(No Model.) 2 Sheets—Sheet 1.

A. F. & F. B. JOHNSON.

PRINTING TELEGRAPH.

No. 268,237. Patented Nov. 28, 1882.

Fig. 1.

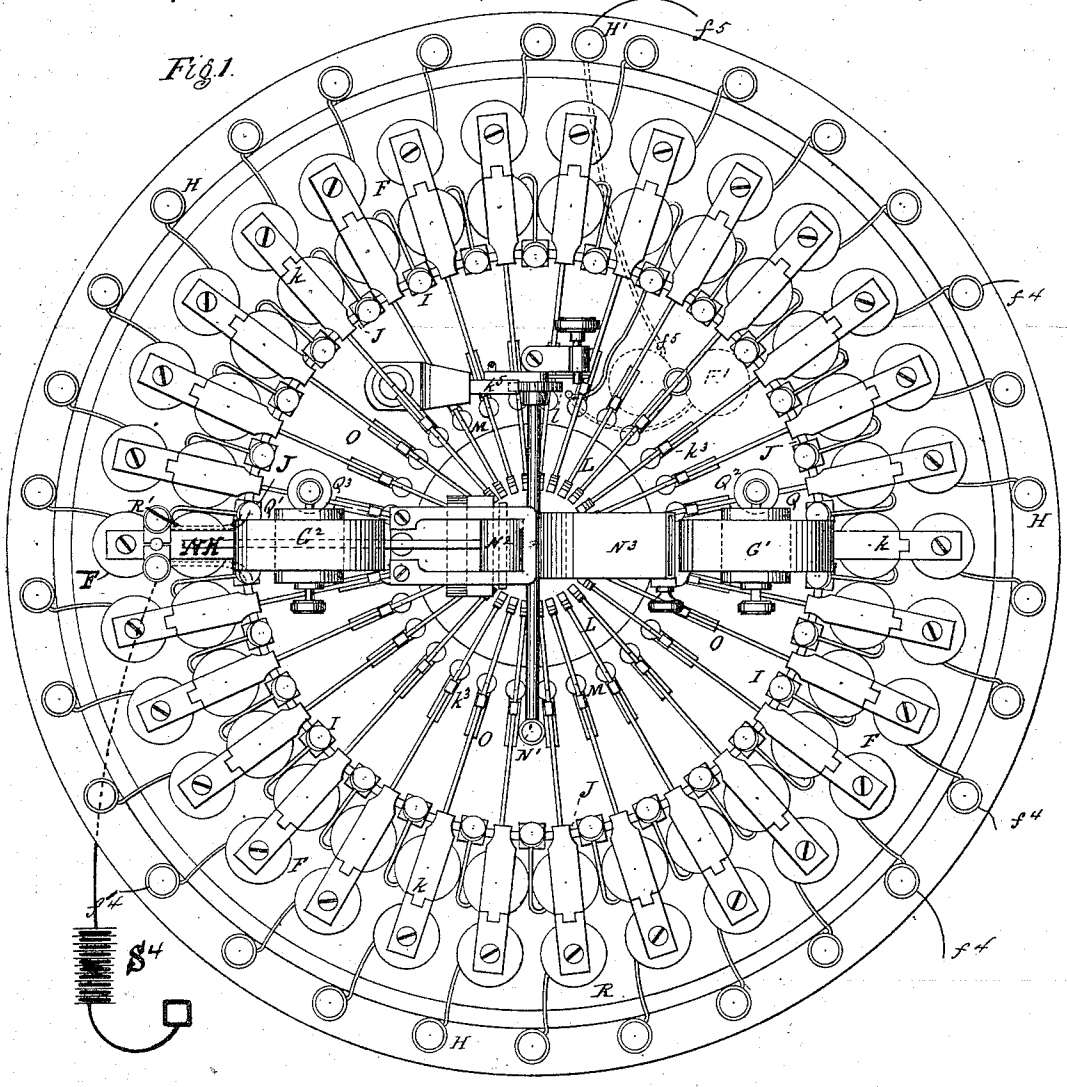
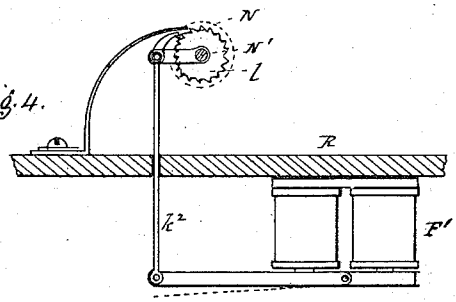


Fig. 4.



Witnesses:
W. A. Tipping
G. R. Riley

Inventors:
Albert F. Johnson.
Frank B. Johnson.
By their Atty.
John S. Thornton

(No Model.)

A. F. & F. B. JOHNSON.

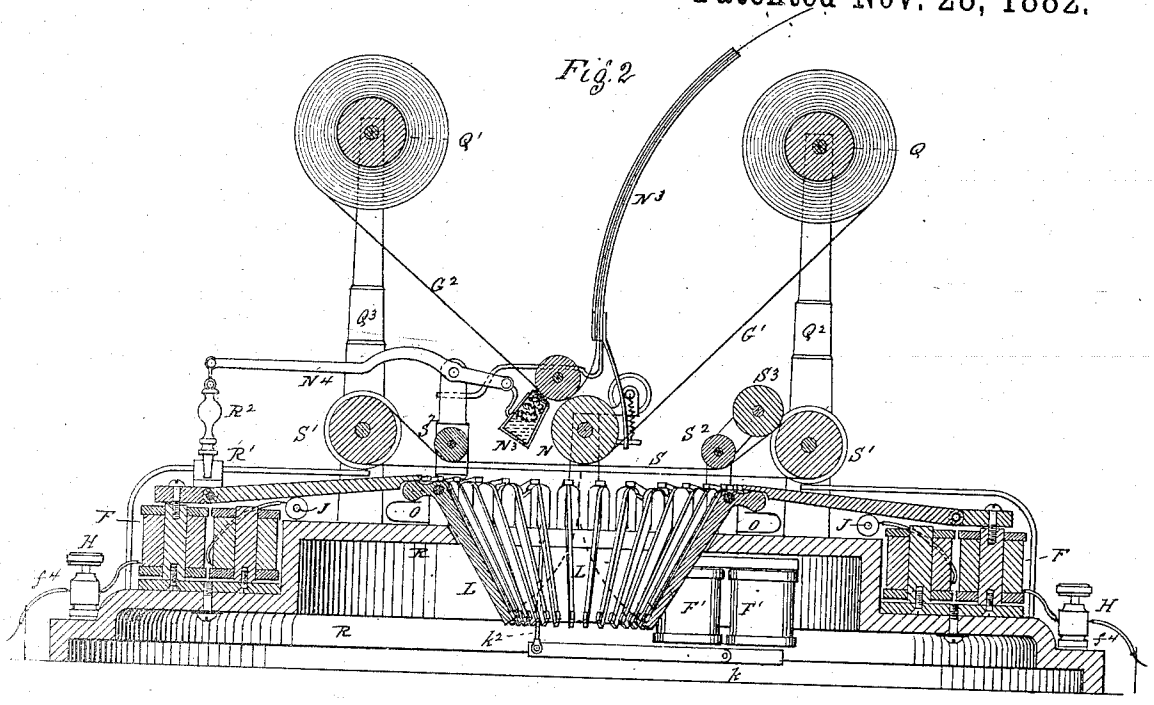
2 Sheets—Sheet 2.

PRINTING TELEGRAPH.

No. 268,237.

Patented Nov. 28, 1882.

Fig. 2



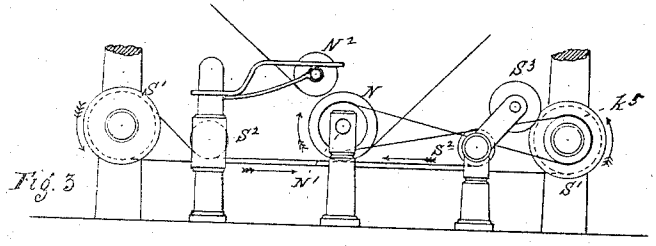
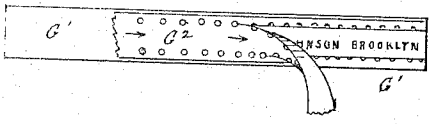


Fig. 3

Fig. 5



Witnesses:
M. V. Appley
G. R. Riley

Inventors:
Albert F. Johnson
Frank B. Johnson.
By their atty
John S. Thornton

UNITED STATES PATENT OFFICE.

ALBERT F. JOHNSON AND FRANK B. JOHNSON, OF BROOKLYN, N. Y., ASSIGNORS TO THE JOHNSON MANUFACTURING COMPANY, OF SAME PLACE.

PRINTING-TELEGRAPH.

SPECIFICATION forming part of Letters Patent No. 268,237, dated November 28, 1882.

Application filed February 23, 1882. (No model.) Patented in England March 29, 1882; in Austria April 7, 1882; in France April 15, 1882; in Belgium April 17, 1882, and in Germany April 18, 1882.

To all whom it may concern:

Be it known that we, ALBERT F. JOHNSON and FRANK B. JOHNSON, citizens of the United States, residing in the city of Brooklyn, in the county of Kings and State of New York, have invented an Improved Receiving-Instrument for Automatic Printing-Telegraphs; and we hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, (on two sheets,) which form a part of this specification.

This invention relates to improvements in instruments for automatically receiving and printing telegraphic messages, and forms part of the mechanism embraced in our improvements in automatic printing-telegraphs, described in our specification marked "A," filed simultaneously herewith. In this receiver each kind of letter or character used in transmitting messages is printed through the medium of a separate magnet connected with the transmitting-instrument by a separate line-wire. Ordinarily the messages are sent by passing a perforated strip or sheet of paper through a transmitting-instrument, each perforation in said paper representing a certain specified letter or character, and said transmitting-instrument being provided with devices by means of which each of said perforations brings into circuit the magnet which prints the particular letter represented by such perforation; but this improved receiver may also be operated directly from the sending-station by means of a keyboard provided with a series of press buttons or knobs, each of which is marked with a particular letter or character, and is connected by a line-wire with the magnet that prints such letter or character, so that by successively pressing the knobs in the order in which the letters of the message are found the said magnets on the receiving-instrument will operate to print the same letters in the same order upon a message-strip in said receiver. The message is printed in one continuous line, with suitable spaces between letters and words, upon a strip of paper fed automatically through the instrument, and means are provided for concealing the message by sealing a second strip of paper over the message-strip which contains the printing.

The invention hereby claimed consists in the improved constructions and combinations of parts, as hereinafter particularly described.

In the accompanying drawings, Figure 1 represents a plan view of the instrument; Fig. 2, a transverse vertical section through the center; Fig. 3, an elevation of part of the feeding mechanism. Fig. 4 is a detail hereinafter explained; Fig. 5, a plan view of a portion of a printed message-strip.

Similar letters of reference indicate the same parts in all the several figures.

F represents a series of magnets, one coil of each of which is connected with a transmitter at the sending-station by line-wires f^1 and a series of binding-posts, H, and its other coil is connected with a battery and thence with the earth through the medium of binding-screws I, fitted upon a copper ring, J, arranged in a convenient position, or as shown in the drawings. The armatures of these magnets are hinged, as shown at k, and their inner ends are prolonged and rest upon the ends of pivoted bent levers L, the lower end of each of which carries a printing-type of the particular letter or character which such magnet is arranged to print when brought into circuit. These levers are pivoted to uprights M, and radially arranged so that the types on their lower ends shall strike on one particular point whenever their upper ends are depressed by the attraction of the armatures of the respective magnets which operate them, that point being the under side of the message-strip G′ as the latter passes over the under surface of the feed-roller N, and they are retracted by suitable springs, O, and thus brought into their normal position when the attraction of the armature ceases. The upper ends of these levers L may either be pivoted to the ends of the armatures (the pivots passing through elongated slots) or a cap may be secured at the end of the latter to fit over the end of the levers, as shown at k^3, for the purpose of keeping them engaged. The uprights M and springs O are insulated from

the base R. The feed-roller N is fixed upon a shaft, N′, having bearings in insulated uprights secured to the base R, and the message-strip G′ passes over the under surface of said roller from a reel, Q, supported by a standard, Q^2, in any suitable position, and is carried from thence between said feed-roller and a friction-roller, N^2, and thence, through a tube or other suitable conductor, N^3, to any convenient point.

F′ is a magnet, one coil of which is connected with a line-wire, f^5, by means of a binding-post, H′, its other coil being connected by means of one of the binding-screws I with the copper ring J, and thence with the local battery S′. The armature of this magnet is hinged, as at k, and to its inner prolonged end is pivoted an upright rod, k^2, the upper end of which is provided with a pawl, k^5, that rotates a ratchet-wheel, l, fixed upon one end of the shaft N′, so that the feed-roller N is moved forward by each stroke of said armature for the purpose of leaving spaces on the message-strip G′ between the letters and words on the message, and at the end of the subject-matter of the message to leave space between the message and the address.

An inking-ribbon, S, in the form of an endless band, is interposed between the message-strip G′ and the types on the levers L, said ribbon being stretched over rollers S′ S′ and S^2 S^2. An inking-roller, S^3, is held in contact, by suitable means, with the ribbon S for the purpose of applying ink to the same, and k^5 (see Fig. 3) is a pulley provided on the end of one of the rollers S′, which is driven by a belt from a similar pulley on the shaft N′ for the purpose of imparting motion to said inking-ribbon.

The ring J is divided at any convenient point, and its ends connected respectively with the two sections of a switch, R′, and from thence with the battery S^4 and the earth, for the purpose of throwing the instrument into or out of circuit with the sending-station, so that when a message is to be received and printed by the instrument the plug R^2 of the switch is inserted to bring the same into circuit with the transmitter at the sending-station; and when said plug is withdrawn the currents pass on to the next station which has its receiver in circuit with said sending-station.

In Fig. 4 is shown an elevation of the rear side of the pawl and ratchet for rotating the feed-roller; and we may here state that all the magnets and posts, together with other parts through which the currents pass, are insulated from the base R and from the other parts of the instrument.

In order to keep the message secret, a second strip of paper, G^2, is sealed over the message-strip G′ by means of the following-described devices: Said second strip, G^2, is held upon a reel, Q′, supported by a standard, Q^3, in any suitable position, and from thence passed between the friction-roller N^2 and the message-strip G′ as the latter passes over the feed-roller N. The edges of said message-strip are gummed on that surface which is to receive the printing previously to being placed in the instrument. A cup, N^3, containing a moistened sponge arranged to dampen the under side of the edges of the strip G^2 before the latter passes between the rollers, is suspended from a lever, N^4, pivoted to any suitable support, and to the opposite end of said lever the plug R^2 is pivoted in such manner that whenever said plug is inserted in the switch R′ said sponge will be in contact with the edges of the strip G^2, as shown in Fig. 2, and the edges of the message-strip having been previously gummed, the two strips are sealed together as they pass between the rollers N and N^2, with the printing between them. By these means, whenever the circuits are closed by the insertion of the plug R^2 to receive a message, the cup N^3 will be in position to seal the strips together. As the address is printed on the message-strip in the same manner as the subject-matter of the message, it is concealed by the second strip, G^2, and it is necessary to provide means for ascertaining the address without the subject of the message being revealed to the person in charge of the receiver. This may be accomplished as follows: A number of arrows or similar marks are printed on the strip G^2 previously to its being placed in the instrument, for the purpose of indicating in which direction the message is printed, so that the person in charge of the instrument may know from which end of the message-strip the second strip is to be removed in order to ascertain the address, and he removes the same from that end of the strip to the blank space between the message and the address. In order to facilitate the removal of the second strip, it may be of thin dark-colored paper, such color admitting of the use of thin paper without the printing being visible through it; and it may also be perforated along its edges, so as to be readily torn off. A portion of a printed strip is shown in Fig. 5.

We are aware that a receiving-instrument having a separate magnet to print each kind of letter or character has heretofore been used, and therefore we do not claim that as our invention.

What we claim as our invention is—

1. In a receiving instrument for automatic printing-telegraphs having a separate magnet for each letter or character employed in sending messages, the combination of the series of U-magnets F, each connected by a separate line-wire, f^4, with the sending-station, and each having a hinged armature provided with a printing-lever, L, constructed to operate as described, the separate U-magnet F′, connected by a separate line-wire, f^5, with the sending-station, the feed mechanism consisting of the rollers N and N^2, ratchet l, and rod k^2, operated, as described, by the armature of said magnet F′, the ring J, connecting each of said magnets with a local battery, S^4, and the strips G′

and G^2 to receive and conceal the printing, the whole constructed as described, for the purposes set forth.

2. The combination of the strip G^2, message-strip G', feed-roller N, and friction-roller N^2, cup N^3, lever N^4, and switch R', provided with the plug R^2, as and for the purpose set forth.

3. In combination with the strips G' and G^2 and the printing-levers L, constructed and operated as described, the inking-ribbon S, inking-roller S^3, rollers S' S^2, and pulley K, all constructed as shown and described, for the purpose set forth.

ALBERT F. JOHNSON.
FRANK B. JOHNSON.

Witnesses:
JOHN S. THORNTON,
M. H. TOPPING.