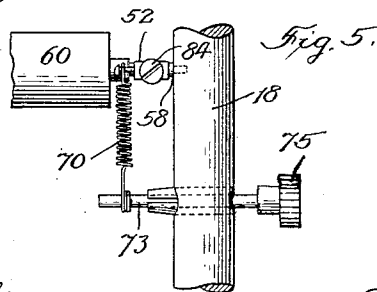
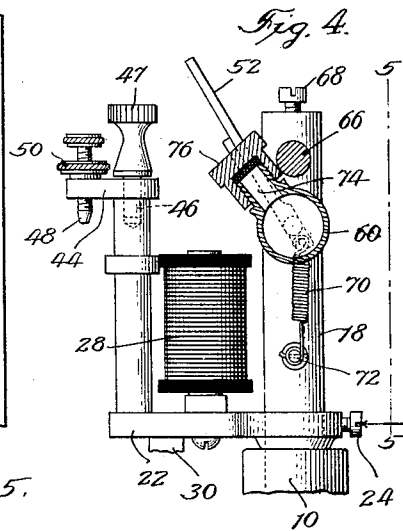
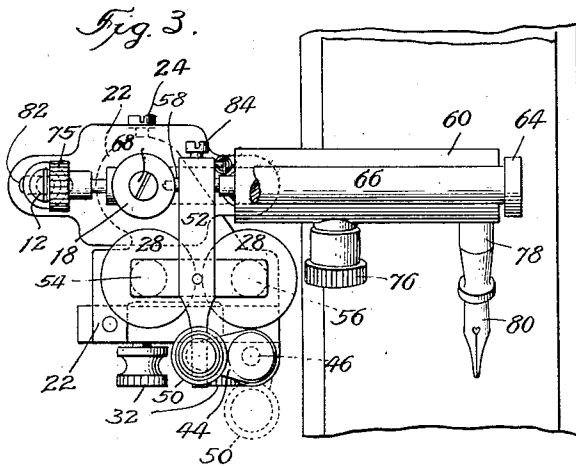
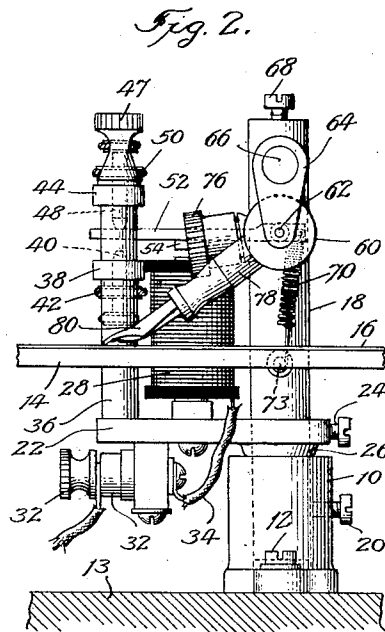
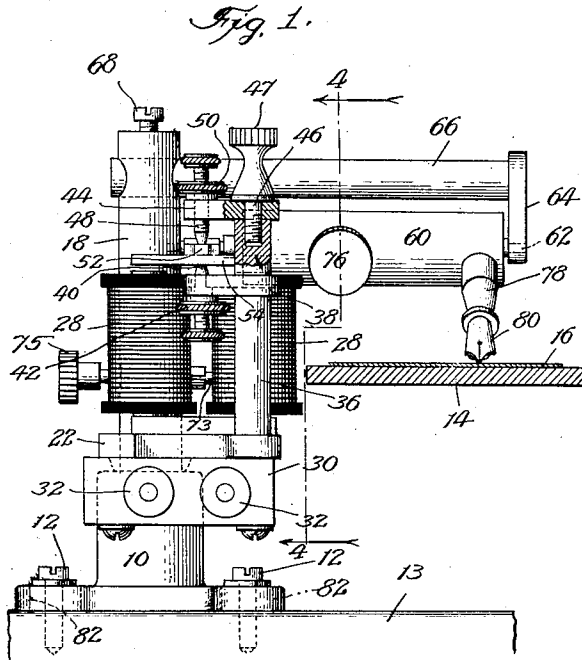


J. A. HULIT.
 RECORDING TELEGRAPHIC RECEIVING INSTRUMENT.
 APPLICATION FILED MAR. 22, 1917. RENEWED MAY 10, 1921.

1,399,429.

Patented Dec. 6, 1921.

2 SHEETS—SHEET 1.



Witnesses:
E. S. Lyford,
Chas. H. Buell.

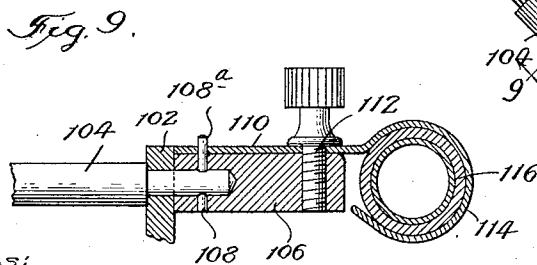
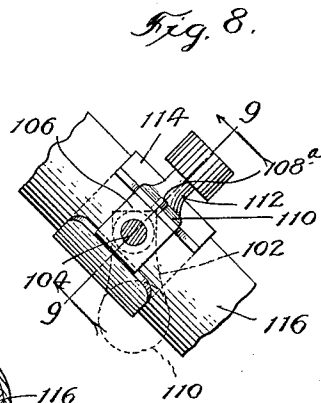
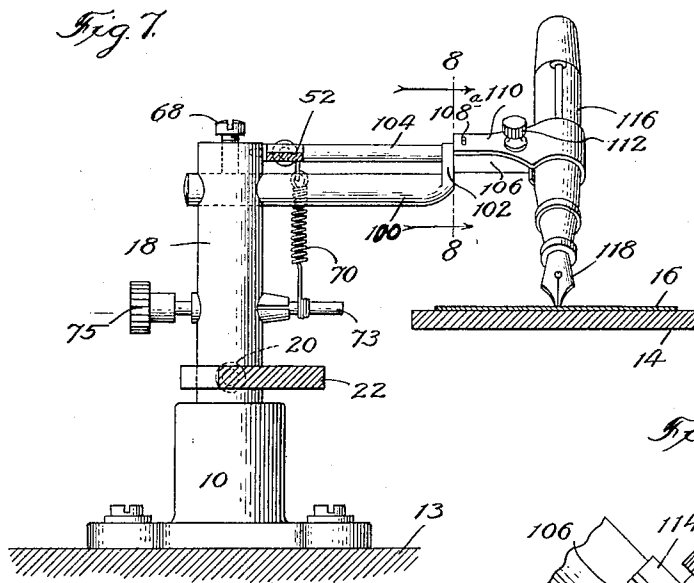
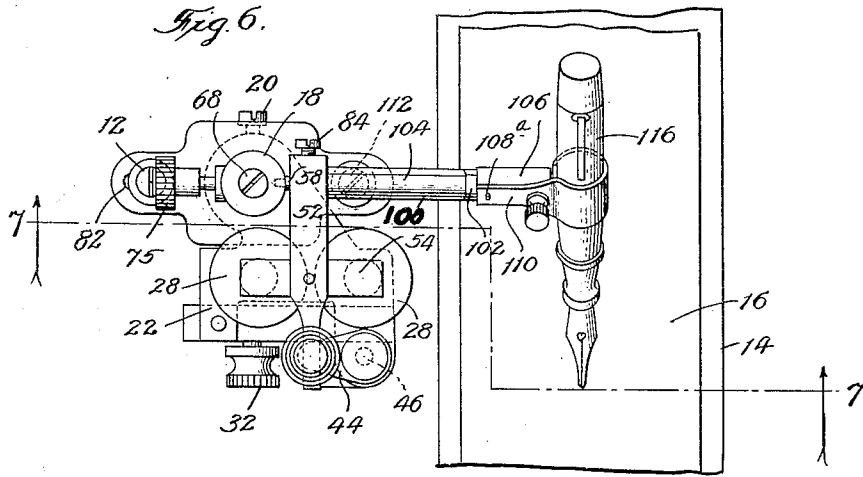
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2 SHEETS—SHEET 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN A. HULIT, OF CHICAGO, ILLINOIS.

RECORDING TELEGRAPHIC RECEIVING INSTRUMENT.

1,399,429.

Specification of Letters Patent.

Patented Dec. 6, 1921.

Application filed March 22, 1917, Serial No. 156,556. Renewed May 10, 1921. Serial No. 463,204.

To all whom it may concern:

Be it known that I, JOHN A. HULIT, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Recording Telegraphic Receiving Instruments, of which the following is a specification.

This invention relates to Morsegraphs or machines used in telegraphy in permanently recording the Morse signs of telegrams sent over one or more lines, and more particularly to devices for supplying ink from a suitable receptacle to the recording tape for making the Morse signs thereon.

The object of the invention is to provide an ink containing and delivering device in which the ink containing receptacle normally provided with a pen or other delivering device resting on the recording tape of the Morsegraph, may with such pen or the like be moved from said position to a suitable position for filling, and return to said normal position without disturbing the accurate adjustment of the pen or the like with reference to the recording tape.

The invention consists in mechanism capable of carrying out the foregoing objects, which can be easily and cheaply constructed, which is very satisfactory in operation, and is not readily liable to get out of order.

Referring to the drawings, in which similar numerals indicate the same parts throughout the several views,

Figure 1 is a front view of the mechanism of this invention taken transversely to the recording tape of a Morsegraph to which it is applied.

Fig. 2 is a side view taken from the right of Fig. 1.

Fig. 3 is a plan view of the parts shown in Fig. 1.

Fig. 4 is a side sectional changed position view, taken on the irregular line 4—4 of Fig. 1.

Fig. 5 shows the details of an adjusting spring device.

Fig. 6 is a plan view corresponding to Fig. 3, showing a modification of the device in which a complete fountain pen is substituted for the ink chamber 60 employed in the device of the previous figures.

Fig. 7 is a front view partially in section taken on the irregular line 7—7 of Fig. 6.

Fig. 8 is a detailed view on the line 8—8 of Fig. 7.

Fig. 9 is a sectional detail view on the line 9—9 of Fig. 8.

In the particular embodiment of the invention shown in the drawings, a suitable base casting 10 is provided, adapted to be attached by screws 12 to the frame 13 or some other suitable part of a complete Morsegraph machine, equipped with a bed or table 14 carrying the record sheet or strip of paper or the like 16, propelled by mechanism well known in the art, forming no part of this invention, and therefore not shown, designed to drive said paper 16 from right to left, as viewed in Fig. 2.

Pivotaly mounted on the base 10 is a vertical post or pillar 18 detachably securable in any suitable position by any suitable means, such as the set screw 20 in base 10. This post or pillar 18 perforates a flat horizontal plate 22 which is itself detachably securable on the pillar 18 by suitable means, such as set screw 24. It will be seen that by proper manipulation of the set screws 20 and 24 considerable adjustment of the parts 10, 18 and 22 may be effected with reference to each other. In the particular construction here illustrated, the plate 22 carries on its bottom a lug 26 which normally is made to rest upon the top of base 10, as clearly appears in Fig. 2.

The plate 22 supports the coils of an electromagnet 28 and carries on its underside a bar 30 of insulating material on which the magnet terminals 32 are mounted, electrical connection being made between these terminals 32 and the coils by suitable wires 34 in the ordinary manner.

Rising from the front plate 22 is a post 36 having rigidly extending from it at a suitable point in its length a horizontal arm 38 through which is screw threaded the lower contact point 40, adjustably secured in position by the locking nut 42, in the ordinary manner.

Pivotaly mounted to swing in a horizontal plane across the top of post 36 is another arm 44 similar in size and dimensions to arm 38, heretofore described. This arm 44 is pivoted on and detachably secured to the post 36 by the screw 46, controlled by the knurled head 47, so that the operator can, by tightening or loosening the last mentioned screw, lock the arm 44 in the position shown in Fig. 1, or swing it to the position shown in Fig. 4. Screw threaded through this arm 44 is the upper contact 48, detachably se-

cured with reference to arm 44 by the adjusting nut 50, in the ordinary manner. When the arms 38 and 44 are in the position shown in Fig. 1, they normally have between them, and control, the armature 52, to be hereafter more fully described, and when the arm 44 has been swung to the position of Fig. 4, the upper contact 48 is out of the way of the armature so that it can be moved to the position shown in Fig. 4, if desired, and yet the adjustment of the contact members 40 and 48 has not been changed vertically with reference to each other for the arm 44 has been moved only in a horizontal plane and can be moved in a horizontal plane back to the original position, thus insuring practically absolute restoration of the parts 40 and 48 to their original adjusted position of Fig. 1, with reference to the armature 52.

The armature 52 (comprising the arm bearing that figure of reference, and the cross bar 54 extending across the magnet cores 56, in the ordinary manner), is rigidly secured by any suitable means upon a shaft 58 journaled at one end in column 18 and having its other end connected to a cylindrical ink tank 60 whose opposite end is provided with a lug shaft 62 journaled in a depending arm 64 on a horizontal cross bar 66 detachably adjustable with reference to column 18 by a set screw 68. The rear end of the armature 52 is attached to one end of a spring 70 whose opposite end is attached to any suitable adjustable support, as for instance shaft 73, rotatable by head 75. The ink cylinder or receptacle 60 is provided with an intake opening 74, closed by a cap 76, and with a discharge opening closed by a tubular member 78 terminating in a fountain pen 80 resting upon the record strip 16.

The spring 70 serves two functions; first, when the parts are in the position of Fig. 1, and electric current is not passing through the electric coils to hold the armature 52 in the position shown in Fig. 1 against the contact 48; and second, when this contact has been moved out of the way or to the position of Fig. 4, as heretofore described, to rotate the ink cylinder 60 to the position shown in Fig. 4, and where the ink intake 74 is turned upward ready to receive a fresh supply of ink. In performing this latter operation, the spring also serves to hold the pen 80 off from the record sheet, thus preventing damage which would occur were ink filling attempted with the pen in contact with the record sheet. It also serves to hold the intake upright and prevent ink spilling should the operator release his hold on the ink chamber,

In practice, the cylinder 60 is made large enough to hold ink for a week's operation of a Moregraph equipped with this device.

When cleaning of the ink cylinder is required, the operator may, by loosening screw 68 and moving rod 66 to the right, as viewed in

Fig. 1, remove the ink cylinder and parts immediately attached to it from the rest of the device.

In the operation of the device, the parts are assembled as shown in Figs. 1, 2 and 3. The screw 46 is then turned, thus allowing arm 44 to swing to the position of Fig. 4 and allowing the ink cylinder to rotate upward to the filing position of that figure. Cap 76 is removed, ink is placed in the cylinder, and cap 76 is replaced. Then the operations just described are reversed, thus returning the parts to normal position. Final adjustment of the contact points 40 and 48 may now be made in the usual way until the pen 80 operates properly on the record strip 16. When so adjusted, the device may be used indefinitely, the ink cylinder 60 being refilled as needed without any necessity for readjustment of the pen 80 or the contacts 40 and 48.

When electric current is sent through the electric coils in the ordinary way, the armature 52 is drawn from the position shown in the figures into contact with contact 40 thus drawing the pen 80 into such close pressure with the record strip 16 that as long as the pen remains in this position and the record strip is moving, an ink line will be produced upon the record strip. Whenever electric current ceases to flow through the magnets, the spring 70 returns the armature and attached parts to the normal position shown, in which the pen 80, does not contact the record strip. The result of the action just described is that the dots and dashes of the Morse code produced by the electromagnets are recorded upon the tape. The base 10 is provided with slots 82 through which the screws 12 pass, thus allowing for adjustment of the base 10 and consequently the entire mechanism of this invention on the Moregraph frame 13. This is especially desirable when two or more of these devices are used in the same machine and it is desired to bring the pen marks of different devices into exact parallelisms or their predetermined relationship.

The armature 52 is adjustably connected to shaft 58 by a screw 84, thus making it possible to adjust the pressure of the pen 80 on the tape with reference to armature 52 independently of the contact points 40 and 48. This adjustment can be obtained by loosening the set screw 84 and turning the pen 78.

The cover 76 fits intake 74 tightly so as to make cylinder 60 an air tight chamber at all times. This is essential to proper operations of the pen 80.

In case, for any reason, it is desired to use an entire complete fountain pen in place of the ink supply chamber 60 and pen 80, heretofore described, the mechanism of Figs. 6 to 9 inclusive may be employed.

In this modified structure, a rigid arm 100

is detachably connected to post 18 by an adjusting screw 68. Pivotally mounted in post 18 and an upturned end 102 on arm 100, is a shaft 104 carrying armature 52 operated by the mechanism heretofore shown and described. This armature 52 is, as before, controlled by spring 70.

On the outer end of shaft 104 beyond support 102 is a rectangular enlargement or block 106 held in place in the particular case here illustrated by a pin 108 whose outer end 108^a serves the purpose of a positioning pin passing into the flat metallic plate 110, held upon block 106 by set screw 112. The outer end of this plate 110 is in the form of a curved spring clip 114 embracing the case or shell 116 of the fountain pen of ordinary type, whose pen point 118 bears upon record strip 16. The spring tension of clip 114 is sufficient so that when the pen body 116 is once adjusted therein, it will stay in a given predetermined position until manually moved therefrom. The positioning pin 108^a and the screw 112 are made with sufficient accuracy so that by removing the screw 112 the pen and plate 110 may be lifted off bodily for filling of the pen, and then the parts restored accurately to original position without any danger that the pen will not be in restored position in accurate writing position upon the tape.

As in the previous structure, the armature 52 is detachably and adjustably secured to shaft 104 by a set screw 84.

Thus the armature and the pen vibrate in parallel planes at right angles to the axis formed by the rock shaft (58 or 104) upon which they are mounted, at the same side thereof, and the spring 70 lifts the pen from the tape, which latter travels at right angles to said axis. As the armature is adjustable on the shaft, it follows that means are provided whereby the armature and the pen are relatively adjustable about the same axis about which they are vibrated by the magnet and the spring.

A divisional application has been filed to cover the construction shown in Figs. 6 to 9 inclusive, said divisional application being Serial Number 298,939, filed March 22, 1919.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is:—

1. In a device of the class described, the combination with a suitable support, electromagnets and armature therefor; adjustable contacts on opposite sides of said armature, limiting its motion, means for mounting one of said contacts, permitting movement of said contact from its normal position with reference to said armature to another position in which it is entirely clear of the path of movement of said armature, an ink receptacle pivotally mounted and connected to move in unison with said armature, and a

marking device supplied with ink from said receptacle and moving with it, for the purposes set forth.

2. In a device of the class described, in combination with a telegraph device comprising electromagnets, a pivoted armature, and contacts regulating the movement of said armature; an ink receptacle pivotally mounted and connected to the armature so as to move in unison with it, said ink receptacle being provided with intake and discharge ports, the intake port being so located that when the armature is in normal operative position between its controlling contacts, the contents of the receptacle are in engagement with the cover of said intake port, for the purposes set forth.

3. In a device of the class described, the combination with a suitable supporting frame, a cylinder pivotally mounted in said frame, a pen extending from said cylinder adapted to take ink from said cylinder, a normally closed ink intake opening in one side of said cylinder, spring means tending to rotate said cylinder to elevate said ink intake, an armature rigidly connected to the ink cylinder, a stop device normally engaging said armature and preventing said action by said spring, electromagnetic devices adapted to, when energized, move said armature contrary to the action of said spring, for the purposes set forth.

4. In a device of the class described, the combination with a suitable supporting frame, a cylinder pivotally mounted in said frame, a pen extending from said cylinder adapted to take ink from said cylinder, a normally closed ink intake opening in one side of said cylinder, spring means tending to rotate said cylinder to elevate said ink intake, an armature rigidly connected to the ink cylinder, a stop device normally engaging said armature and preventing said action by said spring, electromagnetic devices adapted to, when energized, move said armature contrary to the action of said spring, and means for mounting said stop device so as to permit its movement from the described position to a position where it clears said armature, for the purposes set forth.

5. In a device of the class described, the combination with a suitable base, a pillar rising therefrom and adjustably connected thereto, a plate slidably mounted with reference to the pillar in said base, electromagnets mounted upon said plate on one side of said pillar, an armature for said magnet pivoted adjacent to said pillar, an ink receptacle with suitable filling opening and pen pivotally mounted adjacent to said pillar and rigidly connected to rotate in unison with the armature, a spring device adapted to rotate the armature and attached pivoted parts so that the armature moves

away from the electromagnets, a post on the front of said plate which supports the electromagnets, an arm on said post supporting an adjustable contact below the free end of the armature, another arm above said armature mounted to swing about the central axis of said post, and carrying an adjustable contact for the upper side of said arm, a screw threaded member passing through the upper arm and into said post and adapted to detachably lock the upper arm in position either with the contact above the armature or when moved entirely clear thereof, all of the parts being arranged and disposed substantially as shown and described, for the purposes set forth.

6. In a printing telegraph instrument, a pivoted ink reservoir, a pivoted armature, and means for connecting the ink receptacle and the armature for permitting the same to move together and also for adjusting the armature without moving the reservoir.

7. In a printing telegraph machine, a fountain pen having an ink reservoir with an intake port and a discharge port, said ports so located and the reservoir so pivoted that both ports can be raised above the ink line at the same time, the discharge port serving as a flue through which the internal air pressure is equalized with the external.

8. In a printing telegraph machine, a fountain pen having an ink reservoir with an intake port and a discharge port, said ports so located and the reservoir so pivoted that both ports can be raised above the ink line at the same time, the discharge port serving as a flue through which the internal air pressure is equalized with the external when the cap of the intake port is applied thereto.

9. In a printing telegraph instrument, the combination of an electromagnet, a vibratory armature therefor, a recording device, means whereby said armature and said device are supported independently of each other to oscillate in unison about an axis common thereto, means whereby said armature and said device are relatively adjustable

about said axis, and means to limit the vibratory motion of the armature.

10. A structure as specified in claim 9, having a spring to actuate said armature and said device in one direction, adapted to yield to permit attraction of the armature by the magnet.

11. A structure as specified in claim 9, said axis being formed by a rock shaft having said armature and said device spaced apart a distance thereon.

12. In a printing telegraph instrument, the combination of a vibratory recording device, electromagnetic operating means, said device and means being supported independently of each other, a spring coöperating with said electromagnetic means to vibrate said device about an axis at right angles to the plane of vibration thereof, and a tape traveling at right angles to said axis.

13. In a printing telegraph instrument, the combination of a rock shaft, a fountain pen on said shaft, an armature on said shaft, said pen and said armature being spaced apart to vibrate in parallel planes, and an electromagnet to operate said armature.

14. A structure as specified in claim 13, said pen and said armature being disposed at the same side of said shaft, so that both move down in unison and a tape traveling under said pen, said magnet being disposed under said armature.

15. In a printing telegraph instrument, a fountain pen and an armature supported independently of each other and arranged to vibrate in parallel planes about an axis common to both of them, at the same side of said axis, a tape traveling at right angles to said axis, and an electromagnet to operate said armature.

In witness whereof, I have hereunto subscribed my name in the presence of two witnesses.

JOHN A. HULIT.

Witnesses:

DWIGHT B. CHEEVER,
M. S. ROSENZWERG.