(No Model.) 2 Sheets—Sheet 1.

N. J. BISHOPRICK.

TELEGRAPHIC TRANSMITTER.

No. 299,949. Patented June 10, 1884.

Fig. 2.

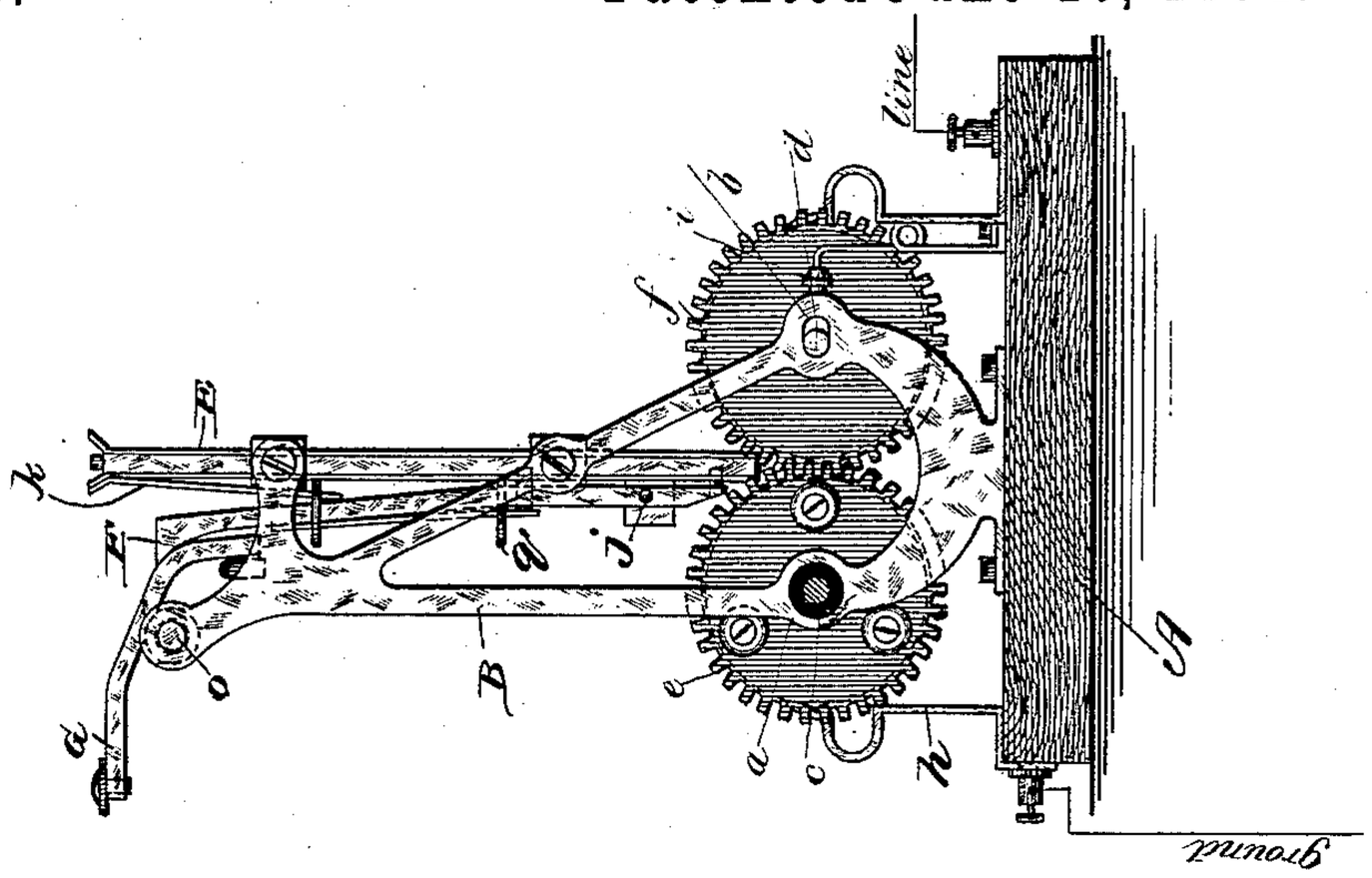
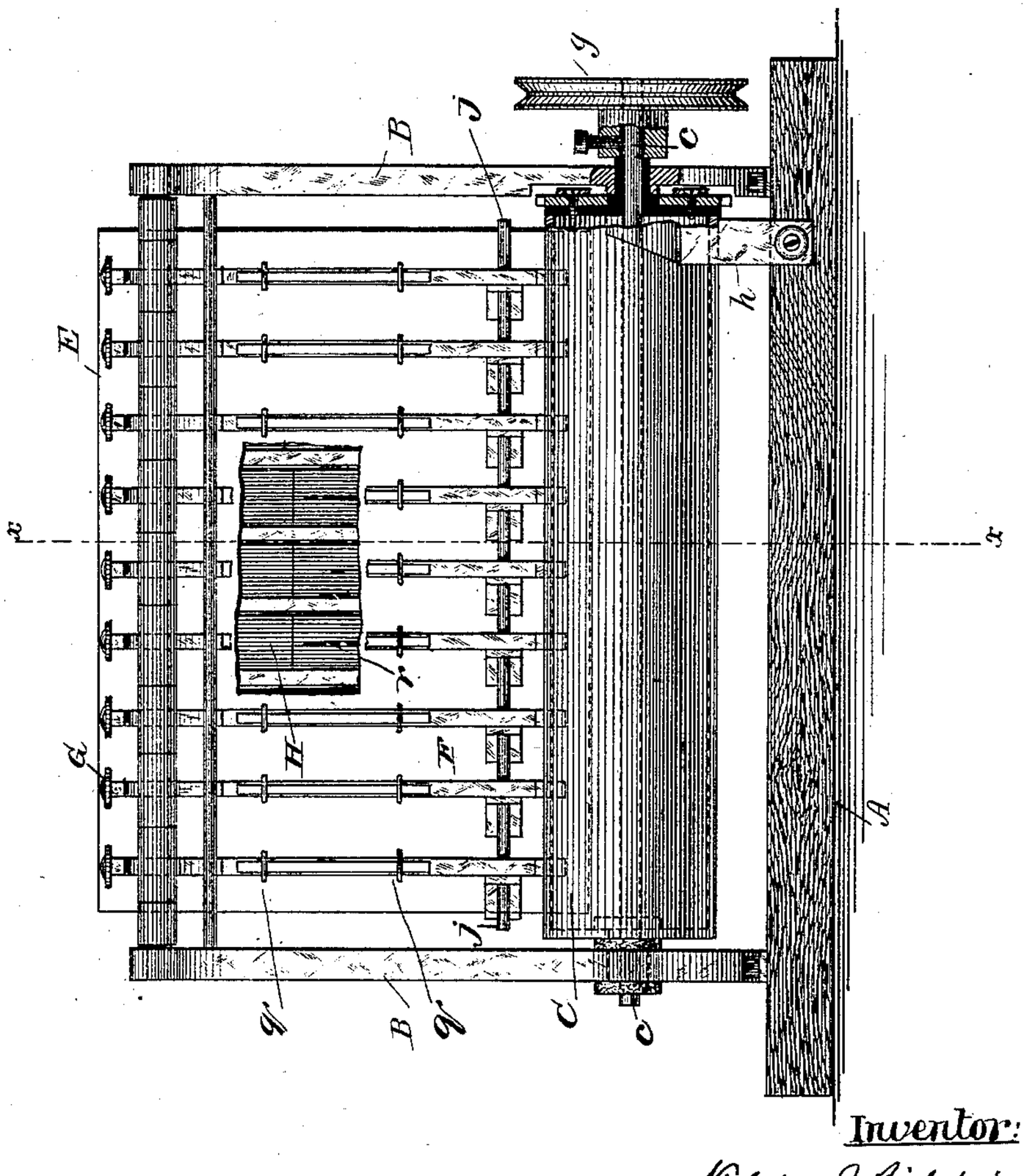


Fig. 1.



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Inventor:
Nicholas J. Bishoprick
By his Attorney
Emmet Webb.

(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

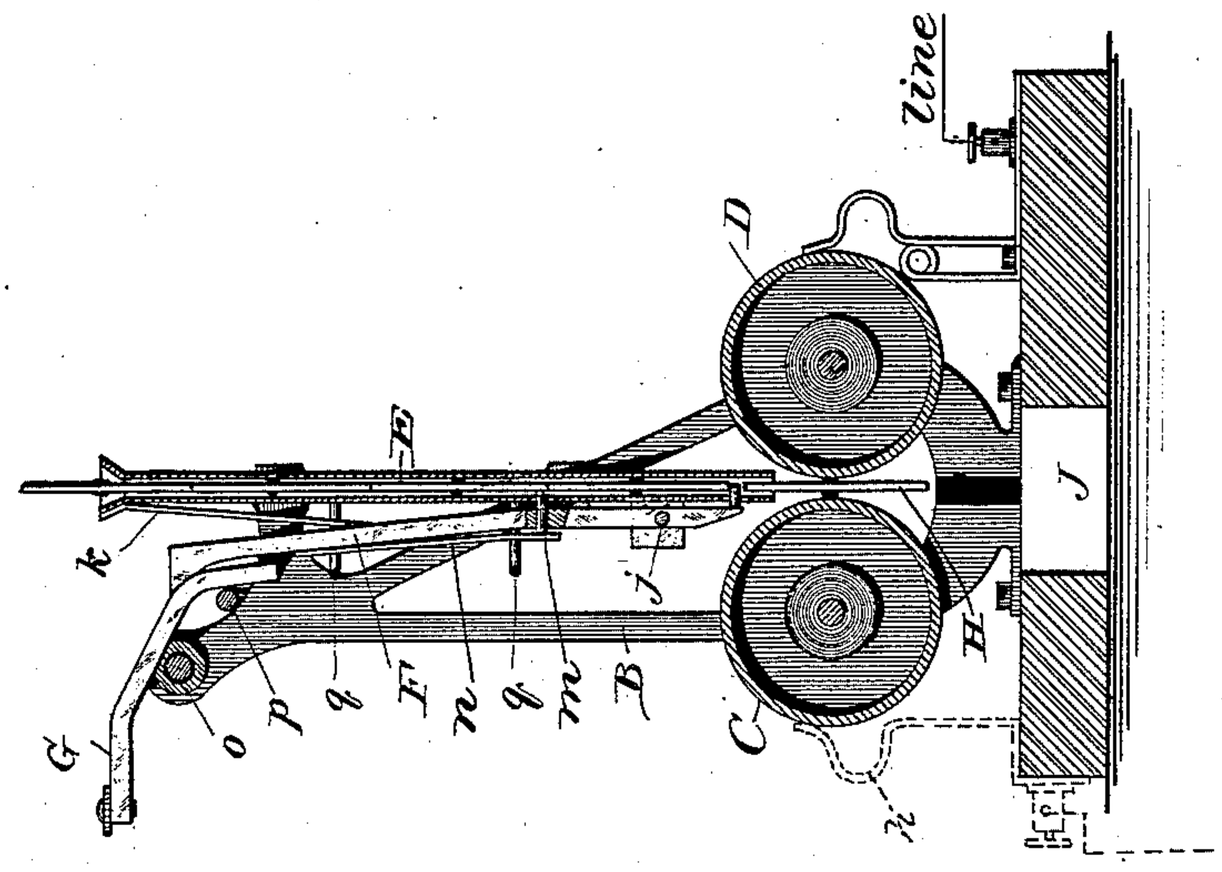

Fig. 4.

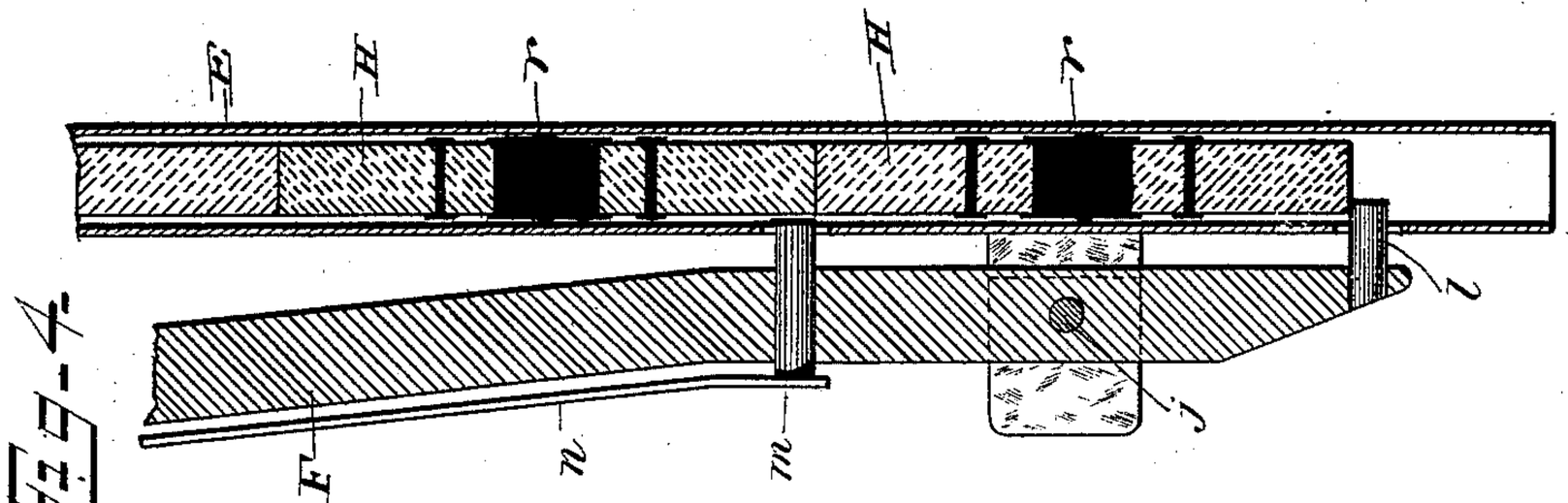

Fig. 5.

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UNITED STATES PATENT OFFICE.

NICHOLAS J. BISHOPRICK, OF BROOKLYN, NEW YORK.

TELEGRAPHIC TRANSMITTER.

SPECIFICATION forming part of Letters Patent No. 299,949, dated June 10, 1884.

Application filed October 4, 1883. (No model.)

To all whom it may concern:

Be it known that I, NICHOLAS J. BISHOPRICK, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented a certain new and Improved Method of Transmitting Telegraphic Messages, of which the following is a full, clear, and exact description.

The object of this invention is to simplify the method of sending the telegraphic symbols for the letters of the alphabet, numerals, punctuation-marks, and the like, whereby the labor of transmission incident to the old method is largely diminished, and the inconvenience and damage entailed by mistakes on the part of the sender are reduced to a minimum, mistakes being almost entirely, if not altogether, rendered impossible.

In my invention the characters are arbitrarily transmitted without dependence upon sound, and are received on any suitable receiving-instrument, such as a sounder or Morse printing-instrument.

My invention consists in a machine for electrically transmitting telegraphic symbols or characters previously prepared, and comprises rotary contact surfaces moving in opposite directions, and suitably insulated from one another, and arranged in an electric circuit, combined with mechanism operable at will to bring in contact with said surfaces movable types or blocks containing the said previously-prepared characters or symbols, the active surfaces of which are electro-positive to the rotary contact-surfaces, whereby the characters or symbols on such types or blocks are electrically transmitted, substantially as hereinafter specified and claimed.

In the accompanying drawings, in the several figures of which like parts are designated by similar letters of reference, Figure 1 is a rear elevation of a machine embodying my invention, with part of the type-hopper broken away. Fig. 2 is a side elevation thereof. Fig. 3 is a vertical cross-section on the plane of the line *x x*, Fig. 1. Fig. 4 is a vertical section, on a larger scale, of a part of the type-hopper and one of the type-operating devices, and Fig. 5 is a face view of one of the types on the same scale.

On a suitable base, A, I arrange standards B, in which are formed bearings *a b* for the shafts *c d* of rollers C D. These rollers C D are of material conductive of electricity, and are geared to move in opposite directions by toothed wheels *e f*, the shaft *c* receiving, if desired, the driving-power, as a pulley, *g*, or a crank or other power-transmitting or given device. The shaft *c* of the roller C is arranged in insulated bearings, and the gear-wheel *e* of said roller is also insulated, and said roller is grounded through *h*. The roller D has the bearings *b* for its shaft *d*, horizontally elongated to permit said roller to move to and from the roller C; but said roller is held normally in its nearest position to the roller C by spring-pressed follower-blocks *i*. The line-current proceeds from the roller C.

Above the rollers C D, and in the plane of their proximate edges, is arranged a hopper, E, it being suitably supported in the standards B B. This hopper is divided into a number of chambers by vertical partitions in accordance with the number of the characters embraced in the sending capacity of the machine—say, for example, the Morse alphabet. A number of levers, F, corresponding in number to the number of chambers are pivoted near their lower ends upon a rod, *j*, with their lower ends held up to the hopper by springs *k*. A rigid pin, *l*, is secured in the extreme end of each of said levers, and a movable pin, *m*, carried by a spring, *n*, is passed through a hole in each of said levers above their pivots. These levers are operated by keys G, pivoted on the rod *o*, supported by the standards, the said keys engaging the levers F, to move them upon their pivots *j*.

p is a stop-rod for the keys and levers, and the levers are also arranged in guide-stirrups *q*. The key-levers G are provided with the usual characters.

The types or blocks H, bearing the telegraphic characters, are arranged end for end in their particular chambers or compartments in the hopper, as indicated by Fig. 4, each chamber holding a number of types of a kind. These types or blocks are of suitable non-conducting material, with the characters *r* of conducting material arranged therein longitudinally, and extending entirely through them. They are retained in their chambers by the pins *l* of the levers F.

The operation is as follows, viz: In trans-

mitting a message a continuous rotary motion is imparted to the rollers C D when the circuit is established. Each letter or character to be transmitted is made by a single depression of its key G, whether that letter or character be telegraphically designated by one or more dots, spaces, and dashes according to the Morse system, and the formation of the dots, spaces, and dashes is obtained as follows: Upon the depression of the key G, the lower end of the lever F is thrown away from the hopper, carrying with it the pin *l*, thus allowing the descent of the lowermost type in that particular chamber, the superposed type being retained in the hopper by the spring-pin *m n*. Now, the released type is caught between the proximate edges of the rollers C D, and carried between them and discharged from the machine through the opening J into a suitable receptacle. The roller D being pressed toward the roller C positively feeds between them the types, so that said types are passed through at a proper rate of speed to insure the operation of the current. The type-body being of non-conducting material, and its character only being of conducting material, and fixed thereon and projecting through the body on both sides, such character portions will form electric contact with the rollers C D of more or less prolongation and interval, according to their length and arrangement, and thereby transmit the dots or dashes that may be on the type. The message so sent from these previously-prepared types may be received by any of the instruments now commonly used.

A machine constructed and operating in accordance with my invention insures accuracy in transmitting messages, and does not require the services of a skilled operator to the extent of the old system, where accuracy is dependent upon the facility of the operator in the use of the Morse key.

The hopper for the types may be made large enough to hold any desired number of types.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A machine for sending messages telegraphically, composed of rotary contact-surfaces arranged in a circuit, previously-prepared fixed telegraphic symbols or characters consisting of a conducting medium expressive of the symbols, or any of them, arranged in a non-conducting body, and means to bring such symbols or characters into operative connection with said rotary surfaces, substantially as and for the purpose described.

2. In a telegraphic transmitter, an insulated grounded rotary conductor and a rotary transmitting conductor geared therewith, the two rotating in opposite directions, combined with a superposed hopper, and previously-prepared telegraphic symbols arranged therein, and means to bring said symbols to said conductors, one by one, as they are required, to form words, substantially as set forth.

3. The combination, substantially as shown and described, of the rotary contact-surfaces placed in an electric circuit, a hopper containing a series of compartments, non-conducting blocks or type containing electrically-conductive telegraphic symbols or characters arranged in said compartments systematically, a series of levers provided with holding and releasing devices for such blocks or type, and keys corresponding with the symbols in each of said compartments, arranged to operate the levers, as set forth.

4. The improved type for transmitting telegraphic symbols, consisting of a non-conducting body and a conducting medium expressive of such symbol or symbols arranged in the same and extending through on both sides, substantially as shown and described.

In testimony whereof I have hereunto set my hand this 13th day of September, A. D. 1883.

NICHOLAS J. BISHOPRICK.

Witnesses:
ERNEST C. WEBB,
ARTHUR C. WEBB.