G. T. KANZER-CHEGODARD.

AUTOMATIC TELEGRAPHY.

APPLICATION FILED MAR. 31, 1903.

974,279. Patented Nov. 1, 1910.

Fig. 1.

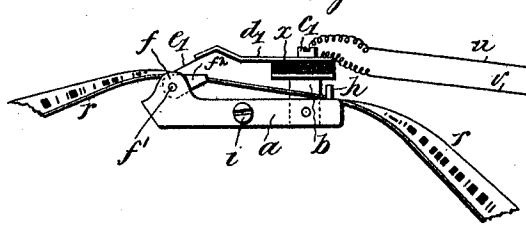

Fig. 5.

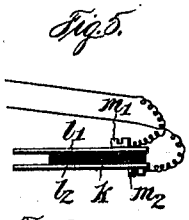

Fig. 2.

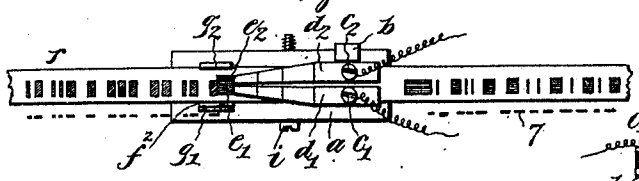

Fig. 6.

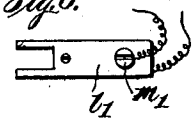

Fig. 3.

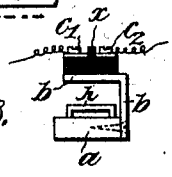

Fig. 4.

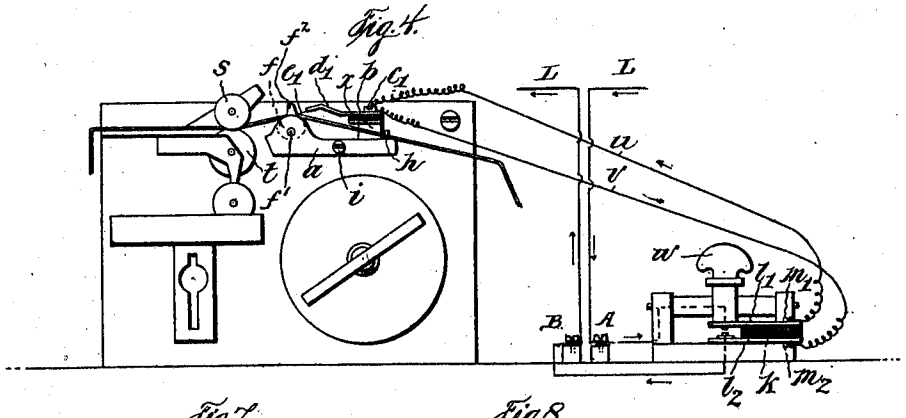

Fig. 7.

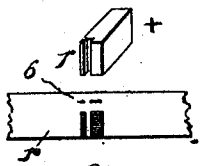

Fig. 7a

Fig. 8.

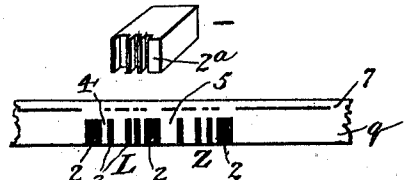

Fig. 8a

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UNITED STATES PATENT OFFICE.

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AUTOMATIC TELEGRAPHY.

974,279. Specification of Letters Patent. Patented Nov. 1, 1910.

Application filed March 31, 1903. Serial No. 150,446.

To all whom it may concern:

Be it known that I, GREGORY T. KANZER-CHEGODARD, a subject of the Emperor of Russia, residing at Kamenka, in the Empire of Russia, have invented certain new and useful Improvements in Automatic Telegraphy, of which the following is a specification.

The invention relates to improvements in automatic telegraphy, wherein conductive surfaces on a strip of paper close circuit at the proper time to send Morse signals to line.

Referring to the drawings, in which like parts are similarly designated—Figure 1 is a side elevation of the device embodying my invention, Fig. 2 is a plan view thereof, Fig. 3 an end view. Fig. 4 shows the device attached to an ordinary paper strip receiver to send signals through an ordinary Morse key. Fig. 5 is a side view of the device to close circuit through a Morse key, and Fig. 6 is a plan view thereof. Fig. 7 is a positive type character and Fig. 7^a the character printed on a strip of paper in a conductive ink, such as silver. Fig. 8 is a negative type character and Fig. 8^a shows said characters printed on a conductive strip in a non-conductive ink, such as a collogen.

The mechanism comprises a base or block a having a bracket b secured thereto, said bracket supporting an insulating block x to which are secured the arms d_1 and d_2 by means of screw terminals c_1 and c_2, that carry the contact brushes or fingers e_1 and e_2. The arms d_1 and d_2 terminating in the brushes e_1 and e_2 are normally insulated from each other.

One end of the base a is provided with loop h which serves to guide the strip q or r, hereinafter described, as it is fed onto a support mounted under the brushes e', e^2. The support is made in the form of a roller f (shown in dotted lines, Figs. 1 and 4) fixed on pin f' which is journaled in ears g', g^2 mounted on the block a near the rear end. To provide space between the support and brushes for the insertion of the strip between them and also to provide for the proper contact of the brushes on the strip the roller is eccentrically mounted on the pin f' which has an arm f^2 by which the pin is rotated to raise and lower the roller.

The block a with attached parts is mounted on the front wall of an ordinary register of the usual type, so that the paper strip will be drawn under the brushes the drawing rolls s and t of the register.

Referring to Figs. 5 and 6, k is an insulating block or plug having secured to its upper and lower face respectively, conductive forks l_1 and l_2 having terminal contacts m_1 and m_2 that are each electrically connected by flexible wires u and v with one of the screw terminals c_1 and c_2. The plug k and forks l_1 and l_2 form a spring clip that is adapted to be inserted in a Morse key w, Fig. 4, the forks embracing the upper and lower front contacts of the key which contacts are electrically connected with the telegraph line L, L, by suitable clamping screws A and B.

Referring to Figs. 7 to 8^a, Fig. 7 is a positive type character, the letter A from which is printed the letter on a non-conductive strip r of ordinary paper, in a conductive ink, preferably a metallic ink, as gold or silver water color, so that the character will lie transverse of the strip as shown in Fig. 7^a.

Instead of using a positive type character I may use a negative one, as shown in Fig. 8, where only part of the character sent need be formed on the type. This is employed as follows, a strip of paper as q, Fig. 8^a having a metallized surface is used, as gilt or silver paper, or a strip wholly of metal. The type character prints on the conductive strip comparatively wide and narrow lines, 2 and 3, transverse of the strip and in a non-conductor of electricity, such as a collogen solution, glue and the like. The spaces between the non-conductive ink where the strip is exposed will then act as the circuit closer and the non-conductive ink as the circuit breaker.

The wider portion 2 of non-conductive ink will cause a longer break of the circuit and is formed by the end 2^a of each type character, the remaining portions of each type character being of equal width. Let it be supposed that the insulator impression 2 at the beginning (left) of the strip, Fig. 8^a, has been made by a preceding type, then, the beginning of the next character if it begins with a dot must strike the strip comparatively near the portion 2, so that a dot will be recorded. On the other hand, should the character begin with a dash, the beginning of the type character must strike the strip sufficiently far from the preceding impression to leave a conductive space 5 wide enough to record a dash. Each nega-

tive type character will thus print two characters, one beginning with a dot and the other with a dash, depending upon the adjustment of the type bar, so that only one-half the number of type characters will be required for a typewriter. Thus it will be seen that the letter L, shown as a dot, a dash and two dots is made by the type character, Fig. 8, said type striking the tape comparatively near the insulating impression 2, at the left and that the following letter Z two dashes and two dots is made by the same type character. The character that will be received by the impression, Fig. 7ª, is indicated at 6 and those that will be received by the strip 8ª are indicated at 7 on each strip. Any typewriter may be supplied with type such as shown in Fig. 7, by simply substituting Morse characters for those now used. The strip of paper having the characters impressed thereon is run under the guide h and the brushes e_1, e_2 over the supports g_1 and g_2 and between the drawing rolls s and t of the register.

The plug is inserted in the Morse key as above described and the circuit is made by closing circuit between the two brushes and broken again by the strip of paper, thereby sending to the line L, L, the required signals.

At the receiving station the message is recorded by any of the well known automatic receivers using a fatty ink or it may be by a sounder.

Having thus described my invention, what I claim as new therein and desire to secure by Letters Patent, is:—

1. In an automatic telegraph, the combination with a Morse key, of a plug comprising two metallic spring plates electrically insulated from each other and having forked ends adapted to embrace the upper and lower front contacts of the key.

2. In an automatic telegraph, the combination with a Morse key and a tape driving mechanism, of a plug comprising two metallic spring plates electrically insulated from each other and having forked ends adapted to be inserted between the circuit closing contact points of the key, a pair of brushes made of conductive material electrically insulated from each other, and flexible conducting wires connecting the plug with the brushes.

3. In an automatic telegraph, the combination with a telegraph line, a Morse key and a strip having conductive surface and nonconductive characters, corresponding to a telegraphic code, of two brushes, one of which engages the characters and the other the free part of the same strip, whereby a circuit will be closed and broken by the nonconductive characters to send corresponding current-impulses through the key to the line.

4. In an automatic telegraph, the combination with a telegraph line and a Morse-key to send current impulses to line, of a yielding plug adapted to be inserted in said key, a tape drawing mechanism, two brushes arranged near said mechanism, wires connecting the brushes and plug, a tape having conductive surface and nonconductive characters impressed thereon so as to form conductive and nonconductive portions of sufficient width, one of said brushes engaging the characters whenever the tape is drawn under them and whereby a circuit will be closed between one of the key terminals, through the plug the wire, the brush, the conductive part of the tape, another wire, another brush, and another side of the plug to the other terminal of the key, in any desired intervals of time, to send Morse-signals, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

GREGORY T. KANZER-CHEGODARD.

Witnesses:
THOMAS E. HEENAN,
THOMAS MILES.