T. A. EDISON.

Electro-Magnetic Adjuster.

No. 134,868. Patented Jan. 14, 1873.

Fig. 2.

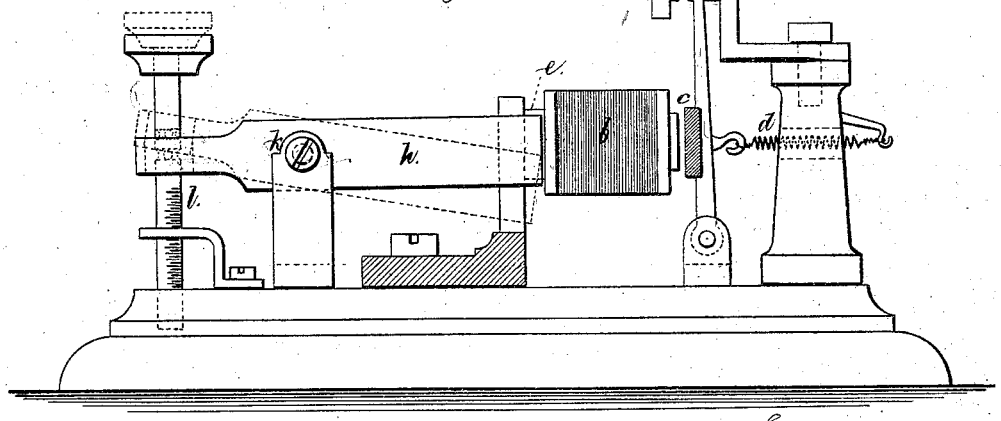


Fig. 3.

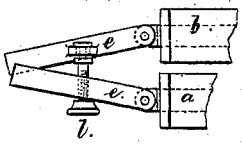
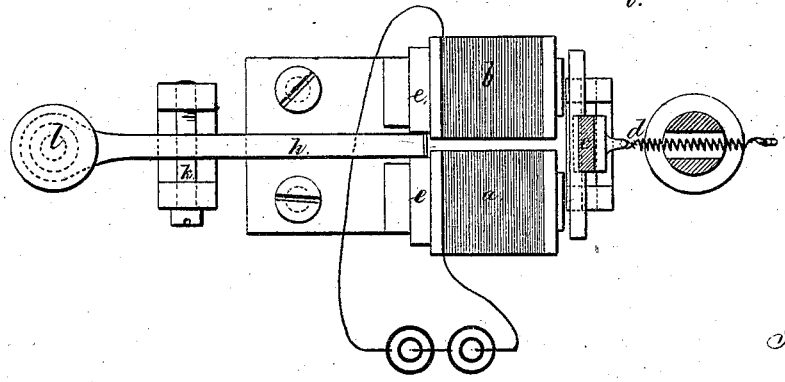


Fig. 1.



Witnesses,

Chas. A. Smith

Geo. D. Walker.

Inventor

Thos. A. Edison

L. W. Serrell

UNITED STATES PATENT OFFICE.

THOMAS A. EDISON, OF NEWARK, NEW JERSEY, ASSIGNOR TO HIMSELF AND GEORGE HARRINGTON, OF WASHINGTON, D. C.

IMPROVEMENT IN ELECTRO-MAGNETIC ADJUSTERS.

Specification forming part of Letters Patent No. **134,868**, dated January 14, 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 Electro-Magnetic Adjuster; and the following is declared to be a correct description of the same.

This invention is available with an electro-magnet made of two helices and cores, and is intended to vary the power of the electro-magnets without changing the intensity of the electric current, and thus rendering it unnecessary to adjust the spring that draws back the armature, because the power of the magnet itself is adjusted so as to maintain uniformity in the same, and, consequently, preserve the proper relations between the force of the spring and the power of the magnet.

I make use of a variable connection between the rear ends of the cores, and thereby vary the magnetic power of those cores. If the two cores are entirely separated, so that induced magnetism is checked, there will be but little power in the core, even when the helix is properly charged; but when the cores are connected by a proper iron bar the entire force of the magnetism is developed. I make use of these known features of magnetism to vary the power of the electro-magnet by lessening the conductor that unites the cores at their rear ends.

In the drawing, Figure 1 is a plan of a magnet with my improvement, and Fig. 2 is a side view of the same, partially in section.

The electro-magnets *a b* are made of helices around cores in the usual manner, and the armature *c* is hung on centers to vibrate as usual, and may be employed as a relay, or in any other electrical apparatus. The spring *d* exerts a uniform retractile force, and does not require to be adjusted for varying its power. The iron bar *e*, at the back end of the magnet, is united to the cores as usual, but instead of being continuous it is divided, and the adjuster *h* applied between the parts. This adjuster is shown as a lever upon a fulcrum, *k*, and moved by a set-screw, *l*, so that the end of the lever makes a full contact between the ends of the bars *e*, as shown by full lines, or only a partial contact, as illustrated by dotted lines in Fig. 2; and hence the power of the electro-magnet will be varied according to the position of the adjuster. The same effect is produced in the modification illustrated in Fig. 3, the bars *e e* being hinged to the cores and adjusted more or less into contact with each other by the screw *l*.

I claim as my invention—

The adjustable connection applied at the rear end of an electro-magnet, between the cores thereof, to vary the power of such electro-magnet, substantially as set forth.

Signed by me this 8th day of May, A. D. 1872.

T. A. EDISON.

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