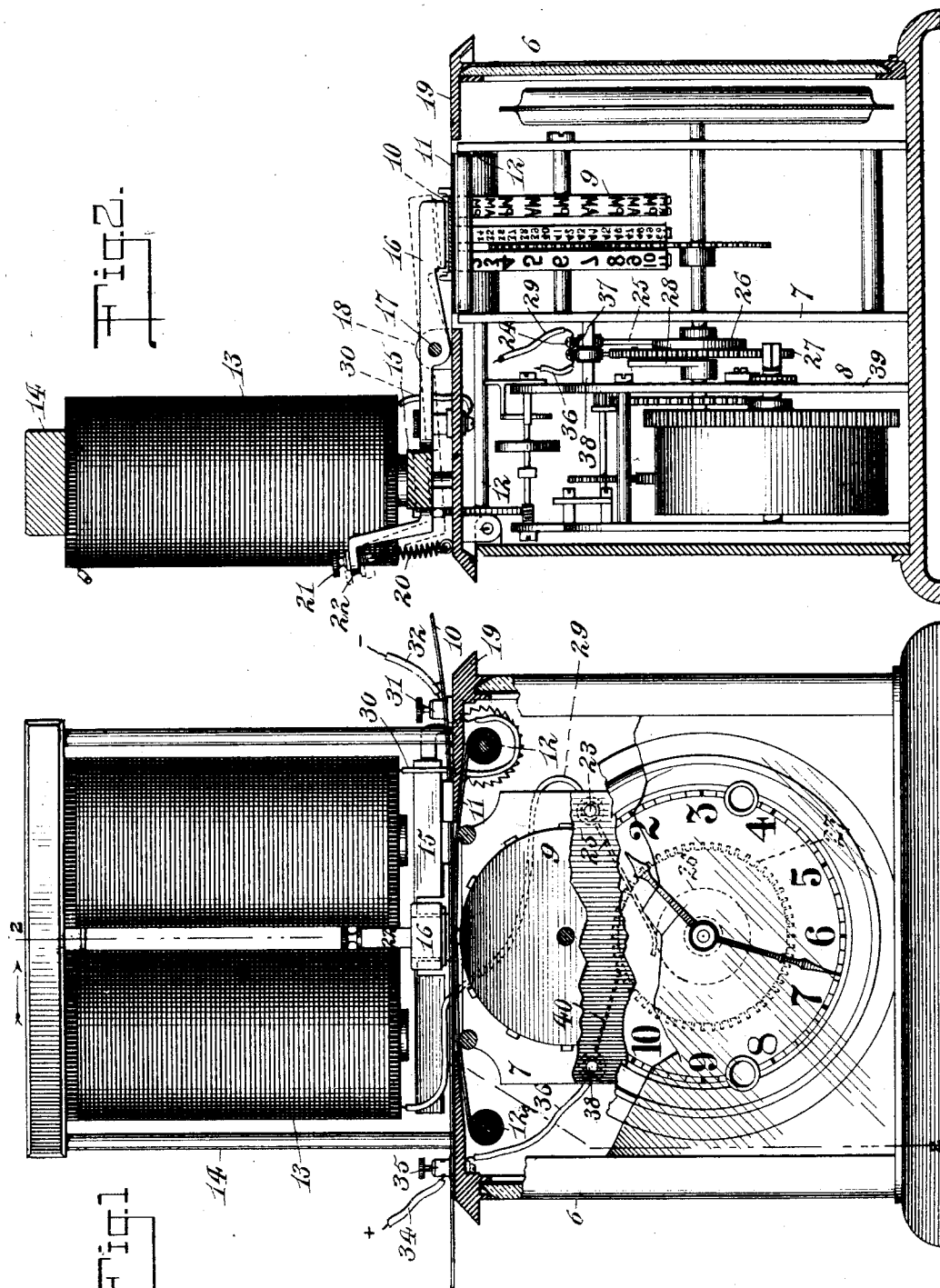


R. ROWLEY.
AUTOMATIC TIME STAMPING DEVICE.

APPLICATION FILED JAN. 9, 1904.

3 SHEETS—SHEET 1.



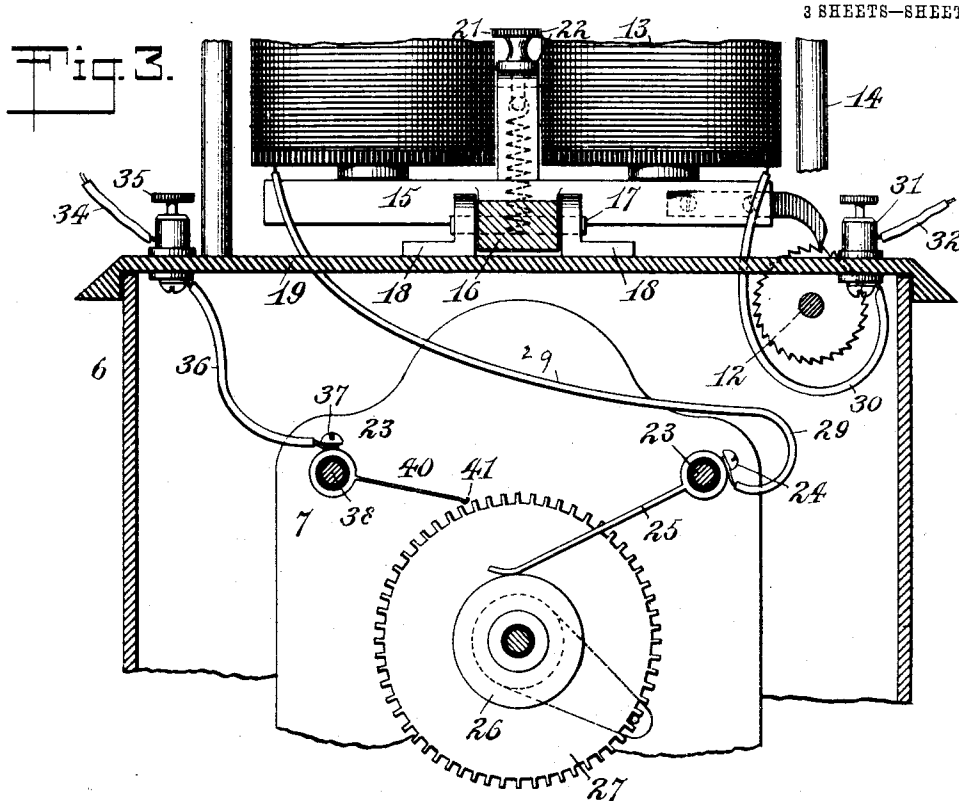
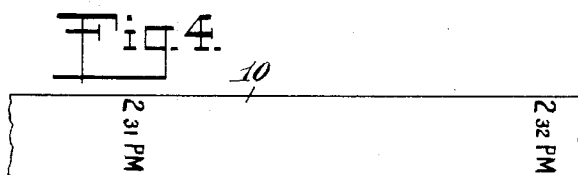
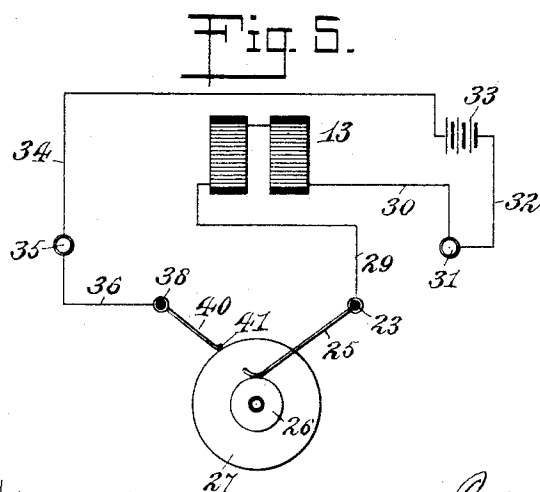
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Inventor
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3 SHEETS—SHEET 2.

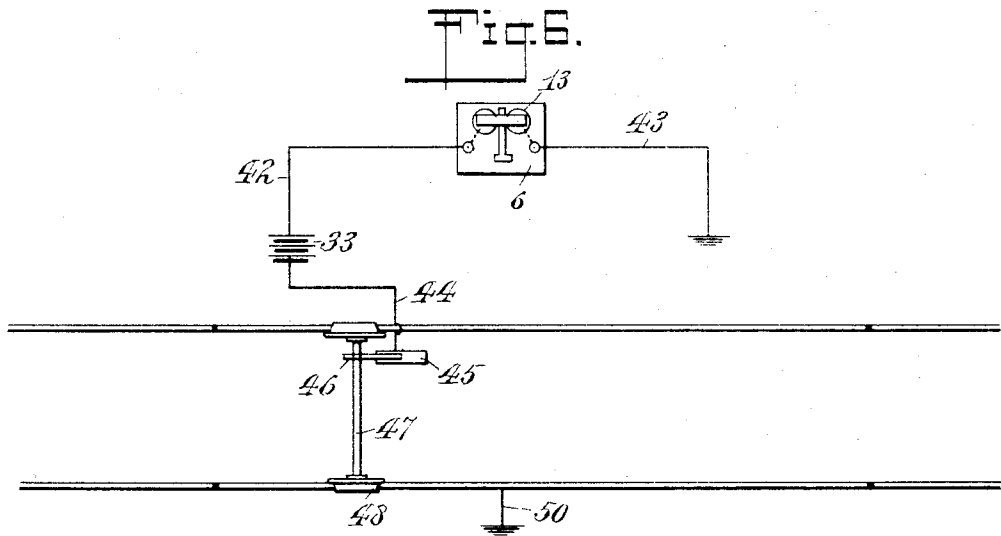
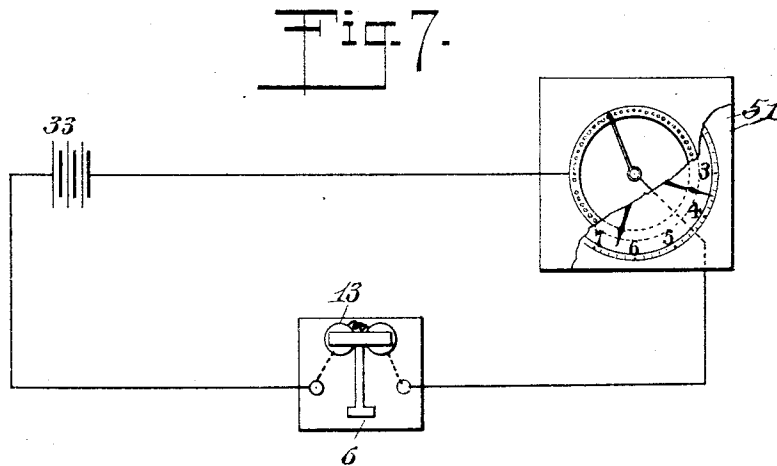


Witnesses
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R. ROWLEY.
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3 SHEETS—SHEET 3.



Witnesses
M. Van Nottwick
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Robert Rowley Inventor
By his Attorney George East

UNITED STATES PATENT OFFICE.

ROBERT ROWLEY, OF NEW YORK, N. Y.

AUTOMATIC TIME-STAMPING DEVICE.

SPECIFICATION forming part of Letters Patent No. 793,231, dated June 27, 1905.

Application filed January 9, 1904. Serial No. 188,291.

To all whom it may concern:

Be it known that I, ROBERT ROWLEY, a citizen of the United States, and a resident of New York, borough of Manhattan, in the county of New York and State of New York, have made and invented certain new and useful Improvements in Automatic Time-Stamping Devices, of which the following is a specification.

My invention relates to an improvement in automatic time-stamping devices, the object being to provide a device of this character whereby figures, numbers, letters, or other characters may be automatically printed, stamped, impressed, or otherwise applied to a tape or ribbon to indicate the time or serve as a record for any suitable purpose or purposes; and with these and other ends in view the invention consists in certain novel features of construction and combinations of parts, as will be hereinafter fully described, and pointed out in the claim.

In the accompanying drawings, Figure 1 is a face view of my improved device, a portion of the clock-face being broken away to show a portion of the internal mechanism. Fig. 2 is a sectional view taken on the line 2 2 of Fig. 1. Fig. 3 is a view showing the arrangement of the conductors and mechanism for making and breaking the electric circuit. Fig. 4 is a view of a portion of the tape or ribbon having figures and letters printed thereon indicating time. Fig. 5 is a diagrammatical view showing the electric circuit. Figs. 6 and 7 are diagrammatic views of modifications.

Referring to the drawings, 6 represents a time-register clock of any desired style or pattern, 7 representing a division-plate dividing the clock into two compartments, in one of which is located the clock-movement 8 and in the other the disks or wheels 9, the peripheries of which are provided with the letters, figures, numbers, or other characters to be imprinted or stamped upon or in the tape or ribbon 10. These several parts, including the clock mechanism and wheels or disks 9, are constructed and arranged in every way the same as in the time-register clocks now upon the market and familiar to and understood by those skilled in the art and in each of

which is employed an ink-ribbon 11, arranged to wind upon the rolls 12, said ink-ribbon 11 traveling directly over the disks or wheels 9 and with the characters upon the peripheries of which it is pressed into contact when the stamping is effected, the stamp proper being ordinarily operated by hand. In my present device, however, the stamping device is operated automatically by the following means: On the top of the clock and in place of the ordinary hand-stamp is located a magnet or magnets 13, supported by the frame 14, the armature 15 of which is secured to the rear end of the stamping-lever 16, the latter being fulcrumed at 17 to a lug or lugs 18, formed on or secured to the top plate 19 of the clock, the forward end of said lever 16 being lowered onto the tape or ribbon passing over the wheels 9 when the rear end of said lever is raised by the armature 15, as shown in Fig. 2 of the drawings. The armature 15 carries a pawl 15', which engages a ratchet 15² on the axis of one of the ribbon-rolls 12, whereby the ribbon is fed forward each time the stamping-lever is returned to normal position after stamping. When the circuit of electricity is completed through the magnets 13, as hereinafter described, the armature 15 is raised, thereby lowering the forward end of the lever 16, as before described, and when the circuit is broken the armature 15 is lowered by means of the spring 20, one end of which is secured to the top plate 19 of the clock and the opposite end to the adjusting-screw 21, passing through the bent arm 22, formed on the armature 15, thereby raising the forward end of the lever 16 out of contact with the tape or ribbon passing over the wheels or disks 9 and causing the pawl 15' to turn the ratchet and advance a fresh portion of ribbon beneath the stamping-head. To make and break the circuit, and thereby intermittently excite the magnets 13, I secure to the post 23, projecting from the division-plate 7, the binding-post 24, to which latter is secured the brush 25, the lower free end of which bears against the hub 26 of the pinions 27, being provided on its periphery with teeth, whereby to engage with the pin on the lever 28, as in the ordinary construction of time-register clock. As indicated in Fig. 3 and in

the diagrammatic view Fig. 5 of the drawings, a wire or conductor 29 leads from the binding-post 24 to and through the magnets 13, and from the latter leads the wire or conductor 30 to the binding-post 31. From this post 31 leads the wire or conductor 32 to a battery or other suitable source of electricity 33, and from the latter leads the wire or conductor 34 to the binding-post 35, secured to and passing through the top plate 19 of the clock, as does also the binding-post 31. From the binding-post 35 leads the wire or conductor 36 to the binding-post 37, secured to the lug or post 38, projecting from the plate 39 of the clock-movement. To the post 37 is secured the brush 40, the lower free end 41 of which is bent or curved, as illustrated in Figs. 3 and 5 of the drawings, whereby the same will extend downwardly between the teeth on the pinion 27 and out of contact therewith so long as the said pinion remains stationary. When, however, said pinion is turned by the clock-movement, the bent end 41 of said brush 40 will come into contact with one of the teeth of said pinion, riding over the same and down into the space between the next adjacent teeth. As the pinion is turned, usually once a minute, in the ordinary time-register clocks and during the time that the end of the brush 41 is in contact with the tooth the circuit is closed, thereby exciting the magnets 13, as before described, and causing the armature 15 and rear end of the lever 16 to be drawn upwardly and the forward end of the lever 16 forced downwardly, bringing the latter into contact with the ribbon or tape riding over the disks or wheels 9.

In practice the device may be used for various purposes; but in the drawings I have shown it as constructed and arranged for use in connection with stock-quotation tickers, 10 representing the paper tape as it issues from the ticker and having printed in the ordinary way or manner on the upper surface or side thereof the stock quotations, said tape or ribbon 10 traveling over the inked ribbon 11.

The mechanism of the clock 6 is so arranged that there are sixty teeth in the pinion 27, said pinion being given a sixtieth of a turn each minute, or, in other words, a complete revolution in one hour. By thus constructing and arranging the device the circuit through the magnets will be completed every minute and the time stamped or printed upon the back

of the tape, as illustrated in Fig. 4, whereby it is possible to determine from the upper surface of the tape the stock quotations and from the under side or surface of the tape the minute of time when such quotation or quotations were issued or printed upon the opposite side of the tape.

It will of course be understood that the device will be modified to suit the purpose for which it is intended to be used. As, for instance, in Fig. 6 of the drawings I have shown a diagrammatic view of its application to railroads to indicate the time of the passing of a train, in which instance a wire or conductor 42 leads from the battery 33 to the clock 6, constructed and arranged as before described and located in a railroad-station or other desired place, from which clock leads the wire or conductor 43 to the ground. From the battery 33 also leads the wire or conductor 44 to a plate 45 and with which latter comes in contact the rod 46, secured to the axle 47 of the car, the circuit being completed through said axle 47, wheel 48, insulated section of rail 49, conductor 50, leading to the ground. Again, I have used with good results the device as illustrated in the diagrammatic view Fig. 7, wherein the stamping is effected by the clock 6, having the stamping devices secured thereto, as before described, and a separate clock 51, located in the circuit for making and breaking the latter.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

An improved message and time recorder having in combination a clock mechanism, a wheel provided with notation, an automatic stamping-lever having at one end a head disposed in the range of action of the wheel and having the opposite end bent upwardly and provided with an adjusting-screw, a spring connecting said screw with the clock-case, an armature on the lever, a magnet and connections for energizing the same, and a ribbon-feeding mechanism actuated by the lever.

Signed at New York, borough of Manhattan, in the county of New York and State of New York, this 7th day of January, A. D. 1904.

ROBERT ROWLEY.

Witnesses:

J. C. McDONOUGH,
M. VAN NORTWICK.