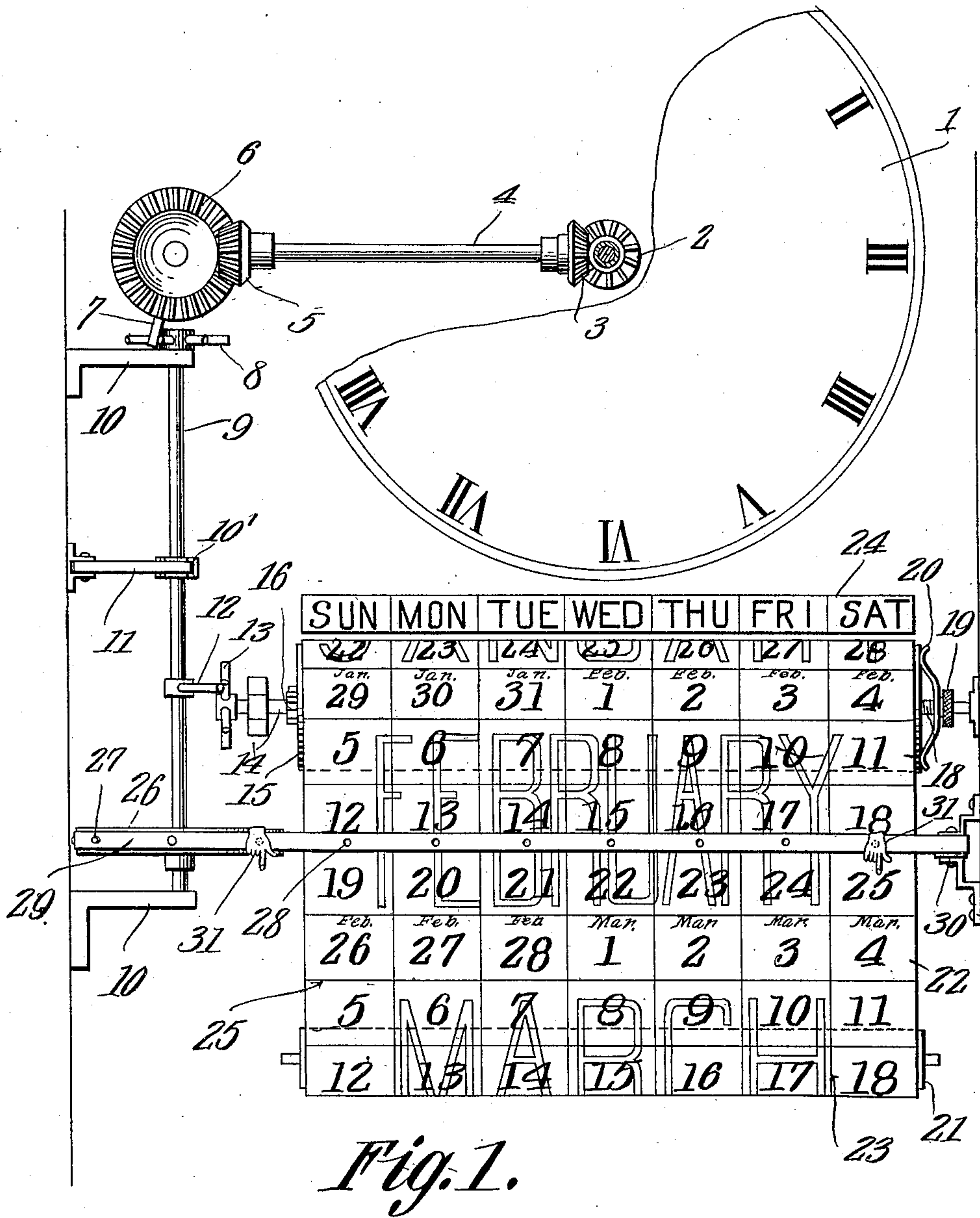


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I. N. CASSITY.
CALENDAR.
APPLICATION FILED JAN. 16, 1911.

Patented June 6, 1911.

2 SHEETS—SHEET 1.



Witnesses

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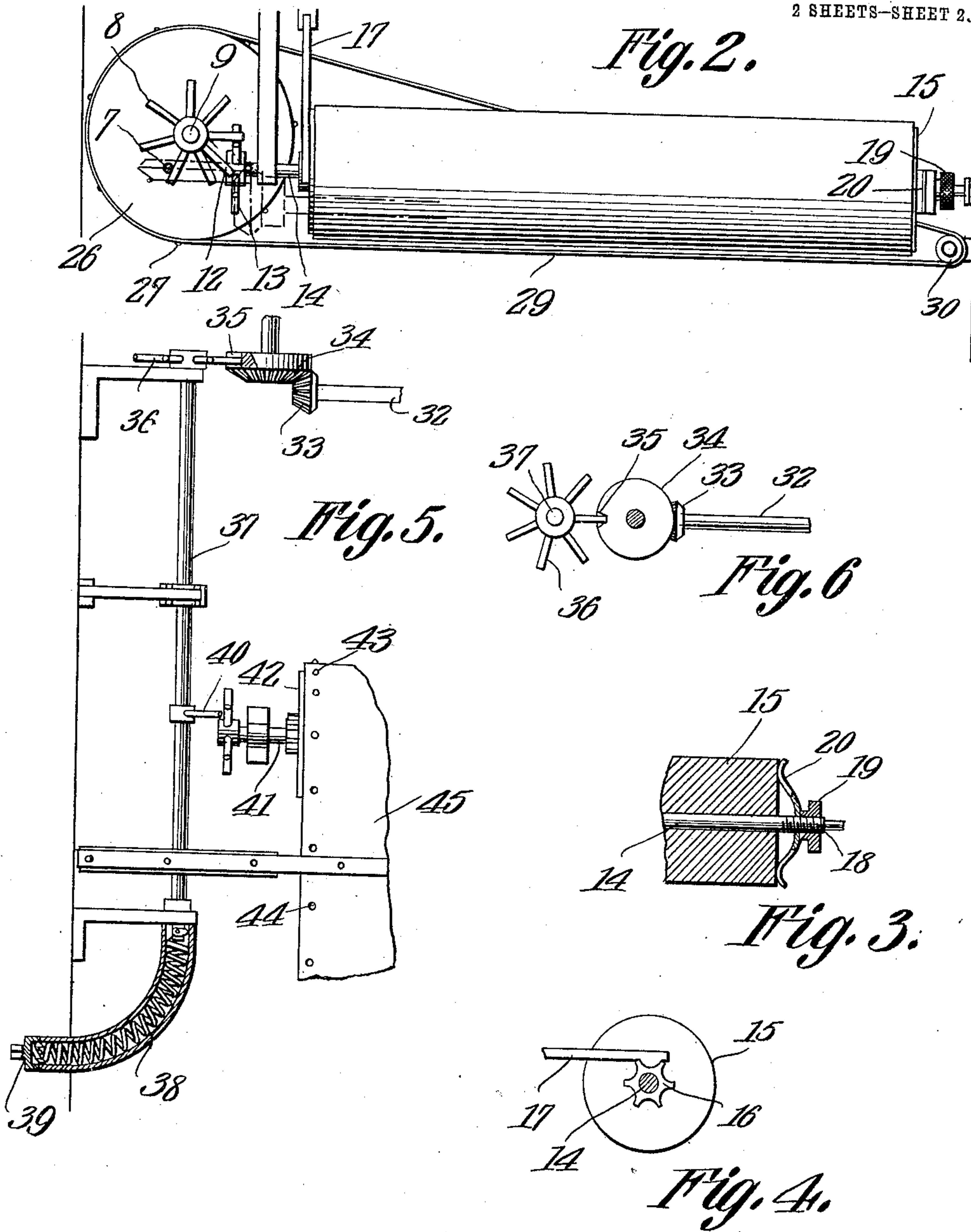
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UNITED STATES PATENT OFFICE.

ISAAC N. CASSITY, OF ALTA VISTA, KANSAS, ASSIGNOR OF ONE-HALF TO WILLIAM WOLGAST, OF ALTA VISTA, KANSAS.

CALENDAR.

994,122.

Specification of Letters Patent.

Patented June 6, 1911.

Application filed January 16, 1911. Serial No. 602,969.

To all whom it may concern:

Be it known that I, ISAAC N. CASSITY, a citizen of the United States, residing at Alta Vista, in the county of Wabaunsee and State of Kansas, have invented a new and useful Calendar, of which the following is a specification.

This invention relates to calendars of that type better known as perpetual calendars and designed to be operated in connection with a clock.

One of the objects of the invention is to provide a calendar which utilizes a web of any desired length and on which are arranged numerals indicating the days of the month, there being mechanism under the control of a clock whereby these numerals may be successively indicated after proper intervals of time have elapsed.

A further object is to provide simple mechanism for transmitting motion from the clock mechanism to the calendar, said motion transmitting mechanism being of such character as to offer the minimum resistance to the actuation of the clock mechanism.

A further object is to so mount the calendar web as to enable it to be readily adjusted relative to its indicator to compensate for excess movement of the web and to permit adjustment of the web for any reason, as for example, when it is desired to look up a prior date or a future date.

Another object is to provide a novel form of indicator whereby the days of the week are pointed out in proper succession, said indicator being time controlled.

Another object is to provide improved time controlled means for shifting the web so as to bring the numerals of the successive weeks into position adjacent the indicator after proper intervals of time have elapsed.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:—Figure 1 is a front ele-

vation of the calendar apparatus, a portion of the clock being shown connected thereto. Fig. 2 is a plan view of the parts shown in Fig. 1. Fig. 3 is a section through one end portion of the winding spool and the spool gripping member. Fig. 4 is a side elevation of the pawl and ratchet mechanism utilized for controlling the rotation of said spool. Fig. 5 is an elevation of a modified form of power transmitting mechanism. Fig. 6 is a plan view of a portion of the mechanism shown in Fig. 5.

Referring to the figures by characters of reference 1 designates a portion of a clock, there being a gear 2 therein revoluble with the hour hand. This gear meshes with another gear 3 located at one end of a shaft 4 which extends beyond the clock. As the gears 2 and 3 are of the same size, it will be apparent that shaft 4 will be given one rotation every twelve hours, or in other words, during each complete rotation of the hour hand. The outer end of shaft 4 carries a gear 5 meshing with another gear 6, the two gears being so proportioned that gear 6 will be rotated once during every two rotations of the gear 5 or, in other words, said gear 6 will make one complete rotation every twenty-four hours.

A pin 7 extends radially from the gear 6 and is designed to successively engage and shift corresponding pins 8 extending radially from a shaft 9 journaled in suitable brackets 10. Preferably seven of these pins 8 are employed and it will be apparent, therefore, that seven revolutions of the gear 6 will be necessary in order to complete one revolution of the shaft 9. In order that the said shaft 9 may be prevented from moving more than a predetermined number of degrees each time one of the pins 8 is shifted, a ratchet 10' is secured to said shaft and has a series of peripheral recesses for the reception of a dog 11. Preferably seven of these recesses are employed so that the dog may assume a position in one of them immediately upon the completion of each of the intermittent movements of the shaft 9.

A pin 12 extends radially from the shaft 9 and is designed to successively engage corresponding pins 13 extending radially from a shaft 14. This shaft extends through, and is loosely mounted within a winding spool 15 and a ratchet wheel 16 similar to the ratchet wheel 10 hereinbefore described, is secured

to the shaft and close to one end of the spool, this ratchet wheel being constantly engaged by a dog 17 similar to the dog 11. One end portion of the shaft 14 is screw threaded, as indicated at 18 and is engaged by a tightening nut 19. A gripping or retarding spring 20 is loosely mounted on the threaded portion of the shaft and bears, adjacent its ends, against one end of the spool 15, the screw 19 being adjustable on the shaft to regulate the tension of the spring and thus increase or diminish its pressure upon the spool. Another spool 21 is suitably supported below the spool 15 and the two spools are connected by a flexible web 22 of paper, cloth, or any other suitable material, said web being divided, by longitudinally extending lines 23, into preferably seven parallel columns. An indicating strip 24 is fixedly mounted above the spool 15 and has spaces outlined thereon and registering with the several columns on the web, these spaces containing the names or abbreviations of the names of the days of the week. The columns on the web are intersected by transversely extending parallel lines 25, these lines and the lines 23 defining spaces in which are arranged numerals for designating the days of the month. Should the last day or days of one month occur in the same week with the first day or days of the next succeeding month, all of the numerals designating the days of the month in said week will appear in the same series of spaces extending transversely of the web. For example, in Fig. 1 the first day of February is shown as occurring on Wednesday and in the same transversely extending series of spaces appear the numerals 29, 30 and 31, which designate the corresponding days of the preceding month and the numerals 2, 3 and 4 which designate the corresponding days in the month of February, all of these days occurring in the same week and their names being designated by the abbreviations appearing on strip 24. Moreover each group of numerals designating the days of the month is designated by the name of the month printed or otherwise displayed upon the web, it being preferred to print the name of the month in one color on said web and to print the day indicating numerals in another color or in two or more colors differing from that used in printing the name of the month.

A wheel 26 is secured to and rotates with the shaft 9 and has outstanding pins 27 upon the periphery thereof, these pins being adapted to project into openings 28 formed within an endless belt 29 which is mounted on the wheel 26 and also on an idler 30. The belt is extended transversely of and around the web at a point between the spools 15 and 21 and the front run of the belt is parallel with the transversely extending lines 25. This belt has a series of pointers 31 arranged

thereon and spaced apart a distance equal to the width of the web so that, as one of the pointers passes over the right edge of the web, the next adjoining pointer will move across the left edge of the web and into position in front of one of the spaces outlined upon the web. The belt 29 can be of any desired length, and the pointers may be of any desired shape and size.

As has heretofore been pointed out, the gear 6 completes one revolution every twenty-four hours, the pins 7 and 8 being shown in Fig. 1 in the relative positions assumed by them preferably after the hour of twelve at night. During the continued rotation of the gear after twelve o'clock at night the pin 8 engaged by the pin 7 will be shifted so as to rotate shaft 9, the time consumed during the engagement of the pins 7 and 8 being about one-seventh of the rotation of gear 6, which time would occur between 12 and 3.30 a. m. This rotation of shaft 9 is only completed after seven complete rotations of gear 6 have occurred and, during the completion of the rotation of said shaft 9, (which movement likewise occurs preferably after the hour of midnight on the morning of the first day of the week) the pin 13 in the path of pin 12 is shifted so as to give the spool 15 a partial rotation, the movement of this spool being sufficient to shift the web 22 such a distance as to bring the next adjoining series of day indicating numerals into close proximity to the belt 29. As it requires seven days for the shaft 9 to rotate and likewise seven days for the web 22 to be shifted once in the direction of its length, it is also necessary to so proportion the belt and the wheel 26 as to require seven days for one index or pointer 31 to pass entirely across the web 22. By referring to the drawings it will be seen that the parts are so proportioned that, simultaneously with the shifting of the web 22, one index or pointer 31 passes off of the web and beyond the right edge thereof while another index or pointer passes on to the web from the left side thereof. If, for example, the date indicating prior to the foregoing shifting operation is February 25, as illustrated on Fig. 1 of the drawings, the calendar will, on the morning of the next day, show the numeral 26 close to the belt 29 and an index or pointer 31 directly over said numeral.

It will be apparent that this calendar can be used continuously for any period of time desired, the length of said use being dependent solely upon the length of the web used. Various holidays, church days, etc., may be indicated on the calendar in the usual manner and if desired the various phases of the moon may also be shown. If, after long continuous winding of the web upon the spool 15, the transversely extending series of numerals should be elevated

too far with respect to the belt 29, the said web can readily be readjusted simply by pulling it downwardly so as to partly unwind it from the spool, this adjustment being permitted in view of the fact that the said spool is connected to the shaft 14 solely through its frictional engagement with the spring 20. This particular connection between the spool and shaft, also permits the web to be adjusted longitudinally in either direction as, for example, when it is desired to look up a previous or a future date.

It is of course to be understood that different changes may be made in the construction and arrangement of the parts. For example, and as shown in Figs. 5 and 6, the mechanism may be so constructed as to relieve the clock mechanism of the load of the calendar mechanism so that the operation of the clock will in no wise be affected by the addition of the calendar thereto. In this modified structure the shaft 32 corresponds with the shaft 4 hereinbefore described and carries a gear 33 meshing with another gear 34, this last mentioned gear having a peripheral recess 35 for the reception for any one of a series of pins 36 radiating from a shaft 37. Seven of these pins are provided and the parts are so proportioned that gear 34 will complete one revolution in twenty-four hours and shaft 37 will complete one revolution in seven days. This shaft is attached to a power spring 38 adapted to be wound, as by means of a revoluble cap 39 so as to be placed under stress. This spring operates to rotate the shaft 37 whenever it is released from the restraining action of the gear 34 and to also cause the radial pin 40 on said shaft to properly actuate the shaft 41 carrying the winding spool 42. In this form of the device spool 42 is preferably formed with radial teeth or projections 43 designed to extend into corresponding openings 44 formed in the edge portions of the web 45. In all other respects the structure shown in Fig. 5 corresponds with that heretofore described.

From the foregoing it will be apparent that the power spring or weight of the clock only operates the shaft 32 and the gears 33 and 34 of the calendar mechanism the balance of the calendar mechanism being actuated by the spring 38.

It is to be understood that suitable advertising matter may be displayed at any points desired upon the web 22.

As clearly shown in Fig. 1, the names of the months as printed on the web are of such size as to extend into each transverse series of numerals belonging solely to the month designated. For example, the numerals designating the month of February occupy three complete transverse series of spaces and the name "February" extends into all three of these spaces. Four other numerals

occupy a portion of one of the adjoining series of spaces and three February numerals occupy a portion of another series of spaces. In order that these numerals may be clearly distinguished from the numerals in the same series but which belong to other months, abbreviations of the names of the months are arranged within said spaces as shown. For example, the spaces indicated by the numerals 29, 30 and 31 of January are each provided with the name "January" or an abbreviation thereof, while the numerals 1, 2, 3 and 4 in the same series of spaces are provided with the name "February" or abbreviations thereof. This arrangement of names or abbreviations of names is followed throughout the length of the web so that there can be no uncertainty as to the month to which the numerals belong.

What is claimed is:—

1. A calendar including a web having characters thereon designating the days of the month, time controlled means for imparting an intermittent movement to the web, an indicator, and time controlled means for imparting an intermittent movement to the indicator and transversely of the web.

2. A calendar including a web having day indicating characters thereon, time controlled means for imparting an intermittent movement to the web in one direction, an endless element, time controlled mechanism for actuating said element, an indicator carried by the element and movable intermittently transversely of the web.

3. A calendar including a web having day indicating characters thereon, time controlled means for imparting an intermittent longitudinal movement to the web, an indicator, and time controlled means for imparting an intermittent movement to the indicator and transversely of the web between successive movements of the web.

4. A calendar including a web having day indicating characters thereon, time controlled means for imparting an intermittent longitudinal movement to the web, a series of indicators, and time controlled means for imparting an intermittent movement to the indicators, each indicator being movable throughout the width of the web between successive movements of the web.

5. A calendar including a web, said web having day indicating characters thereon, a winding spool to which the web is connected, a shaft loosely mounted within the spool, a slip connection between the shaft and spool, time controlled mechanism for imparting an intermittent rotation to the shaft and spool, an indicator, and time controlled means for imparting an intermittent motion to the indicator, said indicator being movable throughout the width of the web between successive movements of said web.

6. A calendar including a web having day
indicating characters thereon, time con-
trolled means for imparting an intermittent
movement to the web in the direction of the
5 length thereof, an endless belt, time con-
trolled means for imparting an intermittent
movement to the belt, and indicators carried
by the belt, each indicator being movable
throughout the width of the web between
10 successive movements of the web.

7. In a calendar, the combination with a
web having day indicating characters there-
on, of power storing means, mechanism op-

erated by said means for shifting the web
longitudinally, as indicator, means operated 15
by said mechanism for shifting the indicator
transversely of the web, and time controlled
means for successively stopping and releas-
ing said mechanism.

In testimony that I claim the foregoing as 20
my own, I have hereto affixed my signa-
ture in the presence of two witnesses.

ISAAC N. CASSITY.

Witnesses:

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F. B. OCHSENREITER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
