

No. 647,729.

Patented Apr. 17, 1900.

C. STEVENS, C. C. VYLE & W. MILNER.

APPARATUS FOR RECORDING MORSE TELEGRAPHIC CHARACTERS.

(Application filed Nov. 13, 1899.)

(No Model.)

2 Sheets—Sheet 1.

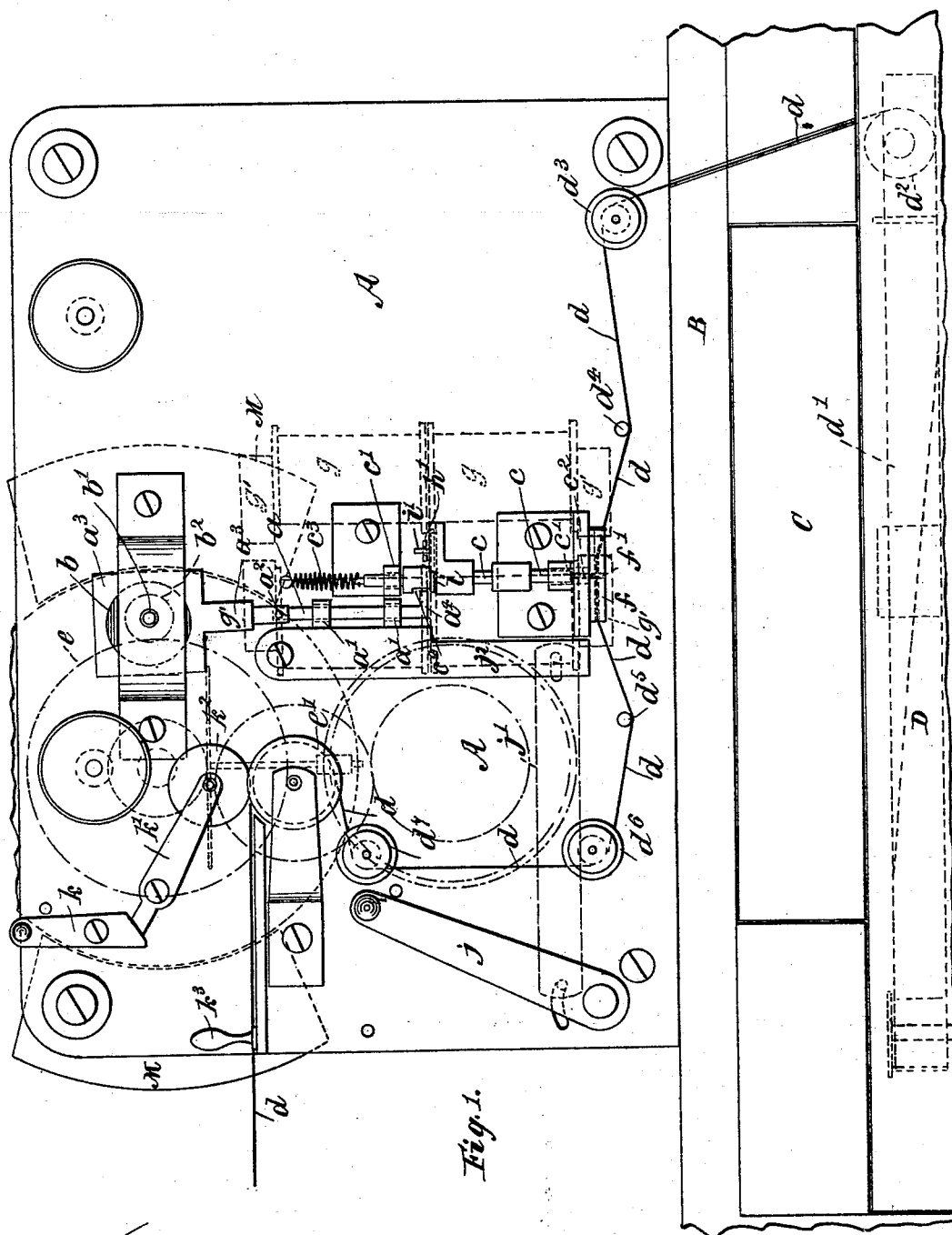


Fig. 1.

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Inventors:
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by W. H. Russell atty.

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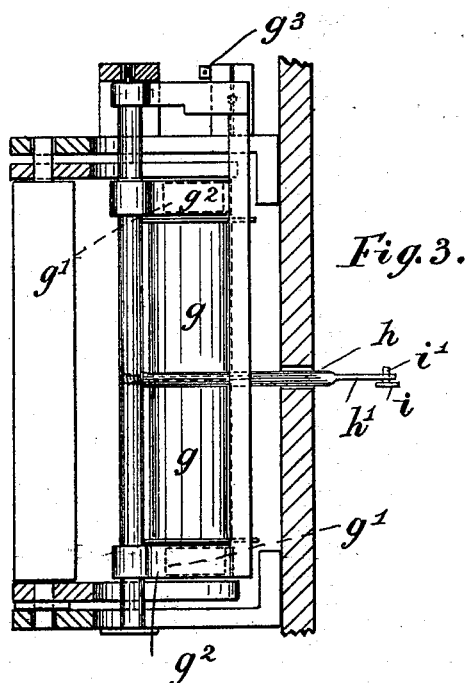
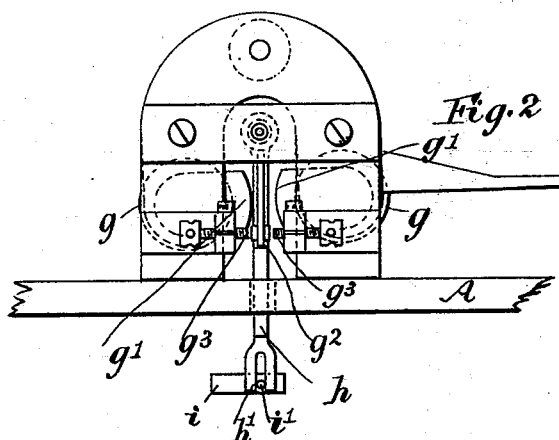
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UNITED STATES PATENT OFFICE.

CHARLES STEVENS, CHARLES C. VYLE, AND WILLIAM MILNER, OF LONDON,
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APPARATUS FOR RECORDING MORSE TELEGRAPHIC CHARACTERS.

SPECIFICATION forming part of Letters Patent No. 647,729, dated April 17, 1900.

Application filed November 13, 1899. Serial No. 736,857. (No model.)

To all whom it may concern:

Be it known that we, CHARLES STEVENS, CHARLES CLEMENT VYLE, and WILLIAM MILNER, subjects of the Queen of Great Britain, residing at London, England, have invented certain new and useful Improvements in Apparatus for Recording Morse Telegraphic Characters, of which the following is a full, clear, and exact description, and for which we have made application for British Letters Patent, dated February 3, 1899, upon which application no patent has been granted.

The object of the present invention is to provide an instrument which will produce a tape having perforations representing visually dots and dashes of the Morse code, so that it may be read by sight, or it may be passed through a repeater and the message read up by sound, and when desired it may be used for retransmitting a message.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is an elevation of a receiving instrument. Fig. 2 is a plan, and Fig. 3 is a sectional elevation, of parts of the same.

Referring to the drawings, A is the framing of the instrument, which is situated on a wooden table B, having drawers C and D.

a is a constantly-working plunger or pusher working in guides a' and pivoted at a² to a connecting-piece or eccentric-strap a³, operated by the eccentric b, mounted on the shaft b'. This shaft b' is driven, preferably, by means of a small electromotor M, giving motion to the toothed wheel e, which rotates the pinion b², fixed on the eccentric-shaft b'. The plunger or pusher a has a foot piece a⁴ to act on the punch c.

c is a punch mounted in guides c' and formed with a fine end or cutter c² for perforating the strip d, of suitable material, preferably paper, which latter is fed forward regularly by a short train of wheels driven by the wheel e.

The punch c is provided with a tension-spring c³. The strip of paper d is drawn off the roll d' in the drawer D and passes over guide-pulleys d² d³ and under a tension-pin d⁴ to the punching table or die f, having a hole f' therein, through which pass the pieces of paper cut by the cutter c². These pieces fall into the drawer C. The strip of paper

passes from the punching-table f under a tension-pin d⁵, around guide-pulleys d⁶ d⁷ to the draw-off roller e', driven by the train of gearing before mentioned.

The punch c has a slot c⁴ in its side, within which the pusher-foot a⁴ works. This slot is equal in length to the movement of the plunger or pusher a.

The line-coils g (shown in dotted lines, Fig. 1 and in detail, Figs. 2 and 3) are wound to a resistance of one hundred plus one hundred, with pole-pieces g', armatures g², and limited stops g³ similar in construction to that of an ordinary receiver, with the difference that a forked lever h, projecting over a small bolt i and having its fork h' engaged by a pin i', attached to said bolt i, is substituted for the usual arm carrying the marking-disk. The bolt i passes through a hole in the punch c, at one end of the slot c⁴ therein.

From the above description it will be seen that immediately a marking-current flows through the line-coils g the forked lever h moves from right to left, pushing the bolt i through the hole in the punch c and underneath the foot a⁴ of the constantly-working plunger or pusher a, thus shortening the length of the slot c⁴ in the side of the punch c, the result being that the point or cutter c² is forced through and withdrawn from the paper strip d at a great speed, and as the paper strip d is being drawn forward at a constant speed a slot is cut therein representing a dot or a dash, according to the time that the marking-current is caused to flow through the line-coils g. A reversal of the current to "spacing" moves the fork from left to right, withdrawing the bolt i from underneath the foot a⁴ of the plunger a, in which position the plunger ceases to act on the punch c. With the plunger working up and down at a rapid rate and the small sliding bolt i for altering the length of the slot in the side of the punch c under the control of the "marking" and spacing currents, Morse characters, as shown in Fig. 4, can be punched at the end of a line with the usual working currents. The motor-battery is cut in and out of circuit for starting and stopping the instrument by means of a switch-lever j. This lever j, by means of the link j' and pivoted lever j²,

carrying the guides a' , is also used for removing the foot a^4 of the plunger clear of the end of the bolt i when the instrument is at rest. This is necessary because the foot a^4 of the plunger, if left in line with the bolt i , would limit the play of the armatures g^2 . When the armatures g^2 are attracted to the left in Fig. 2, the bolt i is moved to the left, as above explained; but if the motor had stopped working in such a position that the foot a^4 were in line with the bolt i , then the bolt could not move sufficiently to allow the armatures g^2 to move into contact with the pole-pieces on the left.

The levers k and k' are used for raising and lowering the friction-pulley k^2 . The post k^3 acts as a guide for the paper strip d and at the same time serves as a grip to facilitate giving motion to the levers j and k . The paper strip d may be read up visually or by means of an ordinary sounder and retransmitter.

Having fully described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In an instrument for receiving telegraphic messages the combination of a constantly-working plunger, a foot on said plunger, a punch having a slot therein of like length to the stroke of the plunger, a bolt passing through said punch a forked lever engaging and operating said bolt, and coils for operating said forked lever by the usual "marking" and "spacing" currents substantially as herein shown and described.

2. In an instrument for receiving telegraphic messages, the combination of a con-

stantly-working plunger and a motor therefor, guides for said plunger, a pivoted lever carrying said guides, a switch-lever for starting and stopping the motor used to drive the plunger, and a link connecting said pivoted lever and the switch-lever, substantially as set forth.

3. In an instrument for receiving telegraphic messages, the combination of a constantly-working plunger, a punch having a slot therein of like length to the stroke of the plunger, a bolt passing through said punch, a forked lever engaging and operating said bolt, and coils for operating said forked lever by the usual marking and spacing currents, substantially as herein set forth.

4. In an instrument for receiving telegraphic messages, the combination of a constantly-working plunger, a foot on said plunger, guides for said plunger, a pivoted lever carrying said guides, a punch, a slot in said punch of like length to the stroke of the plunger, a tension-spring attached to the punch, guides for said punch, a bolt passing through the punch, a pin attached to said bolt, a forked lever to operate said bolt, and coils for operating said forked lever by the usual marking and spacing currents, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

CHARLES STEVENS.

C. C. VYLE.

WILLIAM MILNER.

Witnesses:

CLAUDE K. MILLS,

WM. GIRLING.