

(No Model.)

G. W. STEWART.
TELEGRAPHIC INSTRUMENT.

No. 344,505.

Patented June 29, 1886.

Fig. 1.

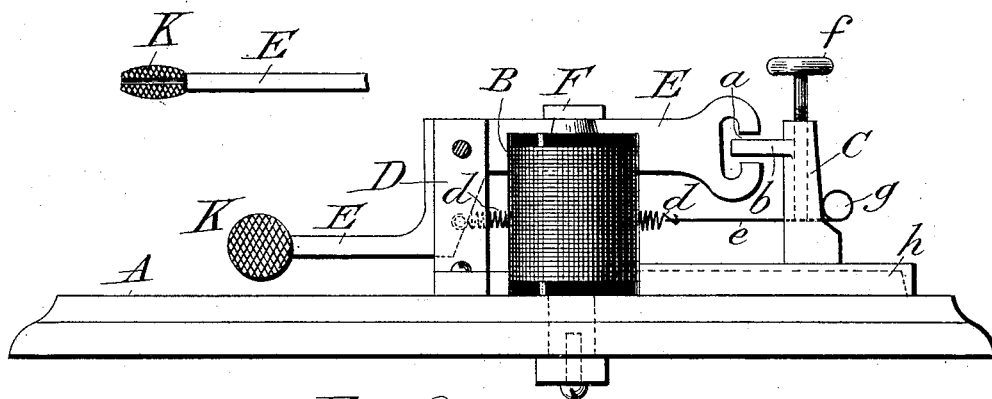
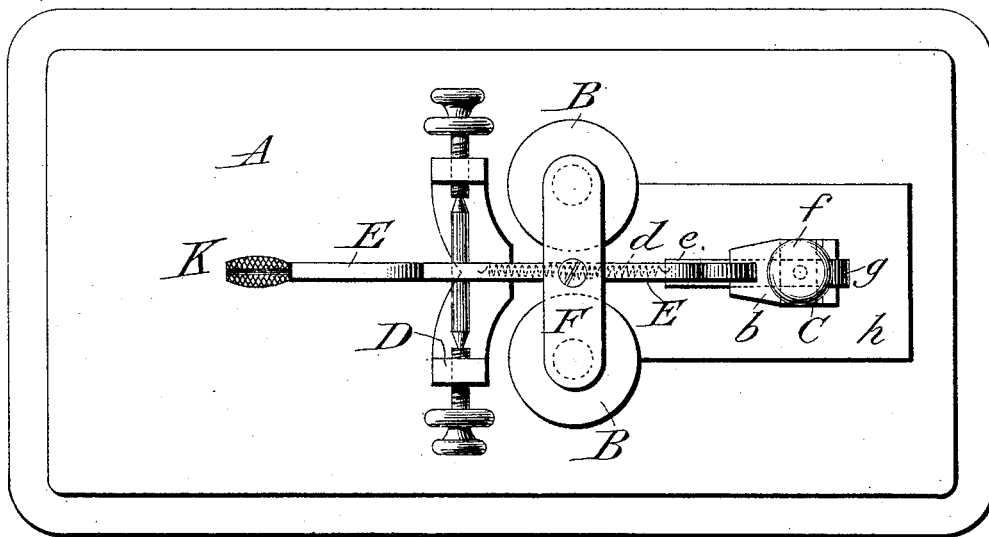


Fig. 2.



Attest:

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UNITED STATES PATENT OFFICE.

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TELEGRAPHIC INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 344,505, dated June 29, 1886.

Application filed November 6, 1885. Serial No. 182,011. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. STEWART, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Telegraphic Instruments; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to telegraphic instruments for taking messages either by sound or by touch. In instruments designed for receiving messages by the sense of touch a vibratory bar connected with the armature of an electro-magnet has been provided at one end with a spur or touch-point adapted to vibrate in a hollow open-ended finger-rest or thimble. The operator, by placing his thumb or finger in contact with this vibratory spur, could receive a telegraphic message silently and by the sense of touch alone. It has been found, however, by experience, that in receiving a message rapidly transmitted the sense of touch in the index-finger placed on the top of the thimble becomes dull and uncertain, thus leading to a confused and imperfect perception of the message.

It is the object of my present invention to overcome this difficulty, and this I accomplish by dispensing with the sharpened touch-point or spur and thimble above mentioned and substituting therefor a disk, button, or similar surface, which may be grasped by the thumb and fingers or touched therewith or with any portion of the hand without incurring fatigue or exhausting the sensibility to impressions transmitted through the armature and attached vibratory bar.

My invention consists in the combination, with an electro-magnet or electro-magnets, armature, and connections for receiving and transmitting telegraphic messages by electric or electro-magnetic currents, of a vibratory bar connected with the armature of the magnet or magnets and provided at or near one end with a disk, button, or similar surface, that may be touched or grasped by the hand

or fingers for the purpose of receiving a telegraphic message by the sense of touch.

The invention also consists, generally, in the construction, arrangement, and combination of the parts of a telegrapher's instrument, as will be hereinafter set forth.

In the annexed drawings, Figure 1 is a side elevation of a telegrapher's instrument embodying my invention, and Fig. 2 is a plan of the same.

Referring to the drawings, the letter A designates the base of a telegrapher's instrument, to which are secured the electro-magnets or coils B, the sounding-post C, and a bifurcated standard or bearing, D, to which is pivoted a vibratory arm or bar, E, which carries the armature F of the electro-magnet. The vibratory bar E at its end nearest the sounding-post is bifurcated or formed with a recess or slot, *a*, to receive a lug or projection, *b*, on the sounding-post. This slot *a* is of such width as to allow the bar E to have a sufficient range of movement in its vibrations, and by contact of the sides of the slot *a* with the lug *b* the usual "click" is produced when exchanging messages by sound. At or near the opposite end of the vibratory bar E is a disk or button, K, which may be either flat, convex, concave, or of any other convenient form. This disk or button K may be either formed on or attached to the bar E, and can be arranged to project on either or both sides thereof, or at the end of or above said bar. The form of the button K is preferably such that it may be easily and conveniently grasped by the thumb and one or more of the fingers without fatigue or loss of sensibility or confusion of impressions while taking rapidly-transmitted messages. This construction also enables the operator to control the movements of the vibratory bar E, so as to lessen the noise of the sounder or check it altogether.

The vibratory bar E may be of any suitable or convenient shape, but is preferably so formed as to be readily mounted in proximity to the magnet, and so as to be under the control of a spring, *d*, one end of which is attached to said bar, while the other end is connected by a rod, wire, or cord, *e*, with the sounding-post C. The tension of the spring *d* is regulated by means of a thumb-screw, *f*, or other adjusting device passed down through the sound-

ing-post C, and adapted to engage and hold the wire or rod *e* in any position to which it may have been drawn by a loop, *g*, at its end. The spring *d* is so adjusted as to hold the vibratory bar E in such position that the armature F will be normally out of contact with the magnet, but capable of being attached thereby for the production or development of signals upon the passage of a proper current.

10 If desired, the sounding-post C may be dispensed with and messages received entirely or at all times by the sense of touch. When the sounding-post is retained in the instrument, it is preferable to mount it upon a hollow platform, *h*, by which the distinctness of the sounds is increased.

In receiving telegraphic messages by the sense of touch through the medium of a disk, button, or similar projection, or a vibratory bar or armature-arm, many obvious advantages and conveniences are secured. The message can be taken silently without liability of its purport being understood by others than the operator, which latter condition is always possible when messages are received by sound.

In taking messages by touch the disk or button K is more convenient and reliable than a spur or sharpened point, for the reason that it does not numb or otherwise exhaust the sensibility of the fingers. It is also capable of being grasped, so as to allow the operator to have perfect control of the instrument, and it enables messages to be taken readily and intelligibly either with the thumb and fingers or in the palm of the hand.

The disk, button, or projection K may be

composed of rubber, glass, metal, or other suitable material, and may have a plain surface or be roughened or corrugated, as preferred.

What I claim as my invention is—

1. In a telegraphic instrument, the combination, with an electro-magnet or electro-magnets and the armature, of a vibratory bar connected with said armature, and provided with a disk or button, as K, for receiving messages by touch, substantially as described.

2. In a telegraphic instrument, the combination of an electro-magnet or electro-magnets, a vibratory bar carrying an armature for said magnet, and provided with a disk or button, K, for receiving messages by touch, and a spring connected with said bar for holding the armature normally out of contact with the magnet or magnets, substantially as described.

3. The herein-described telegraphic instrument, comprising electro-magnet or electro-magnets B, sounding-post C, having lug *b*, the vibratory arm E, provided at one end with a slot, *a*, and carrying at its opposite end a touch-button, K, the armature F, carried by said vibratory bar, and the adjustable spring *d*, for controlling the vibratory bar and holding the armature normally out of contact with the magnet, all constructed and combined substantially as and for the purpose specified.

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

GEORGE W. STEWART.

Witnesses:

MAX MEYER,
J. B. ROSE.