

(No Model.)

2 Sheets—Sheet 1.

M. W. DEWEY.
SELECTING TELEGRAPH.

No. 407,581.

Patented July 23, 1889.

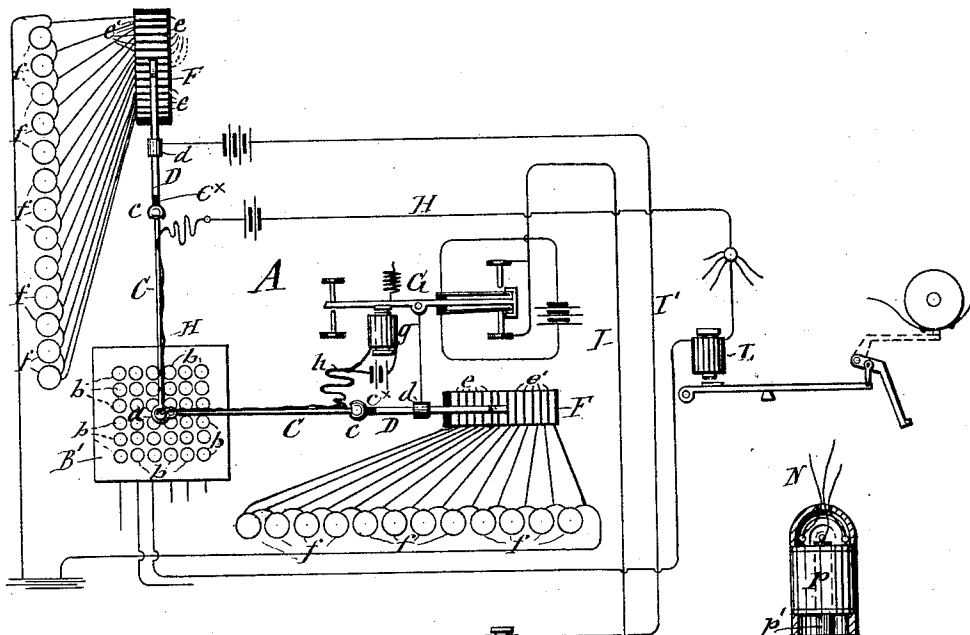


Fig. 1

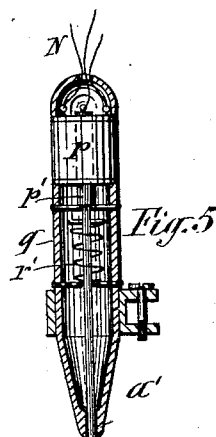
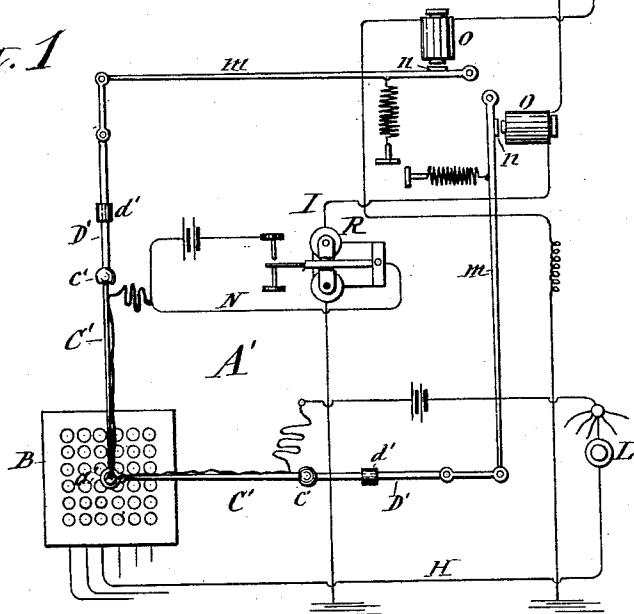


Fig. 5

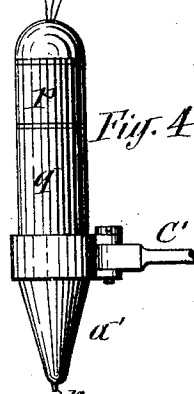


Fig. 4

WITNESSES:

J. J. Laessle

W. H. Randall

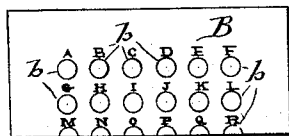
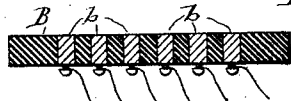


Fig. 9



INVENTOR

Mark W. Dewey

BY

Smith, Laessle & Smith

ATTORNEYS

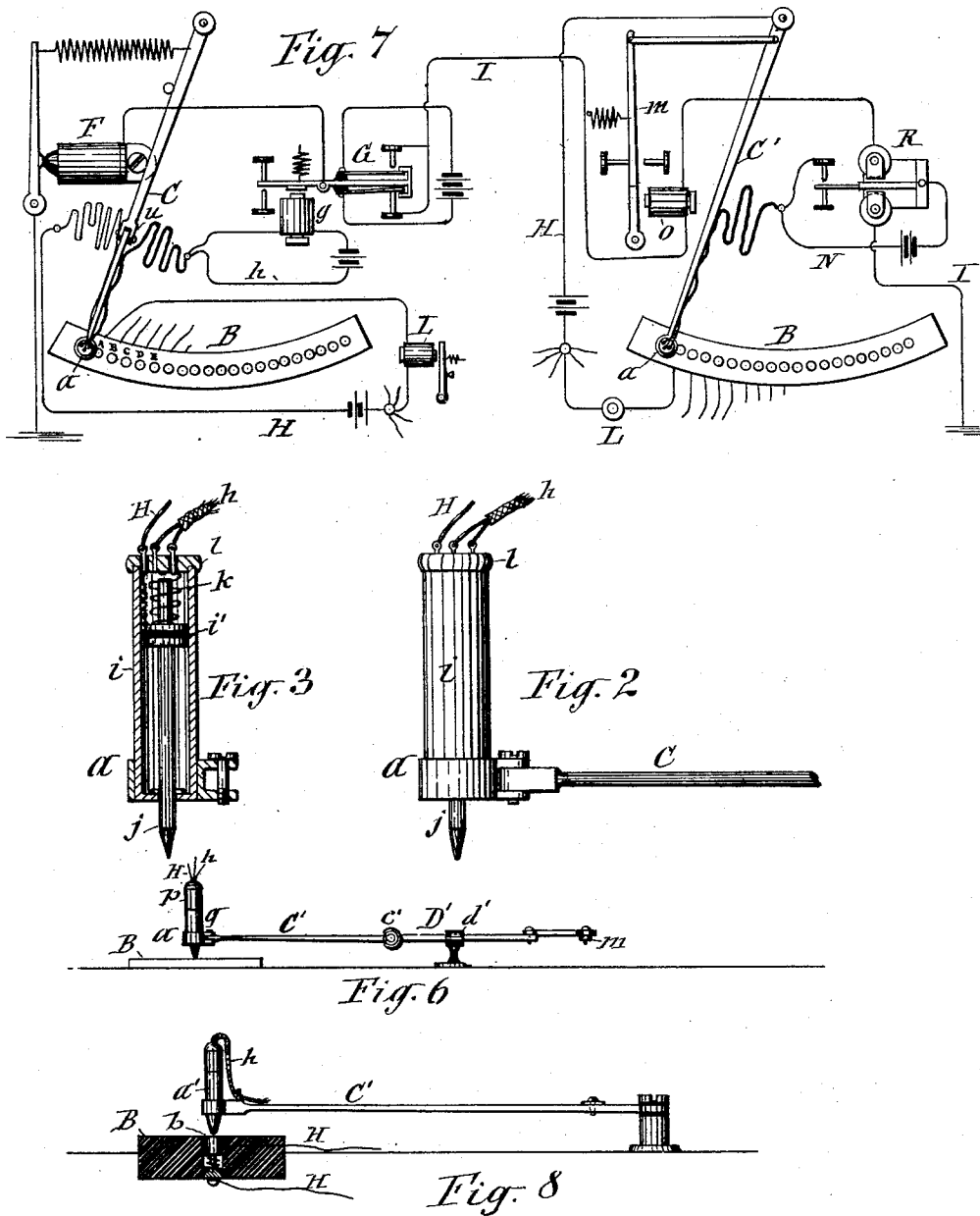
(No Model.)

2 Sheets—Sheet 2.

M. W. DEWEY.
SELECTING TELEGRAPH.

No. 407,581.

Patented July 23, 1889.



WITNESSES:

J. J. Laase,
W. H. Randall

INVENTOR

Mark W. Dewey

BY

W. H. Laase & W. H. Bull

ATTORNEYS

UNITED STATES PATENT OFFICE.

MARK W. DEWEY, OF SYRACUSE, NEW YORK, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE DEWEY CORPORATION, OF SAME PLACE.

SELECTING-TELEGRAPH.

SPECIFICATION forming part of Letters Patent No. 407,581, dated July 23, 1889.

Application filed September 22, 1888. Serial No. 286,097. (No model.)

To all whom it may concern:

Be it known that I, MARK W. DEWEY, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Selecting-Telegraphs, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention is designed to employ electric telegraphy for operating at the receiving-station type-writing machines, type-setting machines, and analogous devices having a number of parts distributed in a field of a definite area; and to that end the invention consists in a novel construction and combination of mechanisms operated by an electric circuit and auxiliary devices in said circuit, as hereinafter described, and specifically set forth in the claims.

In the annexed drawings, Figure 1 is a plan view of the apparatus at the transmitting-station and receiving-station and their connections. Figs. 2 and 3 are respectively side and longitudinal sectional views of the transmitting-instrument. Figs. 4 and 5 are side and longitudinal sectional views of the receiving-instrument. Fig. 6 is a detached side view of the receiving-instrument and its connection with the rods which transmit motion thereto. Fig. 7 is a plan view of a modification of the apparatus at the transmitting-station and receiving-station. Fig. 8 is a detached side view of the receiving-instrument of said modification, and Fig. 9 shows a plan view and transverse section of one of the forms of the key-board that may be used in connection with my invention.

A designates the transmitting-station, and A' the receiving-station.

B represents a table of contacts or key-board for operating either a type-writer or other machine or apparatus having a number of parts from which to select one or more. Said key-board is located at the receiving-station, and a similar key-board B', or merely an index or guide corresponding to the key-board at the receiving-station, is located at the transmitting-station. Over the table of contacts B' at the transmitting-station is a manipulative instrument *a*, preferably of the

form of a stylus or pencil adapted to touch successively the contacts or keys, indicated by small circles *b b* in the drawings. Said keys are arranged in precisely the same relative positions on the table B as those at the receiving-station.

C C are rods disposed at right angles to each other and carrying conjointly at one end the manipulative instrument *a*. The opposite ends of said rods are connected by ball-and-socket joints or universal joints *c c* to longitudinally-movable rods D D, which slide rectilinearly in guides *d d* and have their free ends operating variable resistances F F, which I prefer to form similar to those shown in another application for Letters Patent executed by me on the 19th day of September, 1888; but for the sake of convenience each of said variable resistances shown in Fig. 1 consists of a series of electric contact-points *e*, arranged in a path with intervening insulations *e'* and resistances *f f*. I do not, however, limit myself to the use of this particular form of variable resistance, inasmuch as other well-known forms will answer the purpose.

The rods D D are to be insulated from each other in any suitable and well-known manner, preferably by interposing insulating material *c'* between the rods D and C, as shown in Fig. 1 of the drawings.

G denotes a suitable pole-changer, which is in one of the line-circuits I I', the magnet *g* of this pole-changer being in a local circuit *h*, with which is also connected the manipulative transmitting-instrument *a* by the following means: Said instrument is formed of a sleeve *i* of non-conducting material, and in this sleeve slides longitudinally a metallic plunger *j*, the upper section of which is insulated from the lower section, as indicated at *i'* in Fig. 3 of the drawings. The lower end of the plunger is held normally protruded from the sleeve and the upper end of the plunger away from the metallic cap *l* of the sleeve by a spring *k*, interposed between a collar on the plunger and cap of the sleeve. One of the wires of the local circuit *h* is connected with the metallic cap *l* of the sleeve *i*, and the other wire of said circuit is connected to a pin which

passes through the said cap and is insulated therefrom and has its inner end in contact with the spring *k*, which completes the electric connection with the upper section of the plunger. When the table of contacts *B'* at the transmitting-station is designed to operate a type-writer or other analogous devices, I employ another local circuit II, one terminal of which is connected either with the lower section of the plunger of the manipulative instrument *a*, as represented in Figs. 1, 2, and 3 of the drawings, or with one of the movable electric contacts of each key, as shown in Fig. 8 of the drawings, and the other terminal of said circuit is connected with the stationary contacts of the key-board. In the branches of said circuit leading to the aforesaid stationary contacts are located magnets *L*, which operate the type-levers of a type-writer or the mechanism of other devices.

Over the key-board *B* of the receiving-station is an instrument *a'*, similar to the manipulative instrument *a* at the transmitting-station, and carried in a similar manner on the adjacent ends of two longitudinally-movable rods *C' C'*, disposed at right angles to each other and connected by a ball-and-socket joint or universal joint *e'* to one end of rods *D' D'*, which slide longitudinally in stationary guides *d' d'*, and are connected at the opposite end to levers *m m*, which are pivoted at one end and have attached to them armatures *n n*, facing magnets *o o*, which are in the main-line circuits II'. In the same main-line circuit which includes the hereinbefore-mentioned pole-changer is also a polarized relay *R*, which makes and breaks a local circuit *N*, including the receiving-instrument *a'*, which latter consists of an electrode and a solenoid *p*, from which is extended a sleeve *q*, which surrounds the core *p'* of the solenoid, and also the electrode *r*, extending from said core. The lower end of the sleeve has an aperture, through which the said electrode protrudes. A spring *r'* in the sleeve *q* tends to force the core into the magnet of the solenoid, and thereby holds the electrode *r* retracted into the sleeve.

The terminals of the local circuit *N* are connected to the solenoid *p*. The keys of the key-board *B* are electrically connected with magnets operating a type-writer or other device in the same manner as that described in connection with the transmitting-instrument.

In lieu of the two rods *C C* a single rod *C* may be employed, as illustrated in Fig. 7 of the drawings, one end of this rod being pivoted to a suitable support and the opposite end having connected to it the manipulative instrument *a*, which, by swinging the rod on its pivot, is carried over the key-board *B*, having its keys arranged in an arc having the pivot of the rod for the center of a circle of which said arc is a part.

The rod *C*, which is connected to the transmitting-instrument *a*, is provided with a joint *u*, to allow the said instrument to be raised

and lowered to and from the key-board or guide when desired. The variable resistance *F* in this case is of the well-known form in which the resistance to the current is varied by pressure. The pole-changer *G* and relay *R* are in the main line and connected with the electrodes of the transmitting and receiving instruments in the same manner as hereinbefore described. When keys are employed similar to that shown in Fig. 8, the bars *C'* in all cases are preferably capable only of movements in one plane, as shown by the joint at the support of the bar in said figure. When the key-board is arranged as shown in Fig. 1 of the drawings, the pole-changer may be dispensed with by drawing the electrode *j* across the intervening insulated portions of the said key-board in moving said electrode from one key to another, because in that case it is unnecessary to provide means for automatically raising and lowering the receiving-electrode *r* from and to the key-board.

The operation of my invention is as follows: The operator takes in his hand the transmitting-instrument *a*, raises the same slightly above the contacts or key and moves it toward and directly over the desired key, and then lowers the instrument *a*, and brings the electrode *j* in contact with said key, and by said contact the circuits II and *h* are closed, thereby energizing the magnet *L* in a branch of the circuit II, connected with the said key, and also energizing the magnet operating the pole-changer, changing the polarity in the line and effecting the movement of the polarized relay *R* at the receiving-station. By the movement of the transmitting-electrode to and over the aforesaid key the variable resistances with which the transmitting-instrument is connected are so affected as to cause the magnets *o o* at the receiving-station to attract their armatures with correspondingly varied degrees of force, and produce, by means of the levers *m m* and rods *C' C'*, a movement of the receiving-electrode *r* to and over the desired key corresponding to that selected by the transmitting-electrode *j*. In lowering and bringing the transmitting-electrode *j* into contact with the key the local circuit *h* is closed, and thus the magnet operating the pole-changer *G* is energized, so as to change the polarity of the current in the line, and thereby effect the movement of the polarized relay *R* at the receiving-station, so as to close the local circuit *N*, containing the solenoid *p*, which latter is then energized and caused to force the spring-supported electrode *r* outward, so as to protrude through its holder and make contact with the corresponding key. This contact closes a local circuit through a branch of the same, which branch corresponds to the branch of the local circuit at the transmitting-station closed by the transmitting-electrode, as before described, and thus the receiving-electrode automatically conforms in all of its movements to those produced by the transmitting-electrode.

The table of contacts B at receiving-station is in all cases a key-board and the contacts are keys or equivalents thereto; but the table of contacts B' at transmitting-station may be
 5 either a key-board or simply a guide or index. When simply a guide the contacts are not operative but are simply to show the operator where to move the transmitting-instrument in order to produce the desired move-
 10 ment of the receiving-instrument—viz., the contact of the receiving-instrument with a key on the key-board to operate the same, said key being in the same location on its key-board as the inoperative contact on the guide
 15 to which the said transmitting-instrument was moved.

It will be obvious that it is not necessary for the said operative contacts on the tables to be movable.

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

1. In an electric telegraph comprising an electric circuit, a table of operative contacts
 25 at the receiving-station, a corresponding table of contacts at the transmitting-station, a transmitting-instrument adapted to be moved in different directions and to different distances over the latter table, and an instrument
 30 adapted to operate the contacts on the table at the receiving-station and electrically moved in unison with the transmitting-instrument, as set forth.

2. In an electric telegraph, a main-line circuit, a table of contacts at the receiving-station, a corresponding table of contacts at the transmitting-station, a manipulative instrument adapted to be moved in different direc-
 40 tions and to different distances over the latter table, an instrument adapted to operate the contacts at the receiving-station and moved in unison with the manipulative instrument by a suitable current or currents through the main line, and a circuit maker and breaker
 45 in a local circuit at the receiving-station operated by the aforesaid receiving-instrument.

3. In an electric telegraph, the combination of an electric circuit, corresponding tables of contacts respectively at the transmitting-
 50 station and receiving-station, a manipulative instrument adapted to operate the contacts at the transmitting-station, a rod extended from the manipulative instrument, a variable resistance in the aforesaid circuit operated
 55 by said rod, a magnet in said circuit at the receiving-station controlled by the varying strength of the current, an instrument adapted to operate the contacts at the receiving-station and actuated by the aforesaid magnet, a
 60 pole-changer in said circuit operated by a magnet in a local circuit at the transmitting-station, and a circuit maker and breaker in said local circuit operated by the aforesaid manipulative instrument, a polarized relay at
 65 the receiving-station in the main line, a local circuit controlled by said relay, and a magnet

in said local circuit also actuating the said receiving-instrument, as set forth.

4. In an electric telegraph, the combination of electric circuits, corresponding tables of
 70 contacts respectively at the transmitting-station and receiving-station, a manipulative instrument adapted to operate the contacts at the transmitting-station, rods disposed at right angles to each other and carrying conjointly
 75 at one end the aforesaid manipulative instrument, variable resistances in said circuits operated by said rods, an instrument adapted to operate the contacts at the receiving-station, rods disposed at right angles to each
 80 other and carrying conjointly at one end the latter instrument, armature-levers connected with the latter rods, and magnets at the receiving-station controlled by the varying strength of the current or currents in said cir-
 85 cuits and operating the aforesaid armature-levers, substantially as described and shown.

5. In an electric telegraph, the combination of an electric circuit, corresponding tables of
 90 contacts respectively at the transmitting-station and receiving-station, a manipulative instrument adapted to operate the contacts at the transmitting-station, rods disposed at right angles to each other and carrying conjointly
 95 at one end the aforesaid manipulative instrument, variable resistances operated by said rods, an instrument adapted to operate the contacts at the receiving-station, rods disposed at right angles to each other and carrying conjointly at one end the latter instru-
 100 ment, armature-levers connected with the latter rods, magnets at the receiving-station controlled by the varying current in said circuit and operating the aforesaid armature-levers, a pole-changer in the main circuit at the trans-
 105 mitting-station operated by a magnet in a local circuit, a maker and breaker in said local circuit carried and operated by the manipulative instrument, a local circuit at the receiving-station, a magnet carried by the instru-
 110 ment which operates the contacts at the receiving-station, and a relay in the main line at the receiving-station moved by the change of polarity in the line to make and break the local circuit including said magnet, for the
 115 purpose set forth.

6. A transmitting-instrument consisting of a sleeve of non-conducting material, a metallic plunger sliding longitudinally in said sleeve and having its two ends insulated from each
 120 other, a metallic cap on one end of the sleeve forming one terminal of an electric circuit and the upper end of the plunger forming the other terminal of said circuit, and a terminal of another circuit connected with the lower
 125 section of the plunger, substantially as described and shown.

7. A receiving-instrument consisting of a solenoid, a sleeve extending from the solenoid and surrounding the core thereof, a spring
 130 supporting the core, an electrode extending from the core and terminals of an electric cir-

cuit connected with the solenoid, and another terminal of an electric circuit connected with the core, substantially as described and shown.

8. A manipulative transmitting-instrument
5 consisting of a holder, a plunger sliding longitudinally within said holder, electric contact-points on said parts, a pole-changer in an electric circuit, and a magnet in a local circuit operating said pole-changer and connected with the aforesaid contact-points, substantially as set forth.
10

In testimony whereof I have hereunto signed my name, in the presence of two witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 20th day of September, 1888. 15

MARK W. DEWEY. [L. S.]

Witnesses:

J. J. LAASS,

W. H. RANDALL.