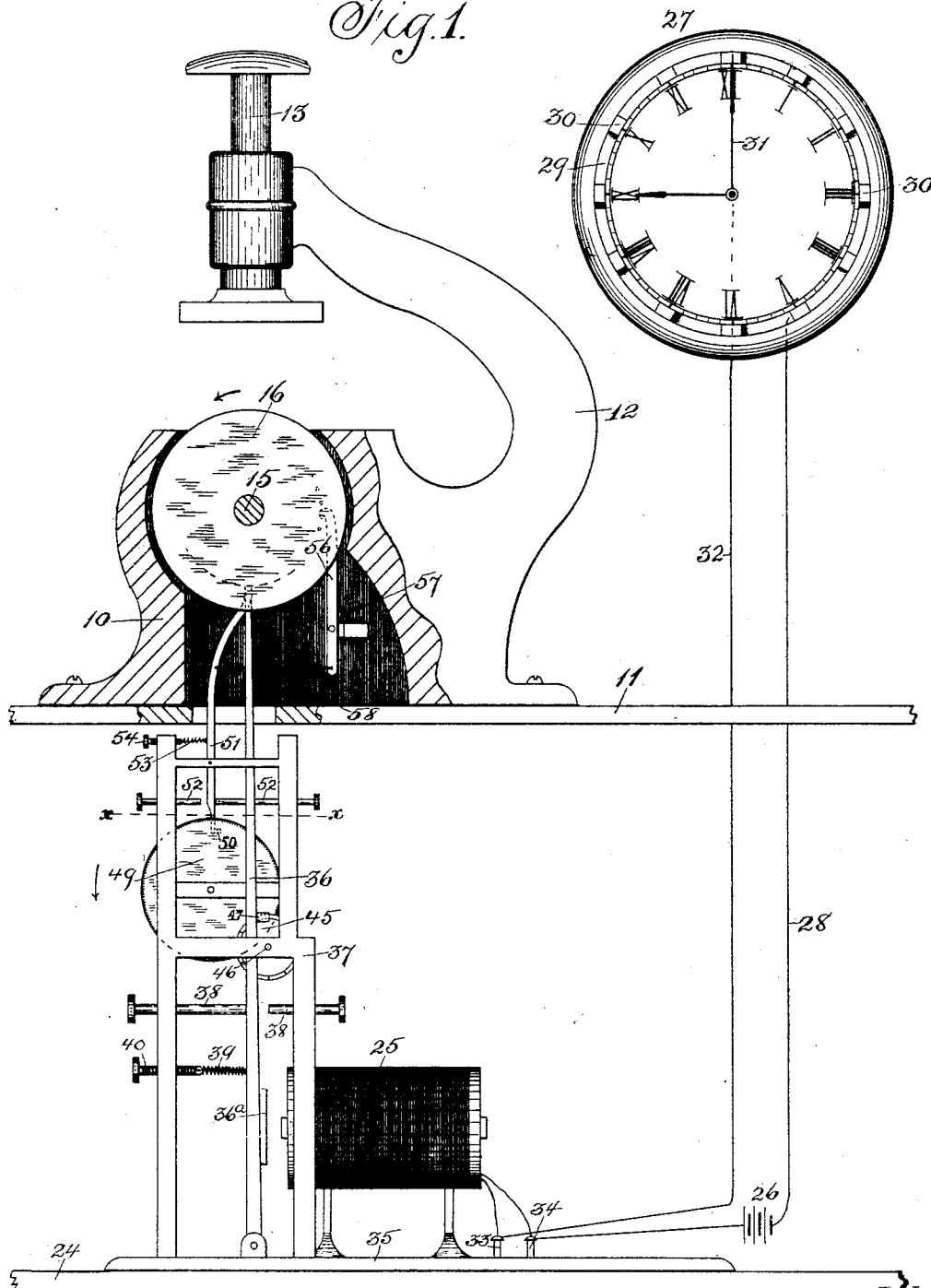


W. S. JEWELL & A. C. STEVENS.
TIME AND DATING STAMP.

No. 512,378.

Patented Jan. 9, 1894.

Fig. 1.



Witnesses
W. J. Smiley.
G. R. Green.

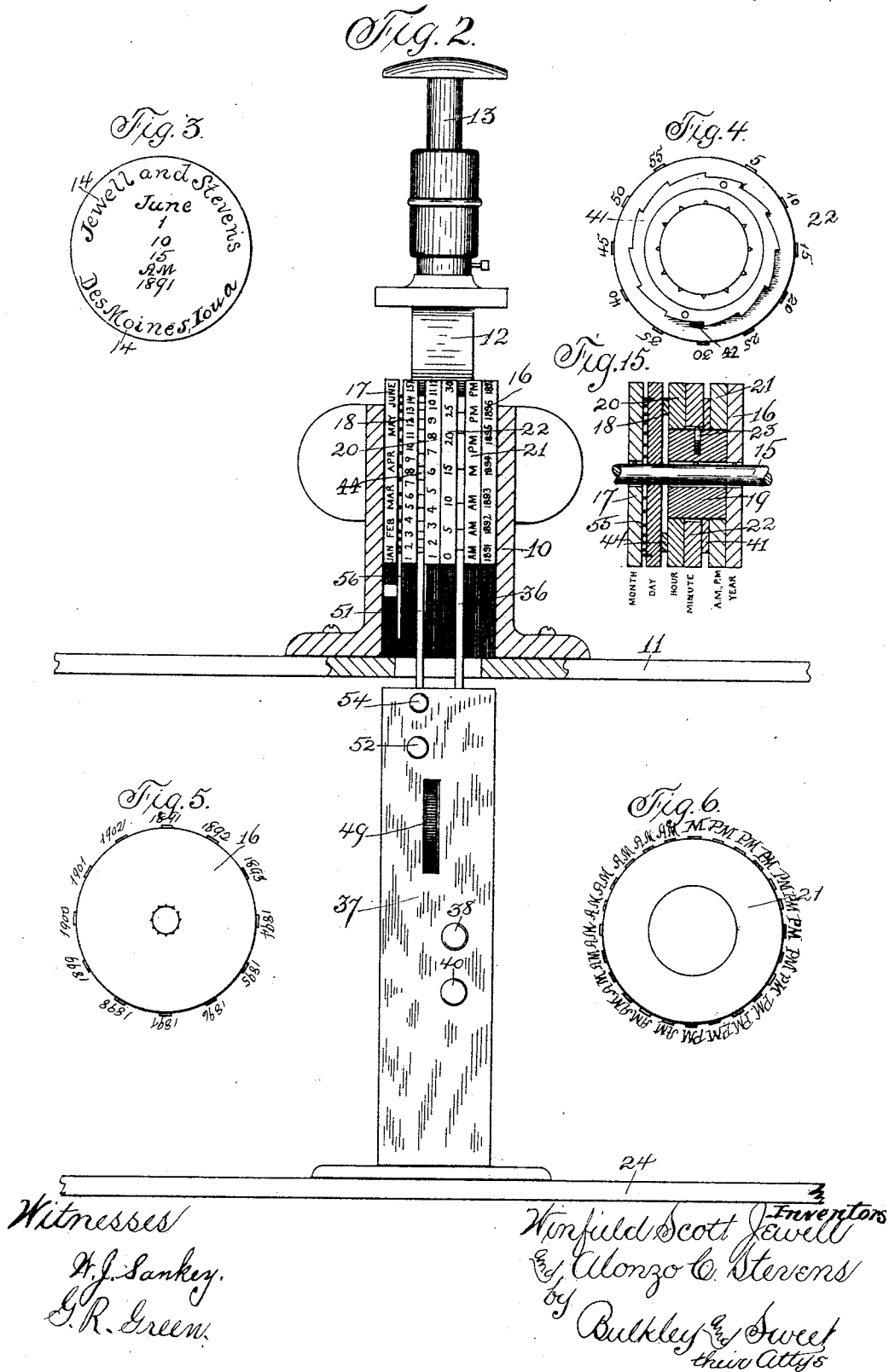
Inventors.
Winfield Scott Jewell
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their Attys.

W. S. JEWELL & A. C. STEVENS.

TIME AND DATING STAMP.

No. 512,378.

Patented Jan. 9, 1894.



Witnesses

H. J. Sankey.
G. R. Green.

Winfield Scott Jewell
Alonzo C. Stevens
by Bulkeley & Sweet
their Attys

(No Model.)

4 Sheets—Sheet 3.

W. S. JEWELL & A. C. STEVENS.

TIME AND DATING STAMP.

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Fig. 7.

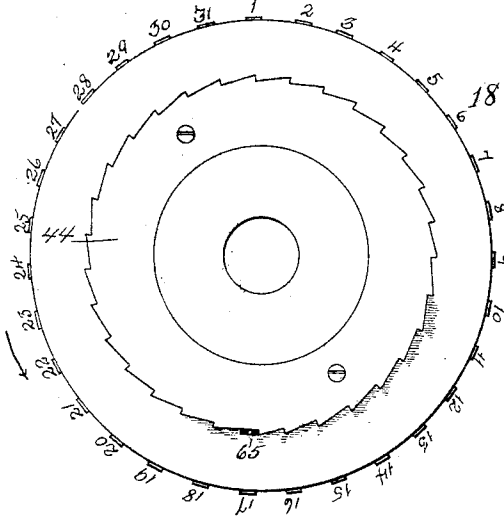


Fig. 8.

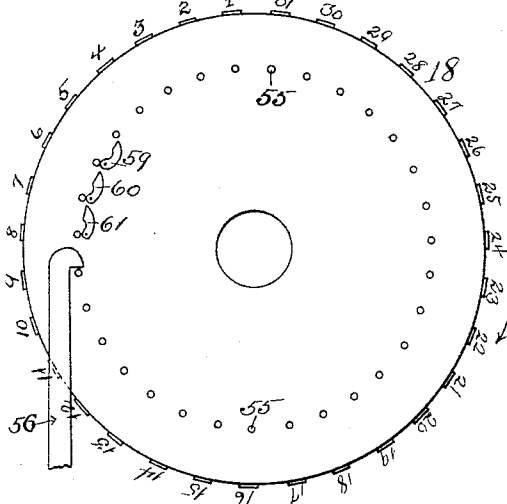


Fig. 9.

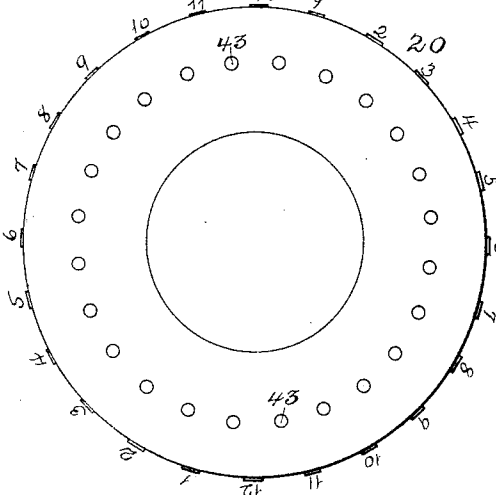


Fig. 10.

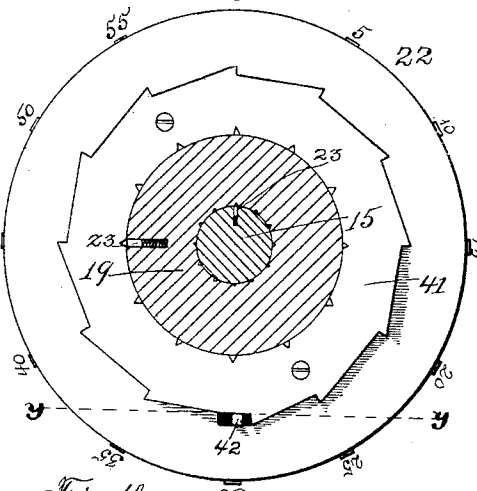


Fig. 11.

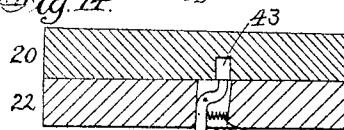


Fig. 12.

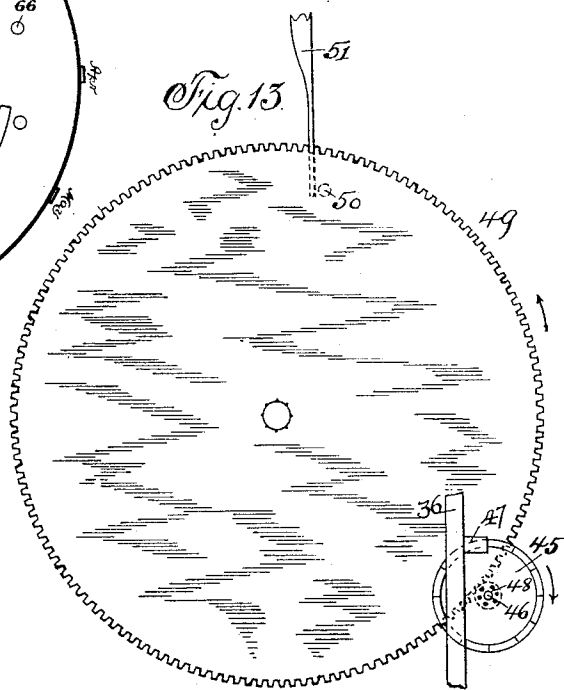
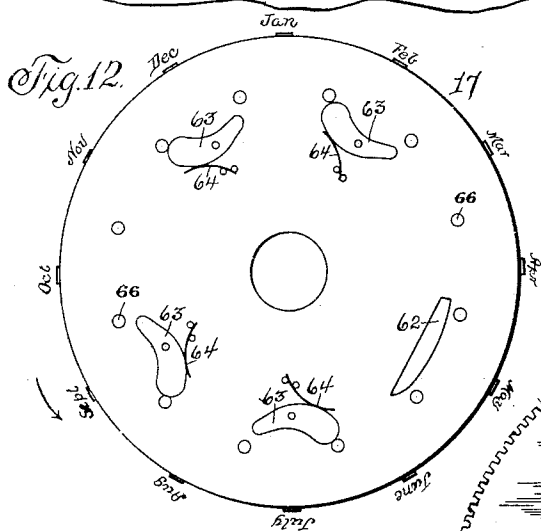
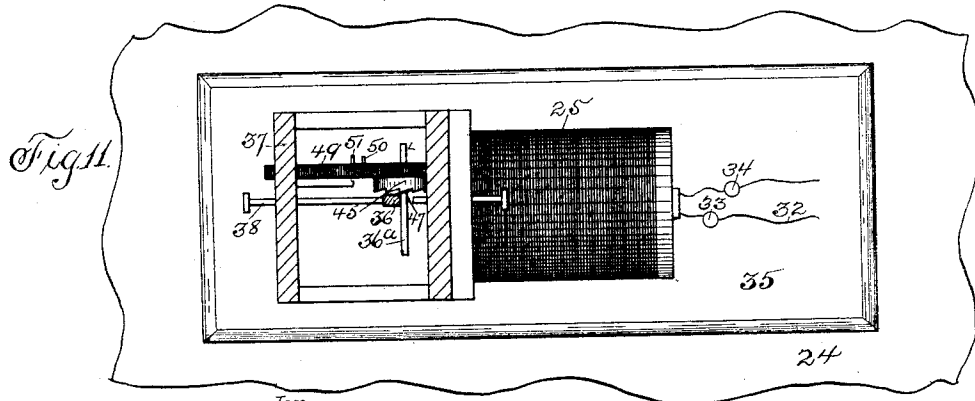
Inventors
Winfield Scott Jewell
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by Bulkeley & Sweet
their Attys

Witnesses
W. S. Jewell
A. C. Stevens

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Witnesses
W. J. Sankey.
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Inventors.
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UNITED STATES PATENT OFFICE.

WINFIELD SCOTT JEWELL, OF INDIANAPOLIS, INDIANA, AND ALONZO C. STEVENS, OF DES MOINES, IOWA.

TIME AND DATING STAMP.

SPECIFICATION forming part of Letters Patent No. 512,378, dated January 9, 1894.

Application filed July 11, 1891. Serial No. 399,248. (No model.)

To all whom it may concern:

Be it known that we, WINFIELD SCOTT JEWELL, a citizen of the United States, and a resident of Indianapolis, in the county of Marion and State of Indiana, and ALONZO C. STEVENS, a citizen of the United States, and a resident of Des Moines, in the county of Polk and State of Iowa, have invented a new and useful Time and Dating Stamp, of which the following is a specification.

Our invention relates to that class of devices technically known as "time stamps," and has for its object the provision of improved means for automatically and intermittently rotating a series of type wheels, by an electric current, the circuit carrying said current being opened or closed by the action of a time keeper connected therewith.

Our invention consists in the combination in a time stamp, of an electro-magnet, placed in circuit with a time keeper and a source of electrical supply, and an armature placed in juxtaposition to the electro-magnet, and connected to a series of type wheels, which latter are so disposed relative to each other as that they may be rotated independently of, or in conjunction with each other at predetermined times.

Our invention consists further in the provision of means, whereby upon the completion of one revolution of the "minute" wheel, the "meridian" and "hour" wheels will be synchronously automatically advanced.

Our invention consists further in the provision of means whereby upon each revolution of the "day" wheel the "month" wheel will be automatically advanced.

Our invention consists further in the provision of means for skipping or overleaping the twenty ninth, thirtieth, and thirty first days on the "day" wheel during the month of February, and the thirty first day on the "day" wheel during all thirty day months.

Our invention consists further in the details of construction and combination, herein-after set forth, pointed out in our claims, and illustrated by the accompanying drawings, in which—

Figure 1 is a side view of the device, portions thereof being broken away to show the relative position of the interior parts. Fig. 2

is a front view of the device, portions thereof being broken away. Fig. 3 is a representation of the impression made by the device. Fig. 4 is a side view of the "minute" wheel. Fig. 5 is a side view of the "year" wheel. Fig. 6 is a side view of the "meridian" wheel. Fig. 7 is a view of one side of the "day" wheel. Fig. 8 is a view of that side of the "day" wheel opposite to that shown in Fig. 7. Fig. 9 is a side view of the "hour" wheel. Fig. 10 is a transverse sectional view between the "minute" and "meridian" wheels. Fig. 11 is a sectional view on the line XX of Fig. 1, looking downward. Fig. 12 is a view of the "month" wheel, showing part of the devices used for overleaping the unused days. Fig. 13 is a detail view of the gear wheels constituting part of the actuating mechanism. Fig. 14 is a sectional view on the line YY of Fig. 10 or on the line ZZ of Fig. 7. Fig. 15, is a cross sectional view through all the type wheels. Figs. 7, 8, 9, 10, 12 and 13 are enlarged.

In the construction of the device as shown, the stamp comprises a base 10, adapted to be fixed to a table or shelf 11, and an upwardly extending curved arm 12, which latter is formed integral with the base 10, and has a plunger 13, mounted in the outer end thereof. This plunger 13, is of common form and is held out of engagement with the type wheels, by yielding pressure interposed between a projecting portion of the plunger and a projecting portion of the arm 12, in a common manner. An opening is formed in the base 10 in the vertical plane of the plunger 13, and a number of letters which designate the name and location of the persons using the stamp and which print such name and location as designated by the numeral 14 in Fig. 3, are arranged concentrically within the said opening in a manner common to all stamps.

It is understood that suitable means are employed for inking the type, and as this invention relates only to special means for periodically intermittently rotating the type wheels, designating the date and time, it has not been deemed necessary to illustrate all the parts, which are common to all stamps of this class.

A shaft 15 is so mounted within bearings

in the base 10 as to be incapable of rotation, and may be manually withdrawn longitudinally to remove and replace the type wheels about to be described. On this shaft the "year" wheel 16, "month" wheel 17, and "day" wheel 18 are loosely mounted, as hereinafter clearly set forth. A sleeve forming a supplemental journal 19, Fig. 10 is loosely mounted on the shaft 15 between the "year" wheel 16 and the "day" wheel 18; and the "hour" wheel 20, and "meridian" wheel 21 are rigidly mounted on said sleeve. The "minute" wheel 22 is loosely mounted on the sleeve 19, between the wheels 20 and 21. When it is said that the several wheels and sleeve are loosely mounted upon the shaft and the wheel loosely mounted upon the sleeve, it is to be understood that the bearings shown in Fig. 10 are to be used. Said bearing comprises notches in the face of the bore of the wheel, or sleeve beneath each character on said wheels, and spring actuated pins 23 in the shaft and sleeve, which pins normally engage the notches as shown, but will readily yield to permit of the rotation of the wheels when power is brought to bear thereon.

An opening is made in the table or shelf 11, directly beneath the type wheels, and a bracket shelf 24 is fixed a short distance below the shelf 11, on which shelf 24 the wheel actuating mechanism is supported.

The numeral 25 designates an electro-magnet, which is in circuit with a battery, or other source of electrical supply, designated as 26 and also with a time keeper 27, as about to be explained.

The positive lead 28 from the battery is connected to a rim 29, of conductive material, which surrounds the dial of a clock or other time keeper 27. This rim has twelve lugs or contact points 30 projecting outward therefrom, which are adapted to be engaged by the "minute" hand 31 of the time keeper in its travels, thereby causing the said "minute" hand to perform the function of a contact finger. These contact points 30 are placed at regular intervals on the rim, and in such a manner relative to the dial of the time keeper as that some one of them will be engaged by the hand 31, every five minutes, counting forward from a given hour. The hand 31, is an electrical conductor as is also its pivot, which pivot is connected by the conducting wire 32, to the binding post 33, which binding post is connected to the electro-magnet 25. The other end of the electro-magnetic coil 25 is connected to a binding post 34, which latter is connected with the battery 26, thus completing the circuit. The electro-magnet is mounted on a wooden base 35 in main engaging lever mechanism consisting of an actuator 36, the lower end of which is pivoted to the base 35, from whence said actuator extends upwardly through a guideway in the frame 37, which latter is also fixed to the base 35, and an armature 36^a, of common form fixed on the actuator 36 in juxtaposition to

the magnet 25, which latter when energized causes said actuator 36 of the main engaging lever mechanism to rotate the minute wheel 22. The lateral movement of the actuator 36 is restricted by the inwardly projecting pins 38, which are fixed in the frame 37 on each side of said actuator. When the electric circuit is broken, the actuator 36 is drawn away from the magnet, by the resilience of a spiral spring 39, one end of which is fixed to the actuator 36 and the opposite end is fixed to an adjusting screw 40, which latter is inserted in a screw seat in the frame 37, as clearly shown in Fig. 1.

The "minute" wheel 22, has its periphery divided into eleven spaces and bears numerals "5," "10," "15," and so on to "55." The place for the numeral "60" is left blank, thereby producing a space between "55" and "5" which is twice as great as any of the other spaces. A ratchet 41 is fixed on the side of the wheel 22, each tooth of which ratchet is on a radial line between the center of said wheel and a printing numeral on the periphery thereof, except that tooth of the ratchet adjacent to the numeral 30. The space between that tooth of the ratchet adjacent to the numeral 30 and that tooth adjacent to the numeral 35 is somewhat longer than the other spaces for reasons which will hereinafter appear. This ratchet 41 is engaged by the upper end of the actuator 36 upon each forward movement of the armature 36^a, and the wheel 22 is thereby moved forward one notch or until the actuator 36 comes in contact with one of the fixed pins 38.

The locking mechanism consisting of a bent lever 42 (Figs. 10 and 14) fulcrumed in a perforation in the wheel 22 has one of its ends projecting from the side of said wheel slightly in advance of the ratchet tooth adjacent to the printing numeral 30 in such a manner as to be engaged by the actuator 36, and pressed against the said ratchet tooth, by which movement the opposite end of said lever 42 is thrown outward and caused to engage a notch 43 in the "hour" wheel 20, and thus rotate said "hour" wheel a short distance.

When the pressure of the actuator 36 is removed from the lever 42, said lever will be caused to resume its normal position by the resilience of a spring 42^a (Fig. 14).

The "hour" wheel 20 has its periphery divided into twenty four spaces and bears numerals from 1 to 12 inclusive on each half thereof with which to print the day.

The meridian wheel 21 has its periphery divided into twenty four spaces and bears the letters "M." "P.M." "A.M." so disposed as to print that time relative to the meridian as desired. By reason of the "hour" wheel and "meridian" wheel being both rigidly secured to the sleeve 19, upon the rotation of said "hour" wheel, as described, the "meridian" wheel will also be rotated, thus always retaining its relative position to the said "hour" wheel.

The "day" wheel 18 has its periphery divided into thirtyone equal spaces, and bears numerals from "1" to "31" inclusive, with which to print the day.

5 A ratchet 44 is fixed on one side of the "day" wheel, the teeth of which ratchet coincide with the numerals on the periphery of said wheel with the exception that the space between that ratchet tooth adjacent to the numeral 17 and that tooth adjacent to the numeral 18 is somewhat longer than the other spaces for reasons that will hereinafter be set forth.

15 The numeral 45 designates a wheel having a ratchet on one side thereof, which wheel is rigidly mounted on one end of the shaft 46, which shaft is journaled in the frame 37. The ratchet on the wheel 45 is acted upon by a spring pawl 47, which pawl is fixed to the actuator 36 and is operated by the movement of said actuator. This ratchet on the wheel 45 has twelve teeth, and a pinion 48 having six teeth, is rigidly mounted on the shaft 46 opposite to the wheel 45, which pinion meshes with the gear wheel 49, having one hundred and forty four teeth. The gear wheel 49 is journaled on a pivot fixed to the frame 37. An abutment 50 projects from one side of the wheel 49 which abutment engages the lower end of a lever 51 upon each revolution of said wheel. The lever 51 is fulcrumed on the frame 37 in an approximately vertical position and the upper end thereof is made of thin steel and is curved rearward to a point of engagement with the ratchet 44 on the wheel 18 in such a manner that after being acted upon by the pin 50 on the wheel 49 and advancing the wheel 18 one notch, it will yield sufficiently to permit of its being brought back and into engagement with the following tooth on said ratchet. The lower end of said lever 51 is made of thin spring steel in order that it may yield to permit the passage of the abutment 50 on the wheel 49 at a time when the wheel 18 is locked, as will shortly appear. The full stroke of the lever 51 would advance the wheel 18 at a distance equal to four notches on the ratchet 44 and is limited thereto by pins 52 which project inward from the side of the frame 37 as clearly shown in Fig. 1.

50 The ratchet wheel 45, shaft 46, spring pawl 47, pinion 48, gear wheel 49, abutment 50 and lever 51 together comprise auxiliary engaging lever mechanism operated by the movement of the main engaging lever mechanism to advance the day wheel.

60 A spiral spring 33 is fixed at one end to the lever 51 at a point above the fulcrum of said lever, and at the other end to an adjusting screw 54 seated in the frame 37, which spring normally holds said lever in engagement with the ratchet 44 and pulls said lever back after each intermittent advancement of the wheel 18.

65 On the side of the "day" wheel 18 opposite to the ratchet 44 are fixed a number of pins 55 corresponding in number with the

teeth of said ratchet, and directly opposite thereto. A detent 56 having a hook on its upper end is fulcrumed on the base 10 in the rear of the space between the wheels 17 and 18, and is held in engagement with some one of the pins 55 by means of a spring 57 fixed to the base 10, and impinges against the back of the detent 56, (Fig. 1.) A wire 58 connects the upper end portion of the lever 51 with the lower end of the detent 56 and disengages the hook on the detent from the pin 55, when the pin 50 engages the lever 51, thus permitting the advancement of the wheel 18. When the pin 50 on the wheel 49 has passed the lever 51, the spring 53 pulls said lever backward and permits the hook on the detent to engage the pin 55, thus permitting the wheel 18 to be advanced one notch of the ratchet 44 at each revolution of the wheel 49, or a space corresponding to one day.

The "day" wheel 18 has three fingers 59, 60, and 61, pivoted to the side thereof in the spaces between the pins 55 which are adjacent to the printing numerals "5" and "6" and "7," "7" and "8," which designate and print the day. On the adjacent side of the "month" wheel 17, is fixed a series of lugs 62 and 63. The lug 62 is fixed rigidly on the wheel opposite to the space occupied by the printing symbol designating the month of May, the center of said lug being directly opposite to said symbol. The face of said lug adjacent to said printing symbol is convex and of such a length as that when the fingers 59, 60, and 61, on the "day" wheel are brought opposite thereto, said lug will exceed in length the space occupied by said fingers. Said lug is located in a circle concentric with and within the circle occupied by said fingers and is in such a position as that upon the rotation of the wheel 18, said fingers will engage the convex surface of the lug 62 and be pressed outward until their free ends occupy and fill the space between the pins adjacent to which they are located and prevent the entrance within those spaces of the hook on the lever 56. The lugs 63 are located adjacent to the printing numerals designating respectively the months of July, September, December and February. The lugs 63 are curved, and are larger at one end than at the other. They are pivoted near their centers to the wheel 17, and the larger end thereof is pressed toward the perimeter of said wheel by springs 64 which springs are held between pins fixed to said wheel, and impinge against the back of the larger end of said lugs.

In the advancement of the wheel 18, the wheel 17 being temporarily stationary, the finger 59 between the printing numerals 5 and 6, and the finger 60 will pass the small end of that lug 63 which is adjacent thereto and the finger 59 will impinge against and press downward the large end of said lug, thereby causing the small end of said lug to press the finger 61 outward between the pins 55 which are adjacent to the printing numerals "7" and

"8," thus preventing the engagement with the pin 55 opposite to the printing numeral "8," of the hook on the lever 56, and in this manner each of the lugs 63 are acted upon successively and progressively thus providing means for skipping or overleaping the thirty-first day on the "day" wheel in each thirty day month.

Tripping mechanisms similar to that mounted within the minute wheel 22, consisting of a bent lever 65, is fulcrumed in a perforation in the wheel 18, one end thereof projecting from the side of said wheel slightly in advance of the ratchet tooth adjacent to the printing numeral "16" in such a manner as to be engaged by the lever 51 and pressed against the said ratchet tooth thereby throwing the opposite end of said lever 65 outward and causing it to engage one of the notches 66 in the face of the "month" wheel 17, and thus rotate said "month" wheel a short distance and bring the next printing numeral thereon into position. When the pressure of the lever 51 is relaxed the lever 65 will be acted upon by a spring 42^a (Fig. 14) and caused to resume its normal position.

The "year" wheel 16 has been arranged for manual actuation and adjustment, to avoid compounding the operating mechanisms.

The operation of our improved device is as follows: In the advancement of the "minute" hand 31 of the time keeper 27, said "minute" hand contacts with the first of the series of lugs 30, arranged upon the rim 29, thus establishing electrically a circuit with the source of supply 26 and the electro-magnet 25, which latter then attracts the armature 36^a, and causes the upper end of the actuator 36 to describe an arc, said upper end engaging that tooth of the ratchet 41 on the "minute" wheel 22 opposite the numeral "30" on the periphery of said wheel thus rotatably advancing said wheel so that the numeral "5" on the periphery thereof is brought into position to impress that figure upon the object being stamped, and in the further advancement of the "minute" hand 31, the circuit is broken and the actuator 36 retracted by means of the spring 39, the printing numeral "5" remaining in position until the second one of the series of lugs 30 completes the circuit with the "minute" hand 31, and energizing magnet 25, vibrating the actuator 36 the upper end of which engages that tooth of the ratchet opposite to the numeral "35," this operation being successively repeated until all the numerals on the periphery of the "minute" wheel from "5" to "55" inclusive have been successively brought into an operative position so that at any time there may be impressed upon an object during the lapse of the hour the designation of each successive five minute interval. The actuator 36 having successively engaged each of the teeth of the ratchet 41, and the numeral 55 on the

periphery of the minute wheel having been brought into position, in the further vibration of the upper end of the actuator 36 the latter engages the outer end of the bent lever 42, fulcrumed in the minute wheel 22, and pressing the said end of the bent lever 42 against that ratchet tooth opposite the numeral 30, causes the outer end of said lever 42 to engage that perforation 43 in the side of the hour wheel 20 on the diametrically opposite side of the said wheel to that numeral with which the desired and proper hour is to be printed. Thus if the hour of two is to be printed, the inner end of bent lever 42 will engage that perforation 43 between the numerals 1 and 2, and advance the numeral 2 into printing position, the operation being successively and automatically repeated in the continued rotation of the minute wheel. The meridian wheel 21 together with the hour wheel being rigidly mounted on the supplemental journal, it follows that a movement of rotation of the hour wheel will cause a corresponding movement of the said meridian wheel, which latter bears upon its periphery the letters A. M., repeated successively eleven times, and the letters P. M., repeated twelve times, together with the letter M., so that the meridian proper, and time relative thereto may be properly designated conjunctively with the hour wheel. The day wheel 18 is actuated rotatively by the auxiliary engaging lever mechanism as follows: The spring pawl 47 carried on and moved by the actuator 36 engages and rotates the ratchet wheel 45 having the twelve teeth, one entire revolution each hour, the pinion 48 having six teeth being also rotated correspondingly. The gear-wheel 49 having one hundred and forty four teeth meshing with the pinion having six teeth, it follows that it necessitates two hundred and eighty eight vibrations of the actuator 36 in order to effect a complete revolution of the gear wheel 49, said number of vibrations corresponding to the number of five minute intervals in each day, which when this complete revolution is effected causes the abutment 50 to engage the lower end of lever 51, which latter engages the teeth of the ratchet 44 of the day wheel 18 and advances the same successively to print the day of the month. The normal tendency of the lever 51 to advance the day wheel 18, four notches is limited in the case of those months having thirty-one days to a movement equal to one space between the numerals on the periphery of said wheel, by means of the normal tendency of the detent 56 to engage the pins 55, which when any one is engaged affords a resistance which causes the lower end of the lever 51 to spring and permit the passage of the abutment 50 in the continued rotation of the wheel 49, by said lower end. The month wheel 17 is advanced by means of the tripping mechanism carried by the day wheel, which mechanism is the same as that

mounted in the minute wheel 22, and is acted upon the lever 65 of the said tripping mechanism to engage the perforations 66.

The operation of the mechanism for automatically skipping the thirty-first day in thirty day months, as well as the thirty-first thirtieth and twenty-ninth days in the month of February, has been heretofore fully described in connection with the particular description of the parts.

It will be observed that the hour and meridian wheels are arranged upon a common sleeve, and that the minute wheel is interposed between them and journaled on the said sleeve, this relative arrangement of the wheels being necessary in order that the reproduction of the stamp may read as shown in Fig. 3.

Having thus described our invention, what we claim as new therein, and desire to secure by Letters Patent of the United States therefor, is—

1. A time and dating stamp comprising a series of type bearing wheels designating the year, month, day, hour, meridian and minute, an actuated pawl intermittently engaging successive notches on the minute wheel and rotating the same, locking mechanism, which when acted upon by the said pawl at predetermined intervals locks together the hour and meridian wheels, thereby rotating the said hour and meridian wheels in unison.

2. A time and dating stamp comprising a shaft mounted in a suitable base in juxtaposition to an impression device, year, month and day wheels rotatably mounted on said shaft, hour and meridian wheels loosely mounted on a supplemental journal, a minute wheel loosely mounted on the said supplemental journal, main engaging lever mechanism operated by an electro-magnet to advance the minute wheel, auxiliary engaging lever mechanism, and gear mechanism between said main engaging lever mechanism and said auxiliary engaging mechanism, which gear mechanism when acted upon by the main engaging lever mechanism aforesaid advances the day wheel, and locking mechanisms carried respectively by the minute and day wheels, which when respectively acted upon by the main and auxiliary engaging lever mechanisms synchronously rotates each adjacent wheel.

3. In a time and dating stamp, the combination of a series of type bearing wheels arranged in independently operating sets, one of said sets comprising a day and a month wheel, the axis of which set serves as a support for the axis of the other set composed of the hour, meridian and minute wheels, an electro-magnet, main engaging lever mechanism actuated by the magnet to operate the minute wheel, auxiliary engaging lever mechanism to operate the day wheel, gear mechanism between the main engaging lever mechanism and the auxiliary lever engaging mechanism, and locking mechanisms carried by the min-

ute and day wheels respectively, which locking mechanisms when acted upon by the aforesaid lever mechanisms advances the adjacent wheel of each set respectively.

4. The combination in a time and dating stamp, of a series of type bearing wheels arranged in sets in juxtaposition to an impression device, one of which sets comprises minute, hour and meridian wheels, main engaging lever mechanism actuated by an electro-magnet to operate the minute wheel, gear wheels operated by said mechanism, and auxiliary engaging lever mechanism acted upon by said gear wheels and acting upon and advancing the remaining set of type bearing wheels, which latter set comprises a day and month wheel.

5. In a time and dating stamp, two independently operating sets of type bearing wheels, a common axial support for all of said wheels, one of said sets comprising a day and month wheel and the remaining set comprising a minute, hour and meridian wheel, the latter set being mounted directly upon a supplemental journal, an electro-magnet, main engaging lever mechanism operated by said electro-magnet engaging and rotating the minute wheel of one set, auxiliary engaging lever mechanism, gear mechanism between said main engaging lever mechanism and the auxiliary engaging lever mechanism, by which the latter is operated to rotate the day wheel of the remaining set, locking mechanisms carried by the minute and day wheels respectively and respectively acted upon by the main engaging lever mechanism and the auxiliary engaging lever mechanism to cause them to engage at intervals the adjacent wheel or wheels of each set respectively and advance the same, leads between said electro-magnet, a time keeper and a source of electrical supply, and means by which said time keeper automatically and at predetermined intervals progressively and intermittently establishes a circuit between the source of electrical supply and the said electro-magnet.

6. In a time and dating stamp a minute, hour and meridian wheel mounted upon a common journal or shaft, the minute wheel being loosely mounted thereon and adapted to rotate independently, the hour and meridian wheels being rigidly mounted upon said shaft and therefore adapted to be operated conjunctively, main engaging lever mechanism rotating the minute wheel, locking mechanism carried by said minute wheel engaging at predetermined intervals the adjacent wheels to advance the same, and means for operating said locking mechanism.

7. In a time and dating stamp, a plurality of type bearing wheels arranged in two independently operating sets, one of said sets comprising a day and month wheel, and the remaining set comprising the minute, hour and meridian wheels, main engaging lever mechanism operating the minute wheel, auxiliary engaging lever mechanism, gear mechanism

between the main engaging lever mechanism and the said auxiliary engaging lever mechanism acting upon the latter to cause it to operate the day wheel of the remaining set, and locking mechanisms carried by the minute and day wheels respectively, which locking mechanisms upon one revolution of said wheels engages an adjacent wheel or wheels of its respective set, and imparts thereto a rotary motion intermittently and progressively, together with means for actuating the locking mechanisms.

8. In a time and dating stamp the combination of a shaft mounted in a suitable base, and in juxtaposition to an impression device, a day wheel rotatably mounted on said shaft, a pawl acting upon said day wheel and adapted to move the same more than one notch at each actuation thereof, pins fixed upon one side of said day wheel at regular intervals of separation, and a detent pivoted upon a suitable support and adapted to engage the said pins at irregular predetermined intervals and limit the advancement of the day wheel upon each successive actuation of said pawl.

9. In a time and dating stamp the combination of a shaft mounted in a suitable base in juxtaposition to an impression device, month and day wheels rotatably mounted on said shaft, mechanism for actuating said wheels, ratchet teeth on the day wheel, pins corresponding in number with said ratchet teeth fixed to one side of said day wheel at regular distances of separation, a detent pivoted on a suitable support and adapted to engage said pins and lock the day wheel, and fingers pivotally mounted on said day wheel and adapted to be acted upon to close the space or spaces between two or more of said pins and prevent the engagement of the detent with said pins, together with auxiliary main engaging lever mechanism acting upon the day wheel to advance the same four steps at a time.

10. A time and dating stamp comprising a shaft mounted in a suitable base and in juxtaposition to an impression device, month and day wheels rotatably mounted on said shaft, mechanism for actuating said wheels, pins corresponding in number with ratchet teeth on the day wheel, fixed to one side of said day wheel at regular intervals of separation, means by which said day wheel is advanced four steps at a time, a detent pivoted on a suitable support and adapted to engage the said pins and lock the day wheel, fingers pivotally mounted on said day wheel, lugs fixed to the month wheel, which lugs when engaged by said fingers will cause said fingers to close one or more of said spaces between the said pins, which lugs are in the radial line of the printing symbols designating the months of February, May, July, September and December, respectively.

11. A time and dating stamp comprising a shaft mounted in a suitable base and in juxtaposition to an impression device, year, month and day wheels rotatably mounted on said

shaft, a sleeve rotatably mounted on said shaft, hour and meridian wheels rigidly mounted on said sleeve, a minute wheel rotatably mounted on said sleeve, a ratchet fixed to said minute wheel, main engaging lever mechanism operated by an electro-magnet, and periodically engaging said ratchet and advancing said minute wheel, locking mechanism carried by said minute wheel periodically acted upon by the said main engaging lever mechanism, and caused to engage the adjacent type wheel and advance the same synchronously with the advancement of the minute wheel, thereby imparting to the sleeve an intermittent rotary movement, a ratchet wheel acted upon by said main engaging lever mechanism, a gear wheel having six teeth mechanically connected to said ratchet wheel and operated thereby, a gear wheel having one hundred and forty four teeth meshing with the aforesaid gear wheel, a lever fulcrumed on a suitable support acted upon by said larger gear wheel, a ratchet fixed to said day wheel periodically acted upon by said latter lever whereby an intermittent rotary movement is imparted to said day wheel, and locking mechanism carried by said day wheel and periodically acted upon by the lever in actuating said ratchet to engage with and advance the month wheel synchronously with the advance of the day wheel.

12. A time and dating stamp comprising a shaft mounted in a suitable base and in juxtaposition to an impression device, year, month, and day wheels rotatably mounted on said shaft, a sleeve rotatably mounted on said shaft, hour and meridian wheels rigidly mounted on said sleeve, a minute wheel rotatably mounted on said sleeve, a ratchet fixed to said minute wheel, main engaging lever mechanism operated by an electro-magnet and engaging with said ratchet and periodically imparting to said minute wheel a rotary motion, locking mechanism carried by said latter wheel, which locking mechanism is acted upon by said main engaging lever mechanism and caused to engage the adjacent wheel, thereby imparting to the sleeve an intermittent rotary movement, a ratchet fixed to the day wheel, a lever fulcrumed on a suitable support, gear wheels operated by the aforesaid main engaging lever mechanism, intermittently engaging the said lever and causing the same to engage the ratchet on said day wheel, thereby intermittently rotating said day wheel, detent mechanism engaging with said day wheel to lock the same, means for releasing said detent mechanism to render the same momentarily inoperative, and locking mechanism carried by the day wheel, which locking mechanism is periodically acted upon by the lever actuating said day wheel, thus causing said locking mechanism to engage the month wheel and intermittently and progressively advance the same.

13. In a time and dating stamp, devices for overleaping the twenty ninth, thirtieth and

- thirty first days on the day wheel during the month of February, and the thirty first day on the day wheel during all thirty day months comprising an electro-magnet, main engaging lever mechanisms operated by said electro-magnet, a plurality of type bearing wheels, auxiliary engaging lever mechanism actuated by the main engaging lever mechanism, a plurality of pins carried by the day wheel coincident with the symbols designating the days of the month, said auxiliary engaging lever mechanism being adapted to normally tend to rotate the day wheel a distance equal to four spaces occupied by the printing symbols thereon, a detent normally tending to engage successively each of said pins which is disengaged by the auxiliary engaging lever mechanism to permit the advancement of the day wheel, lugs on the month wheel coincident with the symbols designating the months of February, May, July, September and December, pivoted fingers secured upon the day wheel in such a position as to be acted upon by said lugs whereby the detent is withheld from engagement with those pins coincident with the symbols designating the sixth, seventh and eighth days of the month on the day wheel.
14. In a time and dating stamp, devices for overleaping the twenty ninth, thirtieth and thirty first days on the day wheel during the month of February, and the thirty first day on the day wheel during all thirty day months, comprising day and month wheels, mechanism for periodically actuating said wheels, a plurality of pins on the day wheel, a detent normally tending to engage said pins, lugs on the month wheel, and pivoted fingers acted upon by said lugs, whereby said detent is withheld from engagement with one or more of said pins, together with means by which a four step movement is imparted to the day wheel.
15. In a time and dating stamp, devices for conjunctively operating the minute and hour wheels comprising a bent lever fulcrumed within the minute wheel, lever mechanism acting upon said bent lever whereby the latter is caused to periodically engage said hour wheel and periodically and progressively rotate the same.

ter is caused to periodically engage said hour wheel and periodically and progressively rotate the same.

16. In a time and dating stamp devices for conjunctively operating the hour, meridian and minute wheels, comprising a bent lever fulcrumed within the minute wheel, lever mechanism acting upon said bent lever whereby the latter is caused to periodically engage the adjacent wheel, and rigid connections between said hour and meridian wheels.

17. In a time and dating stamp devices for conjunctively operating the hour, meridian and minute wheels, comprising a bent lever fulcrumed within the minute wheel, which minute wheel is mounted upon an auxiliary journal which forms a rigid connection between the hour and meridian wheels, and lever mechanism acting upon said bent lever, whereby the latter is caused to periodically engage and progressively advance the adjacent wheel.

18. In a time and dating stamp, devices for operating the type bearing wheels, comprising a bent lever operated by a motor, an auxiliary lever, an actuator wheel having a ratchet on one side and rotating a pinion, a gear wheel meshing with said pinion, an abutment on said wheel which in its traverse actuates the auxiliary lever, and a spring pawl engaging said ratchet face.

19. In a time and dating stamp, a journal, hour and meridian wheels mounted upon said journal independently of each other, a minute wheel mounted upon said journal between the hour and meridian wheels, which meridian wheel bears upon its periphery the symbols designating the time relative to the meridian and the meridian.

WINFIELD SCOTT JEWELL.

ALONZO C. STEVENS.

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W. F. MILHOLLAND,

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S. C. SWEET,

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