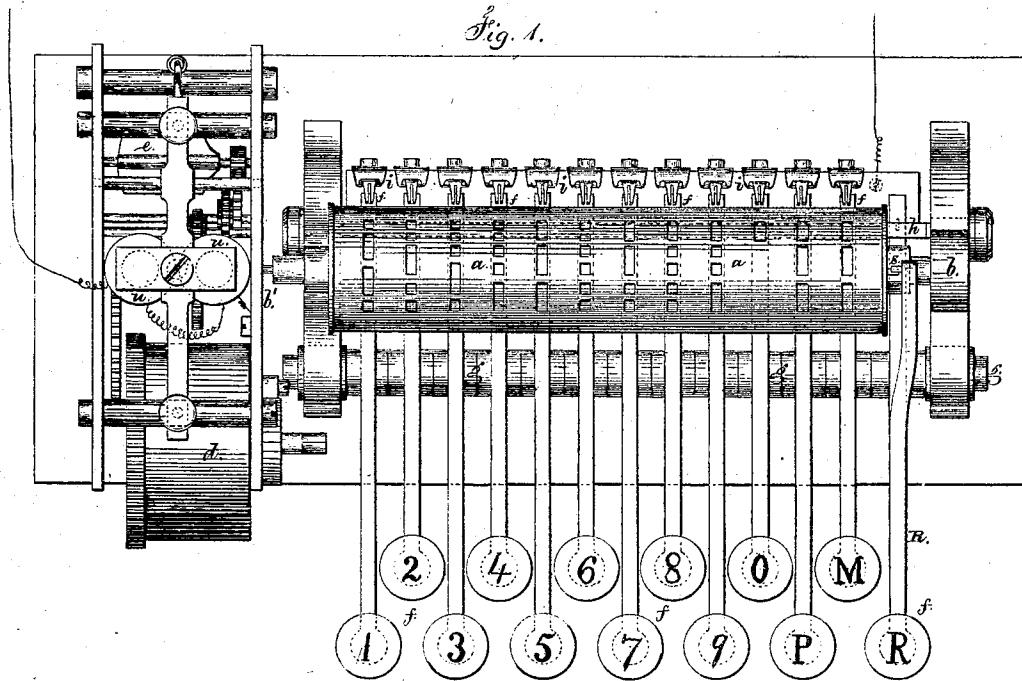
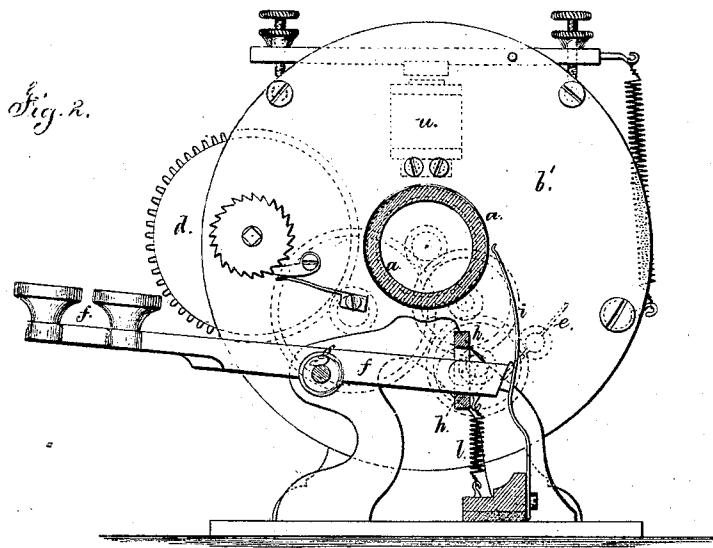


D. HERMANN.

Telegraph Transmitters.

No. 145,567.

Patented Dec. 16, 1873.



Witnesses,

Chas. H. Smith  
Geo. W. Pickney

Inventor

Davis Hermann,  
Lemuel W. Ferrell  
atty.

# UNITED STATES PATENT OFFICE.

DAVIS HERMANN, OF NEW YORK, ASSIGNOR TO CHARLES H. SMITH, OF BROOKLYN, N. Y.

## IMPROVEMENT IN TELEGRAPH TRANSMITTERS.

Specification forming part of Letters Patent No. 145,567, dated December 16, 1873; application filed September 24, 1872.

*To all whom it may concern:*

Be it known that I, DAVIS HERMANN, of the city, county, and State of New York, have invented an Improvement in Transmitting Telegraph-Instrument, of which the following is a specification:

This instrument is made for transmitting pulsations to produce dots and dashes at the receiving-station similar to those in the Morse alphabet; but, instead of one finger-key operated by an experienced person, the instrument is automatic, and the proper pulsations are sent from a revolving cylinder through a spring that is acted upon by one of the keys in a range of keys, each of which is marked with the number or letter to be transmitted by it. This cylinder is coated with non-conducting material, in which are openings for the contact-spring to reach the metal of the cylinder.

The cylinder is revolved by clock-work, and a small magnet is provided that is placed in the main line, so that by its sound the operator may know that his own message is being sent, or may refrain from sending any message until the line is clear.

This telegraph is particularly available between dwellings and a central station as a means of calling attention or communicating intelligence, and can be used by an inexperienced person.

In the drawing, Figure 1 is a plan of the instrument, and Fig. 2 is a vertical section transversely of the cylinder.

The cylinder *a* is sustained by the frames *b*, and connected with the clock-work or train of gearing driven by the spring in the barrel *d*; and *e* is a fly or governor to regulate the speed of the train of gearing.

The finger-keys *f* are more or less in number, according to whether the instrument is to be employed for sending letters or for numbers in a code of signals—generally the latter. These keys move upon the shaft or bar *g*, and the extent of motion is determined by the longitudinal stops or bars *h*. The keys are drawn back to a normal position by means of the springs *l*, and each key is provided with a

spring, *i*, that is made to bear upon the surface of the cylinder *a* when the key with which it is connected is depressed. These springs *i* are relieved by the inclined end of the key *f* passing away from an incline upon the spring when the key is depressed, thereby allowing the spring to press with its own power only against the surface of the cylinder *a*.

This cylinder *a* is made of metal, with a surface of non-conducting material or varnish upon the said cylinder *a*, and through this non-conducting coating there are openings made to lay bare the metal of the cylinder, and these openings are of a character to represent dots and dashes, and grouped to form characters corresponding with those representing the number or letter of the particular key.

One wire of the telegraph-line is connected with the range of springs; the other goes through the magnet *n*, and then is connected with the metallic frame.

When any pulsation is being sent over the line, all the magnets *n* respond, and their armatures click and indicate by sound that the line is in use. As soon as there is no sound, the line is in condition for use by any other person.

When the instrument is to be used, the lever *R* is depressed that separates the stop-pin *s*, unlocking the cylinder *a*, so that it revolves. The desired key of the range of finger-keys *f* is depressed, and, as the cylinder *a* revolves, the proper pulsations for a Morse or other receiving-instrument are made by the contact of the spring *i* with the metal of the cylinder through the openings of the non-conducting substance, and that material breaks the circuit to produce the separate pulsations, and at the end of the revolution of the cylinder *a* the stops *s* again lock the same, and the spring is moved from contact upon relieving the finger-key.

I am aware that a cylinder has been made with metallic projections surrounded by a surface of non-conducting material. This is expensive. By my device the cost is lessened;

and the cylinder is not liable to injury, because the keys do not press upon the surface; they only relieve the springs that act with their own regular pressure, which is very slight.

I claim as my invention—

The springs *i*, pressed back by the inclined ends of the keys *f*, but allowed to move when the key is depressed, in combination with the

revolving metal cylinder *a*, having a non-conducting surface, with openings through the same, as and for the purposes set forth.

Signed by me this 5th day of August, A. D. 1872.

DAVIS HERMANN.

Witnesses:

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