

T. A. EDISON.  
 Printing Telegraphs.

No. 139,128.

Patented May 20, 1873.

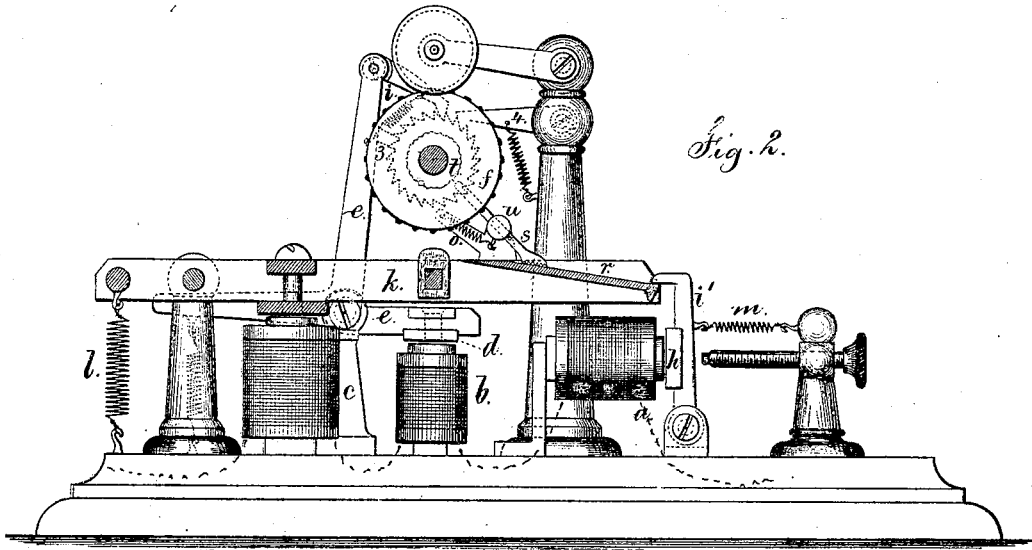


Fig. 2.

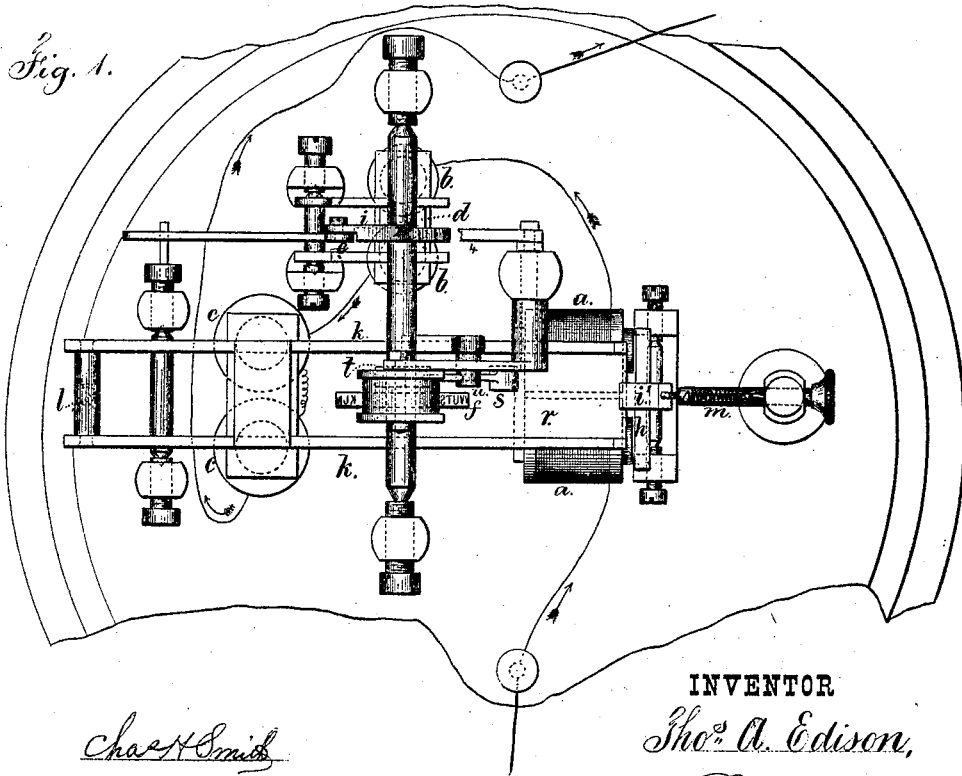


Fig. 1.

*Chas. Smith*

*Geo. D. Harker*

Witnesses.

INVENTOR

*Thos. A. Edison,*

*Per. Lemuel W. Correll*  
 ATTY.

# UNITED STATES PATENT OFFICE.

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

## IMPROVEMENT IN PRINTING-TELEGRAPHS.

Specification forming part of Letters Patent No. **139,128**, dated May 20, 1873; application filed February 18, 1873.

*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-Telegraph Instruments, of which the following is a specification:

In this instrument there are three electro-magnets, all in the main-line circuit, and they are so adjusted that the pulsations act in one of the magnets to set the type-wheel; but the other two magnets, discharging more slowly, act to hold down the printing-lever. When the circuit is broken and a pause ensues the electro-magnets all discharge, allowing a spring to the armature of one to draw back a hook and allow the printing-lever to fly up by a spring. The next pulsation energizes all the magnets, drawing down the printing-lever and holding it; then the other pulsations set the type-wheel.

In the drawing, Figure 1 is a plan representing the improvement, and Fig. 2 is a side view of the instrument.

The magnets *a b c* are in the main-line circuit, as seen in Fig. 1, so that the pulsations energize all the magnets; the magnet *b*, however, is small, and so made as to rapidly discharge; hence the pulsations act to move the armature *d*, lever *e*, and pawl *i*, and set the type-wheel *f*. I remark that the dog *3*, shown by dotted lines in Fig. 2, blocks the ratchet-wheel to prevent it turning too far by the inertia, and the pawl *4* prevents motion in the wrong direction. The magnet *a* acts upon the armature *h* and hook *v* to hold down the printing-lever *k*, and the magnet *c* is sufficiently powerful to draw down that lever *k* against the action of the spring *l*.

When the circuit is broken and a pause ensues the magnets *a c* discharge themselves, and the spring *m* draws back the hook *v*, allowing the spring *l* to throw up the printing-lever *k* and give the impression. When a pulsation is sent again the three magnets *a b c*

are energized, the printing-lever is drawn down by *c* and latched by the hook *v* until another pause on an open circuit occurs. The strip of paper passes between a sliding pawl, *s*, and a plate, *r*, upon the printing-lever, and this pawl *s* slides in a turning-stud, *u*, that is drawn back by a spring, *o*. Upon the shaft of the type-wheel *f* is a snail-wheel, *t*, shown by dotted lines in Fig. 2, the periphery of which is notched, of different distances from the center of the shaft, in accordance with the distance the paper is required to be fed for the letter impressed. As the printing-lever *k* rises, the end of the sliding pawl *s* comes into contact with this snail-wheel, and the other end, clamping the paper, slides it upon the incline or surface *r* until the printing is effected. At the reverse movement the spring *o* draws the sliding pawl back to the normal position.

I claim as my invention—

1. Three magnets in the main-line circuit, operating as set forth, in combination with the type-wheel lever, printing-lever *k*, spring *l*, and latch *v*, substantially as and for the purposes set forth.

2. The sliding pawl *s*, in combination with the snail-wheel upon the type-wheel shaft, and the printing lever *k*, substantially as set forth, for feeding the paper.

3. A printing-lever and an electro-magnet arranged in connection with the type-wheel and its magnet, substantially as set forth, so that the printing-lever is drawn away from the type-wheel by the electro-magnet, and the printing is effected by breaking the circuit to the electro-magnet.

Signed by me this 21st day of January, A. D. 1873.

THOMAS A. EDISON.

Witnesses:

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