK.

CALENDAR-TABLE AND CALENDAR.

SPECIFICATION forming part of Letters Patent No. 505,901, dated October 3, 1893.

Application filed October 25, 1892. Serial No. 449,968. (No model.)

To all whom it may concern:

Be it known that I, CHARLES N. HOYT, a citizen of the United States, and a resident of the city of Brooklyn, Kings county, New York, have invented certain new and useful Improvements in Calendar-Tables and Calendars, of which the following is a specification.

My invention relates in the main to a table for use in preparing calendars wherein symbols are used as will be hereinafter explained, for ascertaining any day of the month in any year, say of the current century.

The invention will be fully described hereinafter in connection with the accompanying drawings, and its novel features carefully defined in the claims.

In the drawings—Figure 1, is a complete calendar table with reference section constructed according to my invention, wherein numerals are employed as symbols. Fig. 2, is a fragment of the upper portion of a similar table to Fig. 1, in which is illustrated the manner in which three kinds of symbols may be employed, namely, numbers, names and letters. Fig. 3, is a fragment of a table of the same character as that in Fig. 1, showing how the numbers of the years of the century table or section may be arranged in arithmetical order. Figs. 4 and 5 are reference tables adapted for use in connection with Figs. 1 and 2, as will be hereinafter explained. Fig. 6, is a table having a table of remainders capable of being used in lieu of the century year table or section of Fig. 1. Indeed this table is the same as the month and year portions of the table of Fig. 1, in a condensed form. Figs. 7 and 8 show other forms of tables the use of which will be hereinafter fully explained.

Referring first to Fig. 1, at the upper part is the month table section, A, which is divided into seven vertical columns and bears at the top, a row, *a*, of month symbols, here represented as numerals in the order, reading from left to right, 6, 5, 4, 3, 2, 1 and 7. This is a descending series. Below these symbols in a row *b*, are the names of the months to which the symbols are applied; for example, the symbol for May is 6; the symbol for September and December, is 2; these months being under their respective symbols in row *a*.

To take into proper account the leap years, the names of the months of January and February are placed on the lines dividing the vertical columns, and the abreviations "L. Y." and "O. Y.," meaning "leap year" and "ordinary year," are put in the proper columns under the proper symbols, in the row above. For example, the name of February is on the line between the columns headed by the numeral symbols 5 and 4; for leap years, 5 will be the proper month symbol for February, while for ordinary years, 4 will be the proper symbol.

Below the month table-section of Fig. 1, is the section called the "Century Year Table" B, and in the row *c*, under the title, will be found at the heads of the seven columns, the symbols adapted for the years, in this case represented by the numerals 7, 6, 5, 4, 3, 2, and 1, arranged in descending series. The leap years are separated from the ordinary years, the former set being represented in Fig. 1 by the reference letter *d*, and the latter by the reference letter *e*. The years having 7 for a symbol are arranged in the first column under the numeral 7, and those having 6 for a symbol are arranged in the second column under that numeral.

Below the "Century Year Table," B, is a reference calendar table-section, C. This section is divided, as to its main portion, into seven columns and seven rows, and contains the names of the days of the week, arranged in the order or sequence shown. At the top of the reference calendar table C, is a row, *f*, of month symbols, being numerals reading from left to right: 5, 4, 3, 2, 1, 7 and 6. At one end of the table is a column *g*, containing year symbols; these are placed at the right in Fig. 1, and are numerals placed respectively at the ends of the rows of names of days and in the order, reading downward: 2, 1, 7, 6, 5, 4 and 3.

I will now explain how this table of Fig. 1, may be employed to ascertain on what day any day of the month of the century fell. The rule is:

First. Find over the given month in row *b*, the symbol of that month in row *a*; then find over the given year in the century table B, the symbol of that year in row *c*. Then find the corresponding month symbol in row *f* of the reference table-section C, and the correspond-

ing year symbol in the column *g* of section C; the day of the week at the intersection of said column and row in section C will be the first day of the given month and year.

Example: Suppose we wish to find on what day January 1, 1892, fell. We find 1892 in the seventh column of the century year table in Fig. 1, among the leap years, its symbol in row *c* being "1;" and we find that the leap year symbol of January, in row *a*, is also "1." Turning now to the reference section C at the bottom of Fig. 1, we find in the respective row and column, *f* and *g*, the numeral "1," and note by inspection that "Fri." is in the column headed "1" in row *f*, and in the row having "1" at or opposite to its end in column *g*. Therefore January 1, 1892, fell on Friday. The first day of any other month in any other year in the list of years in the table B may be found in the same manner by the use of the month and year symbols given.

In the century year table of Fig. 1, the years are grouped in columns under their respective symbols, and the leap years are separated from the ordinary years; but they may as well be arranged as seen in the fragment, Fig. 3. In this arrangement the numbers of the years are in arithmetical order: 1800, 1801, 1802, &c., so that any year may be selected conveniently in a moment, and the leap years are designated merely by printing them with heavier faced type, or with differently colored ink. The year symbol is placed opposite the year number, as "1806—4" the numeral 4 being the symbol of 1806, as may be seen by reference to Fig. 1. The month symbol is also placed after the name of the month in this arrangement (Fig. 3), as "Mar. 4," the numeral 4 being the symbol for March, as seen in Fig. 1.

It is not always necessary that numbers be used as symbols; letters, or the names of the days of the week may be employed as well. Or these forms of symbols may be combined to a certain extent as will be explained with reference to Figs. 2 and 4.

Fig. 2 corresponds to the upper portion of Fig. 1, except that, in addition to the row *a*, of numeral month symbols there is a row, *a'*, of name month symbols: Sun, Mon, Tue., &c., and a row a^2, of letter month symbols: A, G, F, &c. The year symbols are arranged in the same way; in addition to the row *c*, of numeral year symbols, there is a row *c'* of name symbols: Sat., Sun., Mon., &c., and a row, c^2 of letter symbols: A, G, F, &c.

The central and main portion of the calendar table, Fig. 4, corresponds to the table or section C at the lower part of Fig. 1, except in addition to the row of symbols *f*, and row or column of symbols *g*, there is a row, *f'*, of name symbols, a row, f^2, of letter symbols, a column, *g'*, of name symbols, and a column, g^2, of letter symbols. Indeed, in order to illustrate the use of combined symbols, there are three rows *f'* of name symbols and two rows, f^2, of letter symbols; and there are three columns *g*, of numeral symbols, and two columns, g^2, of letter symbols. Only a fragment of the table is illustrated in Fig. 2, as the century year table of Fig. 1 may be placed under it. I will give an illustration where name symbols are used for both months and years.

Suppose, as before that we wish to find on what day of the week January 1, 1892, fell. This year is in the seventh column, and the day symbol is "Fri." as seen in Fig. 2. The day symbol January, in a leap year, as seen in Fig. 2, is also "Fri." In the upper row *f'* of month symbols in Fig. 4, we find "Fri." and in the corresponding column, *g'*, for year symbols in Fig. 4 (that farthest to the right) we find "Fri." Where this row and column intersect we find "Fri." showing that January 1, 1892 fell on Friday. If letter symbols were used for both month and year, the third row of month symbols from the top in Fig. 4 would be used and the corresponding column,—third from the right,—in Fig. 4, would be used. An illustration is not necessary for this. But I may combine the symbols and use, say letter symbols for the month and numeral symbols for the year, and of this I will give an example, supposing that, as before, I wish to ascertain on what day fell January 1, 1892. This year being in the seventh column and a leap year, we find the numeral symbol in Fig. 2, to be "1," and we also find the letter symbol for January, in a leap year, to be "C." Now in the bottom row f^2 of month reference symbols in Fig. 4 we find "C," and in the corresponding row *g* of year reference numeral symbols in Fig. 4 (that farthest to the left) we find "1." Where the corresponding row and column intersect we find "Fri." showing that January 1, 1892, fell on Friday.

I have designated the horizontal series as "rows" and the vertical series as "columns," but this is only for convenience of explanation; by turning table Fig. 4 a quarter way round and righting the words, numerals and letters, the rows would become columns and the columns, rows; but the table could be used in this way precisely as described.

I have shown various other modes of using the symbols which I will now explain.

Below the central part of Fig. 4, is a table of dates, D, from 1 to 31, represented in heavy-faced numerals; these dates are arranged in seven columns and six rows, like the dates of a monthly calendar. At the left of the central part of Fig. 4, is a column, T, of sums of numeral symbols. The following rule will explain the use of these:

Second. Find the numeral symbols of the given month and year in the table of Fig. 1, add them together, find the sum in column T of Fig. 4, and use the cross row of days opposite in the central part of Fig. 4, with the table of dates D, below. If the sum found in column T be 7 or 14, for example, the given month will begin on "Sunday."

In column R, of Fig. 4, we have the pro-

ducts of the numeral symbols, and these may be used in precisely the same way as the sums in column T.

In column S of Fig. 4 will be found combined the month numeral symbol and year letter symbol, ascertained by table Fig. 2. These may be used in lieu of the products of column R, or sums of column T.

In column Q of Fig. 4 will be found combined the month name symbol and year numeral symbol (as "Sat. 7") ascertained by table Fig. 2. These may be used in lieu of the combined symbols of column S.

In Fig. 4, among the names of week days in the central part of the table, will be found number and letter symbols, a "Sun. 7. G," "Mon. 6. F," &c., in the first row; and below the table of dates D in that figure is a row, O, of letter symbols, D, E, F, &c. These may be used as follows:

Third. Find the letter symbol of the given month and the numeral symbol of the given year, in the tables Figs. 1 and 2. Find the letter symbol of the month in reference row O, of Fig. 4, and the numeral symbol of the year in the column above such letter symbol among the cross rows of names of days in the central part of Fig. 4. That row of names of days should be used in connection with the table of dates D below.

Below row O in Fig. 4, is a row, P, of month letter symbols. The corresponding year letter symbols will be found in the rows of names of days in the central part of Fig. 4, and rule 3, above, may be applied to the use of three symbols.

Below row P, in Fig. 4, is a row, PP, of name symbols "Wed., Tue., Mon.," &c. This row may be applied by the following rule:

Fourth. Find the name symbols of the given month and year from the tables of Figs. 1 and 2, and find either of these symbols in row PP. In the column above this name symbol find the other name symbol among the cross rows of names of days in the central part of the table of Fig. 4, and use this cross row of days with the table of dates D below.

Another rule is as follows:

Fifth. Find in the table Fig. 1, the numeral symbols of the given month and year and add them together; find a number in the date table D corresponding to this sum, and use, in connection with table D, the cross row of names of days above in which "Sat." is found in the same column with said number in table D.

Fig. 5, is a reference table to be used in connection with Fig. 1, or with Figs. 1 and 2. The central portion, E, of this table contains an ordinary annual calendar made up of monthly sections or "tablets." The columns designated by QQ, RR, SS and TT, in Fig. 5, correspond to the columns designated respectively by the letters Q, R, S and T, in Fig. 4, and the symbols therein refer to the monthly tablets of the central calendar E of Fig. 5. For example, if we add together the numeral symbols of the given month and year and find the sum in column TT of Fig. 5, the monthly tablet opposite serves for the given month. For January, 1892, for example, the sum of the numeral symbols is "2," and we find it in column TT, opposite to the tablet "January" of the calendar of Fig. 5, which is for 1892.

Other rules are as follows:

Sixth. Find in Figs. 1 and 2 the name symbols of the given month and year; then find either of these symbols in the columns N in Fig. 5, and the first date under "Sat." in the month tablet opposite. Find this date under the other name symbol at the top of the calendar and use the tablet of dates in which it is found for the given month.

Seventh. Find in Figs. 1 and 2 the month letter symbol and year name symbol of the given month and year; then find the month letter symbol in columns L, of Fig. 5 and the first date number under "Sat." in the opposite calendar tablet. Find the same date number in a tablet of the calendar under the year name symbol and use the tablet in which it is found.

Column K in Fig. 5 contains the year letter symbols, and these may be used in a manner corresponding to the month letter symbol in rule 7, using a month name symbol in place of a month letter symbol.

Column M in Fig. 5 contains the combined letter symbols of the year and month. If we find in column M the combined letter symbols of the given month and year, the tablet opposite will be that of the given month.

The following rule will apply to any ordinary annual calendar when used in connection with Figs. 1 and 2, or Fig. 1 alone:

Eighth. Find in Figs. 1 and 2 the month name symbol and the year numeral symbol of the given month and year. Then find among the week days at the top of the calendar in Fig. 5 (opposite 1892) the month name symbol, and use for the given month the tablet below containing the year numeral symbol as a date in the same column with the month name symbol.

At the bottom of the calendar in Fig. 5, is a row, HH, of numeral symbols. If we find the numeral symbols of the given month and year, and find one of these symbols in row HH, and in the same column, find the other symbol as a date in one of the tablets above, that tablet may be used for the given month.

Just above the row HH, is a row OO of letter symbols. If we find the letter symbol of the given year in row OO, and the month numeral symbol as a date in the same column above, the tablet in which it is found may be used for the given month.

Over the calendar in Fig. 5 are tables, J, of name symbols, and a column, JJ, of name symbols between them. If we find in column JJ, the name symbol (as "Fri.") of a given month (as Jan.) and in the row opposite of a table J, the name symbol (as "Fri.") of a given year (as 1892,) we may use for the given month the tablet of the calendar wherein the

date number "1" appears in the same column with the name symbol found in table J.

Either the month or year symbol may be found in column JJ, and the other be found in table J. The result will be the same in either case.

Below the table J, is a row, U, of numeral symbols over the calendar table. These may be applied by the following rule:

Ninth. Find the name symbols, as "Sun.," "Mon.," &c., of the given month and year as before. Then find in the row with "1892" at top of calendar in Fig. 5, either one of these name symbols and note the numeral symbol over it in row U. Then find this numeral as a date under the other name symbol in the row with "1892," and use for the given month the tablet in which it occurs.

Over the tables J in Fig. 5, are tables H, of letter symbols, arranged in rows; and between them is a column, H′, of numeral symbols. One rule for applying these symbols is as follows:

Tenth. Find as before the numeral symbol of the given month and the letter symbol of the given year. Find the month symbol in column H′, and in the row opposite the year letter symbol. The tablet of the calendar below which has "1" immediately below the said year symbol may be used for the given month.

In order to simplify the century year table, the century remainder table of Fig. 6 has been constructed. The upper portion of this table is the same as in Fig. 1, but in lieu of the year numbers a table, F, of remainders is employed, these being the remainders left after dividing the year by 28 This table may be used as follows:

Eleventh. Divide the given year by 28, and note the remainder. Find the numeral symbol of the given month, and the numeral symbol of the remainder in table Fig. 6. Then find these symbols, respectively, in the row of month symbols and column of year symbols in Fig. 4, and this will give the first day of the given month.

Twelfth. Ascertain the remainder as before; then find the month numeral symbol. Then use the tablet in the calendar of Fig. 5, which has the month numeral symbol as a date in the column of the remainder found in the remainder table, KG, at the bottom of Fig. 4.

There are various other ways of using the table of remainders, but these will suffice. For any year from 1752 to 1899, inclusive use the upper row *c* of remainder numeral symbols in Fig. 6, and for any year from 1901 to 2299, inclusive use the lower row *c′* of symbols.

I may change the order or sequence of the symbols at pleasure; as shown in Fig. 6, for example, the month numeral symbols read (from left to right) 7, 6, 5, 4, 3, 2, 1 instead of 6, 5, 4, 3, &c., as in Fig. 1; and the name and letter symbols may be changed in the same manner.

I may use the table in Fig. 8, in connection with the tables of Fig. 1, by the following rule:

Thirteenth. Add together the numeral symbols of the given month and year and find the sum in row *b*, of Fig. 8. The name of the day of the week found in row *b′* of Fig. 8 over said sum will be the first day of the given month.

Example: Suppose we wish to find on what day fell March 1, 1809. This year number appears in the first column of ordinary years in Fig. 1, and its numeral symbol is "7." The numeral symbol of March, is "4," and the sum is "11." Over "11" in Fig. 8 we find "Wed." Wednesday was, then, the day on which March 1, 1809 fell, and we may use any calendar for that month where Wednesday appears as the first day.

I may say, in reference to the table of Fig. 3 that it is an evolution from the table of Fig. 1, the latter being first constructed and the table of Fig. 3 constructed from it.

Each kind of symbol employed has a special value according to the style of calendar to which a table may be applied, and each kind produces results peculiar to itself.

When using the tables in Fig. 4, and also in Fig. 5, by the application any of the rules herein given, it is necessary to ignore all other parts of it except those named in the rule. In Fig. 5, the symbols at the left refer to the six tablets on the left in the central calendar and those at the right, to the six tablets at the right. In Fig. 4, the symbols pertaining to the months and years are respectively interchangeable; either set may be called the month symbols and used as such. This fact, taken in connection with the fact that the month symbols differ from those of the years, proves that these symbols have the character of exponents or co-efficients, rather than mere reference signs, such as asterisks, &c.

I may say that I am well aware of the use of simple reference characters or letters on calendars using a rotating disk and this I do not claim. I employ symbols and not mere reference characters which latter are not capable of combination as herein fully explained.

Having thus described my invention, I claim—

1. A calendar table comprising as its essentials seven month symbols, the names of the twelve months arranged with reference to their respective symbols, seven year symbols, a series of numbers representing the years arranged with reference to the respective year symbols, and the names of the seven days of the week arranged for reference to and in connection with the said month and year symbols, substantially as set forth.

2. The combination with an ordinary calendar, of a calendar table comprising seven month symbols, the names of the twelve months arranged with reference to their respective symbols, seven year symbols, and a

series of numbers representing the years arranged with reference to the respective year symbols, the said calendar having also the symbols for the months and years marked thereon in proper positions with respect to the names of the days of the week on the calendar, substantially as set forth.

3. A calendar month table, comprising the following features, namely, a row *a*, of seven month symbols, the names of the months of January and February arranged each under space between two of the adjacent month symbols, for the purpose specified and the names of the other ten months arranged under their respective symbols, substantially as set forth, whereby the duplication of the leap years is avoided.

4. A calendar table comprising seven month symbols, the names of the twelve months arranged with respect to their respective symbols, seven year symbols, a series of year numbers arranged with respect to their respective symbols, the said month and year symbols being capable of combination as described, and the names of the seven days of the week arranged in connection with said month and year symbols, or their combinations, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

CHAS. N. HOYT.

Witnesses:
PETER A. ROSS,
HERBERT BLOSSOM.