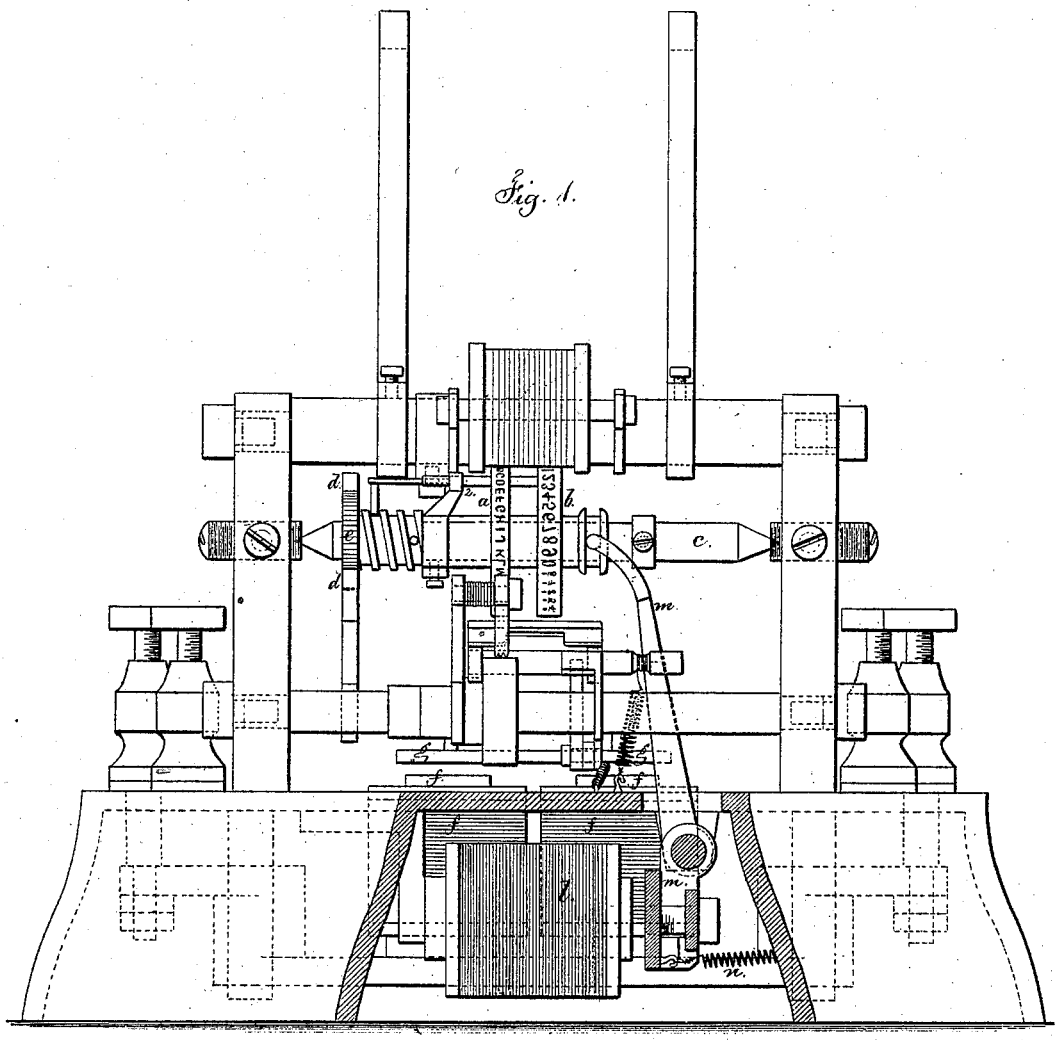
2 Sheets--Sheet 1.

T. A. EDISON.

Improvement in Printing Telegraph Instruments.

No. 131,342. Patented Sep. 17, 1872.

Fig. 1.



Witnesses.

Chas. A. Smith

Geo. D. Walker.

INVENTOR

Thos. A. Edison,

Per. Lemuel W. Serrell

ATTY.

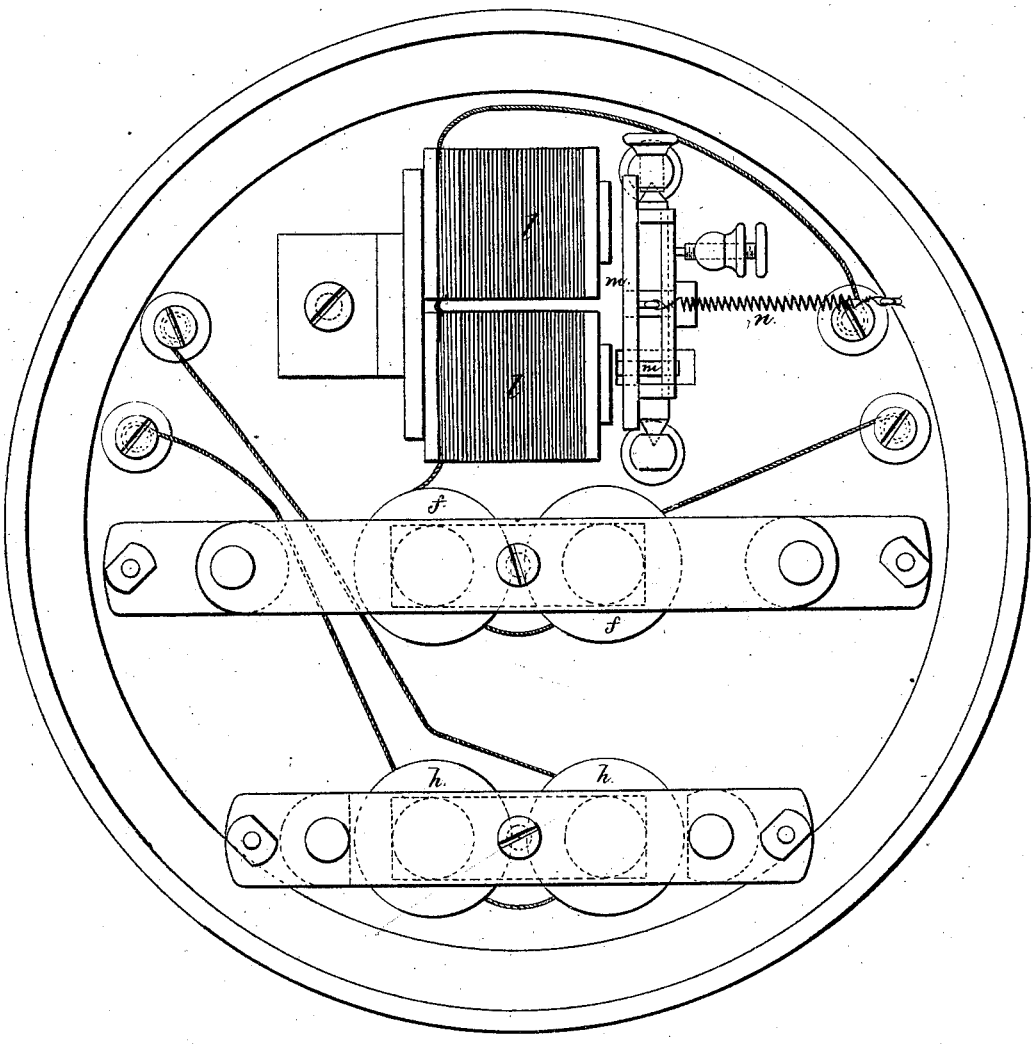
2 Sheets--Sheet 2.

T. A. EDISON.

Improvement in Printing Telegraph Instruments.

No. 131,342. Patented Sep. 17, 1872.

Fig. 2.



Witnesses.

Chas. H. Smith

Geo. D. Walker

INVENTOR

Thos. A. Edison,

Per. L. W. Serrell ATTY.

UNITED STATES PATENT OFFICE.

THOMAS A. EDISON, OF NEWARK, NEW JERSEY.

IMPROVEMENT IN PRINTING-TELEGRAPH INSTRUMENTS.

Specification forming part of Letters Patent No. **131,342**, dated September 17, 1872.

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 of the same.

The present invention applies to improvements applicable with other printing-telegraphs heretofore made and patented by me.

I make use of two type-wheels sliding endwise of the actuating-shaft, the one having figures or fractions, or both, and the other letters, and these are positioned so that when the circuit to the type-wheel magnet is closed and held during the energizing of the printing-magnet by a separate electric circuit, the letter-wheel will be drawn by a magnet into position for printing, and when the circuit is broken the figure-wheel will assume its position over the paper to be impressed. The magnet that gives endwise movement to the type-wheels, not being energized, allows a spring to give the reverse movement. By this means the letter and type wheels are moved around to the required point; and if a letter is to be impressed, the circuit is kept closed; or if a figure, the circuit is broken before impression, or the reverse. In this manner circuit-changers and polarized bars can be dispensed with and the end movement of the type-wheel is independent of any unison or changing points, as either wheel can be brought into or removed from action at any point of the revolution.

In the drawing, Fig. 1 is an elevation; and Fig. 2 is an inverted plan of the instrument.

The type-wheels *a b* are connected by a sleeve and slide freely endwise of the shaft *c*, and are guided by the rod 2, that also serves to communicate to the wheels the rotary motion of the shaft. The step-by-step movement of the type-wheels is given by the pallets *d*, acting upon the ratchet-wheel *e*, and *f* is the type-wheel magnet, the armature *g* of which moves the lever and pallets *d*. The printing-magnet *h* is in a separate circuit from the type-wheel-magnet, so that the printing is effected independently of the type-wheel magnet, but switches or polarized bars might be employed to direct the current through the magnet employed to shift the type-wheel, if desired. The type-wheel shifting-magnet *l* is provided with an armature and lever, *m*, the upper end of such lever being connected with the type-wheel sleeve by a fork and groove or other convenient means. When the magnet *l* is energized it shifts the type-wheels in one direction by sliding them endwise of the shaft, but when the electro-magnet *l* is not energized the spring *n* returns the parts to their former position. The magnets *l* and *f* are shown in the same electric circuit, and the magnet *l*, acting the most slowly, may hold the parts in position while the type-wheel is being set. Hence the impression will be on the letter-wheel *a*, with a closed circuit; but if the circuit of *l* is opened the type-wheels will be moved endwise, and bring the figure-wheel *b* into position for printing. If the ratchet and pawls forming the step-by-step movement are constructed to move one-half a tooth at each vibration in opposite directions, then the types on one wheel will have to be in line with the spaces in the other.

I claim as my invention—

1. Two type-wheels, sliding endwise of the shaft, in combination with an electro-magnet, to move such type-wheels in one direction, and a spring, or its equivalent, to return the type-wheels to their former position, substantially as set forth.

2. An electro-magnet in the same circuit as the printing-magnet, and operating to give end motion to two type-wheels when the circuit is closed, in combination with a magnet in a separate circuit, to give the impression, substantially as set forth.

Signed by me this 9th day of May, A. D. 1872.

T. A. EDISON.

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