No. 708,889. Patented Sept. 9, 1902.

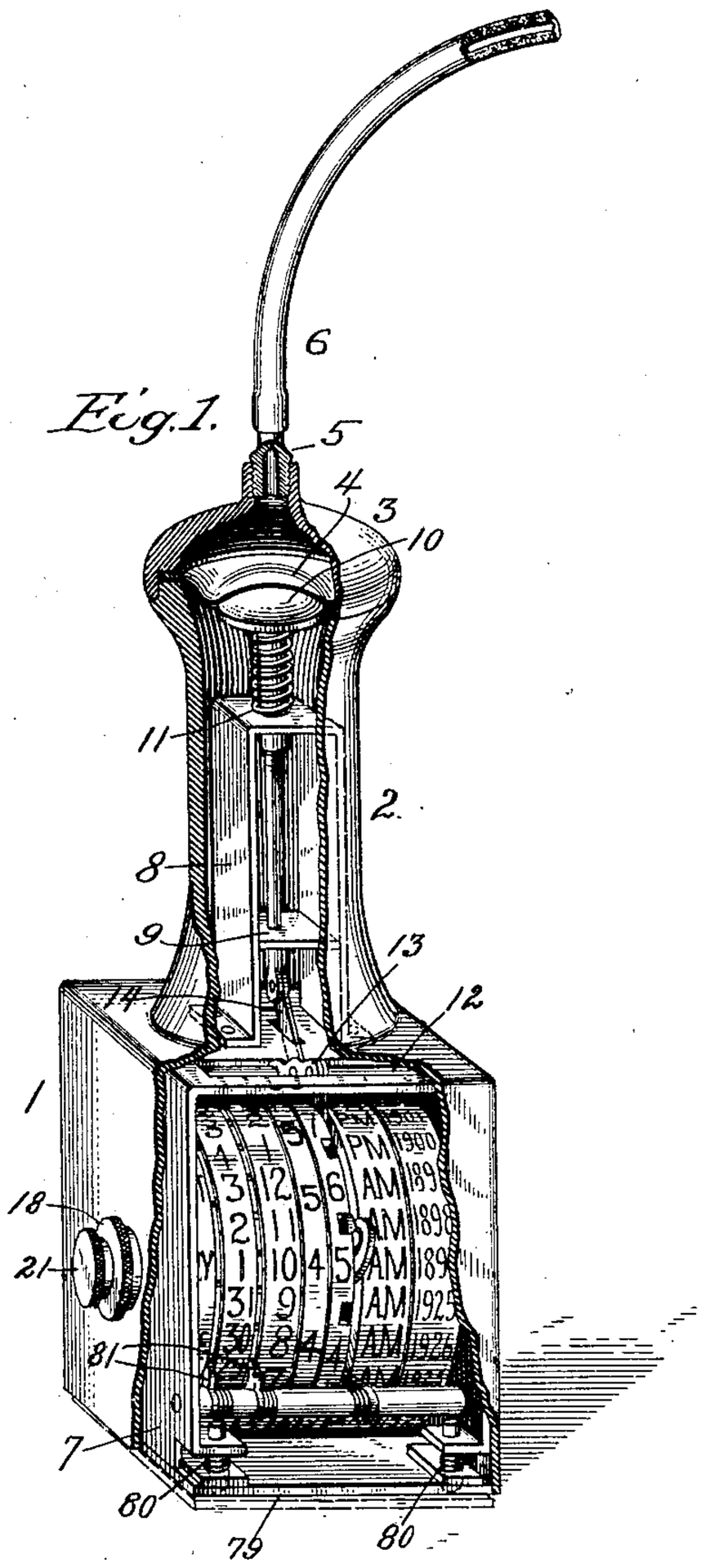
C. F. JOHNSON.

TIME STAMP.

(Application filed Oct. 4, 1897.)

(No Model.) 4 Sheets—Sheet 1.

Fig. 1.



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(No Model.) 4 Sheets—Sheet 2.

Fig. 8.

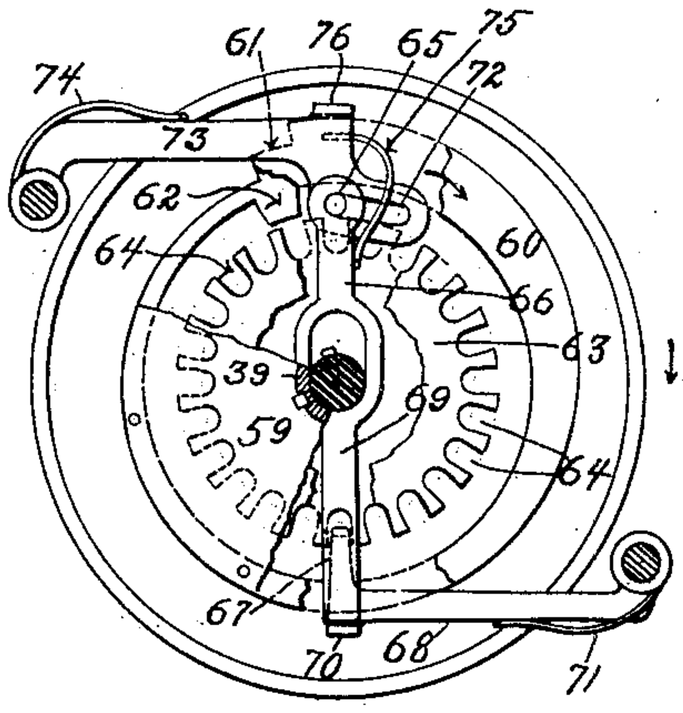


Fig. 9.

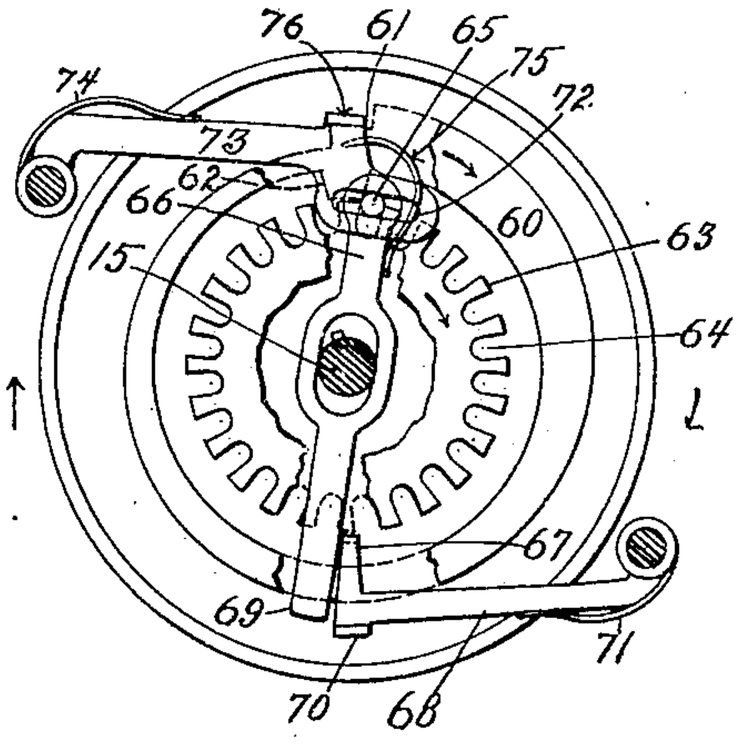
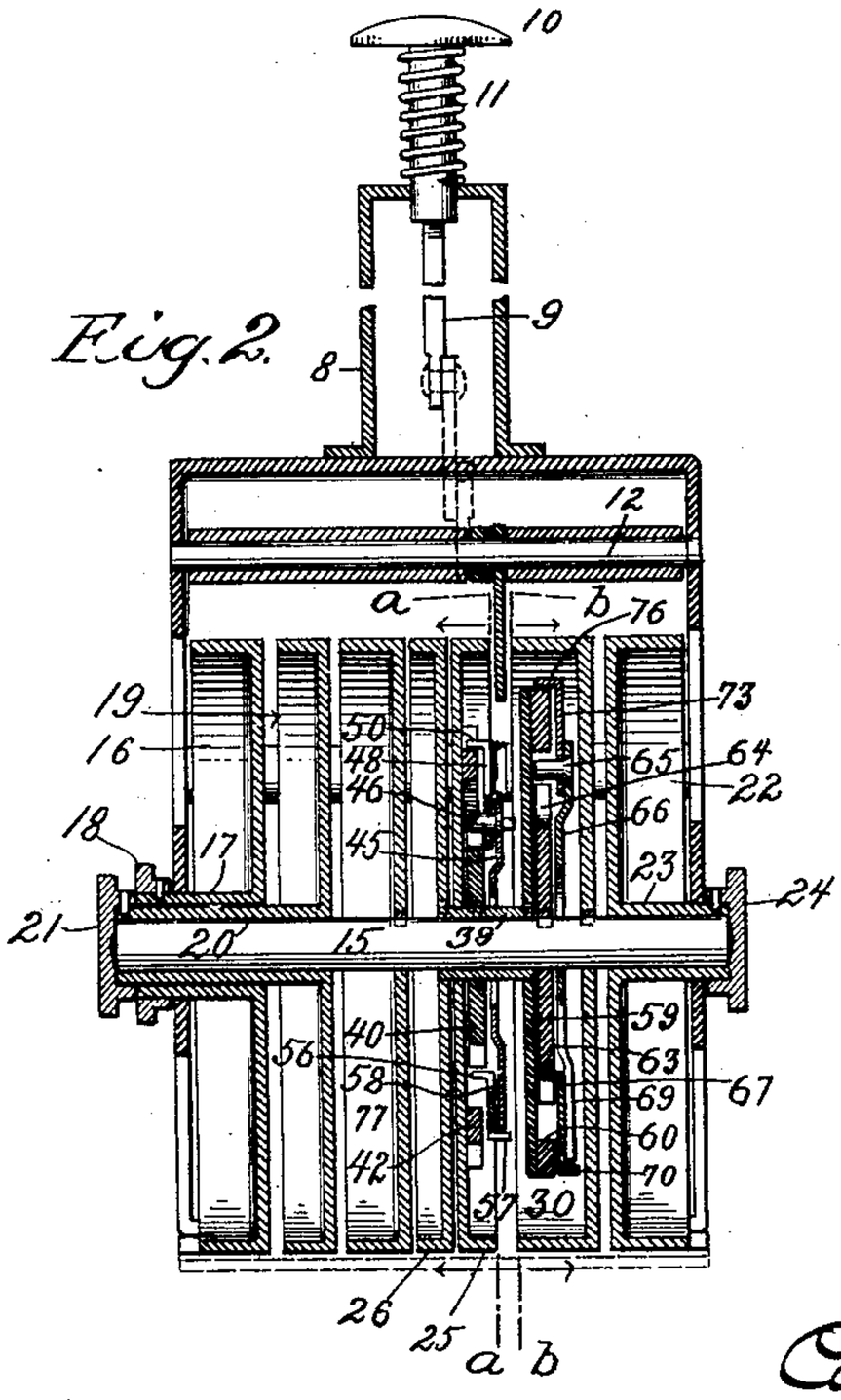


Fig. 2.



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No. 708,889. Patented Sept. 9, 1902.

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(No Model.) 4 Sheets—Sheet 3.

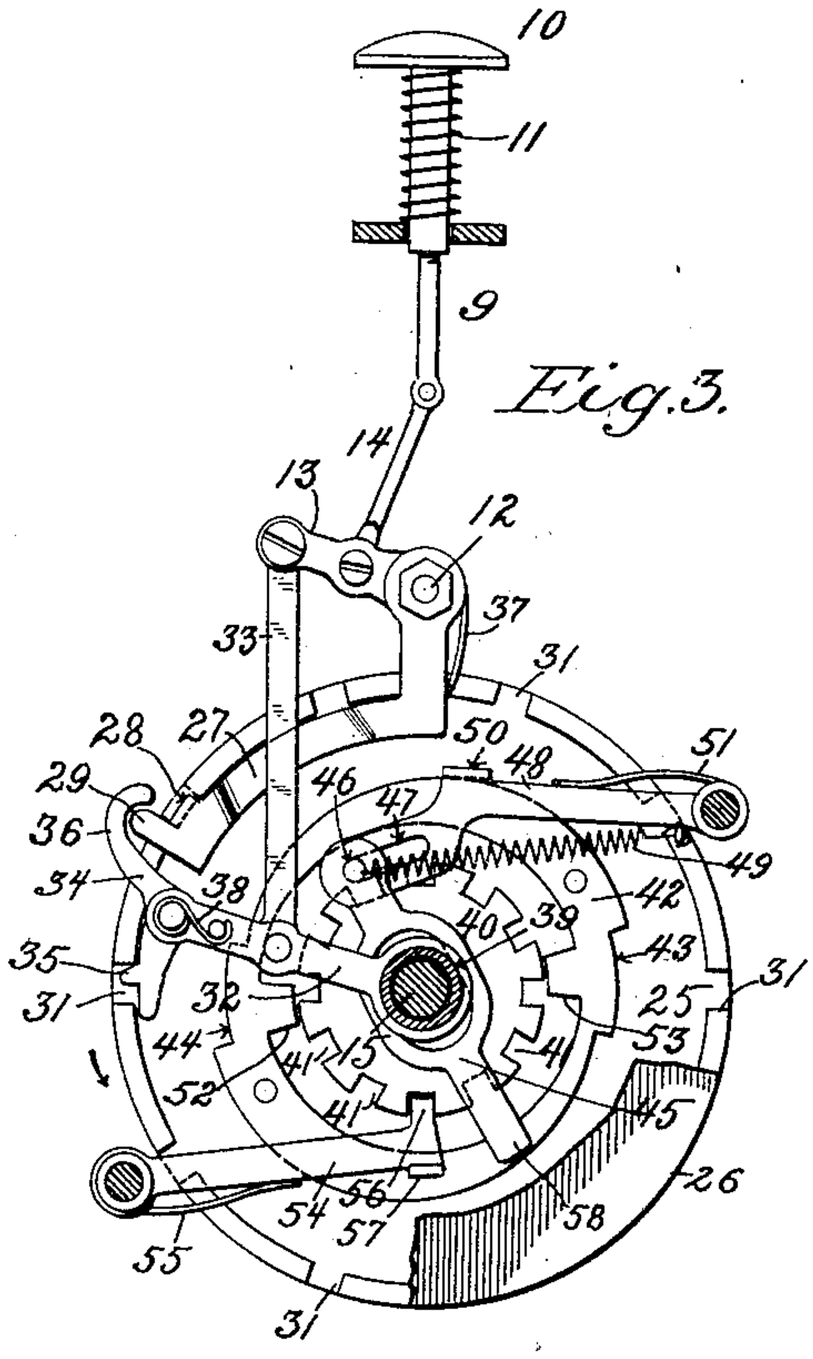

Fig. 3.

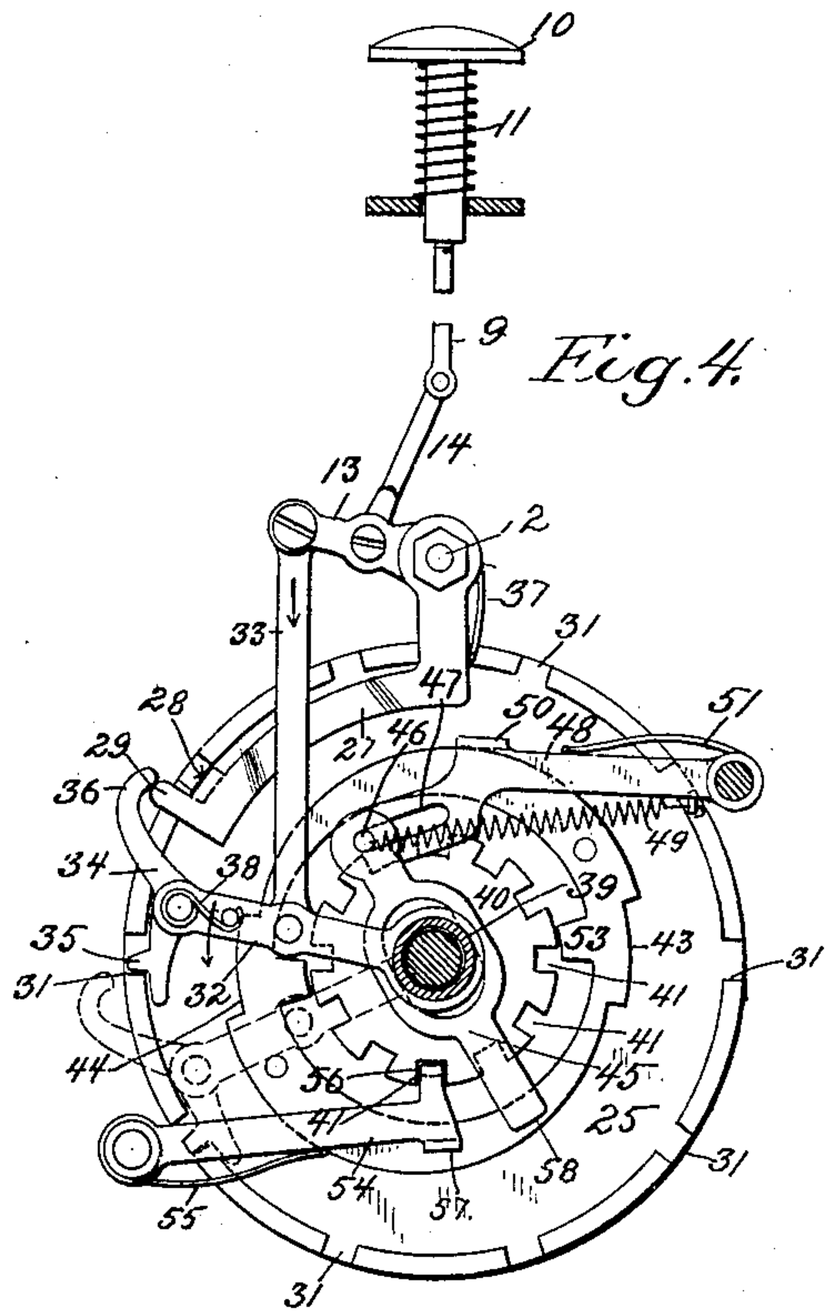

Fig. 4.

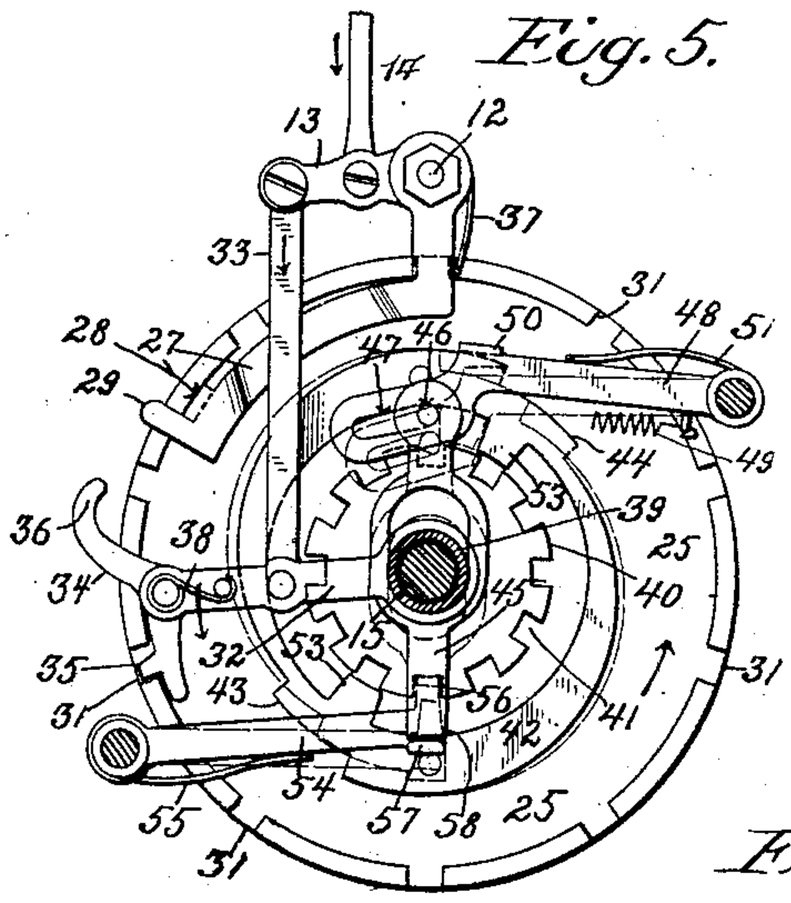

Fig. 5.

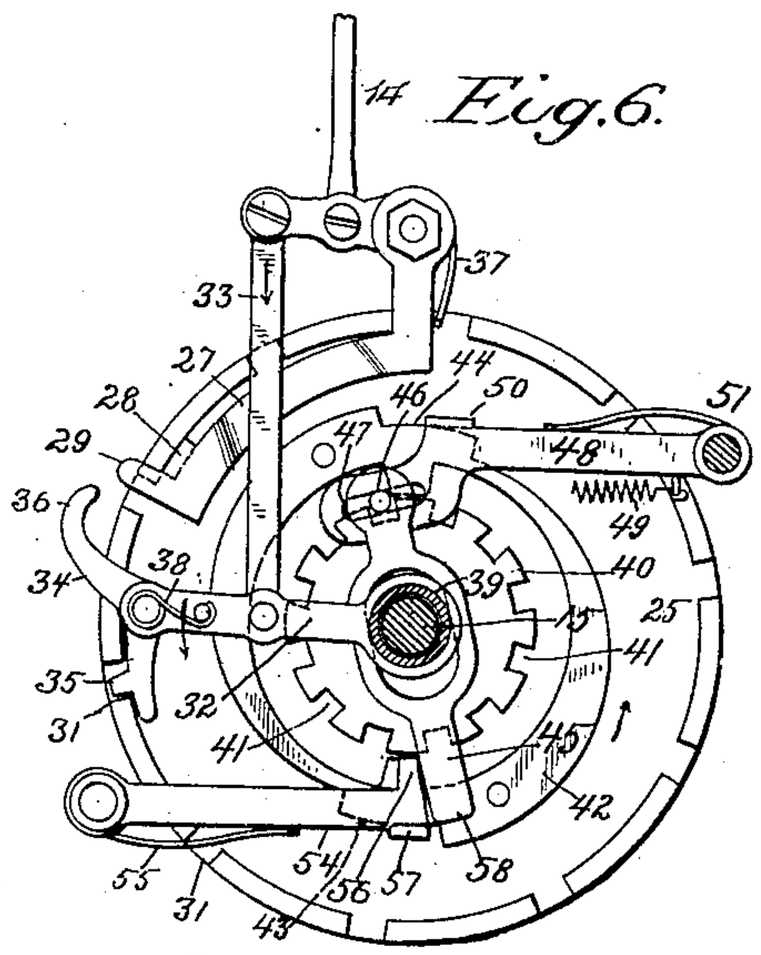

Fig. 6.

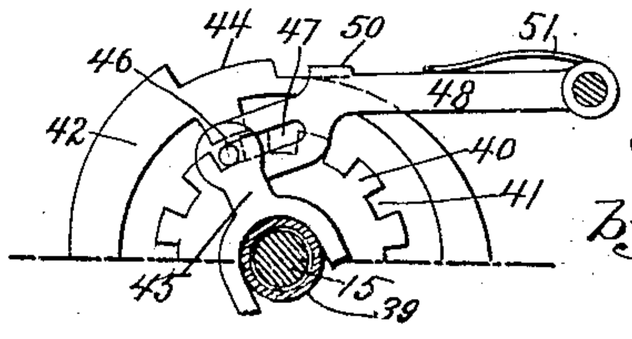

Fig. 7.

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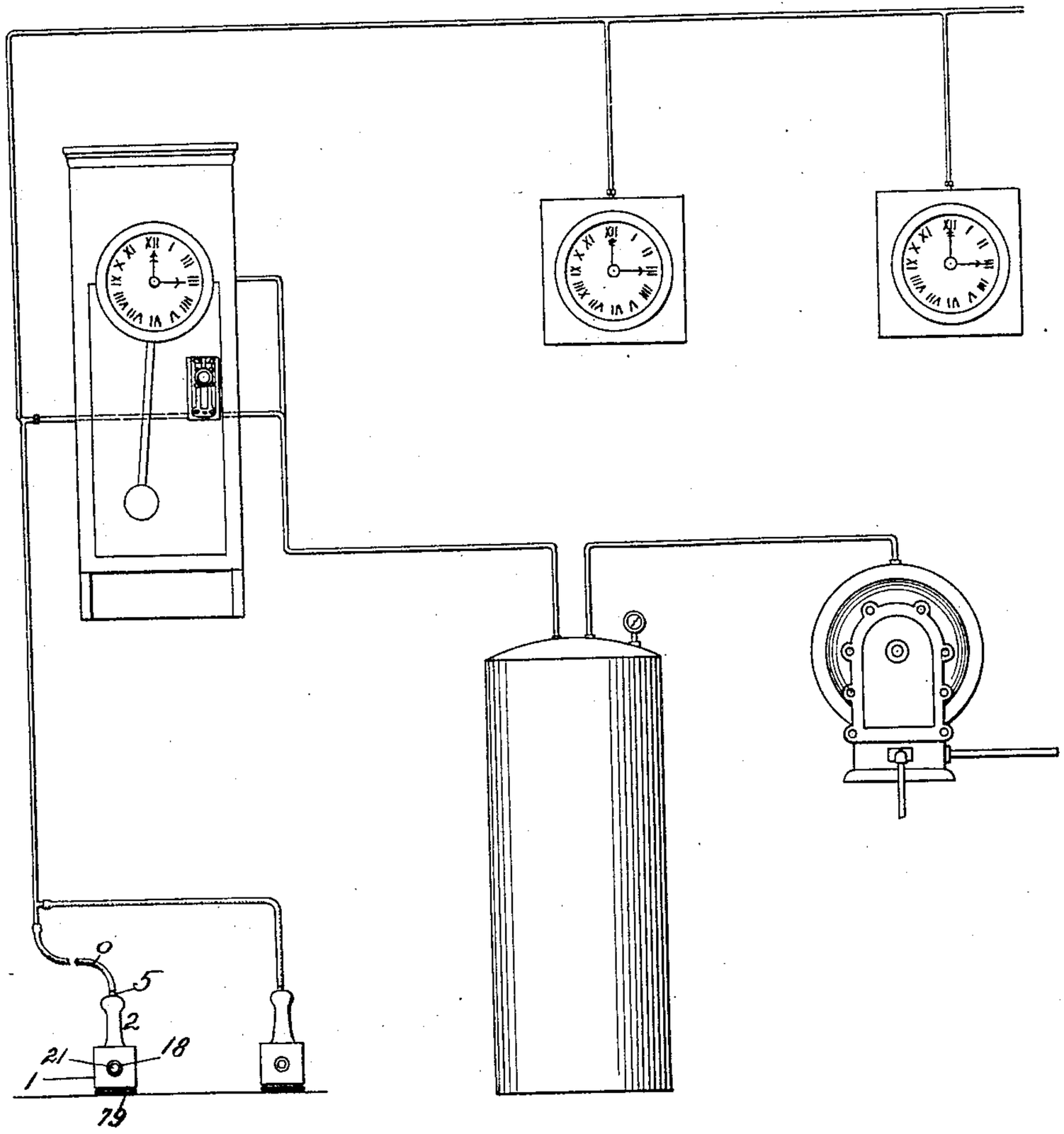
(No Model.) 4 Sheets—Sheet 4.

Fig. 10.



Witnesses.
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D. E. Burdine

Inventor:
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UNITED STATES PATENT OFFICE.

CARL F. JOHNSON, OF MILWAUKEE, WISCONSIN.

TIME-STAMP.

SPECIFICATION forming part of Letters Patent No. 708,889, dated September 9, 1902.

Application filed October 4, 1897. Serial No. 653,992. (No model.)

To all whom it may concern:

Be it known that I, CARL F. JOHNSON, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Time-Stamps, of which the following is a specification.

My invention pertains to time-stamps; and it consists in numerous novel features, details, and combinations hereinafter set forth.

In the drawings, Figure 1 is a perspective view of a dating-stamp embodying my invention, the shell or casing being broken away to show the internal mechanism; Fig. 2, a vertical section in the plane of the axis of the printing-wheels; Figs. 3, 4, 5, 6, and 7, face views of the mechanism for actuating the time disks or wheels, showing said mechanism in its various positions, the views being vertical sections on the line *a a* of Fig. 2 looking in the direction of the arrows connected with said line; Figs. 8 and 9, similar views of the mechanism for actuating other printing wheels or disks of the device, the sections being taken on line *b b* of Fig. 2 looking in the direction of the arrows connected therewith; Fig. 10, a diagrammatic view showing the device in connection with a pneumatic time system.

The device about to be described is designed for use in connection with a pneumatic-clock system patented to Warren S. Johnson May 12, 1896, No. 559,853, wherein a diaphragm is moved in one direction by pneumatic pressure and in the reverse direction by a spring, weight, or equivalent means, the air-pressure being periodically relieved by venting the air pipe or conduit and the venting being controlled as to time by a master-clock. Any time-measuring device which shall periodically vent and seal the air pipe or conduit will, however, answer the purpose of operating or controlling the dating-stamp herein set forth.

Referring now to the drawings and first to Fig. 1, it will be seen that the entire mechanism is contained within a close shell or casing 1, provided with a tubular neck 2, which constitutes a handle by which to lift and to apply the stamp to papers or documents. The top of the tubular neck or handle 2 is screw-threaded to receive a cap 3, which serves to clamp between the end of the neck and the rim of the cap a flexible diaphragm 4. The cap 3 is formed or furnished with a nipple 5, to which is attached a flexible tube 6, by which air under suitable pressure is brought to the space above diaphragm 4.

Within the shell or casing 1 is a second casing or frame 7, within which is contained the operating mechanism of the stamp and from which rises a yoke or frame 8, in which is supported and guided a sliding rod or stem 9. The rod is preferably formed in two parts screwed together, and thus permitting adjustment as to length, the upper member terminating in a rounded head or knob 10, as seen in Figs. 1, 2, 3, and 4, which lies immediately beneath the diaphragm 4. Between the under side of the head or knob 10 and the top of yoke or frame 8 is a spiral spring 11, encircling the neck or shank of knob 10 and serving to elevate and normally to maintain in elevated position the knob 10 and parts connected therewith.

12 indicates a rod extending across the upper part of shell 7, from wall to wall thereof, and serving as a pivot or support for a lever 13, with which the rod or stem 9 is connected by a link 14. Below the rod 12 and parallel therewith is a shaft or rod 15, which constitutes an axle or support for a series of disks or wheels which will be referred to in detail in the following description.

In the embodiment of my invention herein illustrated I have shown and I shall describe the disks or wheels representing or bearing the names of the months, the days of the month, and the year as carried by tubular shafts concentric with shaft or rod 15 and provided with buttons or knobs by which to turn or set them manually; but this is optional in practice, it being entirely feasible so to connect these wheels with the others as to cause their automatic actuation, as is done in register-trains and the like. Thus the wheel 16, Fig. 2, bearing the names of the months, is shown as mounted upon a tubular axle 17, provided with a knurled knob 18, wheel 19, bearing figures representing the days of the month, is shown provided with a tubular axle 20, having a knob or button 21 by which to turn it, and wheel 22, bearing figures indicating different years of any given period,

is shown as carried by a tubular axle 23, having a knob or button 24, all of said knobs being external to the shell or casing and therefore accessible. If it be desired, however, to prevent interference with these wheels, the knobs may be concealed within the locked casing. The wheels indicating hours, minutes, and the two general divisions of the day—antemeridian and postmeridian—are automatically actuated and are not susceptible to change or disarrangement by any one unless sufficient force be applied to break or destroy the working parts. The minutes are counted upon and printed by two wheels or disks 25 and 26, one bearing figures "0" to "9," inclusive, to indicate units, and the other bearing figures "0" to "5," inclusive, to indicate tens. It is inconvenient to move the tens-wheel one-fifth of a revolution at each step. Hence instead of five steps or divisions there are ten, each figure being duplicated or used twice in immediate succession. In this way, although the tens-wheel is advanced one step at each half-revolution of the units-wheel, it only makes a change in the value of the numeral at the printing-point once for each complete revolution of the units-wheel. It is important that the wheels be locked against rotation at all times, except when pressure is applied to knob 10 and while the wheels are being advanced through such pressure. To this end I provide the mechanism illustrated in Figs. 3, 4, 5, 6, and 7 for controlling and actuating the units-wheel. As shown in Fig. 2, each wheel or disk is formed or finished with a laterally-projecting rim perpendicular to the body of the disk, thus affording proper space for the printing characters, giving room for the actuating and locking devices, and also permitting the formation of notches in the edge of the rim to receive the actuating and the locking pawls or dogs. When at rest, the wheel or disk 25 is locked by a detent-lever 27, pivotally supported upon rod or shaft 12 and having at or near its free end a lug or ear 28 and an outwardly-extending nose 29, which latter projects beyond the periphery or the rim of the disk. The lug or ear 28 projects at a right angle from one side of the lever 27, the body of which lever lies within and is curved to conform to the rim or flange of wheel 25, while the nose 29 is in line with the space between the proximate edges of the rims or flanges of the units-wheel 25 and the wheel 30, indicating "forenoon" or "afternoon." The edges of the ear 28 are made straight or perpendicular to engage squarely with the walls of the openings or notches 31 of wheel 25, so that they may not be thrown out of engagement by pressure applied to the wheels. Hung or pivoted upon the shaft 15 or upon a sleeve encircling said shaft is a radial arm or lever 32, which is connected by a link 33 with the free or swinging end of lever 13, and pivotally attached to the outer end of said lever 32 is a dog 34 of peculiar form. Below or in advance of its pivot the dog 34 is bent laterally into the recessed face of the wheel or disk or under the rim or flange thereof, and it is formed with an outwardly-extending tooth 35 to enter the notches 31 one after another. The tooth is made of a width equal to about one-half the width of the notches 31 31, so that it may have a limited play in the notches. Owing to the action of spring 11 the lever 32 is normally elevated, and the upper edge of tooth 35 is held in contact with the upper wall of the notch 31. Hence when the knob 10 is depressed the tooth will not act to turn the wheel or disk 25 until it traverses the width of the notch and bears against the lower wall thereof. In rear of or above its pivot the dog is formed or furnished with a hook 36, which as the lever 32 is depressed bears against the projecting nose 29 of detent-lever 27 and presses said lever inward, thereby withdrawing its locking lug or ear 28 from the notch 41, in which it rests, and releasing wheel 25. The downward movement of the lever 32 continuing, the dog 34 carries the wheel or disk so released forward until the detent-lever 27, urged outward by a spring 37, carries its lug or ear 28 into the succeeding notch 31, thereby locking the wheel against movement in either direction. Dog 34 is provided with a spring 38, which exerts a constant tendency to throw the tooth 35 outward; but the spring is comparatively light and much inferior to spring 11 in strength. Hence when the knob is relieved of pressure and spring 11 again comes into play the tooth 35, the upper side of which is beveled, rides back out of the notch in which it has just acted and permits the lever 32 to rise. Dog 34 being thus elevated, its tooth 35 enters the notch 31, succeeding that in which it was previously seated. As tooth 35 rises out of the notch the hook 36 of dog 34 is pushed up or outward, so that as the dog 34 is drawn up hook 36 will pass over or above the nose 29 of lever 27. At the same moment that the tooth 35 of dog 34 drops into the succeeding notch the hook 36 will drop down over the upper end of the nose 29. The air-chamber above the diaphragm 4 being alternately filled and vented, the venting occurring at intervals of one minute, (ordinarily,) it will readily be seen that the units-wheel is regularly advanced one space each minute. The tens-wheel 26 is advanced one step to each five steps of the units-wheel, as mentioned; but as the figures on this wheel are duplicated there is a change of its numerals only once for each complete revolution of wheel 25, or, in other words, although the tens-wheel advances one step at each half-revolution of the units-wheel it only changes the actual indication once for each complete revolution of the units-wheel and makes only one complete revolution to each six revolutions of the units-wheel. The rotation and locking of the tens-wheel is effected by mechanism also illustrated in Figs. 2, 3, 4, 5, 6, and 7. Said wheel 26 is formed with or is secured to a sleeve 39, which closely encircles

shaft 15, though free to turn thereon, said sleeve passing centrally through units wheel or disk 25 and forming an axle or support, upon and about which said wheel may turn. Also carried by the sleeve 39 and lying against the flanged side of wheel 25 is a disk 40, having twelve peripheral notches 41. Encircling the disk 40 is a ring 42, fast on wheel 25, the periphery of which has two eccentric or cam-shaped sections and intervening concentric portions 43 and 44, the latter of radius midway between the greatest and the least radii of the eccentric portions. In other words, the portions 43 44 form intermediate steps between the termination of one eccentric portion and the commencement of the next. Within the ring 42, beneath or opposite the steps 43 44 and diametrically opposite each other, are two lugs 52 and 53, the inner ends of which travel close to the periphery of notched disk 40.

45 indicates a yoke formed with a slot or elongated opening to permit it to straddle or encircle the sleeve 39, to move longitudinally, and to rock or swing. At its upper end the yoke 45 carries a pin 46, which passes first through a slot 47 in a lever 48, pivoted or fulcrumed in the shell 7, and then enters the space between notched disk 40 and cam-ring 42. A light spiral spring 49 extends from pin 46 to a stud or other convenient point of attachment to lever 48 at a point near the fulcrum of the latter and tends constantly to swing the head or upper end of yoke 45 to the right and of course to carry its lower end to the left. Lever 48 is formed or furnished with a lateral ear or projection 50, which overhangs and bears upon the periphery of ring 42, against which it is pressed by a spring 51. As a consequence, said lever 48 is constantly exerting a tendency to move pin 46 downward or inward and to seat it in one of the notches 41 of disk 40; but such seating can occur only when ear or projection 51 rests upon such portion of cam-ring 42 as will permit the necessary inward movement. The concentric portions 43 and 44 of this ring permit pin 46 to drop until half its diameter lies within one of the notches 41 or to bridge or cross the narrow space between the inner ends of the lugs 52 53 and the periphery of disk 40. When in this adjustment, the pin serves to lock together the ring 42, and consequently the units-wheel 25, to which said ring is made fast, and the notched disk 40. Hence if the wheel 25 be advanced a step while such engagement exists the disk 40 must be correspondingly advanced. If the pin be either entirely outside or entirely within the periphery of disk 40, no such locking of the parts will occur, because if outside it will clear the disk and if inside it will clear the lugs 52 53. When the cam-ring rides beneath ear 50 far enough to permit the pin 46 to drop from the concentric portion 43 or 44 to the commencement of the succeeding cam-surface, the pin 46 is enabled to pass bodily or wholly into the notch 41 beneath it, thus permitting the lug 52 or 53, which previously bore against and moved the pin forward, to pass over it without further moving or affecting the disk 40. As the wheel 25 is further advanced step by step through the action of stem 9 and the connected mechanism, the cam-ring 42, riding beneath ear 50, gradually elevates lever 48, and this in turn lifts pin 46 out of the notch in disk 40 until, having cleared the disk, the pin is drawn to the right-hand end of slot 47 of the lever by the action of spring 49. By the movements of the pin produced by the pressure of lugs 52 or 53 and action of cam-ring 42, lever 48, and spring 49 the yoke 45, which carries said pin, is moved both longitudinally and laterally or is lowered, swung to the left at its upper end, elevated, and again swung to the right. For the purpose of locking disk 40 against rotation, except at the time when pin 46 is in position to lock the cam-ring and the disk together, there is placed at the lower side of the disk a lever 54, pivoted or fulcrumed in frame 7 and pressed upward by a spring 55, said lever carrying at its free end a tooth or projection 56 to enter one of the notches 41. Projecting outward from the end of lever 54 is an ear 57, which occupies a position directly in line with and immediately beneath the lower arm or extension 58 of yoke 45 when said yoke is in its vertical position. From this arrangement it will be apparent that when the yoke descends as the ear 50 of lever 48 drops off the higher end of the cam-surface the lower end of the yoke 45 strikes the ear 57 and depresses lever 54, carrying its tooth 56 out of the notch of disk 40 and releasing said disk preparatory to its forward rotary movement. It is evident that the spring 51 must be stronger than spring 55 or that it must operate at such advantage in point of leverage as to overcome the latter. The locking action of pin 46 occurs at one step in the rotation of wheel 25, and the unlocking of the disk 40 occurs at the same instant. At the next the disk 40 is advanced one step, and the yoke 40 being moved with it about the sleeve 39 as an axis the end 58 is carried out of line with and clear of the projection 57, thus leaving the lever 54 free to rise and tooth 56 free to enter a notch of the disk, and thereby to lock the disk against further movement. This action occurs twice for each rotation of wheel 25. There being twenty-four hours in one day, it is desirable to advance the wheel bearing the letters "A. M." and "P. M." one step for each complete revolution of the tens-wheel 26, which represents one hour, there being twelve sets of letters "A.M," and twelve sets "P.M." on the periphery of wheel 30. In this way the letters "A. M." will be displayed in line with the figures of the hour and minute wheels at the printing-point for twelve hours, and then the letters "P. M." will be similarly displayed for twelve hours. Of course if the plan of numbering the hours of the day consecutively

from one to twenty-four were adopted this wheel 30 could be omitted. The wheel 30 is actuated in the same manner as is wheel 26, but by shorter steps. This will be better understood upon referring to Figs. 2, 8, and 9. As shown in the first-mentioned figure, a disk 59 is keyed or otherwise made fast upon sleeve 39, and formed upon or secured to the face of said disk is a cam-ring 60, similar to ring 42. There is, however, but one cam-face in the periphery of ring 60, this being in the nature of a continuous scroll passing entirely around the ring with the exception of a short intervening section 61, concentric with the axis of shaft 15, and producing two steps between the portions of the cam of least and of greatest radius measured from said axis. The ring has a single internal lug 62, similar to lugs 52 53 of ring 42.

63 indicates a disk keyed or otherwise made fast to shaft 15 and provided with twenty-four notches 64 in its periphery, said notches being designed to receive the pin 65 of a yoke 66 and the locking-tooth 67 of a lever 68, essentially like the corresponding parts coöperating with disk 40 and cam-ring 42. Yoke 66 has a lower arm or extension 69 to act upon an ear 70 of lever 68 for the purpose of disengaging tooth 67 from disk 63, which latter is normally forced into and held in one of the notches 64 by a spring 71, acting upon lever 68, said lever being fulcrumed in frame or shell 7. Pin 65 of yoke 66 passes through a slot 72 in the free or swinging end of a lever 73, fulcrumed in shell 7 and urged downward by a spring 74. A spring 75 exerts a constant pressure against the upper end of yoke 66 and tends to press it toward that end of slot 72 nearest the fulcrum of lever 73. This is toward the left as the parts are seen in Figs. 8 and 9; but it is to be observed that the parts are here viewed from the opposite direction from that in which the parts of Figs. 3, 4, 5, 6, and 7 are seen. Lever 73 is formed or provided with a laterally-projecting ear 76, which overhangs and rides upon the periphery of cam-ring 60, and its relation to pin 65 is such that when the portion of the cam of least radius is beneath the ear the pin may enter one of the notches of disk 63 and pass wholly within the periphery of the disk. When the highest portion of the cam is beneath ear 76, the pin 65 is held wholly beyond the periphery of disk 63. As the highest portion of cam-ring 60 rides beneath ear 76, it causes lever 73 to carry pin 65 wholly beyond or outside the periphery of disk 63, and as said portion passes out from under said ear spring 74 throws lever 73 downward or inward, moving yoke 66 longitudinally, causing its end or extension 69 to act upon ear 70 of lever 68 and to withdraw locking-tooth 67, thereby unlocking disk 63. When the ear 76 thus falls to step 61, pin 65 is caused to stand half within and half without the notch of disk 63, directly in the path of lug 62, so that at the next advance of disk 59 and cam-ring 60, due to depression of stem 9, the parts so locked together will be caused to advance one step. As the cam-ring advances, carrying pin 65 and disk 63 with it, the lower end or extension 69 of yoke 66 is carried clear of ear 70, thus allowing lever 68 to rise and tooth 67 to lock the disk 63, and shoulder or step 61 rides from under ear 76, permitting spring 74 to press lever 73 downward, and thereby to carry pin 65 wholly within the periphery of disk 63, thus enabling lug 62 to pass over the pin without further moving disk 63. The further rotation of disk 59 and cam-ring 60 causes pin 65 to be gradually withdrawn from the notch in disk 63, and when this is completely accomplished the yoke is returned by spring 75 to the position indicated in Fig. 8, ready for a repetition of the action described. It will thus be seen that disk 63 is advanced one step for each complete revolution of disk 59 and cam-ring 60, which move simultaneously and equally with the tens-wheel 26, which in turn makes one revolution every hour. As there are twenty-four notches in disk 63 and as there must be one step or advance for each notch, it will be seen that the disk and the shaft 15, to which it is keyed, must make one complete revolution every twenty-four hours. The wheel 30, bearing the letters "A. M." and "P. M.," and the wheel 77, bearing the hours of the day, (one to twelve once repeated,) are both made fast to shaft 15. Hence each advances one step every hour and makes one complete revolution every twenty-four hours. For the purpose of holding the printing-wheels up off the table or support and insuring their free rotation at proper times, I provide a bottom plate 79, Fig. 1, which is normally pressed downward below the shells 1 and 7 by means of springs 80, the plate having a suitable opening through it to expose the characters of the wheels at the printing-point. A moderate pressure downward upon the neck or handle 2 will carry the body of the instrument downward, overcoming the springs 80 and carrying the printing characters into contact with the surface upon which the impression is to be made.

The printing characters may be made with comparatively sharp or thin edges to indent the paper, or an inking-ribbon may be employed or an inking-roller, these being common features in hand-stamps of all classes, hence not necessary to be described further.

Any time-measuring device which will serve to alternately fill and vent the fluid-pressure pipe 6 at the proper intervals will answer to control the operation of the stamp, the pressure being produced in any of the ways commonly employed in pneumatic time systems, temperature-regulators, and the like.

If desired, the knobs 18, 21, and 24 may be concealed to prevent them from being turned either surreptitiously or accidentally.

Solid pistons and flexible diaphragms being both commonly used as means of transmitting fluid-pressure to other parts, it is of

course to be understood that whether one or the other term be used it is meant to include both.

The tank or vessel in which air is stored, the pipe by which it is conveyed to the stamp, and the chamber in said stamp above the diaphragm constitute one fluid-pressure system, any portion of which may be vented to permit spring 11 to act.

Suitable locking pawls, dogs, or detents 81 will be provided to prevent accidental displacement or turning of wheels not locked by the devices already described.

The number of numerals or characters on the tens-wheel and the number of notches in disk 40 may vary according to the highest number to be indicated by the two wheels acting jointly. In other words, the construction of the connecting and actuating devices is applicable to any numbering device in which the number indicated by the two wheels does not exceed ninety-nine.

Fluid-pressure motors are and for a great many years have been made with either a flexible diaphragm or a movable piston constituting one wall of the pressure-chamber. These two constructions are universally recognized in the arts as mechanical equivalents under ordinary circumstances and for most uses. It is therefore to be understood that while I have here shown the flexible diaphragm my invention comprehends and includes the recognized mechanical equivalent thereof, or, in other words, comprehends any construction in which there is combined with the other elements recited a fluid-pressure chamber having one movable wall, whether such wall be a flexible diaphragm or a solid and bodily-moving piston.

Having thus described my invention, what I claim is—

1. In combination with a wheel having notches 31; dog 34 having tooth 35 of a width less than that of the notches and having also hook 36; means for moving said dog; and a locking-lever 27 provided with locking-ear 28 and with projection 29, the latter located in the path of hook 36.

2. In combination with a wheel and with means for imparting a step-by-step rotation thereto; a ring secured to said wheel and having a cam-shaped periphery with a step intermediate of its portions of least and greatest radius and an inwardly-projecting stud; a notched disk concentric with but independent of the wheel; a lever arranged to bear upon the peripheral cam-face of the ring and having a slotted end; a spring serving to hold said lever against the cam; a pin extending through the slotted lever to the space between the periphery of the notched disk and the interior of the cam-ring; and a spring for drawing said pin to one end of the slot in the lever; said parts being constructed and arranged substantially as described and shown, whereby the pin is caused to bridge the space between the stud of the cam-ring and the disk and thereby lock said parts together, then to descend beneath the periphery of the disk, allowing the lug to pass, and finally to move outward beyond the periphery of the disk.

3. In combination with a wheel having a lug or stud; a notched disk concentric with but independent of said wheel; a pin movable from the path of the stud into the notches of the wheel; and means substantially such as shown and described for moving said pin; whereby it is caused to lock together the wheel and the disk, then to pass wholly within the periphery of the disk and permit the passage of the lug, and finally to move out of the disk and back to its initial position.

4. In combination with wheel 25 provided with ring 42 having a cam-shaped periphery, an external shoulder or ledge 43, and an internal lug 52; a disk 40 concentric with said wheel and having peripheral notches 41; a lever 48 having an ear or projection to bear upon the periphery of the cam-ring and slotted at its free end; a yoke 45 capable of longitudinal and lateral motion; a pin 46 carried by said yoke, passing through slot 47 and extending into the path of lug 52, and a spring 49 for drawing said pin toward one end of the slot.

5. In combination with disk 40 provided with notches 41; locking-lever 54 provided with locking-tooth 56; spring 55 bearing against said lever; yoke 45, provided with extension 58 to engage lever 54; and means for moving said yoke laterally and longitudinally.

6. In combination with wheel 25 having cam-ring 42 provided with shoulder or ledge 43 and lug 52 or 53; notched disk 40; locking-lever 54 provided with tooth 56 and ear 57; slotted yoke 45 provided with pin 46 and extension 58; lever 48, provided with slot 47 and projection 50; spring 49 connected with said yoke; and means for advancing wheel 25 step by step.

7. In combination with a wheel or disk and means for rotating the same; a notched disk concentric with said wheel; a movable locking device for connecting the wheel and the disk to cause them to move in unison; and a cam carried by the wheel and serving to move said locking device to position wholly outside of the disk, wholly within its periphery, or to an intermediate locking position, substantially as set forth.

8. In combination with a wheel or disk and means for imparting rotation thereto; a notched disk independent of said wheel; a locking member adapted to bridge the space between the disk and a lug or abutment on the wheel; and a cam carried by the wheel and having three different elevations adapted respectively to cause the locking member to fall within the periphery of the notched disk, to rise to position partly within and partly without the disk, and to move wholly beyond the disk, as the cam rotates.

9. In combination with rotary cam 60 having shoulder or ledge 61 and tooth 62; notched disk 63 arranged concentrically within said cam; slotted yoke 66 provided with pin 65; and lever 73 provided with slot 72 to receive said pin, and with ear 76 arranged to bear upon the periphery of the cam 60, said parts being arranged to operate substantially as set forth.

10. In combination with tens-wheel 26 having sleeve 39; units-wheel 25 loosely encircling said sleeve and provided with cam-ring 42 having lug 52 or 53; notched disk 40 fast upon sleeve 39; slotted yoke 45 provided with pin 46; lever 48 provided with slot 47 and ear 50; spring 51 bearing upon said lever; and spring 49 connected with yoke 45 and serving to swing it laterally.

11. In combination with axle 15; wheel 26 provided with sleeve 39; notched disk 40 and cam 60 both rigidly attached to said sleeve, said cam 60 being provided with lug 62; wheel 25 loosely encircling said sleeve; cam-ring 42 carried by wheel 25 and having lug 52 or 53; yoke 42 free to move longitudinally and laterally upon said sleeve, and provided with pin 46; slotted lever 48 provided with ear 50; notched disk 63 secured upon axle 15; yoke 66 free to move lengthwise and to rock upon said axle, and provided with pin 65; slotted lever 73, and spring 75 bearing against yoke 66.

12. In a stamp, the combination of a primarily driven wheel provided with a lug or abutment; a part to be driven, provided with a notched disk; a stud or pin movable into the path of the lug, the notched disk, or partly into the path of each for locking the two together; and a cam carried by the first-mentioned wheel for determining the positions of said locking stud or pin.

13. In combination with a wheel having notches 31, lever 27 provided with locking-ear 28 and with nose 29; a spring for holding the lever in locking position; lever 32; dog 34 carried by said lever, and provided with tooth 35 and hook 36; and an actuating-stem connected with said lever.

In witness whereof I hereunto set my hand in the presence of two witnesses.

CARL F. JOHNSON.

Witnesses:
JEREMIAH QUIN,
ELIZABETH LANE.