

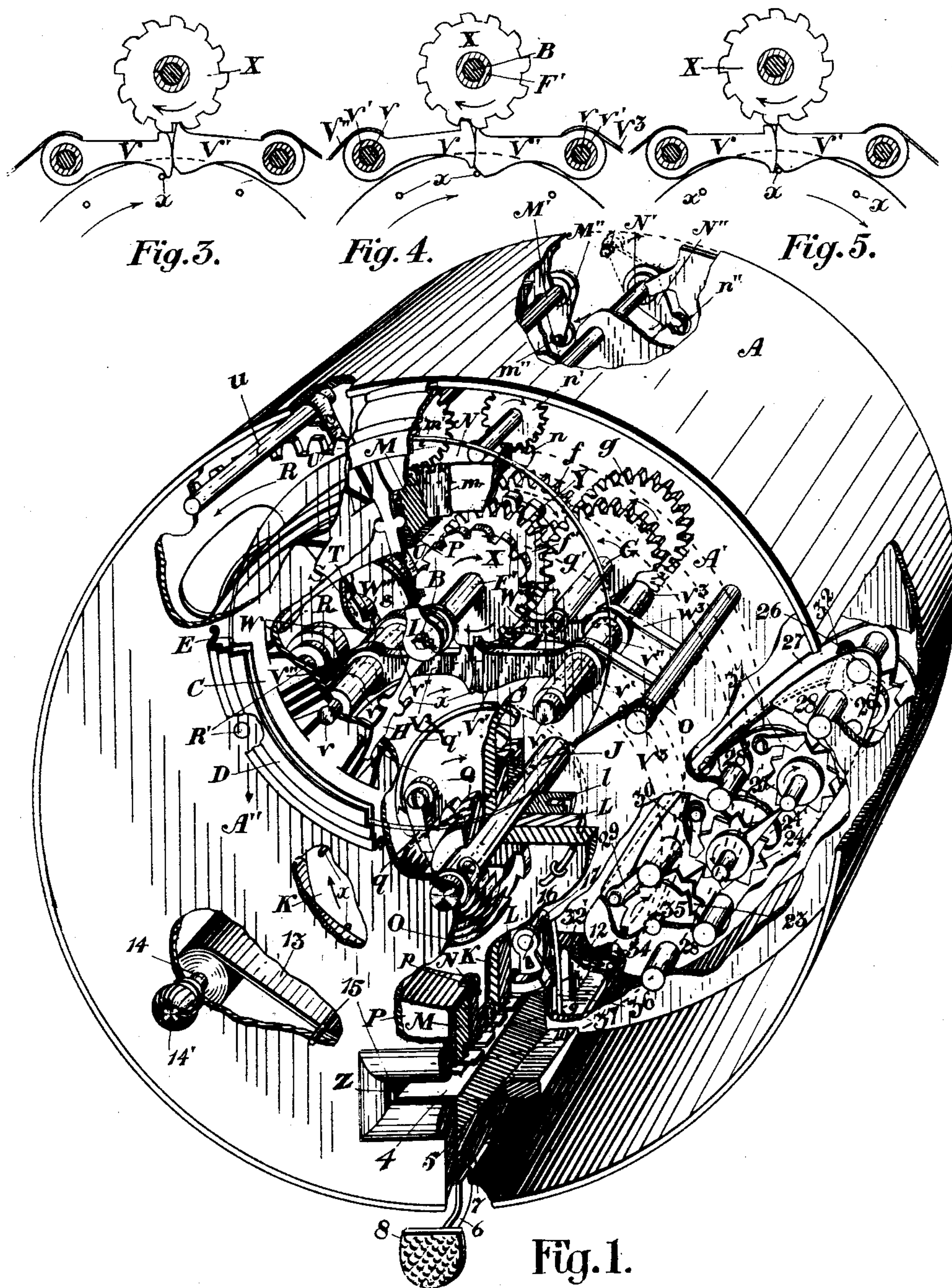
(No Model.)

4 Sheets—Sheet 1.

J. SHARPE.
TIME STAMP.

No. 512,755.

Patented Jan. 16, 1894.



Witnesses.
W. W. W. W.
J. J. J. J.

Inventor.
John Sharpe
by J. J. J. J. & Co.
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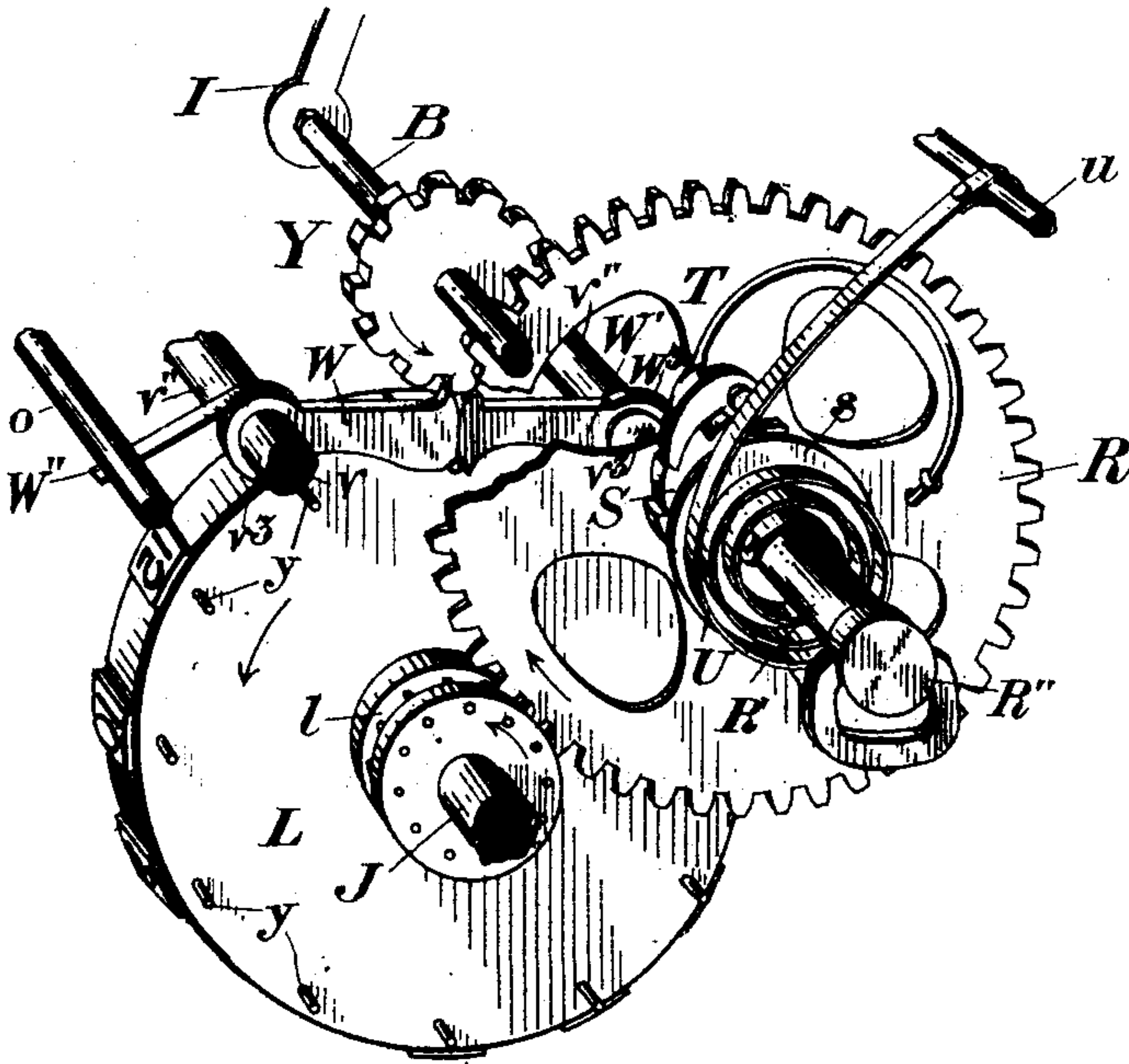


Fig. 1^a

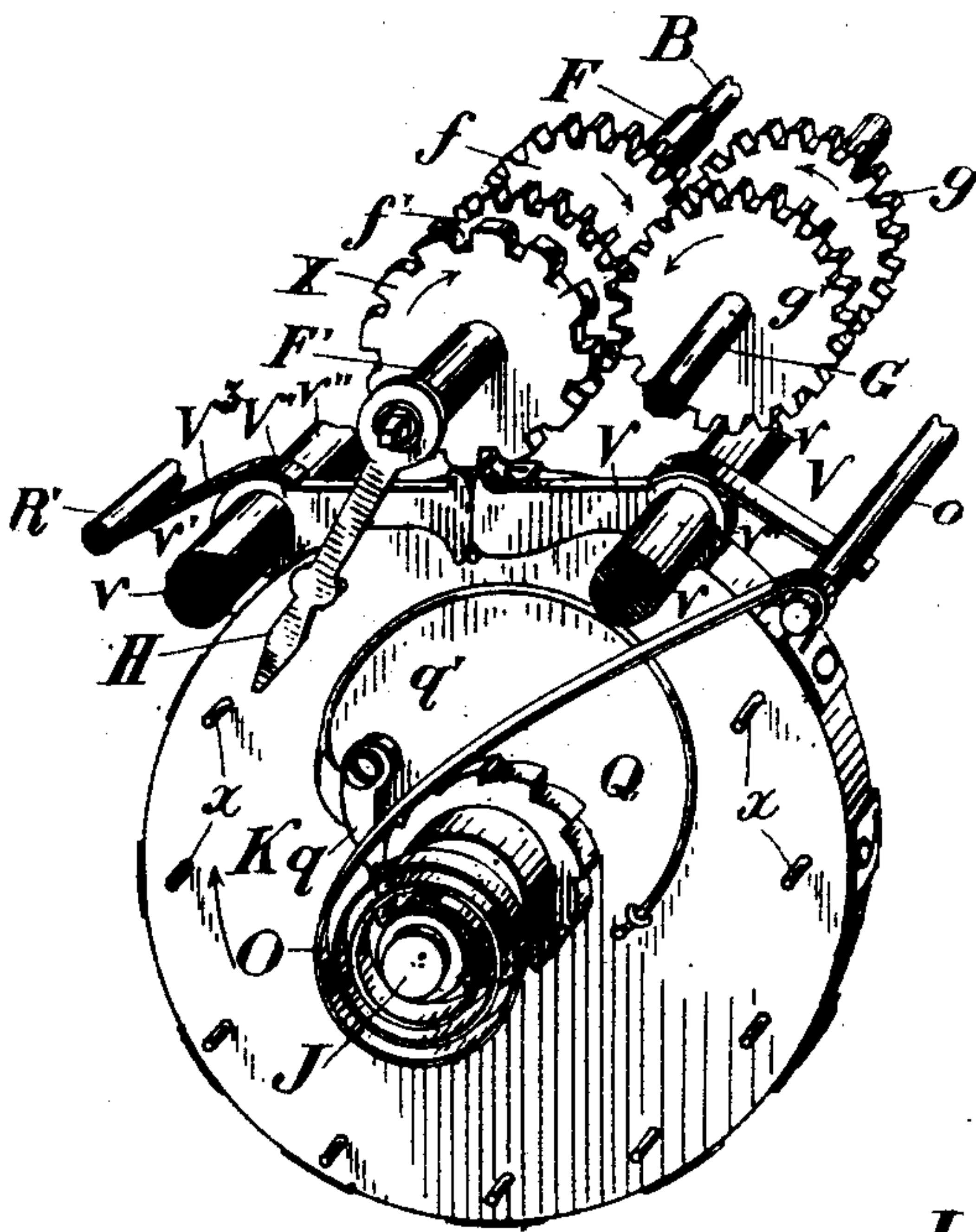


Fig. 1^b

Witnesses.

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(No Model.)

4 Sheets—Sheet 3.

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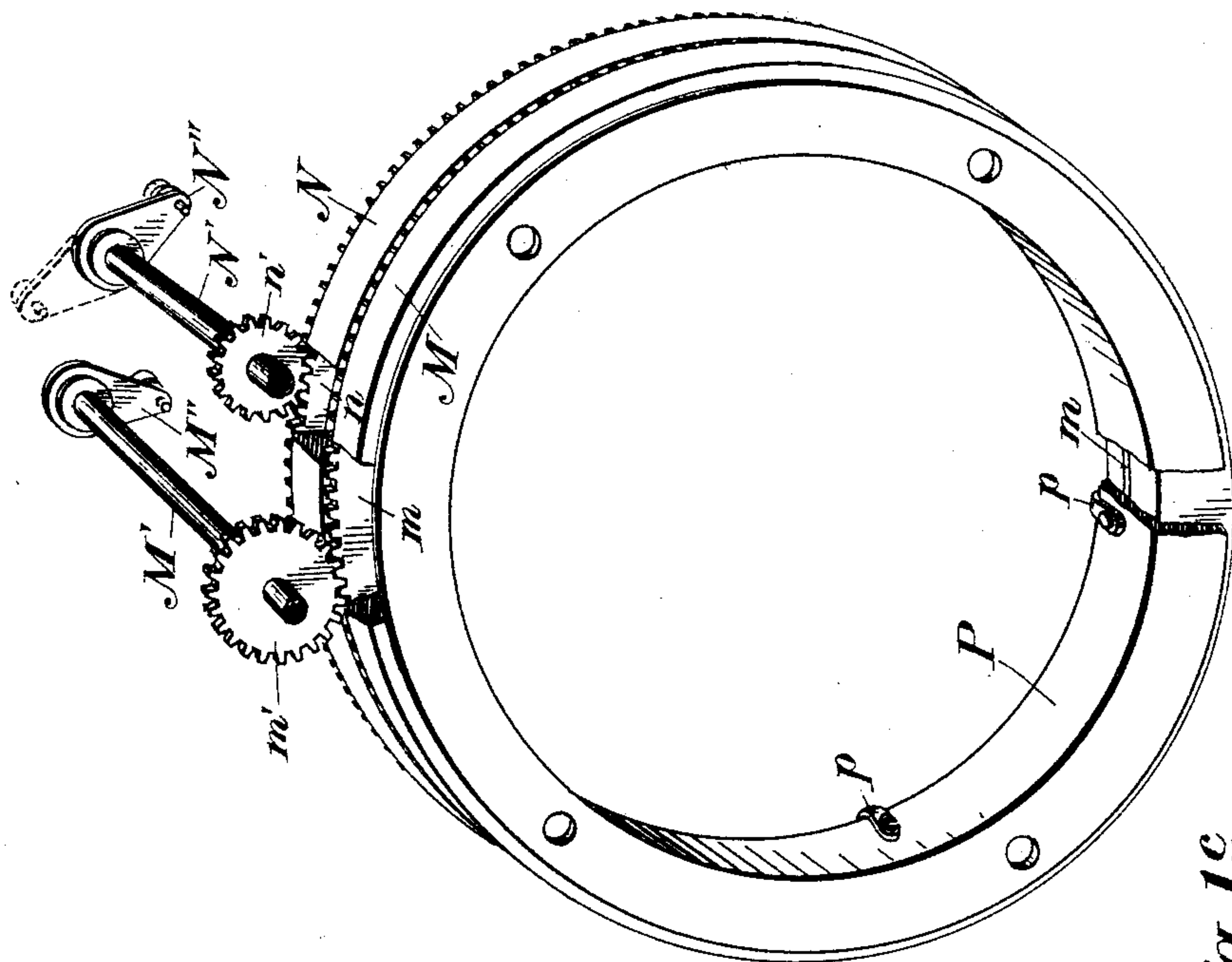


Fig. 1c.

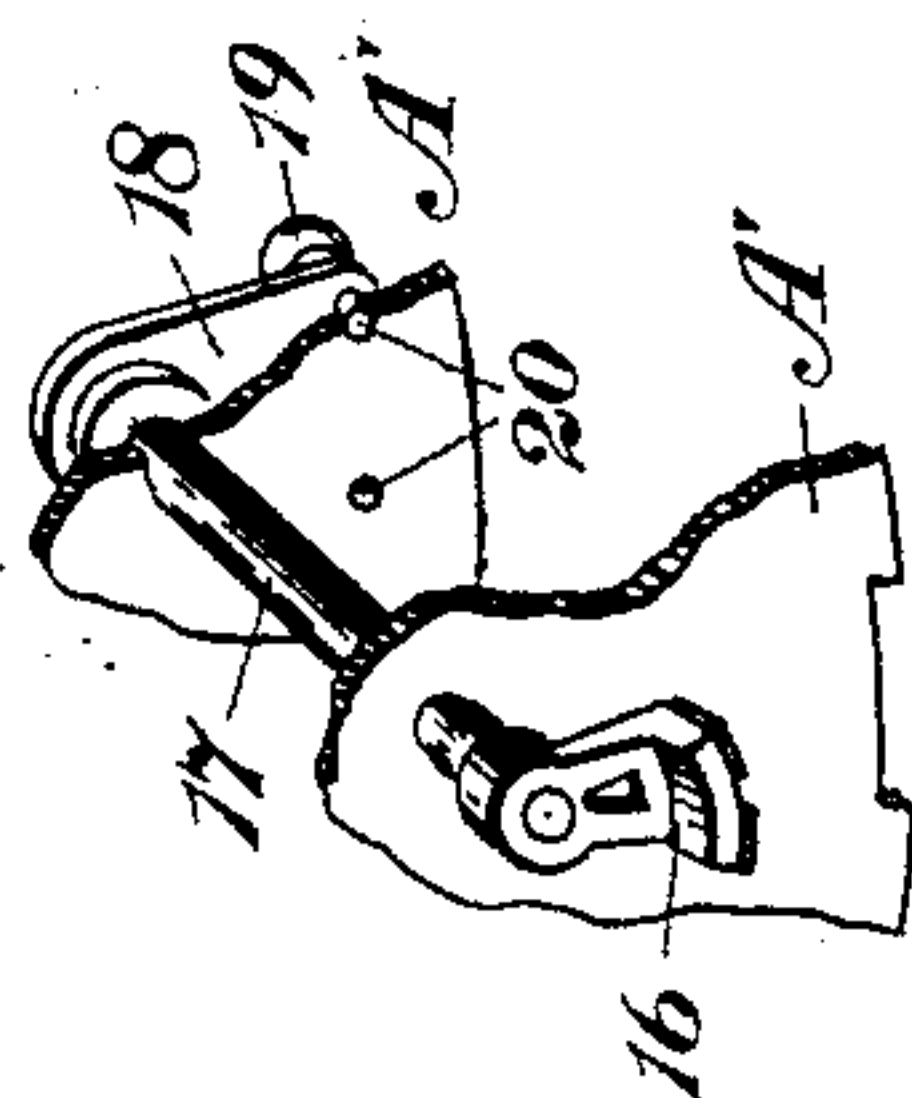


Fig. 1d.

Witnesses.

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(No Model.)

4 Sheets—Sheet 4.

J. SHARPE.
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No. 512,755.

Patented Jan. 16, 1894.

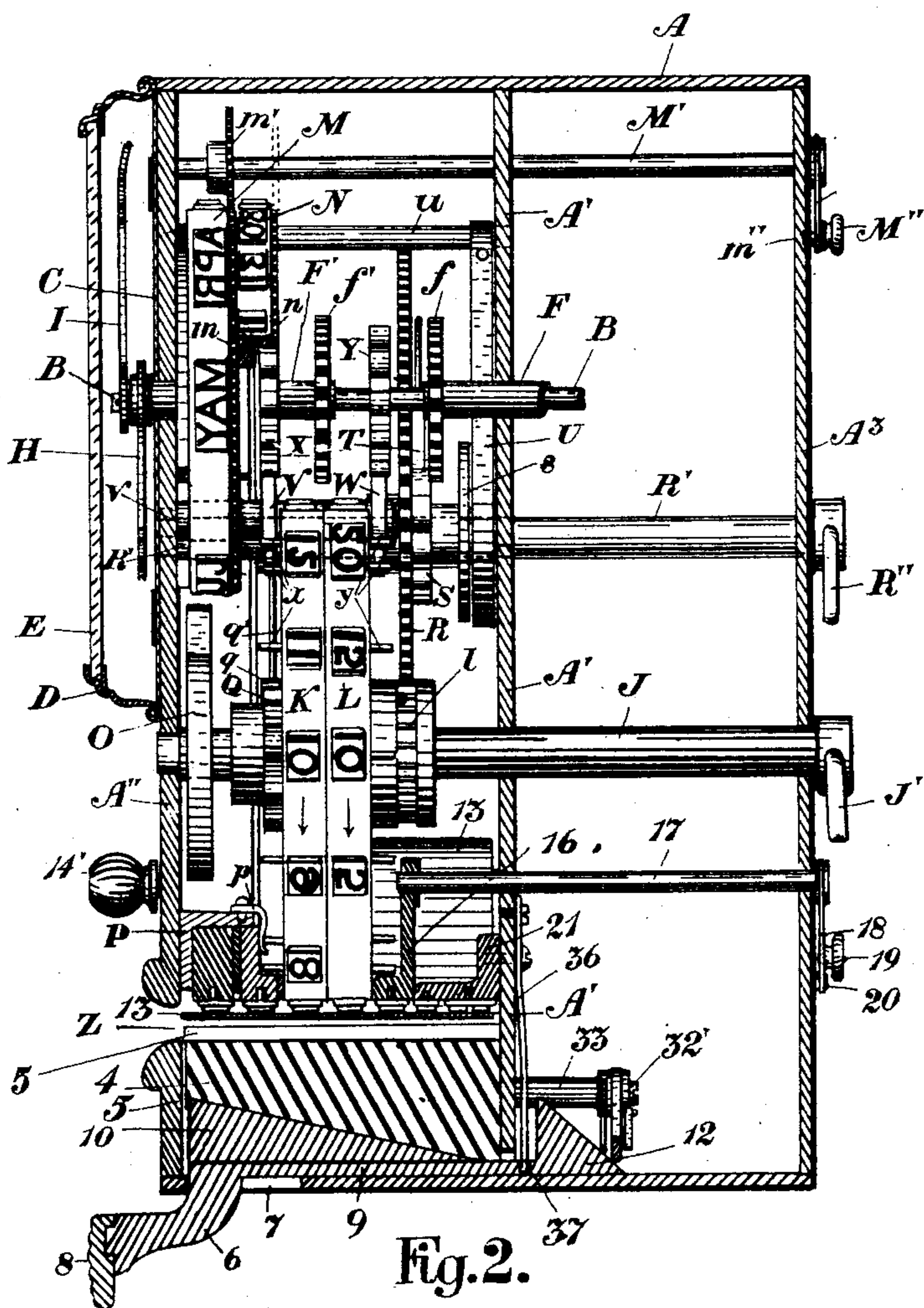


Fig. 2.

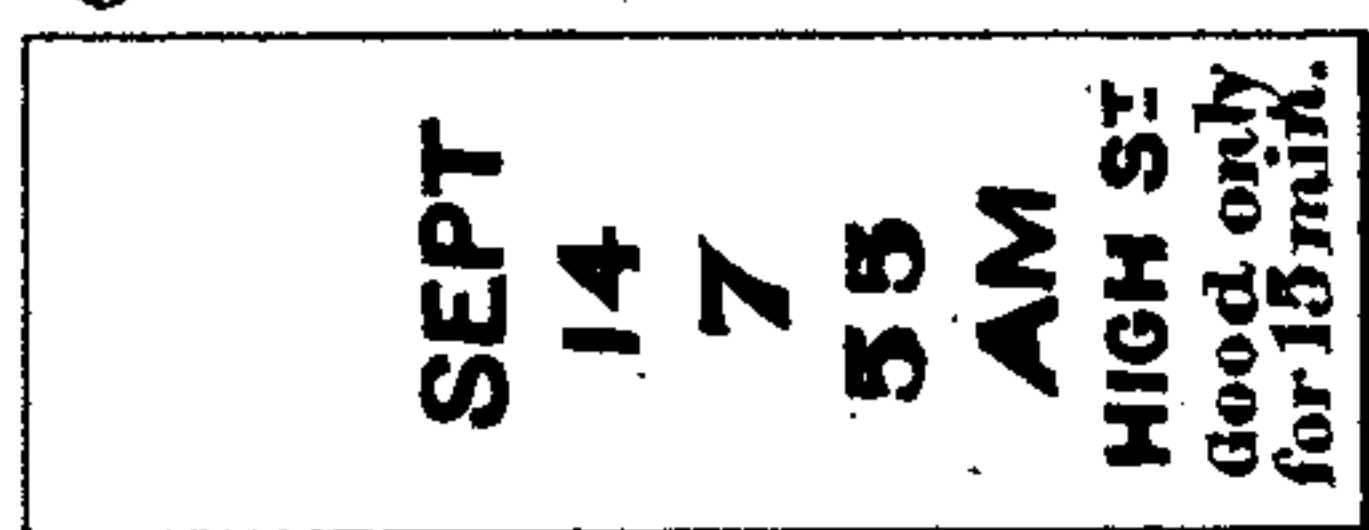


Fig. 6.

Witnesses.

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UNITED STATES PATENT OFFICE.

JOHN SHARPE, OF TORONTO, CANADA.

TIME-STAMP.

SPECIFICATION forming part of Letters Patent No. 512,755, dated January 16, 1894.

Application filed April 15, 1893. Serial No. 470,455. (No model.)

To all whom it may concern:

Be it known that I, JOHN SHARPE, manufacturer, of the city of Toronto, in the county of York, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Time-Stamped, of which the following is a specification.

My invention relates to improvements in registers more particularly adapted for printing transfer tickets and the object of the invention is to design a machine by which a transfer ticket may be numbered, dated and otherwise marked so that the recipient will only be able to use it within a limited period of time and it consists essentially of mechanism part of which is arranged to co-act with a clock and the remaining portion to act independently so as to produce the desired identification numbers and marks on the ticket as hereinafter more particularly explained.

Figure 1, is a perspective view showing the mechanism of my register and its connection to a clock. Figs. 1^a, 1^b, 1^c and 1^d show detail views. Fig. 2, is a vertical section through my machine. Figs. 3, 4, and 5, are details of the escape mechanism designed for controlling the movement of the hour and minute registering wheels. Fig. 6, is a detail of the ticket as stamped by my mechanism.

In the drawings like letters and numerals of reference indicate corresponding parts in each figure.

A, is the cylindrical casing which has a central partition, A', behind which is situated the ordinary clock mechanism and in front of which is located the registering mechanism. (See Fig. 2.) The clock mechanism is not shown.

B, is the central minute spindle of the clock which extends out beyond the dial plate, C, secured on the outside of the casing.

D, is a metal ring also secured on the outside of the casing and provided with a glass, E.

F, is the hour spindle or sleeve which is situated and revolves independently of the minute spindle, B. The hour hand spindle, F, is geared by the gear wheel, f, to the gear wheel, g, on the arbor, G.

g', is a gear wheel secured on the opposite end of the arbor and meshing with the gear wheel, f', secured to the sleeve, F'.

H, is the hour hand which is secured to the

sleeve F', and, I, is a minute hand which is secured to the end of the spindle, B.

The motion imparted to the hour hand sleeve, F, is transmitted by the gearing above described to the hour hand. The minute hand however is rotated directly from the spindle, B.

J, is an arbor having its bearings in the partition, A', front plate, A'', and rear plate, A³.

K, is the hour registering wheel having numerals from 1 to 12 embossed on its periphery at equal distances apart.

L, is a minute registering wheel or more properly a wheel in which the hour is divided into twelve five minute spaces, viz: 5', 10', 15', 20', 25', 30', 35', 40', 45', 50', 55',—the 60' however being left out, which numbers are embossed upon the periphery of wheel as shown.

M, is the month registering rim and, N, is the day registering rim. The rim, M, is divided into twelve spaces in which are embossed the different months of the year as usually abbreviated. On the rim, N, is embossed in order the numerals from 1 to 31 at equal distances apart. The rims, M, and, N, are supported on the ring, P, which is attached to the front plate, A'', of the casing, A. The ring, P, is L-shaped in cross section and the rims M, and, N, are prevented from shifting off the ring, P, when they are being circularly moved, by a series of springs, p. (See Fig. 2.) The registering rims, M, and, N, have attached to them the gear rings, m, and, n, respectively. m', and, n', are gear pinions secured on the arbors, M', and, N', respectively. The rear ends of the arbors, M', and, N', have attached to them the spring arms, M'', and, N'', the pins of which are designed to be sprung in the hole, n'', and, m'', so as to hold the pinions, m', and, n', and consequently the rings, m, and n, stationary. There is a sufficient number of teeth in the pinions, m', and, n', so that upon the arm, M'', being revolved once and brought back into the hole, m'', the wheel will have brought around the month ring, m, from one month to the next succeeding month at a point directly over the printing platen ready to imprint upon the ticket. There are sufficient teeth in the gear pinion, n', so that when the arm, N'', is brought a half revolution, that is from one hole, m'', to the oppo-

site hole, n'' , (see Fig. 1,) the date rim will be revolved sufficiently far so as to bring the next succeeding number directly above the platen ready to imprint upon the ticket.

5 The hour registering wheel, K, is supported loosely on the arbor, J, and is connected to a ratchet wheel, Q, secured on the arbor by the dog, q , which is held against the ratchet wheel by the spring, q' . (See Fig. 1).

10 O, is a helical spring one end of which is connected to a stud, o , while the other end is pinned to the arbor, J.

J', is a handle secured to the rear end of the arbor, J, outside the casing and designed to be turned from right to left that is when looking from the rear of the casing so as to wind the flat helical spring, O. The minute registering wheel, L, is supported loosely on the arbor, J, and has securely connected to the rear face thereof the pinion, l .

R, is a gear wheel, which is loosely journaled on the arbor, R'.

S, is a ratchet wheel which is secured to the arbor R', and is engaged by the spring dog, T, pivoted on the gear wheel R. s , is a disk which is also secured on the arbor, R'.

U, is a flat helical spring connected at one end to the stud u , supported in the front and center plates, A', and, A''. The other end of the helical spring, U, is pinned to the arbor, R'.

R'', is a handle secured to the rear end of the arbor, R', and designed to be turned from left to right so as to bring the ratchet wheel, S, around in the direction indicated and wind up the spring U.

It will be seen that the normal tendency of the springs, O, and, U, in both cases is to force the registering wheels, K, and, L, around in the direction indicated by arrow.

40 X, is a toothed wheel having twelve teeth of peculiar form one side of each tooth being rounded off and the other side being straight. The toothed wheel X, is secured to the hour hand sleeve, F'.

45 x , is a series of twelve stop pins located on the face of the hour registering wheel, K, on a radial line with the numbers on the wheel.

50 V, and, V', are pawls which are loosely journaled on the pins v , between the sleeves, v' , and, v'' .

V'', and, V³, are springs which are secured to the top of the pivotal portion of the pawls, V, and, V' and extending beneath the arbor, R', at one side and stud, o , at the other side so as to force the points of the teeth of the pawls against the toothed wheel, X.

60 On reference to Figs. 3, 4 and 5, there will be seen the manner in which the pawls, V, and, V', co-act with the toothed wheel, X, so as to allow of the hour wheel, K, being intermittently rotated by the force exerted through the helical spring, O, so as to present the numerals representing each succeeding hour above the printing platen. In the position

shown in Fig. 3, the upper point of the pawl, V', is shown as having sprung into the space between two of the teeth. The lower point of the pawl, V, is shown with one of the pins, x , against it and the upper point of the pawl, V, against the crown of one of the teeth. As the wheel, X, continues to revolve in the direction indicated by arrow it will be seen on reference to Fig. 4, that the upper point of the pawl, V', will be thrown out from the space between the teeth and rest upon the crown of the next succeeding tooth of the toothed wheel, X. The pawl, V, will necessarily now be forced by its spring so as to bring its upper tooth into the space between two of the teeth of the toothed wheel. The pin, x , will meanwhile have traveled to the beveled bottom end of the pawl, V'. When the wheel, X, has revolved sufficiently far so as to bring the upper points of the teeth of the pawls, V, and, V', upon the crown of one of the teeth of the wheel, X, as it rotates it will be seen that the pin, x , will be between the beveled bottom point of the pawl, V', and the bottom point of the pawl, V, in which position the pin will be about ready to jump or to be forced onward by the impetus given by the helical spring, O. As, the wheel, X, is still brought around by the clock mechanism and the upper point of the pawl, V', drops into the space before the next succeeding tooth, the pin, x , will have jumped from the position shown in Fig. 5, to the position shown by the preceding pin and the succeeding pin will have been forced forward so as to come against the lower point of the pawl, V, as shown in Fig. 3. This action will take place as each tooth of the wheel, X, passes the pawls, V, and V'. As the pins, x , are radially on a line with the numerals embossed on the periphery of the wheel, K, the wheel will be turned around intermittently so as to bring each number designating the hour successively to a position above the platen.

It will be seen on account of the peculiar construction of the pawls, V, and V', and, W, and, W', in reference to their respective toothed wheels and registering wheels that the pawl shown on the left hand side of the figure will in every case intercept the succeeding pin preventing more than one pin passing at a time during the period that the preceding pin is jumping from between the pawls.

Y, is a toothed wheel secured on the minute hand spindle, B, and having twelve teeth.

y , is a series of twelve stop pins extending from the face of the registering wheel, L. The stop pins, y , are also situated radially on a line with the numbers indicating the minutes on the minute wheel.

W, and, W', are pawls formed exactly similar to the pawls, V, and, V', and situated between the sleeves, v'' , and v^3 , on the pin, v . The rear end of the pin, v , on the left hand of Fig. 1, is cut away before the wheel, R, (see

Fig. 2,) and the sleeve, v^3 , screwed on to the end of the pin, v , the pin, v , in this case being only secured in the front plate, A'' .

W'' , and, W^3 , are springs which are secured upon the top of the pivotal portion of the pawl and extending beneath the arbor R' , at one side and the stud, o , at the other side so as to force the upper ends of the pawls toward the wheel, Y . The wheel, Y , pawls, W , and, W' , and pins, y , on the wheel, L , co-act together exactly in the same manner as the wheel, X , pawls, V , and, V' , and pins, x , on the hour wheel, K , with only this difference that the wheel, X , and hour wheel, K , are only rotated once by the clock mechanism in twelve hours, while the wheel, Y , being attached to the minute spindle rotates twelve times every twelve hours. In other words, the wheel, X on the hour sleeve, F' , is caused to move forward one tooth an hour so as to bring the numeral on the hour wheel, K , forward one number an hour and the wheel, Y , on the minute spindle, B , rotates the space of one tooth in five minutes or makes a complete rotation in one hour so as to bring the minute wheel, L , forward from one numeral to another every five minutes.

In the case of the minute wheel, L , it will of course be understood that it is caused to intermittently rotate as permitted by the wheel, Y , and pawls, W , and, W' , by the force of the helical spring, U , acting through the ratchet wheel, S , gear wheel, R , and gear pinion, l , attached to the minute wheel, L . The minute hand registering wheel will rotate with the minute hand and is so arranged that the minute hand wheel always points the hour indicated by the number which is directly beneath the vertical diameter of the minute registering wheel or in other words directly above the printing platen. The hour hand registering wheel will always rotate with the hour hand and is so arranged that the hour hand will always point to the hour which is directly beneath the vertical diameter of the hour registering wheel.

Z , is a slot made in the face plate, A'' , of the casing. The slot, Z , extends back to the partition, A' , (see Fig. 2) and the center of the slot is directly beneath the center of the arbor, J , on which is the hour wheel, K , and the minute wheel, L .

4, is a platen which is supported in vertical guides, 5, and having the top normally flush with the bottom edge of the slot Z .

6, is an arm which extends through the slot, 7, made in the bottom of the casing. The arm, 6, is provided with a push button, 8, and forms part of the plate, 9, which extends back through the partition, A' . Between the partition, A' , and front plate, A'' , upon the top of the plate, 9, is provided an inclined block, 10, upon which rests the inclined bottom of the platen, 4. To the rear of the partition, A' , and secured to or forming part of the plate, 9, is secured the backwardly inclining projection, 12.

13, is an inking ribbon which is wound on the spindle, 14, located on opposite sides of the slot. The ribbon, 13, is wide enough to take in all of the registering mechanism beneath which it passes being held in position horizontally by the guiding rods, 15.

14', are turning knobs secured on the end of the spindle, 14, and designed to change the position of the ribbon. In the drawings of course it will be seen that on account of one side of the casing being broken away that the spindle, 14, on the opposite side of the slot is not shown but this of course will be readily understood.

16, is a quadrant which is supported on the end of the spindle 17 journaled in the partition, A' , and back plate of the casing. The bottom of this quadrant has embossed upon it the legends "A. M." and "P. M."

18, is a spring arm secured at the rear end of the spindle, 17, outside of the back of the casing and provided with a knob, 19, which is designed to move it between two sets of jaws, 20, so as to respectively bring the legend "A. M." or "P. M." as the case may be on a line with the numbers directly beneath the arbor, J .

21, is a block which is secured to the partition, A' , and has embossed upon it certain particulars for instance as shown by the ticket in Fig. 3, the name of the street, viz., "High St." and the words "Good only for 15 min." On reference to Fig. 2, it will be seen that upon pushing the button, 8, inwardly the inclined block, 10, will raise the platen, 4, and will cause an impression such as shown in Fig. 6, to be imprinted upon the ticket.

23, 24, 25, and 26, are toothed disks secured on the same studs as the circular registering disks, 23', 24', 25', and 26', which registering disks have the numerals from 1 to 0 arranged circularly on the face of each. The studs of the toothed disks and registering disks are journaled in bearings in the plates 27, and, 28. The circular registering disks it will be seen on reference to Fig. 1, are arranged close to the rear plate, which has holes arranged in line so as to expose one number in each of the disks and thereby exhibit the number of transfer tickets issued.

29, 30, 31 and 32, are spring dogs engaging with the teeth of the disks, 23, 24, 25, and 26, respectively. The disks, 23, 24, 25, and, 26 are arranged in the ordinary way to communicate motion from one to the other. That is to say the disk, 23, has a tooth, which engages upon every revolution of the disk, 23, with the tooth in the disk 24, so as to move it forward the space of one digit. The disk, 24, is also arranged to move the disk, 25, forward the space of one digit upon the revolution of the disk, 24, and the disk 25, is arranged to move the disk, 26, forward the space of one digit upon the revolution of the disk, 25.

32', is an arm pivoted on the end of the stud, 33, the arm normally resting on the incline of the projection, 12. Pivoted upon the

end of the arm, 32', is a dog, 34, which rests against the ratchet wheel, 35, on the stud of the registering wheel, 23, beneath one of the teeth. When the button, 8, is pushed inwardly the arm, 32, is raised by the inclined projection 12, so as to cause the dog, 34, to push forward the ratchet wheel 35, and consequently the ratchet wheel, 23, forward the space of one tooth. When the button is released the spring, 36, attached to the partition, A', and fitting into the notch, 37, in the plate, 9, will force the projection, 12, backwardly and the dog, 34, will drop into position beneath the next succeeding tooth, the spring dog, 29, serving to hold the registering wheel, 23, in the position in which it is rotated by the upward movement of the dog 34.

Although I show a rearwardly inclining projection, 12, co-acting with the pivot arm, 32', and pawl, 34, so as to operate the numbering mechanism it will of course be understood that other suitable mechanism might be devised which would satisfactorily accomplish this purpose.

What I claim as my invention is—

1. In a ticket register, the combination with the minute spindle having a regulating wheel connected thereto with connections to the minute registering dial of a two part hour sleeve journaled upon said spindle on each side of the regulating wheel, intermediate driving connections between said parts, a regulating wheel secured on the forward part of said sleeve, and connections from said regulating wheel to the hour registering dial, substantially as described.

2. The combination with the hour hand spindle connected by gearing to the sleeve on which is secured the hour hand, of the hour registering wheel having the hours embossed upon it as described loosely journaled on the main arbor to which it is connected by the dog and ratchet wheel, the helical spring having one end secured to the arbor and the other end attached to a suitable stud and means whereby the hour wheel is automatically, intermittently stopped and held with one of the numerals thereon directly above the platen as and for the purpose specified.

3. The combination with the hour hand spindle connected by gearing to the sleeve on which is secured the hour hand, of the hour registering wheel having the hours embossed upon it as described loosely journaled on the main arbor to which it is connected by the dog and ratchet wheel, the helical spring having one end secured to the arbor and the other end attached to a suitable stud and a series of pins projecting from the face of the hour wheel, a ratchet wheel secured on the hour hand spindle and regulating pawls interposed between said pins and ratchet wheel for permitting a step by step movement to the hour registering wheel as and for the purpose specified.

4. The combination with the hour hand spindle connected by gearing to the sleeve on

which is secured the hour hand, of the hour registering wheel having the hours embossed upon it as described loosely journaled on the main arbor to which it is connected by the dog and ratchet wheel, the helical spring having one end secured to the arbor and the other end attached to a suitable stud and a series of pins projecting from the face of the hour wheel, which pins are intermittently held and freed by the abutting spring pawls co-acting with the toothed wheel on the hour hand sleeve as and for the purpose specified.

5. The combination with the hour hand spindle connected by the gearing, *f, g, g'*, and, *f'*, to the sleeve, F, of the hour registering wheel, K, the ratchet wheel, Q, and spring dog, *q*, helical spring, O, pins, *x*, on the face of the hour wheel, K, spring pawls, V, and, V', having the upper and lower points constructed as specified and the toothed wheel, X, secured on the hour hand sleeve F', and designed to co-act with the pawls as and for the purpose specified.

6. The combination with the minute hand spindle, of the minute registering wheel having the minutes embossed on it as described and loosely journaled on the main arbor, the pinion secured to and forming part of the minute registering wheel and connected by gearing to the helical spring, U, and the abutting spring pawls, W, and, W', having the upper and lower points constructed as specified and designed to co-act with the toothed wheel, Y, on the minute hand spindle, B, and the pins, *y*, on the face of the minute hand wheel, as and for the purpose specified.

7. In a ticket register, a casing having a dial on its front and clock mechanism in the rear portion with the hour and minute spindles extending through said dial, minute and hour registering disks located in the front portion with springs for rotating them, connections operated by the clock mechanism for regulating the rotation of the disks and day and month rings journaled in the casing between the disks and the front face of the casing, and connections for manually rotating said rings, substantially as described.

8. In a ticket register, having a dial on its face and a compartment in its rear portion, a clock mechanism located in said compartment with its hour and minute spindles operating hands in front of the dial, hour and minute registering disks under spring tension, regulating connections from the hour and minute spindles for permitting intermittent movement to said disks, day and month registering rings mounted on a circular flange projecting from the inner face of the front wall of the casing, guides for retaining said rings on the flange, and means for mechanically operating said rings, substantially as described.

9. The combination with the registering mechanism operated, held in position and having the embossed characters as specified, of the platen, 4, having an inclined bottom and

the arm 6, forming part of the plate, 9, provided with a button, 8, extending through the slot, 7, in the casing and having connected to it the inclined block, 10, and the spring, 36, fitting into the notch, 37, in the plate, 9, as and for the purpose specified.

10. The combination with the registering mechanism operated, held in position and having the embossed characters as specified, of the platen, 4, plate, 9, carrying the inclined block 10 and having the arm, 6, attached there-

to at its outer end and the inclined projection at its inner end, the arm, 32, pivoted on the stud, 33, and having the dog, 34, pivoted at its end and engaging with the ratchet wheel, 35, of the registering disk, 23, as and for the purpose specified.

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Witnesses:

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