(No Model.)

H. VAN HOEVENBERGH.

MEANS FOR PRINTING FROM EITHER OF TWO TYPE WHEELS IN PRINTING TELEGRAPHS.

No. 293,928. Patented Feb. 19, 1884.

Fig. 1.

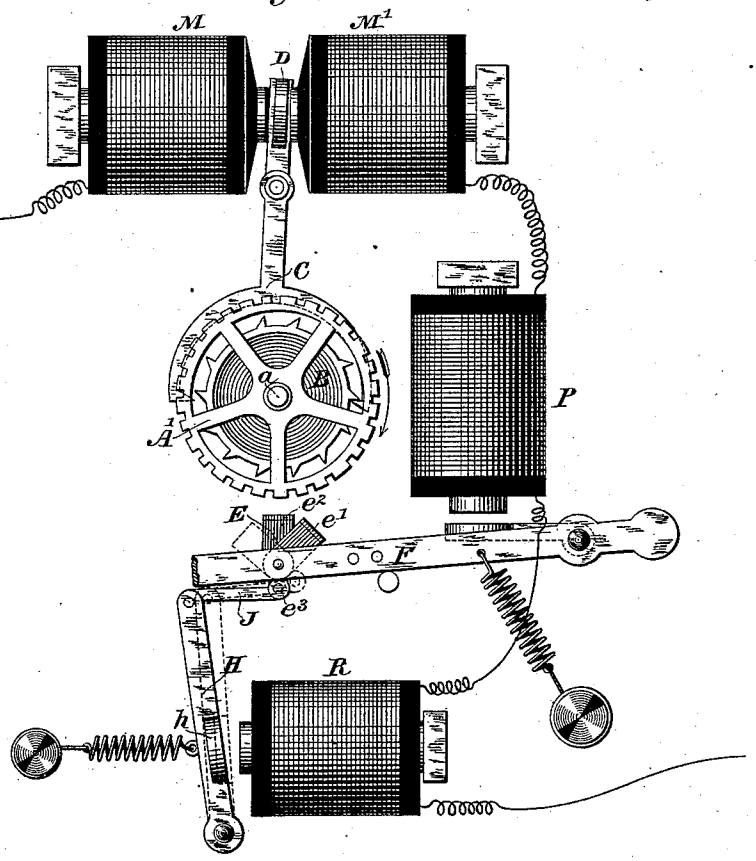
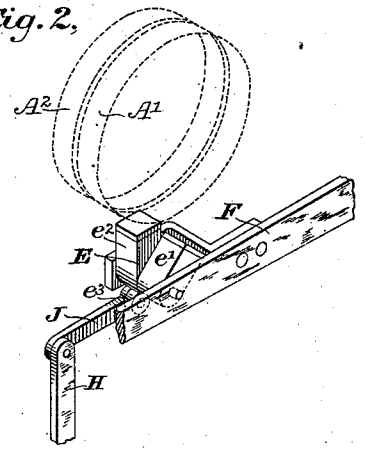


Fig. 2.



WITNESSES

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MEANS FOR PRINTING FROM EITHER OF TWO TYPE-WHEELS IN PRINTING-TELEGRAPHS.

SPECIFICATION forming part of Letters Patent No. 293,928, dated February 19, 1884.

Application filed September 24, 1883. (No model.)

To all whom it may concern:

Be it known that I, HENRY VAN HOEVENBERGH, a citizen of the United States, residing in Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Printing-Telegraphs, of which the following is a specification.

My invention relates to certain improvements in the construction of devices for determining from which particular one of two type-wheels in a printing-telegraph receiving-instrument an impression shall be taken.

The object of the invention is to so organize the apparatus that the desired impressions may be taken from either of the type-wheels at a distant station by means of electric currents transmitted over a single main-line conductor without the aid of complicated mechanism.

The invention consists in constructing an instrument with a double electro-magnet for controlling the movements of an escapement device and two additional independent electro-magnets, which are respectively adapted to actuate a press-lever and to determine the position of a printing-platen of peculiar construction. This platen is virtually a double one, consisting of two single platens united at an angle with each other and situated in different planes, the one being located in the plane of one of two parallel type-wheels and the other platen in the plane of the other type-wheel. When the armature-lever, which is employed for determining the position of the double platen, is remote from the poles of its electro-magnet, one of the platen-faces will be presented to the corresponding type-wheel, and if the press-lever be then actuated it will cause an impression to be taken from that type-wheel in the usual manner, the other platen-face meantime remaining at such an angle with reference to its type-wheel that no impression will be taken therefrom. When, on the contrary, the armature is attracted to the poles of its magnet, the double platen will be turned, by means of suitable intervening mechanism, so that the second platen-face will be presented to its type-wheel, and the first platen will be at such an angle that no impression will be taken from the first type-wheel.

It will appear from the foregoing description that it is necessary to provide currents of alternating polarity for actuating the escapement mechanism for controlling the rotation of the type-wheel, and currents having a strength somewhat greater for actuating the press-lever; or, if preferred, the printing-magnet may be constructed to respond to a prolonged current of the same strength as the alternating currents. In either event the current employed for this purpose should not be of sufficient strength to actuate the armature of the platen-controlling magnet; but this armature is so constructed or adjusted that it will respond only to currents of increased strength, such currents being also adapted to actuate the press-lever. By means of currents of this class impressions may be taken from the second type-wheel.

In the accompanying drawings, which illustrate my invention, Figure 1 is an elevation, showing the organization of the apparatus; and Fig. 2 is a perspective view illustrating the construction of the platen.

Referring to the figures, A′ and A² represent two type-wheels, of usual construction, placed side by side upon a shaft, *a*, the periphery of the type-wheel A′, for instance, being engraved with type representing numerals, while that of the type-wheel A² is engraved with letters.

Carried upon the shaft *a* is a scape-wheel, B, normally tending, through the stress of a spring or weight, to revolve continuously in the direction indicated by the arrow. An anchor-escapement, C, of ordinary construction, regulates or controls the movements of the wheel B by engaging teeth alternately upon opposite sides of the same. The necessary vibrations of the escapement-pallets are occasioned by an electro-magnet, M M′, acting under the influence of alternating electric currents traversing its coils, to impel a polarized armature, D, to and fro in a manner well understood. The type-wheels are thus simultaneously caused to advance step by step and to successively present the individual type upon their peripheries to a combined or double printing-platen, E. The double platen E consists of two single platens, *e′* and *e²*, rigidly secured to each other, and respectively designed to take impressions from the type-

wheels A′ and A². The combined platen thus formed is pivoted in a bracket upon the armature-lever F of a press-magnet, P. The two parts of the same are, however, united at an angle, as best seen in Fig. 2, so that while the printing-face of one of the platens—e^2, for instance—is presented to its type-wheel A², the face of the other platen will be in such a position as not to come in contact with its type-wheel A′ during the upward movement of the press-lever F, and vice versa.

For the purpose of controlling the position of the double platen E, a special electro-magnet, R, is provided. The armature-lever H of this magnet is coupled by means of a pivoted link, J, with an arm, e^3, upon the platen E. When the armature-lever is away from the poles of its electro-magnet R, the platen will be caused to assume the position shown in full lines in the drawings, with the part e^2 facing the type-wheel A². When, however, a current of sufficient strength to attract its armature *h* to its poles traverses the coils of the electro-magnet R, the armature-lever and platen will be moved into the position shown in dotted lines, Fig. 1, the part e' being in the position to cause impressions to be taken from the other type-wheel, A′.

The printing-magnet P may be constructed either to respond to currents of greater strength than those employed for actuating the escapement C, or to a simple prolongation of one of the alternating pulsations, while the armature of the electro-magnet R will respond only to currents of a strength still greater than those required to actuate the press-lever. The latter, however, will also respond likewise to the strongest currents. It will thus be seen that when it is desired to print characters from the type-wheel A², the type-wheels should be revolved until the desired character is opposite the platen, when a current of the character required to actuate the lever F should be transmitted through the coils of the magnet P. If, however, an impression should be desired from the type-wheel A′ after it has been arrested in the proper position, a current of the strength requisite to actuate the lever H of the electro-magnet R should be transmitted through its coils. The platen will be caused to assume its second position, and the press-lever will be actuated thereby.

I have shown and described the several electro-magnets as included in a single conductor, though it is evident that a second conductor might, if preferred, be employed for the electro-magnet R.

In order to insure the platen being in position to print from the type-wheel A′ under the influence of a strong current before the press-lever has carried the same into too close proximity to its type-wheel, I prefer to so construct the electro-magnet R that it will acquire the full degree of magnetization of which it is susceptible under the influence of a current of given strength somewhat more quickly than will the electro-magnet P. In this manner the armature-lever H may be caused to assume its forward position under the influence of a current of the strength required to actuate it before the press-lever responds to the action of the same current.

I claim as my invention—

1. The combination, substantially as hereinbefore set forth, of two type-wheels revolving in parallel planes, two platen-faces rigidly united with each other but situated in different planes, and supported upon a common axis, and an electro-magnet serving, when vitalized, to cause one of said platen-faces to confront one type-wheel, and when not vitalized to permit the other platen to confront the other type-wheel.

2. The combination, substantially as hereinbefore set forth, of two type-wheels, means, substantially such as described, for imparting an intermittent advance movement to said type-wheels, a printing-magnet, its armature and armature-lever, two platen-faces united with each other but situated in different planes, and an electro-magnet acting when vitalized to present one of said platen-faces to one type-wheel, and when not vitalized to present the other platen-face to the other type-wheel.

3. The combination, substantially as hereinbefore set forth, of a type-wheel axis, two type-wheels fixed thereupon and revolving in parallel planes, two platen-faces situated, respectively, in the planes of said type-wheels, and supported upon an independent axis parallel with said type-wheel axis, an electro-magnet, its armature and armature-lever, and a link connecting said lever with the platens, whereby the latter may be turned upon their common axis by the to-and-fro movements of said lever.

4. The combination, substantially as hereinbefore set forth, of a type-wheel axis, two type-wheels fixed thereupon and revolving in parallel planes, a printing-magnet, its armature and armature-lever, two platen-faces supported upon said armature-lever upon a common axis parallel to said type-wheel axis, and an independent electro-magnet for controlling the angular position of said platen-faces.

In testimony whereof I have hereunto subscribed my name this 19th day of September, A. D. 1883.

HENRY VAN HOEVENBERGH.

Witnesses:
DANIEL W. EDGECOMB,
CHARLES A. TERRY.