

THOMAS A. EDISON.  
Improvement in Printing-Telegraphs.  
No. 126,531.

Patented May 7, 1872.

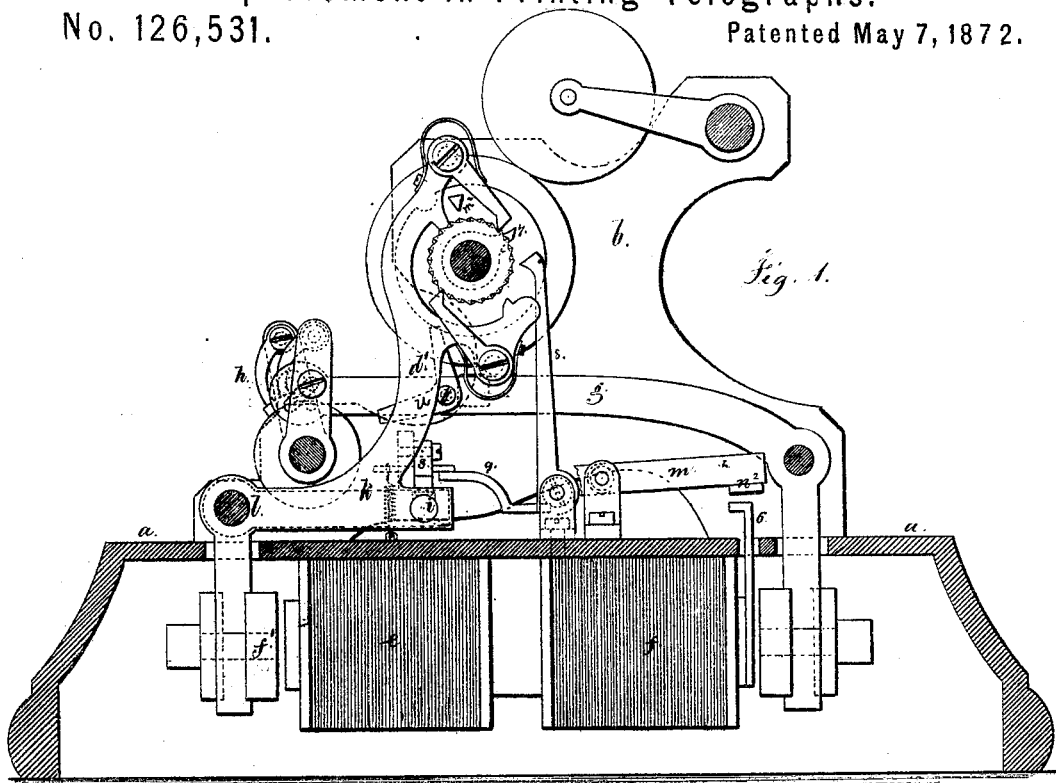


Fig. 1.

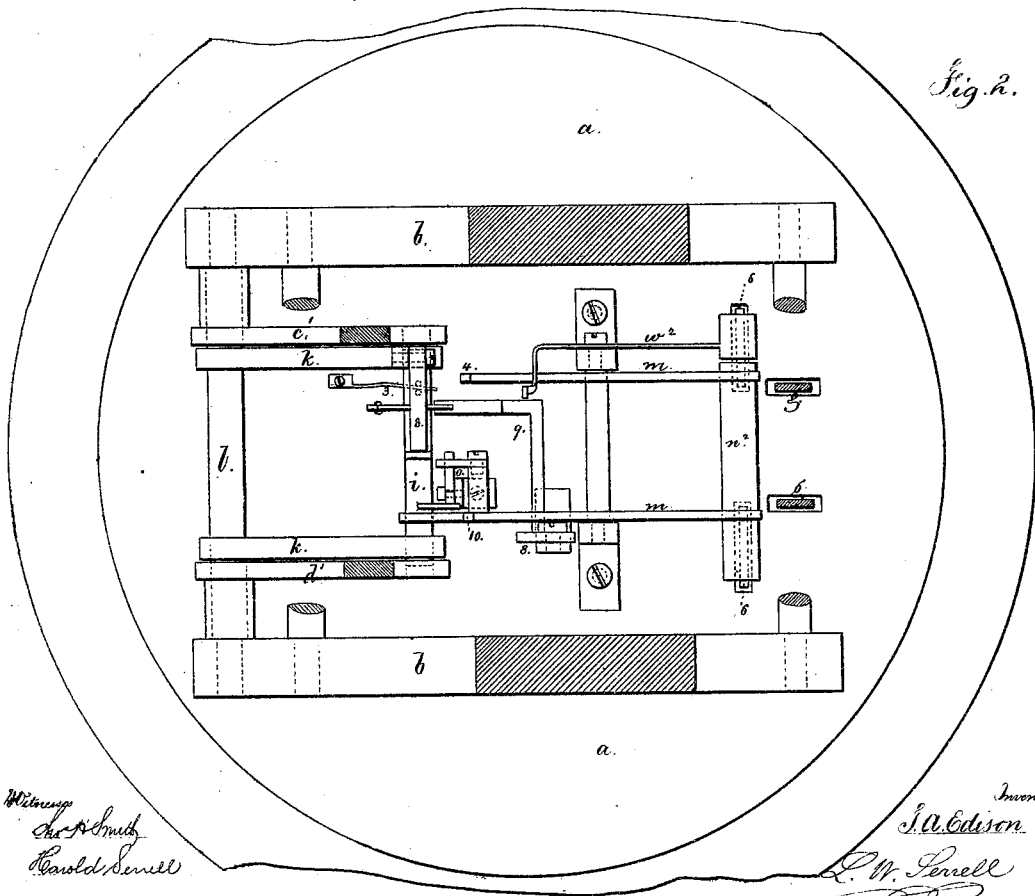


Fig. 2.

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2 Sheets--Sheet 2.

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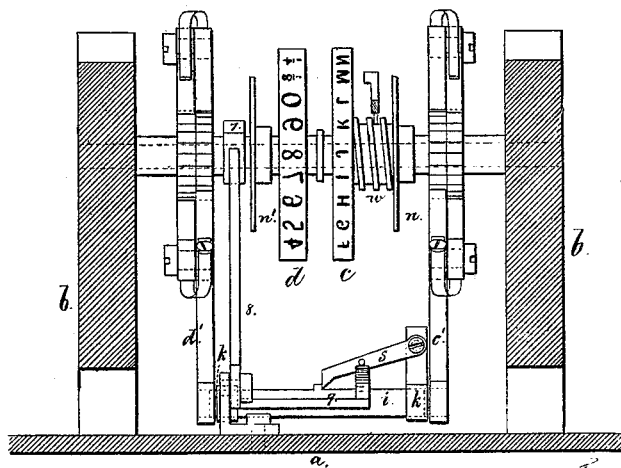


Fig. 3.

Fig. 5.

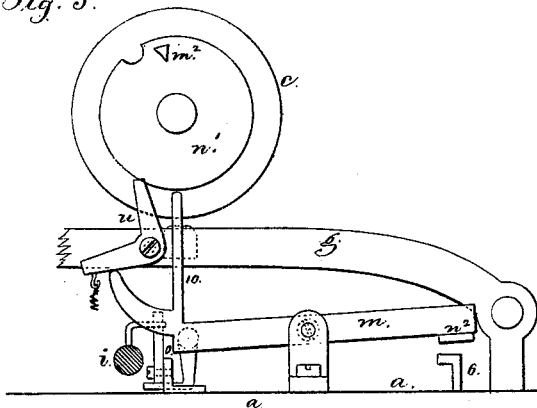
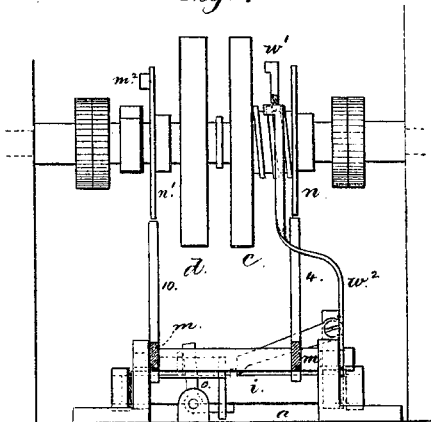


Fig. 4.



Witnesses,

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# UNITED STATES PATENT OFFICE.

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

## IMPROVEMENT IN PRINTING-TELEGRAPHS.

Specification forming part of Letters Patent No. 126,531, dated May 7, 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 and made an Improvement in Printing-Telegraphs, and the following is declared to be a correct description of the same.

This invention relates to mechanism operated by the printing-lever or magnet for moving a bolt that connects the type-wheel lever with one of two levers that give motion to one of two type-wheels by a step-by-step motion. In my present improvement a lever is acted upon by lateral cores from the printing-magnet, and this moves a bolt endwise, and the same is held by a latch. This movement can only be given at the time both type-wheels are at the zero or unison-points. The type-wheel that is locked by the bolt is revolved, and, as it moves the last step, in completing the revolution, the latch is unlocked, and the bolt drawn by a spring to unlock the connection to one type-wheel and lock the lever to the other type-wheel, and that can be operated and impressions taken therefrom until the printing electro-magnet is charged at the zero-point of both type-wheels, when the said bolt is shifted to lock the other type-wheel.

In the drawing, Figure 1 is a section vertically of the machine. Fig. 2 is a sectional plan with the type-wheels removed. Fig. 3 is an elevation of the type-wheels, levers, locking-bolt, and latch. Fig. 4 shows the screw-unison for the type-wheel and the levers thereof; and Fig. 5 is a side view of the bolt-actuating lever.

The bed *a*, frames *b*, type-wheels *c* *d*, type-wheel magnet *e*, impression-magnet *f*, printing-lever *g*, paper-feeding clamps *h*, and roller are similar to devices shown in patents heretofore granted to me, with the exception that the type-wheels are separate from each other, and actuated by independent step-by-step movements; and I remark that this improvement may be used with one line-wire and a polarized switch be employed to direct the current into either of the electro-magnets. The armature *f'* and its lever *k* swing on the fulcrum *l*, and so also do the levers *c'* *d'*, and between these and their respective type-wheel shafts or sleeves are the usual ratchet-wheels,

pawls, and stops, forming step-by-step movements, to rotate the type-wheel. These may be of any desired character. I make use of a bolt, *i*, sliding in the lever *k*, and connecting either the lever *c'* or the lever *d'* to said lever *k*, and hence moving whichever lever is so connected, and also the type-wheel with which it is employed. The spring 3 moves the bolt *i* into the lever *c'*, except when otherwise acted upon. Hence the letter-wheel *c* will be operated in the usual manner, and must be brought to a zero or blank before the bolt can be unlocked from *c'* and bolted into *d'*. To insure this, the disk *n* is employed, with one notch in it, into which the arm 4 of the lever *m* can pass; but, at other times, this lever *m* will be kept from moving by the arm 4 taking the edge of the disk *n*. The lever *m* is actuated by an armature, *n*<sup>2</sup>, contiguous to lateral poles 6 from the printing-magnet *f*. When this lever *m* is allowed to move, it acts upon the right-angle lever *o*, and slides the bolt *i*, drawing one end out of the lever *c'*, and entering the other end into the lever *d'*, and in this position it is held by a latch, *s*. The other type-wheel, which is the figure or character-wheel *d*, is now locked, and can be moved step by step. Upon the sleeve of this type-wheel *d* is a cam, 7, that, as the type-wheel is moved its last step to the zero-point, acts upon the lever 8 and its arm 9 to lift the latch *s* and allow the spring 3 to throw the bolt *i* the other way. The cam 7 then clears the end of 8. Hence, if the printing-magnet is charged at this time, the levers *m* and *o* will again throw the bolt into *d'*, but otherwise the letter-wheel *c* will be rotated. When the type-wheel *d* is being rotated the lever *m* will not be fully moved when the printing-lever is being moved by its magnet, because the end of the arm 10 will take against the edge of the disk *n*<sup>1</sup>, and this disk *n*<sup>1</sup> is notched, and the notch comes opposite this arm 10 when the type-wheel is at the zero-point. The bent lever *u* upon the printing-lever *g* is moved by the lever *m*, and thrown into the path of the stud *m*<sup>2</sup> upon *n*<sup>1</sup>, and this is located so as to be moved by that stud as soon as the type-wheel *d* is moved. Thereby the lever *m* will be moved downward, and the arms 4 10 freed from the notches in *n* *n*<sup>1</sup> even if the armature should be attracted by any

lingering magnetism in the electro-magnet *f*. The screw *w* on the type-wheel shaft, stop-lever *w*<sup>1</sup>, and relieving-lever *w*<sup>2</sup>, actuated by the lateral core of the electro-magnet *f*, are substantially the same as the parts shown in an application heretofore made by me for a patent, and allowed.

I claim as my invention—

1. The lever *m* and armature *n*<sup>2</sup>, contiguous to the lateral poles 6 of the printing-magnet, for actuating the bolt *i*, in combination with the arm 4 and disk *n*, substantially as set forth.

2. The disconnecting-lever 8, operated by the cam 7, in combination with the lever *m*, armature *n*<sup>2</sup>, the latch *s*, bolt *i*, and levers for the respective type-wheels, the parts being arranged and acting substantially as set forth.

3. The bent-lever *u* on the printing-lever, in combination with the stop *m*<sup>2</sup>, lever *m*, and armature *n*<sup>2</sup>, substantially as set forth.

Signed by me this 17th day of January, A. D. 1872.

Witnesses:

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

T. A. EDISON.