

(No Model.)

2 Sheets—Sheet 1.

C. E. BEACH.
TELEGRAPHIC REGISTER.

No. 578,386.

Patented Mar. 9, 1897.

Fig. 2.

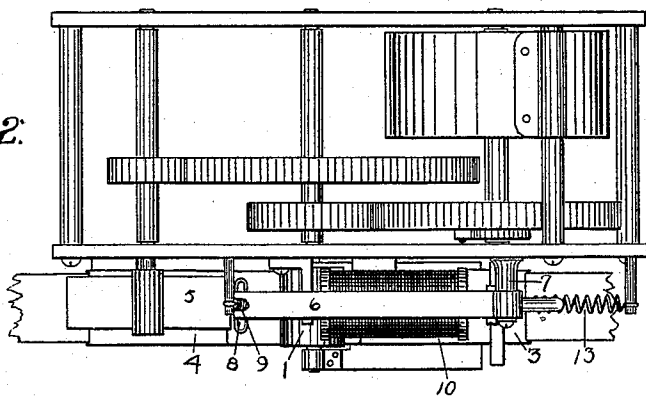


Fig. 4.

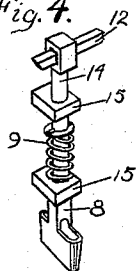
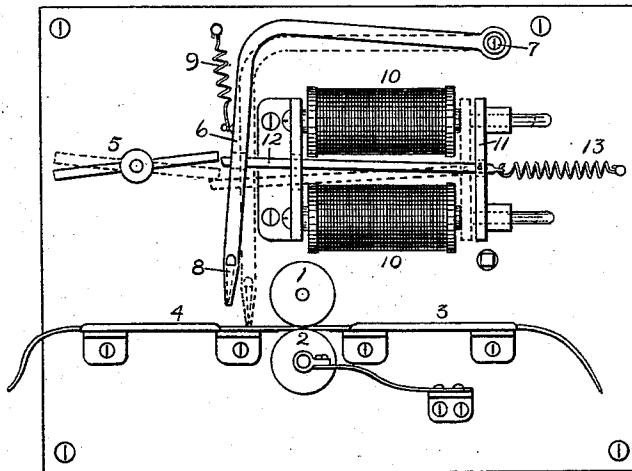


Fig. 1.



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(No Model.)

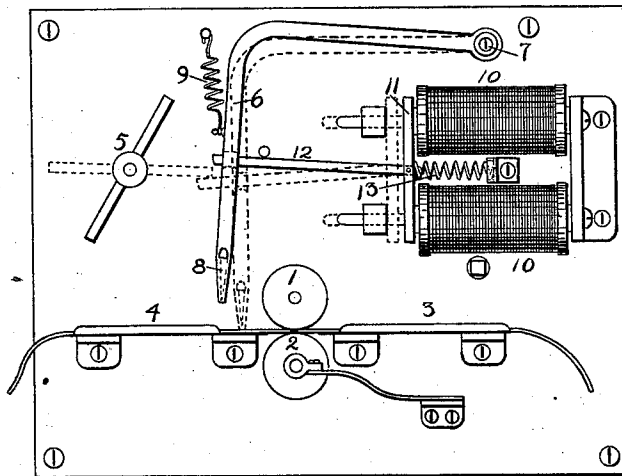
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Fig. 3.



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TELEGRAPHIC REGISTER.

SPECIFICATION forming part of Letters Patent No. 578,386, dated March 9, 1897.

Application filed October 21, 1895. Serial No. 566,419. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE E. BEACH, a citizen of the United States, residing at Binghamton, in the county of Broome and State of New York, have invented certain new and useful Improvements in Telegraphic Registers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in telegraphic registers, and has for its object the production of an apparatus for mechanically recording electrical impulses.

The object of my invention is to produce a device of the kind in which the printing or embossing attachment is impelled with greater force than with similar apparatus for the purpose now on the market, to render it simple and cheap and adapted for general use.

With these and other objects in view my invention consists of certain peculiar features of construction and arrangement of parts, all of which will now be fully described, and finally embraced in the claims.

In the drawings accompanying and forming a part of this specification, in which like numerals of reference denote the same part throughout the several views, Figure 1 is a front elevation arranged for use upon a closed circuit. Fig. 2 is a plan of the same. Fig. 3 is a modification of Fig. 1 arranged for use upon an open circuit. Fig. 4 is a modification of the stamping device shown in the other figures.

In constructing my invention I provide a suitable system of gearing, which may be driven by a spring or weight, as in ordinary clock-movement construction, or any common means may be employed for imparting motion to the various movable parts comprising my invention.

The cylinders 1 and 2 are so mounted as to be capable of attaining a rotary motion, and one of said cylinders may receive its motion from the rotation of the gearing, and the other cylinder revolve by contact therewith, or both

cylinders may be revolved independently. Said cylinders are so placed with relation to each other as to form an automatic feed for the ribbon or paper designed to be printed or embossed. The ribbon or paper may be supported by the guides 3 and 4.

A fan-wheel 5 is mounted upon a shaft to revolve therewith, said shaft receiving its motion from the system of gearing hereinbefore referred to and revolving in proper relation to the rotation of the cylinders 1 and 2 and in such direction as will enable said fan-wheel to operate an oscillating beam or reciprocating slide when the motion of said fan-wheel is interrupted by the action of a latch having a bearing within said beam or slide.

The beam 6 is mounted upon a suitable bearing, as at 7, in a manner that will permit its oscillation, said bearing being so situated that the oscillation of the beam 6 will cause the stamping or embossing attachment 8 to be brought in contact with the paper resting upon the guide 4, or instead of the beam 6 may provide a reciprocating slide 14, capable of moving within the guides 15, into which it is secured. At the lower portion of said beam or slide the stamping or embossing device 8 is secured in such position as to permit its being brought in contact with a portion of the guide 4 or the paper or ribbon which may rest thereon. Said stamping or embossing attachment 8 may consist of any common arrangement for the purpose of printing, punching, impressing, or embossing suitable signs or characters upon the ribbon or paper.

A spring 9 is connected to beam 6, the tendency of which is to maintain the stamping or embossing device away from the paper or ribbon.

The magnets 10 and armature 11 are arranged in a common manner.

A rod 12 is connected with the armature 11 at one end, the other end having a bearing within the beam or slide and projecting a sufficient distance in the direction of the fan-wheel 5 to permit engagement of said rod with the fan-wheel when the armature 11 is in a certain position, but when said armature is in the other position the rod will not engage with the fan-wheel.

The spring 13 serves to keep the armature 11 out of contact with the magnets 10, except when said armature is being influenced by said magnets.

5 Various modifications may be made in the construction and arrangement of my apparatus without departing from the spirit of my invention.

10 The operation is as follows: The magnets are connected to the circuit in the usual manner. When arranged as shown in Fig. 1, my device is adapted for use upon a normally closed circuit, which is opened during the transmission of signals, the signals being composed of breaks of various lengths separated 15 by short periods of closed circuit, an example of such a circuit being found in a common fire-alarm-telegraph system. Power being applied to the system of gearing and a suitable ribbon or paper being supplied to the cylinders 1 and 2, said cylinders and the fan-wheel 5 will revolve until a circuit is established through the magnets 10, which will so influence the armature 11 as to bring the rod 12 25 within the path of the fan-wheel 5, thus engaging with one of the vanes or projections of said wheel, when the momentum of said wheel will overcome the tension of the spring 9 and bring the stamping or embossing device 8 upon the ribbon or paper, after which 30 the power of said spring, together with the elastic force of the collision of the stamping device with the ribbon or paper, will immediately cause the stamping or embossing device to rebound. Should the circuit now be 35 interrupted, as in the transmission of a signal, the armature 11 would be withdrawn from the magnets 10, thereby releasing the fan-wheel 5 from engagement with the rod 12, whereupon the fan-wheel 5 and cylinders 1 and 2 would be revolved by the system of gearing, thus propelling the paper along the guides 3 and 4 and bringing the impression made by the stamping or embossing device 45 out of the path of said device. The impulses comprising the signal being transmitted may now be registered or recorded in the same manner that the first impression was made, it being evident that the pauses between im- 50 pulses will be represented by a corresponding space between impressions or characters upon the ribbon or paper owing to the fan-wheel 5 and cylinders 1 and 2 continuing to revolve as long as the circuit remains open. It will 55 also be evident that when the circuit is finally reestablished the device will again be auto-

matically brought and maintained in a condition of rest.

When arranged as shown in Fig. 3, my device is adapted for use upon a normally open 60 circuit, which, however, is closed during the transmission of signals, the impulses forming the signals being produced by interrupting the circuit which remains closed between such impulses. The rod 12 while the circuit is 65 open is in engagement with the fan-wheel 5, but as soon as the circuit is closed the armature 11 by its movement disengages the rod from the fan-wheel, thus allowing said fan-wheel to revolve, as hereinbefore provided and 70 with the result above described.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. A magnet; a revoluble part containing 75 projections capable of engaging with a latch; a latch operated by the magnet and controlling the motion of the revoluble part, and a slide or beam operated by the collision of the revoluble part and latch, substantially as and 80 for the purpose described.

2. A magnet; a revoluble part containing projections capable of engaging with a latch; cylinders for automatically supplying paper 85 to the machine; a latch actuated by the magnet and controlling the motion of the revoluble part and cylinders, and a slide or beam so operated by the collision of the revoluble part and latch as to impress signs or characters upon the paper whenever the motion 90 of the revoluble part and cylinders is interrupted by the action of the latch, as and for the purpose described.

3. A magnet; a latch actuated thereby; a revoluble part containing projections capable 95 of engaging with said latch; cylinders for automatically supplying paper to the machine whenever the motion of the revoluble part is not restrained by the latch; a slide or beam adapted to derive a reciprocating or oscillat- 100 ing motion from the collision of the revoluble part and latch, and suitable signs or characters attached to said slide or beam for stamping or embossing the paper, as and for the purpose described. 105

In testimony whereof I affix my signature in presence of two witnesses.

CLARENCE E. BEACH.

Witnesses:

M. D. TURLEY,
J. M. HANFORD.