

(No Model.)

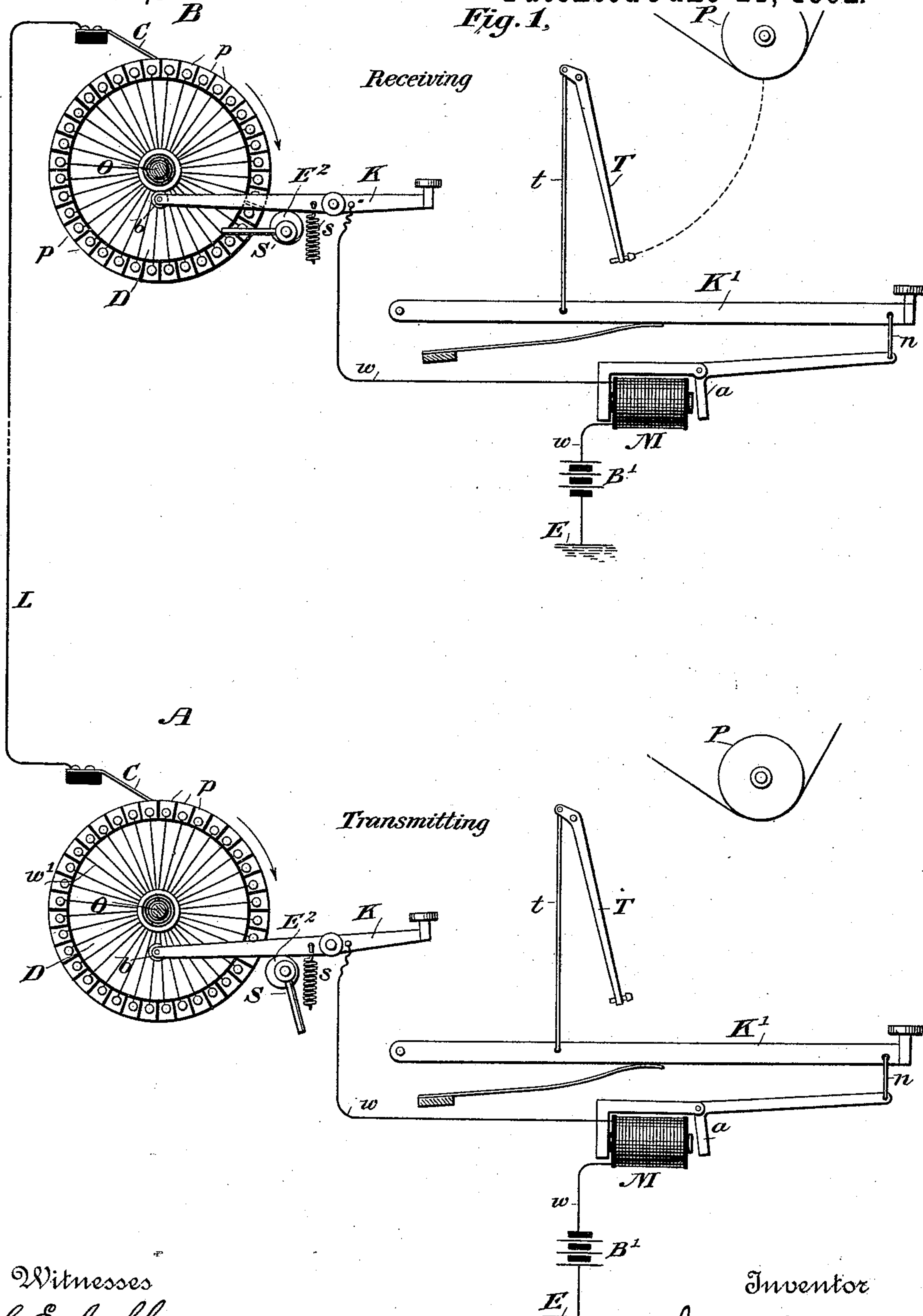
2 Sheets—Sheet 1.

C. J. REED.
PRINTING TELEGRAPH.

No. 477,383.

Patented June 21, 1892.

Fig. 1.



Witnesses
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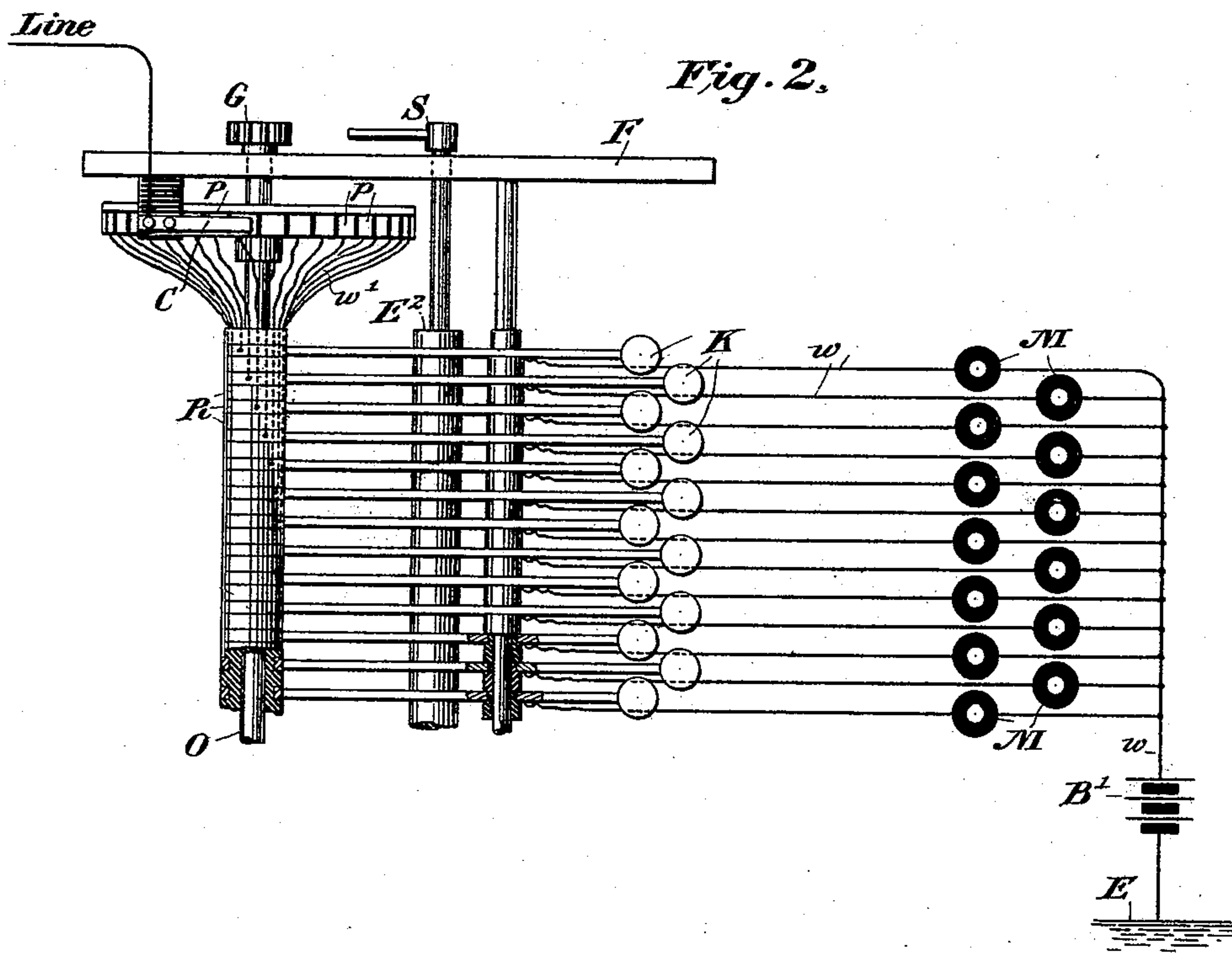
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UNITED STATES PATENT OFFICE.

CHARLES J. REED, OF ORANGE, NEW JERSEY.

PRINTING-TELEGRAPH.

SPECIFICATION forming part of Letters Patent No. 477,383, dated June 21, 1892.

Application filed May 27, 1891. Serial No. 394,258. (No model.)

To all whom it may concern:

Be it known that I, CHARLES J. REED, a citizen of the United States, residing at Orange, in the county of Essex and State of New Jersey, have made a new and useful invention in Printing-Telegraphs, of which the following is a specification.

My invention has for its object the combination of a telegraph-circuit with two or more type-writing machines of well-known form in such manner that the operators thereof may be located at different stations and be enabled to transmit and receive type-written messages at will. I accomplish these objects by the arrangement of parts hereinafter described, but particularly pointed out in the claims which follow this specification.

In order that my invention may be fully understood, reference is had to the accompanying drawings, in which—

Figure 1 represents a diagrammatic view illustrating two stations, at one of which an operator is supposed to be transmitting and at the other an operator receiving. Fig. 2 represents a plan view showing the circuit connections of the apparatus and the arrangement of the electro-magnets which control the type-writer levers of any well-known form of type-writing machine.

Referring to the drawings in detail, A represents a transmitting-station, and B a receiving-station; L, an ordinary telegraph-line joining the two stations and connected at each end through contact-springs C C with a pair of distributors D, such as are well known and in general use in connection with multiplex synchronous telegraphs.

Each instrument is provided with a series of key-levers K of conducting material, pivotally secured to the frame F and provided at their inner ends with conducting-rollers b, adapted each to contact electrically with one of a series of metal conducting-rings R, carried by the same shaft O which supports the distributor D, there being as many of these key-levers K as there are key-levers on the type-writer which is to be manipulated.

R R, &c., are conducting-rings, which surround the shaft O of the distributor and are located adjacent to each other in the path of the free ends of the conducting key-levers K, said rings being insulated from each other,

as shown in Fig. 2. Each of these rings R is electrically connected to one of the distributor-contacts *p p*, which are insulated from each other, the connecting-wires *w'* being attached to said rings at different radial points corresponding with the radial location of the contact-plates *p* of the distributor.

On the under side of the levers K is located an eccentric-shaft E², journaled in the side of the frame F and provided with a switch-handle S, this eccentric-shaft being adapted to assume different positions, as shown at A and B, Fig. 1, and to either place the conducting-rollers *b* in contact with the conducting-rings R, as shown at station B, or permit them to assume the position shown at station A, as desired.

Each of the key-levers K is provided with a retractile spring *s*, and is also connected by an independent conductor *w* to a corresponding magnet M, all of said magnets being connected electrically through the battery B' to earth at E, as clearly shown in Fig. 2.

Each magnet M is provided with a bell-crank armature-lever *a*, which is connected by a link *n* to the free end of one of the type-writer levers K', said type-writer levers being provided with the usual link connections *t* and type-levers T, adapted to make the impressions upon the paper carried by the platen-roller P, as is well understood by those skilled in the art.

Any of the well-known forms of type-writers now in general use in the market may be utilized in connection with my invention and the connection between the armature-levers *a* and the type-writer keys may be made in any preferred manner, my invention being directed, broadly, to the combination of a telegraph-circuit connecting two or more type-writers of well-known form so that they may be operated at will between two distant stations.

The distributors D are to be operated and controlled by any of the well-known methods of attaining synchronism between two constantly-revolving distributors. I have shown in Fig. 2 a pinion G, through which power may be applied to the shaft O in order to cause the distributor to rotate. Nor do I limit myself to a rotary distributor, as it is obvious that any form of distributor which will con-

vey the current simultaneously to the different magnets in sequence both at the transmitter and receiver may be utilized and still fall within the scope of my invention.

5 I will now describe the operation of my improved apparatus, reference being had particularly to Fig. 1 of the drawings, wherein the switch S at the transmitting-station A is shown in the lowermost position, while at station B it is in its uppermost position, holding
10 all of the key-levers K and their rollers *b* in contact with the conducting-disks R. The distributors having been adjusted to synchronism by any of the well-known methods
15 and the type-writers having been supplied with paper preparatory to transmitting the message, the operator at the transmitting-station manipulates the key-levers K in the desired sequence, and as these levers are suc-
20 cessively held down the current is transmitted through corresponding successive magnets M, conductors *w*, key-levers K, rollers *b*, conducting-rings R, and the corresponding segments *p* of the distributor, brush C, line L,
25 the duplicate segments *p*, rings R, and key-levers K, magnets M, battery B' at the receiving-station to earth, thereby causing the magnets M at both stations to be simultaneously actuated, their corresponding type-writer le-
30 vers K' making the necessary impressions upon the paper carried by the platen-roller P. When the carriages of the type-writers have reached their limit, each operator will restore them to the starting-point and advance the
35 paper one line by hand in the usual manner; or, if desired, automatic mechanism such as is well known in the art of type-writing machines may be utilized for performing these functions.

40 If it is desired to utilize more than two type-writers, it will be understood that additional distributors with corresponding parts, key-levers K, and magnets M may be looped directly in the line, so that the current from the
45 batteries B' will pass directly through all of the distributors running in synchronism and through the corresponding magnets.

When it is desired to transmit from station A to station B, the operators at those stations
50 will simply reverse the positions of the switches S and proceed as before.

I do not limit myself to the use of the individual sets of key-levers K for controlling the operation of the magnets M, as it is obvious
55 that the key-levers K' of the type-writers themselves might be connected directly to the distributors, if desired; but I prefer to use the extra set of key-levers K', in order to adapt the apparatus to the application of or-
60 dinary type-writers with as little change as possible.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

65 1. In a system of printing-telegraphy, two or more distributors united by an electrical conductor, in combination with two or more

sets of movable contact-levers having independent circuit connections with the contact-plates of the distributors, and means for si-
70 multaneously connecting them all to or disconnecting them from the distributor, two or more sets of electro-magnets corresponding to said contact-levers, electrically connected thereto, and mechanical connections between
75 the armature-levers of said magnets and the key-levers of corresponding type-writing machines, substantially as described.

2. A pair of electrical distributors joined together by an electrical conductor, a series
80 of key-levers for each distributor, each of said key-levers being adapted to make electrical contact with only one of the distributor-plates, a switch bar or shaft for each distributor, located beneath all the key-levers and
85 adapted to hold them either in or out of contact with the distributor at will, an electrical generator connected to all of said key-levers at one station, and a set of electro-magnets
90 connected to all of the corresponding key-levers at the other station, substantially as described.

3. A pair of electrical distributors joined together by an electrical conductor, the individual contact-plates of each distributor being
95 connected to independent conducting-rings borne by the same shaft with the distributor, an independent key-lever for each of said rings at each station, a switch bar or shaft located
100 beneath all of the key-levers and adapted to place them in contact with their corresponding contact-rings or permit their removal therefrom, an electrical generator connected
105 to earth and to said key-levers at the transmitting-station, and an independent electro-magnet connected to each one of the key-levers at the receiving-stations and to earth, the arma-
110 tures of said electro-magnets being connected each to one of the key-levers of a type-writing machine, substantially as described.

4. A pair of electrical distributors united by an electrical conductor, the independent contact-plates of each distributor being connected
115 to independent conducting-rings, a series of key-levers for each distributor, corresponding in number to the conducting-rings, a switch bar or shaft for each distributor, located beneath all of said key-levers and adapted to
120 maintain them either in contact with the conducting-rings or permit their withdrawal therefrom at will, and an independent electro-magnet connected to each key-lever at each
125 station, all of said electro-magnets at each station being connected to earth and through an electrical generator, the armature of each electro-magnet being mechanically connected
130 to one of the key-levers of a type-writer, substantially as described.

5. The described apparatus for simultaneously producing duplicate messages at a trans-
135 mitting and receiving station, consisting of a pair of distributors, one at each station, joined by a main-line conductor, a mechanical type-writer at each station having electrical con-

nections with the individual contact-plates of the distributor at that station, the number of contact-plates in said distributor being equal to the number of key-levers in the type-writing machine, and an eccentric switch-shaft located beneath all of the transmitting key-levers of each instrument and adapted to place them all in contact with or out of contact with the distributors, substantially as described.

6. A main-line conductor joining two electrical distributors at different stations, in combination with a type-writing machine at each station, having its key-levers operatively connected with the individual contact-plates of the distributor, and a series of electro-magnets included in the circuits joining the distributors, and an eccentric switch-bar located beneath the key-levers of each instrument and adapted to lift the free ends of said key-levers into contact with the distributors or permit their withdrawal from contact therewith, substantially as described.

7. A distributor for distributing electrical currents to independent circuits at a receiving-station, consisting of a series of distributing contact-plates united each to an independent conducting-ring carried by the same shaft which carries the distributing-plates, said rings being located adjacent to each other on the shaft, substantially as described.

8. A distributor for distributing electrical currents to independent circuits at a receiving-station, consisting of a series of distributing contact-plates connected each to an independent conducting-ring carried by the same shaft which carries the distributing contact-plates, said rings being located adjacent to each other on the shaft, in combination with a series of pivoted contact-levers, one for each ring, said contact-levers being connected to independent circuits, substantially as described.

9. A pair of distributors having each a series of contact-plates, said contact-plates being connected each to one of a series of contact-rings borne by the same shaft which carries the contact-plates and located adjacent to each other on the shaft, in combination with independent sets of contact-levers for each distributor, adapted to bear on the contact-

rings thereof, but connected to independent circuits, and a main line joining said distributors by contact-brushes bearing on the distributor-plates of each instrument, substantially as described.

10. A distributor carrying a series of contact-plates connected each to an independent conducting-ring borne by the same shaft which carries the plates and located adjacent to each other on the shaft, contact-levers for the rings, connected electrically each to an independent branch circuit, and mechanism operatively connected with all of the contact-levers for simultaneously placing them either in contact with or permitting them to be removed from contact with said conducting-rings, substantially as described.

11. A pair of distributors having corresponding distributing contact-plates, a series of conducting-rings for each distributor, said rings being located adjacent to each other on the shaft which carries the contact-plates, a set of pivoted conducting-levers for each distributor, having their free ends lying adjacent to the aforesaid conducting-rings and their pivoted ends connected through independent electro-magnets, the armatures of which are operatively connected each with the key-lever of a type-writer, mechanism operatively connected with all of the conducting-levers for connecting them to or disconnecting them from the contact-rings at will, and a main line joining the distributors through contact-brushes and one or more electrical generators, substantially as described.

12. Two distributors electrically connected to a single main line, a set of conducting key-levers for each distributor, mechanism operatively connected with all of said key-levers for placing their free ends into or out of contact with the distributors, and independent circuits running from said key-levers to independent electro-magnets, the armatures of which are operatively connected to the key-levers of independent type-writers, one for each distributor, substantially as described.

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Witnesses:

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