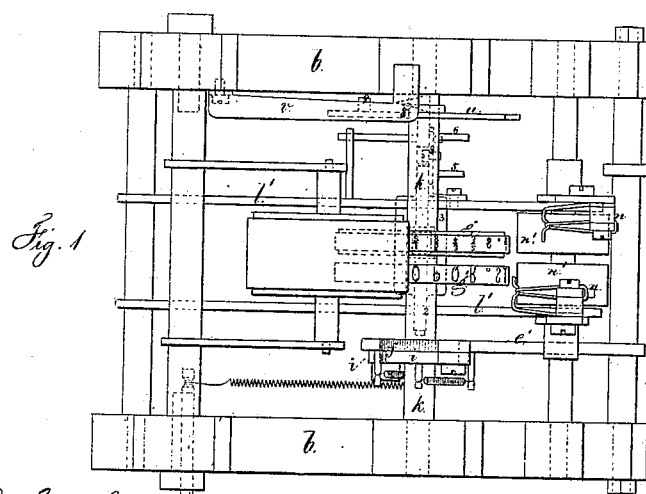
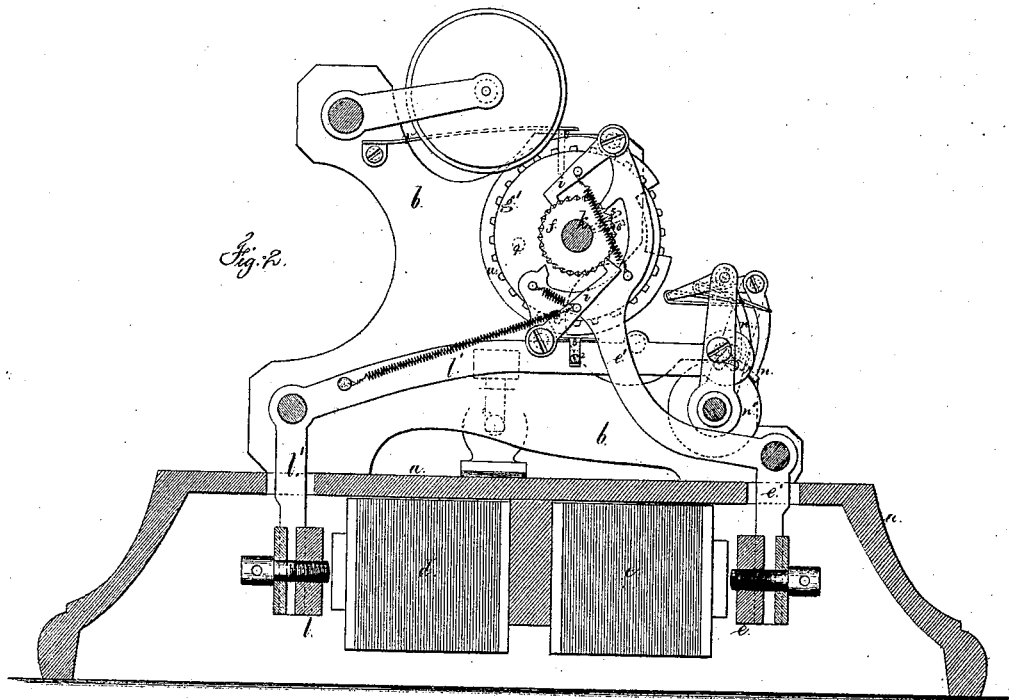


T. A. EDISON.

Printing Telegraph Apparatus.

No. 113,034.

Patented March 28, 1871.



Witness
Chas. H. Smith
Geo. S. Pondore

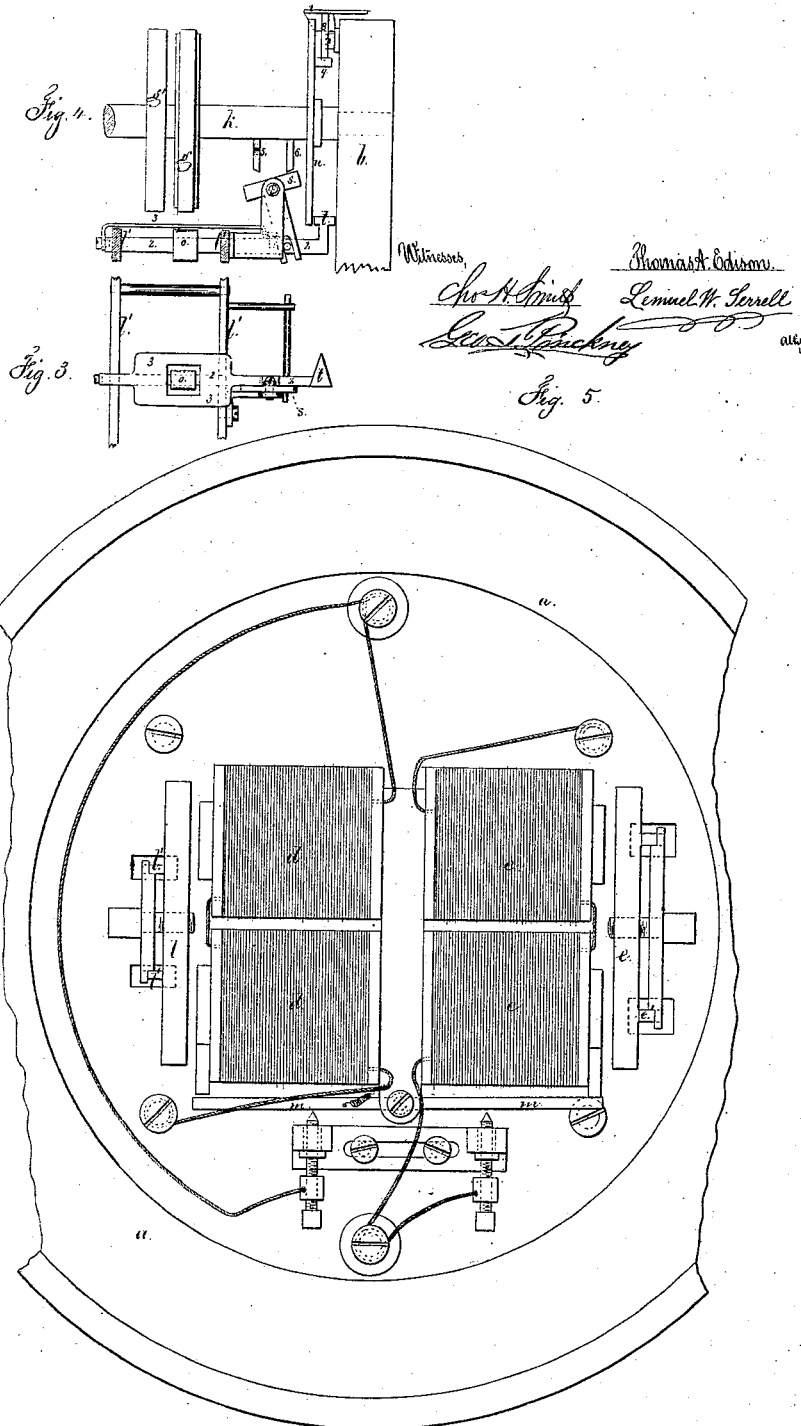
Thomas A. Edison
Lemuel W. Lovell
Atty.

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Patented March 28, 1871.



United States Patent Office.

THOMAS A. EDISON, OF NEWARK, NEW JERSEY, ASSIGNOR TO THE GOLD AND STOCK TELEGRAPH COMPANY, OF NEW YORK CITY.

Letters Patent No. 113,034, dated March 28, 1871.

IMPROVEMENT IN PRINTING-TELEGRAPH APPARATUS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, THOMAS A. EDISON, of Newark, in the county of Essex and State of New Jersey, have invented an Improvement in Printing-Telegraphs, and the following is declared to be a correct description thereof.

This invention is made for printing from one of two type-wheels at pleasure, by changing the printing-pad from the line of one wheel to that of the other.

By this means a printing-telegraph or a number of instruments in one circuit can be worked with one wire, and the impressions be taken from either the letter-wheel or the figure-wheel, and the impression given by reversing the circuit.

If, therefore, the telegraph is required for printing letters, the same can be done without the loss of time incident to passing over figures, as in the type-wheels that contain both letters and figures; and when figures or fractions are to be printed, that can be done regardless of the contiguous wheel containing letters.

The pressure-pad is shifted in the impression-lever by a movement derived from the motion of the printing-lever at the time the blank spaces of the type-wheels are contiguous to the pad.

In the drawing—

Figure 1 is a plan of the machine;

Figure 2 is a sectional elevation;

Figure 3 is a detached plan of the printing-pad; and

Figure 4 is a detached elevation of the type-wheels and pad-shifting device.

Figure 5 is an inverted plan of the machine.

The bed *a* is provided with frames *b*, that carry the mechanism, and within the bed *a* are the electro-magnets *c* and *d*.

The magnet *c* acts upon the armature *e*, to give motion to the lever *l*, pawls *i*, ratchet-wheels *f*, shaft *k*, and type-wheels *g*, *g'*, and *h*; and the magnet *d* acts upon the armature *l* of the printing-lever *l*.

The polarized switch *m* directs the current through either the magnet *c* or the magnet *d*, according to the polarity of that current, and these magnets and connections being substantially similar to devices heretofore secured to me, (see patent No. 4,166, reissue,) need not be herein described.

The printing-lever *l*, paper-feeding clamps *n*, and rollers *n'*, are similar to the lever and its connections shown in my patent No. 4,166, except in the devices next described.

The impression-pad *o* is mounted upon a slide, 2, that passes across the lever *l* and beneath the type-wheels, and a small shield, 3, is attached to this slide, and has an opening above the pad *o*, so as to interpose between the paper and the type-wheel except directly over the pad *o*.

Near one end of the slide 2 is an arm upon the printing-lever, carrying the fulcrum of the shifting-dog *s*, that is made of a T-shape, the lower end being slotted and taking a pin that projects from the slide 2; and upon the type-wheel shaft *k* are two figures, 5 and 6, that are so placed relatively to the blank spaces of the type-wheel that the finger 5 comes over one end of the dog *s* as one blank space of the type-wheel comes over the pad; hence, if the impression-lever is moved at this time, the pad will be shifted by the dog *s* being pressed up against the finger 5, and if the type-wheel is moved another notch, the finger 5 passes beyond the dog *s*, and the figure 6 comes over the other arm of said dog, and in this position the pad will be shifted the other way by the movement of the printing-lever.

It is now to be understood that when the printing-pad is beneath the number-wheel *g*, the impression will be made from the same, and there will be no impression from the other or figure-wheel, and *vice versa*; hence, either wheel can be made use of for an indefinite period, the same as any ordinary printing telegraph; and when it is desired to bring the other type-wheel into action, it is only necessary to turn the type-wheel around until the finger 5 or 6 is brought over the elevated arm of the dog *s*, and then reverse the electrical current to move the impression-lever, which gives a motion to change the impression-pad laterally and bring it under the other type-wheel *g'* or *g*, and then the type-wheels can be moved around to bring the proper letter of the letter-wheel or figure of the figure-wheel into position for impression, so that, although two types are in position, an impression only is taken from the one beneath which is the pad *o*.

In order to prevent any risk of the pad *o* shifting by the vibration of the parts, I provide an inclined holder, *t*, on the end of the slide 2, and a disk, *u*, upon the shaft *k*.

This disk is notched at one side to allow the pad to be shifted either way, and when the type-wheel is revolved the disk *u* passes either one side or the other of the holder *t* and, if the pad *o* and its slide has not been fully moved either one way or the other, this disk completes that movement by acting against the incline of the holder *t*.

The transmitting instrument may be a dial and revolving arm with two blank spaces, one denoting the point at which to stop and move the printing-lever to change from letters to figures, and the other to change from figures to letters.

A spring, *v*, with a pin, 8, may be employed to take against a pin, 9, on the disk *u*, to afford an indication, when depressed, of the place at which to stop in changing the instrument. Said pin also answers for bringing the instrument into unison where there are

several in the same line. This unison stop-lever will be operated by the attendant at each station when it becomes necessary to set his instrument, by preventing the movement of the type-wheel until the wheel at the transmitting-station is brought to the same zero point.

I claim as my invention—

1. A shield, with an opening adjacent to the pressure-pad and moving with the same, in combination with two contiguous type or character-wheels and mechanism for actuating the same in a printing-telegraph instrument, substantially as set forth.

2. A movable pressure-pad, mounted upon the printing-lever, and two contiguous type-wheels on one shaft, in combination with two electro-magnets and armature, and a circuit-changer, substantially as set forth, whereby the type-wheels are set by one electro-magnet, and the pressure-pad is either changed

in position or the printing effected by reversing the polarity of the electrical current, substantially as set forth.

3. The movable pad, mounted upon a transverse slide in the impression-lever, in combination with the shifting-dog *s*, and fingers 5 and 6 upon the type-wheel shaft, substantially as set forth.

4. The notched disk *u*, and inclined holder *t*, in combination with the shifting-pad *o*, substantially as and for the purposes set forth.

5. The unison-stop lever *v*, in combination with the shifting-pad and two contiguous type-wheels, substantially as set forth.

Signed by me this 10th day of January, A. D. 1871.
THOMAS A. EDISON.

Witnesses:

CHAS. H. SMITH,
GEO. T. PINCKNEY.