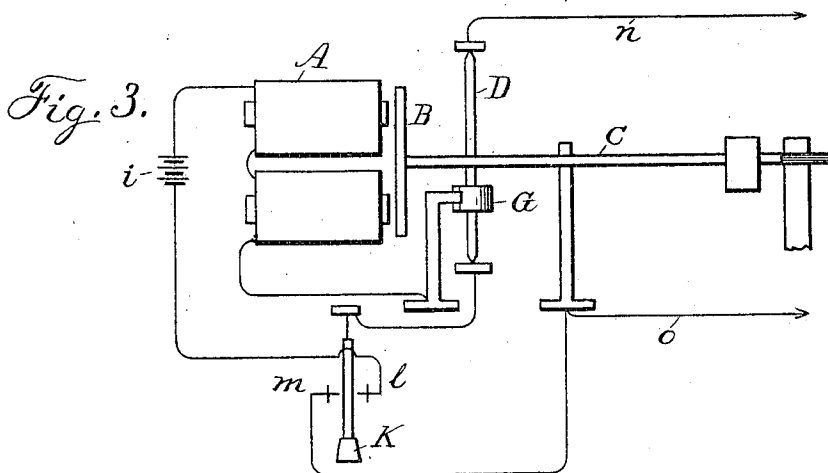
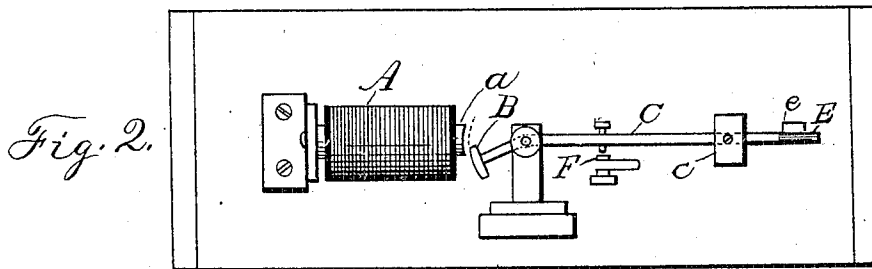
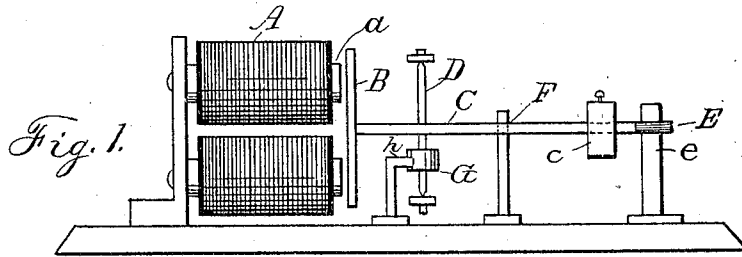


No. 837,413.

PATENTED DEC. 4, 1906.

C. W. LEISER.  
TELEGRAPH TRANSMITTER.  
APPLICATION FILED AUG. 30, 1905.



Inventor

Charles W. Leiser.

By

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Witnesses

C. P. Smith.  
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# UNITED STATES PATENT OFFICE.

CHARLES W. LEISER, OF SALT LAKE CITY, UTAH.

## TELEGRAPH-TRANSMITTER.

No. 837,413.

Specification of Letters Patent.

Patented Dec. 4, 1906.

Application filed August 30, 1905. Serial No. 276,432.

*To all whom it may concern:*

Be it known that I, CHARLES W. LEISER, a citizen of the United States, residing at Salt Lake City, in the county of Salt Lake and State of Utah, have invented new and useful Improvements in Telegraph-Transmitters, of which the following is a specification.

It is well known that in the Morse system of telegraphy the letters consist of dashes and dots, the dots comprising more than one-half of the characters produced. This requires an immense number of key-movements, which in the course of time exhaust the operator to a degree that is detrimental to good work and oftentimes wholly incapacitates him.

My invention is designed to greatly reduce the number of key-movements, and so minimize the operator's labors by effecting an automatic repetition of the dots, the dashes being made by hand direct to the telegraphic circuit to be worked.

Mechanically my invention differs from others of this character, first, by dispensing with a secondary lever, the dots being made by a single lever direct to the telegraphic circuit. A secondary lever has heretofore been found necessary to cause proper lapse of time between dots. Second, by placing the armatures with relation to the magnet-cores, so that the proper lapse of time will be secured between dots because of the side pull or circular movement of the armature.

Other novel features of this device are the location of a circuit-breaker on the axis of the armature-lever, which guarantees the free and uniform oscillatory movement of said lever and the instalment of a permanent magnet-post to assist in quieting the vibrations of the lever when released.

The accompanying drawings illustrate a preferred form of a transmitter in which the principles of my invention are embodied, letters of reference denoting the various features thereof.

Figure 1 is a side elevation of a preferred form of my device. Fig. 2 is a plan of the

same, and Fig. 3 is a theoretical diagram showing the electrical connections.

The letter A designates an electro magnet or magnets mounted in the usual manner and having the projecting end of its core *a* concave, as shown in Fig. 2.

B is the armature, attached to a lever C, which is fixed on the vertical axis D. The face of the armature B is convex to conform to the concavity of the core *a*.

A movable weight *c* is provided on lever C, by which its movement is regulated, and the outer end of said lever has a soft-iron tip E, which contacts with the bar-magnet post *e*, of mild power, and thus minimizes the vibrations of the lever C.

F is a secondary contact which connects with the telegraphic circuit to be worked.

G is a circuit-breaker rigid on the axle D and connecting through contact *h* and magnet A with the local battery *i*.

K is the operating-key, contacting with point *l* to produce dots and with point *m* to produce dots and dashes.

This device is operated as follows: When the key contacts with point *l*, the magnets A attract the armature and lever C, which closes the secondary circuit connecting with the main line for an instant until the armature has passed a given point, when the action of the circuit-breaker G opens the circuit which goes through the magnets A, releasing the armature and lever C, which returns to normal position, or nearly so, and is again attracted as before. Just as long as the key is in contact with the point *l* the machine will transmit dots.

When the key contacts with the point *m*, a dot or a dash is transmitted at the will of the operator.

Having now described the invention and the manner of using it, what I claim, and desire to secure, is—

1. In a telegraph-transmitter the combination of an electromagnet, a lever oscillating laterally and fixed on a vertical axis, an armature on one end of said lever, a magnetic

stop-post to contact with its other end and a circuit-breaker on said axis having intermittent contact with said magnet by the reciprocal movement of said lever, substantially  
5 as described.

2. In a telegraph-transmitter having an electromagnet, an oscillating lever carrying an armature on one end, and a soft-iron terminal at its other end, and a magnet-post to

contact with said iron terminal to minimize the vibration of said lever, as herein set forth.

In testimony whereof I affix my signature in presence of two subscribing witnesses.

CHARLES W. LEISER.

Witnesses:

HENRY J. E. CAREW,  
LEONORA LEISER.