

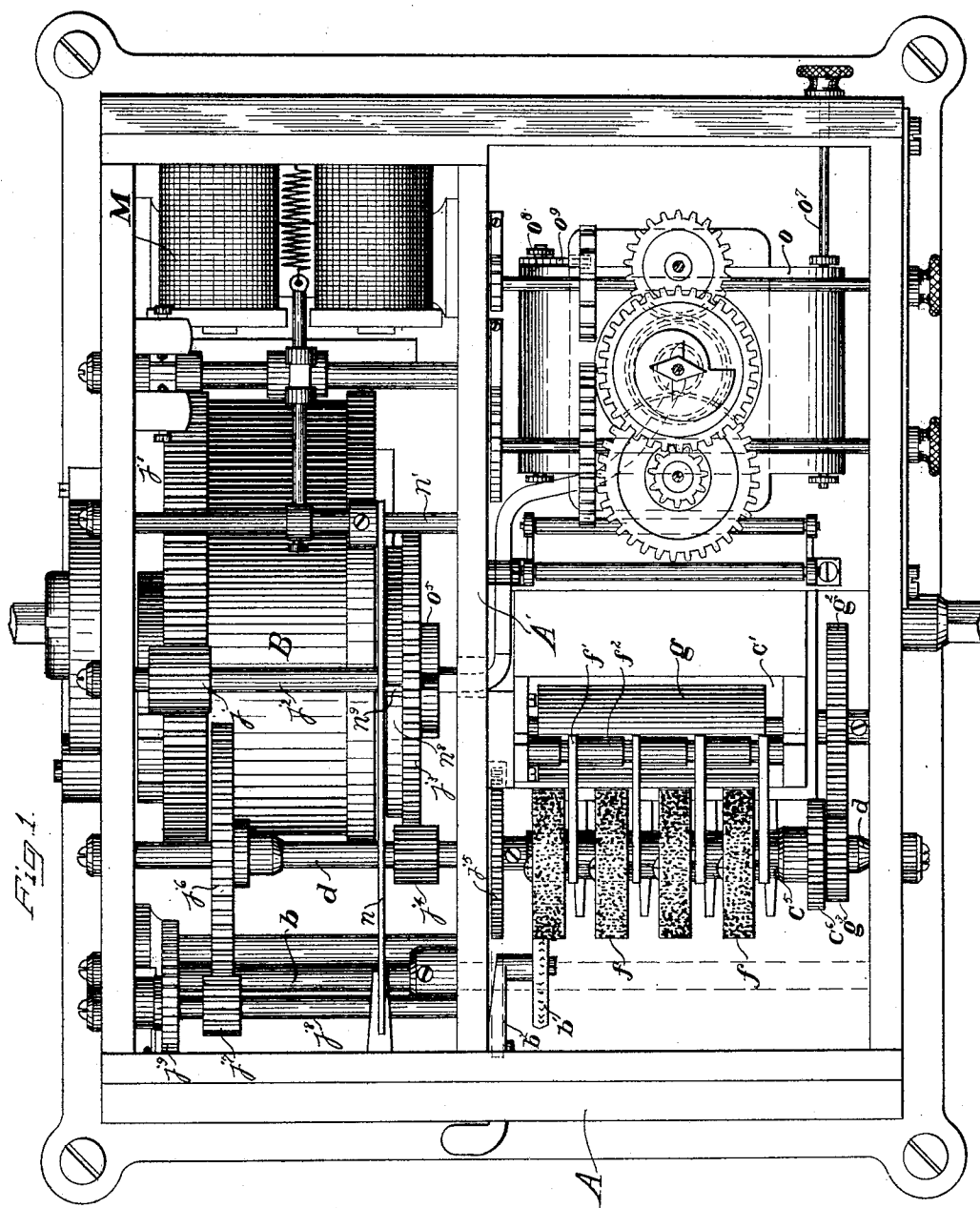
(No Model.)

3 Sheets—Sheet 1.

B. J. NOYES.
MESSAGE RECORDING INSTRUMENT.

No. 578,113.

Patented Mar. 2, 1897.



WITNESSES.
Harry O. Robinson.
Julian L. Noyes.

INVENTOR.
Bernice J. Hayes.

(No Model.)

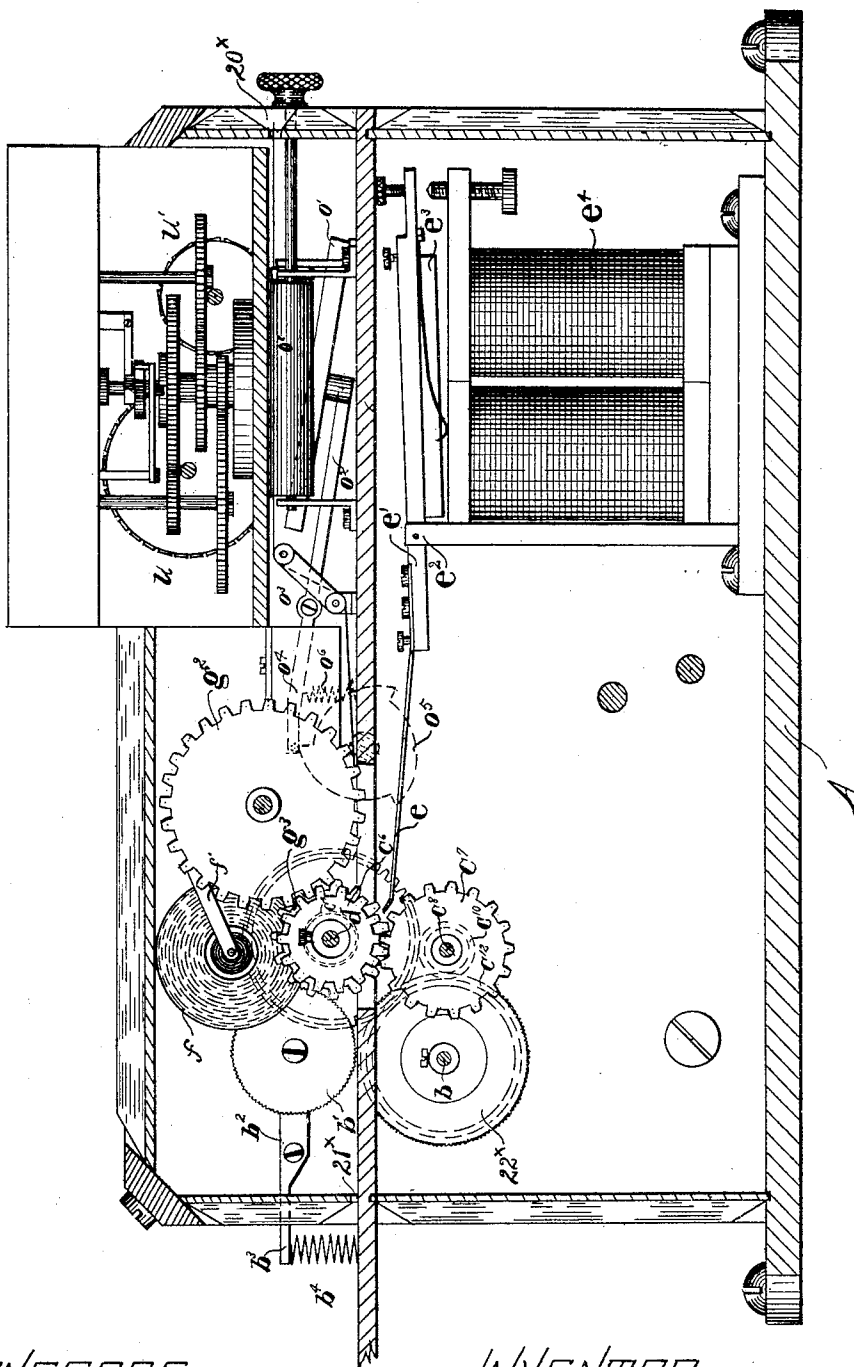
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Fig. 3

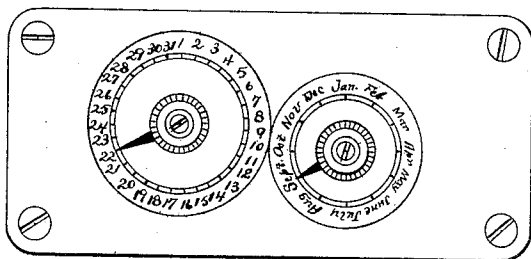


Fig. 4

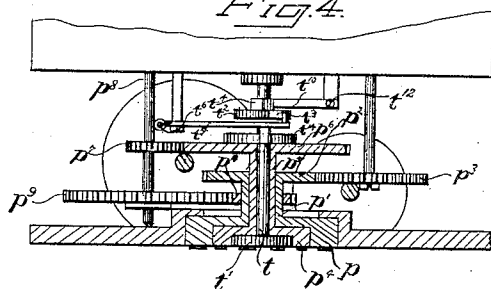


Fig. 5

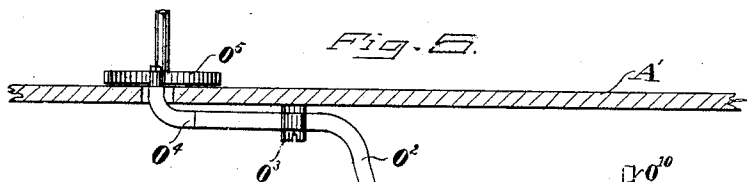


Fig. 7

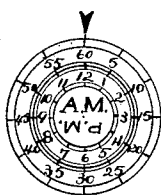
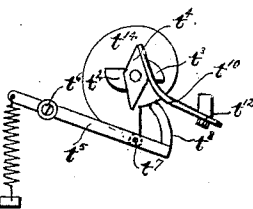


Fig. 6



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UNITED STATES PATENT OFFICE.

BERNICE J. NOYES, OF BOSTON, MASSACHUSETTS.

MESSAGE-RECORDING INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 578,113, dated March 2, 1897.

Application filed June 25, 1896. Serial No. 596,894. (No model.)

To all whom it may concern:

Be it known that I, BERNICE J. NOYES, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Message-Recording Instruments, of which the following description, in connection with the accompanying drawings, is a specification, like letters and numerals on the drawings representing like parts.

Prior to this invention message-recording instruments have been made adapted to be operated by any one of several circuits, and a time-printing device has been employed in conjunction with such an instrument for printing the time upon the strip of paper upon which the message is recorded. Such a time-printing device has usually been operated by an electromagnet the circuit of which is operated by the message-recording instrument. With such an arrangement the time is printed upon the strip of paper some distance from the message, and as a matter of fact is usually printed upon or adjacent to the preceding message. Therefore trouble frequently arises as explanation is required as to the time any given message was received and more particularly when the strip of paper is taken into court by the officers.

This invention has for its object to construct a message-recording instrument by which the messages may be recorded upon a strip of paper and the time shall be printed upon the face side of said strip of paper close to the message, as, for instance, it may be printed as or just previous to the strip of paper being fed along by the paper-feeding devices set in operation upon the starting of the instrument.

In accordance with this invention a normally-wound motor mechanism is provided, constructed and arranged to be "let off" by an electromagnet operated by any one of the signaling-circuits connected with the instrument, and when so released to operate and feed along the strip of paper for a given or suitable distance, and several pen-magnets are provided, each adapted to be operated by its own circuit and to coöperate with suitable marking rolls or devices to mark, print, or record the message on the moving strip of paper, and the time-printing device is ar-

ranged in juxtaposition to the aforesaid marking devices, it comprising time-printing indicators and a platen so arranged that the strip of paper may be moved between them by the aforesaid paper-feeding mechanism, and a cam is provided which is driven or operated by the aforesaid motor mechanism for operating said platen and suddenly forcing the strip of paper against the time-printing indicators, thus printing the time on the strip of paper close to the message. The time-printing devices are or may be operated continuously or intermittingly by an independent train of wheelwork or motor mechanism. Dating devices are provided in conjunction with the time-printing device by which the month and day of the month may be printed upon the strip of paper in conjunction with the time, said dating devices being operated manually.

My invention therefore consists in many details of construction to be hereinafter pointed out.

Figure 1 shows in plan view a message-recording instrument embodying this invention, the clockwork or train which operates the time-printing devices or indicators and some of the other parts of the time-printing mechanism being removed for clearness; Fig. 2, a side view of the instrument shown in Fig. 1, the side plate being removed to expose the operating parts; Fig. 3, a detail showing the dating devices; Fig. 4, a vertical section of the time-printing device; Fig. 5, a plan view of the platen of the time-printing device and cam which operates it; Fig. 6, a detail of the means employed for turning the meridian-wheel of the time-printing device, and Fig. 7 a view of the impression made by the time-printing device on the strip of paper.

My invention is herein shown as applied to a message-recording instrument such as shown in United States Patent No. 426,554, dated April 29, 1890, yet so far as the invention is concerned it may be applied to any other well-known type of register.

In the particular type of register shown there is a box-like frame A of suitable size and shape to contain the operating mechanism, which comprises a base, side walls and

end walls, and a top plate, the side walls serving as bearings or supports for the shafts. A division-wall A' is secured in said box-like frame, dividing it longitudinally into two sections or compartments. In one section or compartment the main motor mechanism is contained, which is herein represented as comprising a drum B, containing an actuating-spring having thereon a main driving-gear j , which engages a pinion j' , secured to a shaft j^2 , which has secured to it a gear j^3 , which engages a pinion j^4 , secured to a shaft d , which has secured to it a gear j^6 , which engages a pinion j^7 , secured to the shaft j^8 , having on it an escape-wheel j^9 and also a stop-arm which is engaged by a lever n , secured to the shaft n' and having a thin pin n^9 midway its length, which engages the stop-wheel n^8 , secured to said shaft j^2 . The shaft n' is rocked by an electromagnet M, which magnet is called the "starting-magnet," and is included in or connected with or adapted to be operated by all of the signaling-circuits which may be connected with the instrument, and whenever it is energized (it being ordinarily employed in a local circuit) the said motor mechanism is released.

The paper strip upon which the message is to be recorded is made quite wide and enters through a slot 20^x , formed in one of the end walls of the frame, and passes out through a slot 21^x at the opposite end of the instrument.

The paper-feeding device consists of a serrated wheel 22^x , fixed to a shaft b , which passes through both sections or compartments, and the rotating presser-wheel b' , loosely mounted on a stud projecting laterally from the arm b^8 , pivoted to the frame and having a finger-piece b^3 projecting out through the frame by means of which it may be raised and lowered.

To mark or print the message on the strip, which will be done by either dots or dashes, marking-surfaces c^4 are provided, formed as a part or attached to a roll or sleeve c^5 , mounted upon the rod or shaft d , which, like the shaft b , is carried through both compartments. The toothed wheel c^6 is fixed to the sleeve c^5 , which is engaged by a pinion c^7 , fixed to a shaft c^8 , located beneath the sleeve, said shaft c^8 having fixed to it a pinion c^{10} , which is engaged by a toothed wheel c^{12} , fixed to the shaft b , above referred to. By this arrangement the marking-surfaces c^4 will be revolved in a direction opposite to the movement or travel of the paper, and will be driven from the shaft b . Herein four such marking-surfaces are shown, as the instrument is designed for four circuits. The marking-surfaces are located just above the paper, and the paper is lifted into contact therewith by the pens, and as the instrument is herein designed for four circuits four pens e are employed, the free or outer ends of which when lifted strike against the under side of the paper and lift it against the marking-surfaces. The pens e are attached to the armature-car-

rying-levers e' , pivoted at e^2 to a suitable framework, and said levers e' have attached to the under side thereof armatures e^3 of the electromagnet e^4 , four such electromagnets being herein shown. These electromagnets are placed in or arranged to be operated by four separate and independent circuits, and hence are independently operative.

Inking devices are provided for the marking devices, comprising felt rolls f , bearing directly upon them, said rolls being loosely connected to or journaled in the outer ends of the arms f' and loosely mounted upon the rods f^2 , movable back and forth in suitable guideways to move said felt rolls into contact with the ink-rolls g , which are placed in the ink-reservoir c' , and fixed to a shaft g' , bearing a toothed wheel g^2 , which is engaged by a pinion g^3 on the sleeve c^5 , and thereby positively rotated.

The paper which enters the slot 20^x of the instrument and upon which the message is to be printed passes under an inking-ribbon o , which is located just beneath the time-printing indicators and over a platen o' or plate secured to the end of an arm o^2 , pivoted to the middle wall A' at o^3 , said arm having an extension o^4 , which projects through a slot in said middle wall and is engaged by a cam o^5 , secured to one of the shafts of the motor mechanism, as, for instance, it may be secured to the shaft j^2 . The arm o^4 is raised by said cam o^5 against the stress of the spring o^6 to thereby depress the platen, and when the apparatus is at rest said platen is thus normally depressed, as shown in Fig. 2, with the end of the arm o^4 just ready to drop as soon as the cam is started, so that the platen will be suddenly lifted just as the instrument starts. The inking-ribbon o , of any suitable kind, passes over suitable rolls o^7 o^8 , the shafts of one of said rolls, as o^7 , being extended and projecting out through the end wall of the instrument, and having secured to it a thumb-nut by which it may be normally turned to wind the ribbon on its roll, and the shaft of the other roll has secured to it a toothed wheel o^9 , which lies in the path of movement of the latch o^{10} , projecting from the platen, so that each time said platen is raised said latch will engage said toothed wheel and turn the roll one step, thereby intermittently feeding along the inking-ribbon.

The time-printing indicators comprise the minute-wheel p , made as a crown-wheel, secured to a sleeve p' , having fast to it a gear p^2 , which is engaged and driven by a gear p^3 , which may be connected with and driven by any suitable motor mechanism, (not shown,) and an hour-wheel p^4 , made as a crown-wheel and arranged concentrically within the minute crown-wheel p and secured to a sleeve p^5 , having thereon a gear p^6 , which is engaged by a pinion p^7 , secured to a shaft p^8 , having secured to it a gear p^9 , which is engaged by a pinion p^{10} , secured to a sleeve p' .

These two crown-wheels are turned continuously, and one has formed on its lower end or face figures representing the hours and the other figures representing the minutes. On a central rod or shaft t a meridian-wheel t' is secured, said wheel having on it the letters "A. M.," "P. M.," and said shaft t passes up through the sleeve p^5 and has secured to it two opposite projections t^2 t^3 and also a lozenge-shaped piece t^4 . The triangular points of said piece t^4 project in opposite ways midway between the two projections t^2 t^3 . A cam-wheel t^{14} is secured to the gear p^6 , turning with it, and a spring-pressed arm t^5 is pivoted at t^6 , which has a pin t^7 in engagement with the cam t^{14} . The arm t^5 has on it a projection t^8 , adapted to engage one or the other projection t^2 t^3 when the arm t^5 is released by the cam and to at such time turn the rod or shaft t a little more than a quarter of a revolution. A flat spring t^{10} is secured at t^{12} , and its free end bears upon one of the flat sides or faces of the lozenge-shaped piece t^4 , and as the rod or shaft is turned a little more than a quarter of a revolution by the spring-acting arm the lozenge-shaped piece will be turned sufficiently to bring its opposite point into engagement with the flat spring t^{10} and far enough for the spring to thereafter act upon it and turn the rod or shaft t still farther. The spring-acting arm and flat spring together turn the rod or shaft one-half of a revolution and thereby bring either "A. M." or "P. M." uppermost. This meridian-wheel may be moved in any other desirable way.

Two dating-wheels u u' are provided, one for the month and the other for the day of the month, said wheels being secured to shafts u^2 , which project out through the side walls of the instrument, and which have secured to them thumb-nuts, by means of which they may be turned manually as desired.

I do not desire to limit my invention to the particular construction of all parts shown, as many of them may be changed without departing from the spirit and scope of this invention.

I claim—

1. In a message - recording instrument, adapted to be connected with and operated by several signaling-circuits, the combination of time-printing indicators and a platen, a paper-feeding device for feeding a strip of paper between them, electromagnetically-operated marking devices one for each circuit connected with the instrument, located close to said time-printing indicators, for recording a message on the moving strip of paper, a motor mechanism for operating said paper-feeding device, a starting-magnet for releasing it common to all the circuits, a cam secured to one of the shafts of said motor mechanism,

and a lever actuated by it bearing said platen, substantially as described.

2. In a message - recording instrument, adapted to be connected with and operated by several signaling-circuits, the combination of time-printing indicators and a platen, a paper-feeding device for feeding a strip of paper between them, electromagnetically-operated marking devices one for each circuit connected with the instrument, located close to said time-printing indicators, for recording a message on the moving strip of paper, a motor mechanism for operating said paper-feeding device, having a stop-wheel and a releasing-lever engaging it whereby the motor mechanism runs a certain length of time each time it is let off, an electromagnet for operating said releasing-lever common to all the circuits, a cam secured to one of the shafts of said motor mechanism, and a lever actuated by it bearing said platen, substantially as described.

3. In a message - recording instrument, adapted to be connected with and operated by several signaling-circuits, a motor mechanism, a starting-magnet for releasing it common to all the circuits connected with the instrument, paper-feeding devices operated by said motor mechanism, several marking devices arranged side by side, and pen-magnets coöperative therewith, one for each circuit connected with the instrument for recording the message on the moving strip of paper, a time-printing device located in juxtaposition to said marking devices comprising time-printing indicators over which the paper travels, the platen o' located beneath the paper, pivoted arm o^2 carrying said platen, its extension o^4 , and the cam o^5 secured to one of the shafts of said motor mechanism, substantially as described.

4. The combination with a motor mechanism, of time-printing indicators and means for operating them, a platen, a pivoted arm carrying it having an extension o^4 and a cam o^5 operated by said motor mechanism, an ink-ribbon overlying said time-printing indicators, two rolls over which it passes, or upon which it is wound, one of which is provided with means for manually winding it and the other with a toothed wheel, and a latch operated by said platen for intermittently operating said toothed wheel to move along the ink-ribbon step by step, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

BERNICE J. NOYES.

Witnesses:

JULIAN L. NOYES,
HARRY O. ROBINSON.