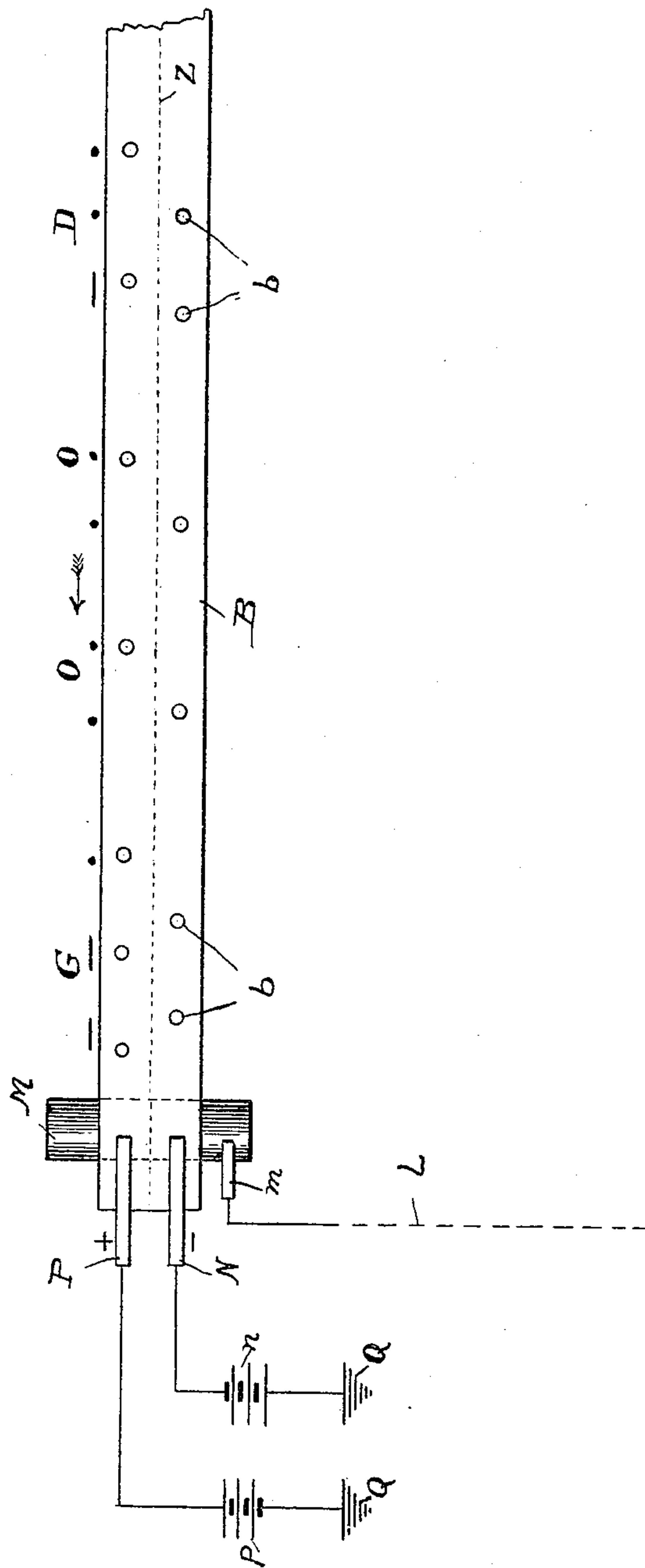


No. 800,656.

PATENTED OCT. 3, 1905.

I. KITSEE.
TELEGRAPHIC TRANSMITTING TAPE.
APPLICATION FILED JAN. 19, 1905.



Witnesses
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TELEGRAPHIC TRANSMITTING-TAPE.

No. 800,656.

Specification of Letters Patent.

Patented Oct. 3, 1905.

Application filed January 19, 1905. Serial No. 241,809.

To all whom it may concern:

Be it known that I, ISIDOR KITSEE, of the city and county of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Telegraphic Transmitting-Tapes, of which the following is a specification.

My invention relates to an improvement in telegraphy, and has more special reference to transmitting-tapes used in telegraphy.

In Letters Patent No. 777,259, dated December 13, 1904, I have described a method with the aid of which true reversals may be transmitted over conducting-lines and which method has more special reference to submarine telegraphy.

To transmit true reversals, a single key may be devised which automatically reverses the flow of the current by each depression; but where the operator has to operate the key it is possible that at one period the depression may last a fraction of a second longer than at another period, and as in my method it is desired that all impulses should be of a like duration and that only the time unit lapsing between one impulse and another should represent the different value between a dot and a dash it is best to transmit true reversals with the aid of transmitting-tapes adapted to be carried at a predetermined speed through contacting devices, and this my invention has reference to such strip or tape, with the aid of which each succeeding impulse has to be of a polarity opposite to the polarity of the preceding impulse and whereby the different symbols are represented only by the time lapsing between the different impulses, or, in other words, by the space intervening between the perforations of said strip or tape.

The method as described in the Letters Patent above referred to consists, briefly speaking, therein that all impulses transmitted are of a like duration and intensity and that after a positive impulse a negative impulse must always follow, or vice versa, thereby preventing the "choking" of the line and at the same time fulfilling the office of "clearing" the line. The value of a dot is produced through a single impulse, the polarity of said impulse not entering into consideration. The value of a dash is produced through two impulses in quick succession, no matter if the first impulse is a positive or negative, so long

as the second impulse is of opposite polarity to the first impulse.

As in the Letters Patent above referred to, the word "good" was selected as an example. I prefer to use this same word as an example in the present application, and I will repeat here what was said in said Letters Patent. Therein it is stated that it is supposed that the word "good" has to be transmitted in the American Morse code (for it is well known that the continental Morse differs in the arrangement of the dots and dashes from the American Morse) as transmitted to-day. The American Morse symbolizes the letter "g" by two dashes and one dot, each of the letters "o" by two dots, and the letter "d" by one dash and two dots. In the cable transmission wherein a dash is transmitted with a positive current and a dot with a negative current the following impulses have to be sent over the line: two positives and one negative for the letter "g," two negatives for the first letter "o," two negatives for the second letter "o," and one positive and two negatives for the letter "d." It is obvious that the transmission of four impulses of the same polarity for the two letters "o" must result in the choking of the cable or in the slacking of the speed of transmission.

With my improved code the following impulses will be sent over the line: Supposing that the operator starts with the positive current, a positive and negative impulse in quick succession for the first dash, a positive and negative impulse in quick succession for the second dash, and a positive impulse for the dot of the letter "g," a negative impulse for the first dot and a positive impulse for the second dot of the first letter "o," a negative impulse for the first dot and a positive impulse for the second dot for the second letter "o," a negative impulse and a positive impulse in quick succession for the dash, and a negative impulse for the first dot and a positive impulse for the second dot of the letter "d." It is therefore obvious that no matter if dots or dashes follow each other one impulse will always be of a polarity opposite to the polarity of the impulse preceding, and the choking of the line is therefore an impossibility if the impulses are of a like duration.

The object of my invention is to accomplish

such equal duration with the aid of the transmitting strip or tape, as illustrated in the drawing in a diagrammatic view, with the necessary electrical connections shown.

5 In the drawing, B is the tape as an entirety, of which *b* represents the perforations. Z is the supposed zero-line of said tape. The perforations *b*, as shown in this drawing, represent the impulses or symbols necessary for
10 the word "good" in accordance with the Morse alphabet.

M represents contacting means connected through connecting means *m* with the line L.

15 P and N are two connecting means connecting, respectively, with the batteries *p* and *n* to the ground Q, said means resting on the tape B. The tape B is supposed to be carried in the direction of the arrow.

20 As long as the connecting means P or N are touching the tape where the same is not perforated the connection of the batteries *p* and *n* with the line L is interrupted; but as soon as a perforation is reached, either above or below the zero-line, then the means P or N
25 will be enabled to make a connection with the means M through said perforations, and as the tape B is supposed to be moved at a predetermined speed, and as it is supposed that all the perforations are equal in size, it is obvious

that the duration of contact through one or 30 the other of these perforations must always be the same.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is— 35

In telegraphy, a transmitting-tape having perforations on both sides thereof, a perforation on one side always alternating with a perforation on the other side, a perforation on one side adapted to allow connection with the 40 line to a source of current of one polarity and a perforation on the opposite side adapted to allow connection with the line to a source of current of opposite polarity, one symbol of the Morse alphabet denoted on said tape by 45 two perforations in close succession, the perforations being on opposite sides of said tape, the other symbol of the Morse alphabet denoted on said tape by one perforation on a side opposite to the side of the preceding per- 50 foration.

In testimony whereof I hereby sign my name, in the presence of two subscribing witnesses, this 18th day of January, A. D. 1905.

ISIDOR KITSEE.

Witnesses:

EDITH P. STILLEY,
H. C. YETTER.