(No Model.)

S. V. ESSICK.

TELEGRAPHIC RECORDING INSTRUMENT.

No. 265,789. Patented Oct. 10, 1882.

Fig. 1.

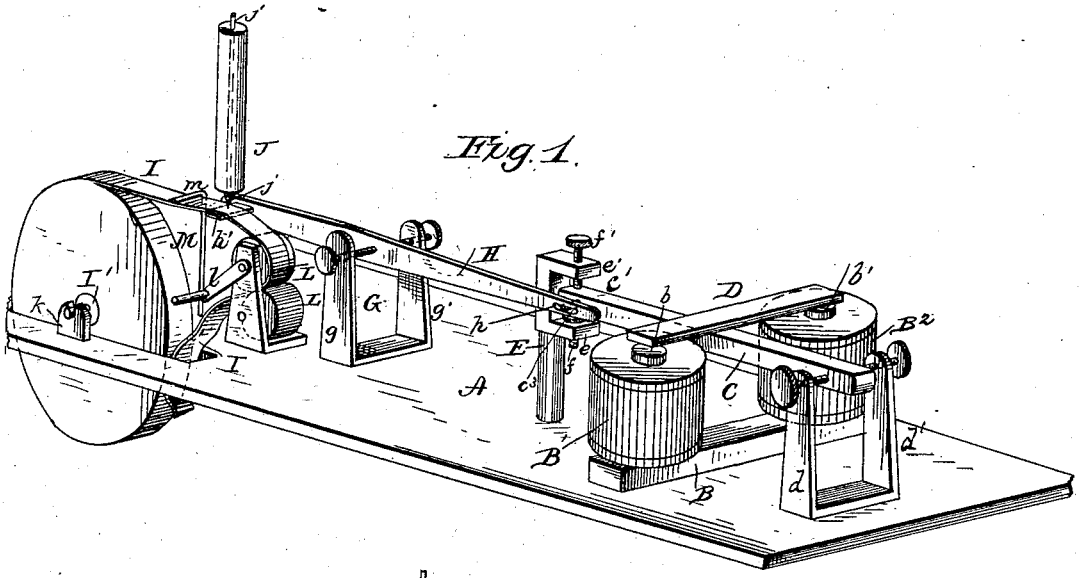
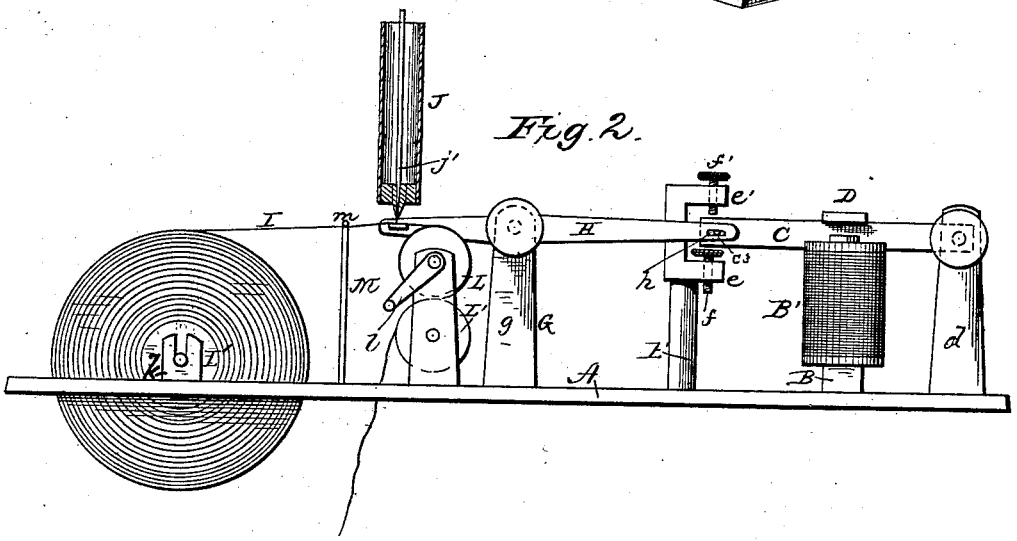


Fig. 2.



WITNESSES

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SAMUEL V. ESSICK, OF ALLIANCE, OHIO.

TELEGRAPHIC RECORDING-INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 265,789, dated October 10, 1882.

Application filed January 19, 1882. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL V. ESSICK, of Alliance, in the county of Stark and State of Ohio, have invented new and useful Improvements in Telegraphic Receiving and Recording Instruments, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of my improved instrument or apparatus for receiving and recording telegraphic communications, and Fig. 2 is a side elevation of the same.

My invention consists in the combination, with an ordinary receiving-instrument or sounder of the Morse system of telegraphy, or the equivalent thereof, of a novel arrangement of mechanism for automatically taking the message therefrom and writing or recording it in corresponding characters upon paper or its equivalent, as hereinafter explained.

In the accompanying drawings, A represents a table or platform, upon which is placed an angular or horseshoe magnet, B, provided on its arms *b b'* with helices or coils $B' B^2$, through which connection is made with the line or circuit in any usual manner.

C is a horizontal bar pivoted in uprights *d d'* on the stand or table A, said bar extending between the arms *b b'* of the magnet and supporting the armature D, arranged over said arms. The vibrating end C' of the bar is upheld between two horizontal arms, *e e'*, formed on an upright, E, said arms being provided with thumb or set screws *f f'*, by means of which its throw or extent of vibratory movement may be regulated as desired. The arm or bar C, when not drawn down by the action of the magnet upon the armature D, is upheld for holding the armature out of contact with the magnet by a weight or spring, as may be preferred, the apparatus thus far described being similar in construction and arrangement of its parts to what is known as a "Morse" receiving-instrument or sounder.

Upon the table A is arranged a second forked standard, G, in the arms *g g'* of which a lever, H, is pivoted, near midway of its length, said lever extending at one end by the side of the vibrating end C' of the bar or lever C, as shown, a pin, c^3, on the bar or lever C passing through a horizontal slot at *h* in the lever H for engaging the latter with and causing it to be vibrated by and with the bar C. The opposite end of the lever H is provided with a flat laterally-projecting arm or narrow plate, *h'*, over which the strip or tape of paper I passes, said plate serving, by its movement with the lever H, to carry the paper up to the pen for causing it to act upon the latter, and for upholding it to the action of said pen, as will be explained.

J represents the pen, which is of the fountain type, in which a valve is operated by means of a needle, *j'*, passing through a hollow cylindrical point, *j*, through which the ink escapes to the paper when the valve is raised. The needle-point, when at rest with the valve closed, projects slightly below the cylindrical point of the pen in such manner that when the paper is raised into contact with the point *j* of the pen it acts first upon the projecting end of the needle *j'*, raising the valve and permitting the escape of the ink.

The paper I is fed from a coil wound upon a roller, I', having a shaft or pivot mounted in suitable bearings, *k*, on the frame, and is fed forward over the plate *h'* by being passed first over a roller, L, and thence down between said roller and a second one, L', moving in frictional contact with the roller L, in such manner that when the rollers are in motion the paper will, by their frictional grasp upon it, be drawn from the roller I across and over the plate or arm *h'*. The roller L is shown provided with a crank-arm, *l*, for actuating it; but in practice the shaft of said roller may be connected with a clock mechanism or other suitable motor for operating it automatically and at a uniform rate of speed during the reception of a communication, and which may at other times be thrown out of action by the attendant.

The operation of the apparatus will be readily understood. When a message is to be received the rollers L L' will be set in motion for feeding forward the strip of paper I, and the receiving-instrument or sounder, acting through the lever H, as explained, causes the moving surface of the paper to be carried up into contact with the point *j* of the pen, acting at the same time, through the needle *j'*, to open the valve, and allowing the ink to escape as long as the paper remains in contact with said point,

and forming a dot or dash upon the paper, as the case may be, according to the time the moving paper is held up in contact with the pen by the action of the armature of the receiving-instrument. The paper in its passage to the recording-arm *h'* passes under the horizontal arm *m* at the upper end of the rod-standard M. The arm *m* is arranged below the horizontal plane of the arm *h'*, and the paper rises as it passes out from under the hook or arm *m* to pass over the arm *h'*. The top of the roller L, over which the paper passes after leaving the arm *h'*, is also slightly below the plane of arm *h'* when the latter is depressed, this arrangement insuring the descent of the paper with said arm for withdrawing it from contact with the pen.

The pen may be any preferred form of the type or class named, and may be supported upon the table A by any suitable arrangement of stand or support for that purpose.

The set-screws *f f'* provide for the adjustment of the throw of the arm *h'* relatively to the pen, and, if desired, provision may also be made for the adjustment of the pen itself in its supporting-stand.

After a message has been received and recorded upon the paper I the feed of the latter may be continued until the portion of paper containing the message has passed out from between the feeding-rollers L and L', when it can be torn or cut off, leaving the end of the paper from the roll I' within the grasp of the feed-rollers in readiness for the reception of another message.

I am aware that fountain-pens have been employed in connection with the vibrating armature or sounder of a telegraphic receiving-instrument for recording the message upon a moving strip of paper; but, so far as I am advised, there is no previous instance in which the arm for vibrating the moving paper into contact with a stationary fountain-pen for taking the message therefrom has been combined with an arm for retracting the paper or removing it from contact with the stationary pen after it has been operated upon thereby.

Having now described my invention, what I claim as new is—

The combination, in a telegraphic receiving and recording apparatus, of a stationary fountain-pen having a pointed valve, a lever interposed between said pen and the armature-lever, and having a pivotal connection with the latter for moving the paper up to the pen, and an arm for retracting the paper after it has acted upon said pen.

In testimony whereof I have hereunto set my hand this 16th day of January, A. D. 1882.

SAMUEL V. ESSICK.

Witnesses:
DAVID FORDING,
SAMPLE F. NEWTON.