

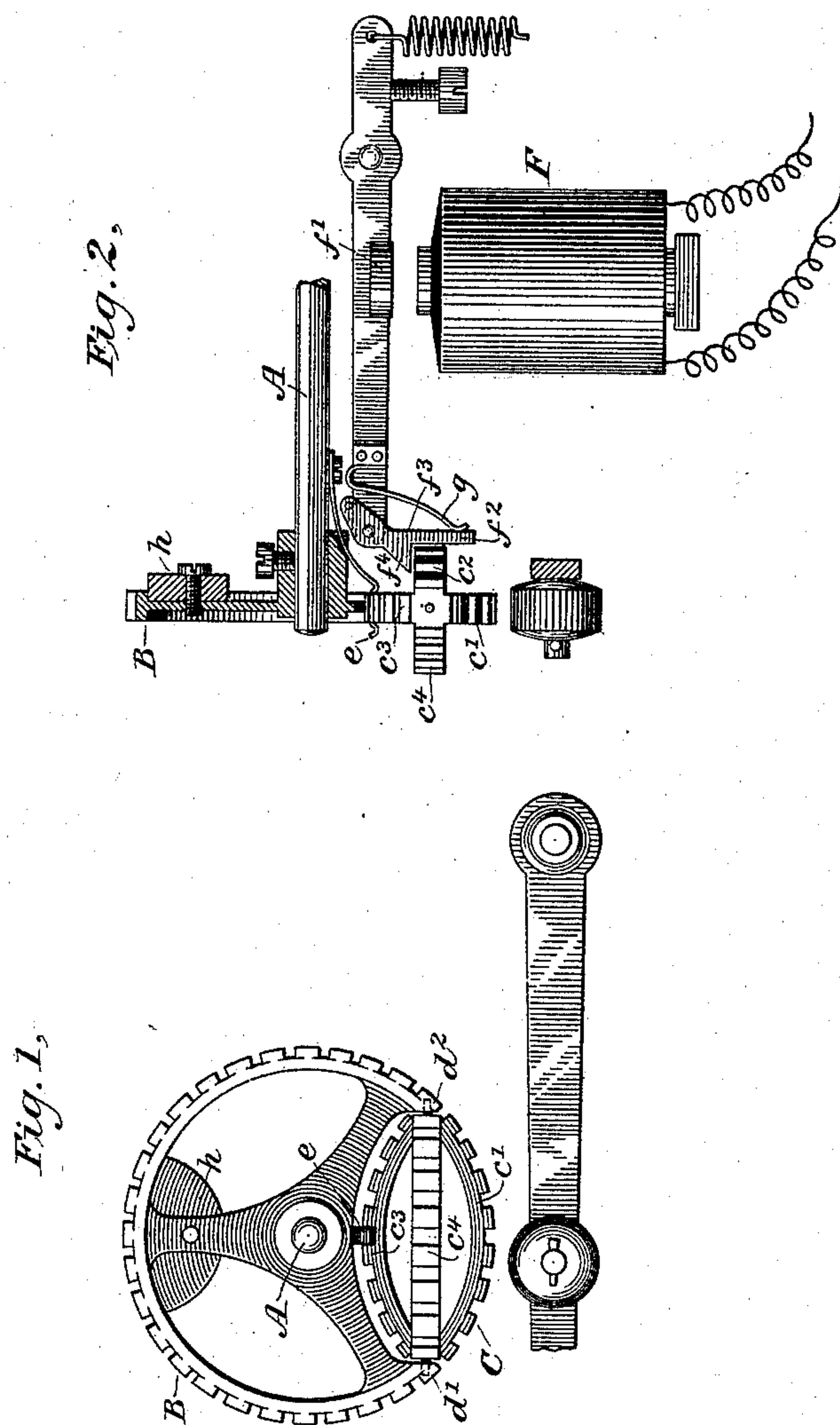
(No Model.)

H. VAN HOEVENBERGH.

TYPE WHEEL FOR PRINTING TELEGRAPHS.

No. 316,682.

Patented Apr. 28, 1885.



Witnesses

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TYPE-WHEEL FOR PRINTING-TELEGRAPHS.

SPECIFICATION forming part of Letters Patent No. 316,632, dated April 28, 1885.

Application filed August 7, 1884. (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
5 of New Jersey, have invented certain new and useful Improvements in Printing-Telegraphs, of which the following is a specification.

My invention relates to the construction of the type-wheels of printing-telegraph instru-
10 ments.

The object of the invention is to provide a type-wheel for printing-telegraph instruments which, while capable of being revolved with as great rapidity as the type-wheels
15 usually employed in this class of instruments, is at the same time capable of containing a larger number of characters than it is possible to place upon the periphery of a type-wheel as usually constructed.

20 The invention consists in inserting in place of a portion of the type-wheel a revolving support carrying a number of interchangeable type-wheel segments formed in arcs of a circle having the same radius as the type-wheel and
25 each carrying a different set of characters. Suitable means are employed for rotating this support so that any one of the segments may be placed in the circle of the type-wheel, and thereby made to constitute a portion or a continuation of the periphery of the type-wheel.

30 The positions of the movable portion of the type-wheel are controlled by means of an electro-magnet, which acts, when the type-wheel is arrested in a given position and the electro-magnet is vitalized, to turn the movable part
35 upon its axis, so that a second, third, or fourth type-carrying segment is brought into line with the periphery of the wheel, as desired.

Any suitable means may be employed for
40 revolving the type-wheel and for effecting impressions therefrom.

In the accompanying drawings, Figure 1 is a front elevation of a type-wheel involving the features of my invention, together with such
45 portions of a printing mechanism as are necessary to illustrate the application of the invention. Fig. 2 is a side view of the type-wheel and its controlling mechanism.

Referring to the drawings, A represents the
50 type-wheel shaft, which is designed to be ro-

tated in any suitable manner. Upon this shaft is carried a type-wheel, B. A segment of the type-wheel is cut away, and in place thereof is inserted a revolving support, C, carrying in this instance four type-wheel seg-
55 ments, c' , c^2 , c^3 , and c^4 . Each of these segments is equal in length to the portion of the type-wheel which is removed, and it is formed in an arc of a circle having a radius equal to that
60 of the type-wheel. The segments c are designed to be revolved, so that any one of them may be caused to stand in the plane of the main portion of the type-wheel, and to thus constitute a continuation of the periphery of
65 the same. For this purpose the support C is pivoted at its respective ends in the frame of the type-wheel, as shown at d' d^2 . A suitable spring, e , serves to maintain the type-wheel segments c in position with one of the seg-
70 ments in the plane of the periphery of the type-wheel until it is purposely removed therefrom.

For the purpose of turning the segments so that one may be caused to replace another when it is so desired, I employ an electro-mag-
75 net, F, which is designed to be included in the main-line circuit, but to respond only to electric impulses of greater strength or of greater duration than those which are employed for
80 either actuating the escapement-lever or the printing-lever of the instrument. The electro-magnet F acts upon an armature, f' , which carries a pivoted pawl, f^2 . The pawl f^2 normally stands in the position shown in the
85 drawings. A lug, f^3 , which is carried upon the pawl f^2 , projects over one of the segments, c . A spring, g , acts to normally retain the pawl f^2 in this position. If, therefore, the
90 electro-magnet F is vitalized, the support C will be turned, thus causing the segment c^2 to be moved into the position previously occupied by the segment c' . When the electro-
95 magnet F is demagnetized, the armature will be withdrawn, and the pawl will move back into its normal position without moving the support C, since it will be forced backward
against the force of the spring by reason of the beveled surface f^4 upon the pawl, and slide
over the segment c^3 . The pawl will, however, immediately engage the segment c^3 upon the
100

opposite side, and it will thus be in position to again turn the support C, thus supplanting the segment c^2 by the segment c^3 .

It is designed that the characters which in practice are most frequently employed shall be carried by the main portion of the type-wheel, and that other characters which are occasionally required shall be placed upon the segments c , and the latter are preferably grouped in such a manner that those more frequently employed together shall be upon the same segments. The more important letters of the alphabet may, for example, be placed upon the main portion of the type-wheel, and numerals may be distributed upon one or two of the segments. Punctuation-marks and the remaining letters of the alphabet may be placed upon other segments, together with such other characters as it may be desired to employ occasionally. If, then, it is desired to print a character which chances to be upon any of the segments other than that placed in the continuous line of the periphery of the type-wheel, it will be necessary only to arrest the type-wheel in such a position that the pawl f^2 will engage one of the segments, c , and to then actuate the armature f' by sufficiently vitalizing the electro-magnet F. By magnetizing and demagnetizing the electro-magnet F once, twice, or three times any desired segment may be brought in line with the periphery of the type-wheel.

For the purpose of counteracting the additional weight given to one side of the type-wheel by reason of the additional segments c , and thus rendering the type-wheel more perfectly balanced, I place a counterpoise, h , upon the side opposite the support C.

I claim as my invention—

1. A type-wheel for printing-telegraph instruments, having a segment of its periphery removable, in combination with similar segments and means, substantially such as described, for causing any one of said segments to replace the others.

2. A type-wheel for printing-telegraph instruments, having a portion of its periphery removed, in combination with segments of

type-wheels, in form similar to the removed section, and means, substantially such as described, for causing any one of said segments to replace the others.

3. The combination, substantially as hereinbefore set forth, with the main portion of a type-wheel, of a series of type-wheel segments pivoted at right angles to the axis of the type-wheel, and means, substantially such as described, for revolving the same, whereby any one of said segments may be substituted for another.

4. The combination, substantially as hereinbefore set forth, with a type-wheel having a series of movable type-wheel segments, any one of which may be made to constitute a continuation of the periphery of the type-wheel, of an electro-magnet, its armature and armature-lever, and means, substantially such as described, for actuating said movable segments through the agency of said electro-magnet.

5. The combination, substantially as hereinbefore set forth, with a type-wheel having movable segments, any one of which may be substituted for another at the will of the transmitting-operator, of an electro-magnet, its armature and armature-lever, and a pawl carried by said lever, which pawl engages said movable segments when said type-wheel is arrested in a given position and serves to actuate the same when said type-wheel has been so arrested and said electro-magnet is vitalized.

6. The combination, with a type-wheel segment, a portion of the periphery of which is removed, of a series of type-bearing segments pivoted within said type-wheel, an electro-magnet for controlling the positions of the same, and means, substantially such as described, for normally retaining one of said segments in the circle of the periphery of said type-wheel.

In testimony whereof I have hereunto subscribed my name this 14th day of April, A. D. 1884.

HENRY VAN HOEVENBERGH, [L. s.]

Witnesses:

DANL. W. EDGECOMB,
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