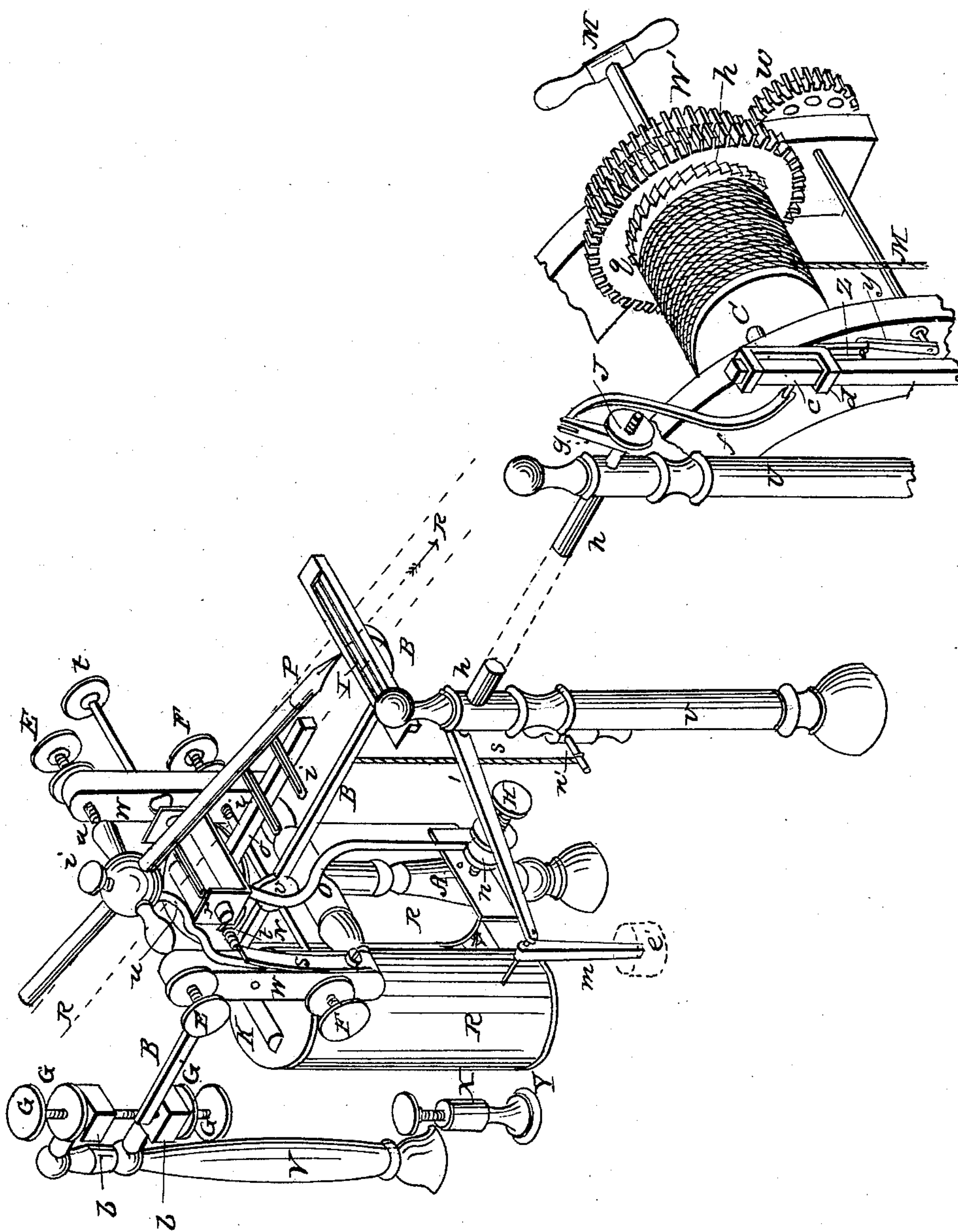


C. WINEGAR.
Telegraphic Register.

No. 6,203.

Patented March 20, 1849.



UNITED STATES PATENT OFFICE.

CALEB WINEGAR, OF SPRINGPORT, NEW YORK.

IMPROVEMENT IN MAGNETIC TELEGRAPHS.

Specification forming part of Letters Patent No. 6,203, dated March 20, 1849.

To all whom it may concern:

Be it known that I, CALEB WINEGAR, of Union Springs, in the town of Springport, in the county of Cayuga and State of New York, have invented a new and useful Improvement on Morse's Magnetic Telegraph; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing, which is a perspective view of my machine.

The purpose of my invention is to dispense with the use of local batteries at the several stations where the recording operations are performed, and to employ therefor a simple relay-magnet, such as is now in use for opening and closing the circuit of the so-called "local battery," by which the marking operations are performed in Morse's system of telegraphs. This saves much labor, expense, and annoyance from fumes.

Another purpose of my invention is to enable the operator to mark with ink, and thereby render the characters more legible than when indented upon the paper, as at present, without the aid of contrast of colors.

A third purpose is to make the marks on the paper in plain sight of the operator, instead of being made out of sight and requiring the paper to run some distance before the impression last made can come into view.

A fourth purpose is to supply ink readily and in the required quantity only to a pen which is constantly in a position to receive it, and which, being stationary, is equally free from all liability to disperse the ink, whatever may be the rapidity with which the marking is performed.

The manner in which I effect the purposes above stated is represented in the accompanying drawing, where—

R R' are two coils of fine covered wire, each coil surrounding one limb of a soft-iron magnet, as in the relay-magnet of Morse, with the exception that I employ very fine wire for my coils, instead of the coarser wire employed by Morse, and thereby give greater intensity to the action of my working-magnet.

X is one of the supports for the conductor of the main wire of the telegraph-line. From this support the wire Y leads to the interior of the coil R, and another wire, Y', leads from the coil R' to another support similar to X,

but not seen in the drawing, being situated in the rear of R.

B is a light lever, supported on an axis, N, and carrying a bar of iron, K, which serves as an armature or keeper for the magnet inclosed in the coils R R'. The motions of the lever B are limited by the ends of the two adjusting-screws G G, working through the nuts *b b*, supported by the standard V and fastened by the set-nuts G' G'.

P is the pen, held fast by the screw *e* in the axis *a*, which axis is capable of an endwise movement by means of the two adjusting-screws E E.

u is an arm, curved, and extending downward behind the spring S, which keeps the pen down to its proper angle of inclination, except when raised by the hand of the operator to change or clean the pen. *o* is a frame for supporting the ribbon of paper R, intended to receive the marks from the pen P. This frame carries a number of flattened rings, *i i i*, and the lever B carries a broader flat piece of metal lying horizontally and immediately beneath the nib of the pen. With this paper-supporting frame is connected an arm, *v*, going down to and attached to a nut, *n'*, on the screw H, the end of which screw remote from the milled head comes in contact with the vertical strip of metal *o'*, and serves to adjust the height of the front end of the frame *o*, which has for its supporting-axis of motion the screw *t*, the turning of which carries the whole frame *o* to the right or left, so as to bring the middle line of the paper strip immediately under the nib of the pen P.

The lever B, the pen P, and the paper-holder *o* are all supported by the single upright A, which is capable of a slight movement about its axis for the purpose of adjusting the position of the marking apparatus to that of the line or ribbon of paper R. The two standards W W and the cross-head O serve to sustain the pen-axis *a*, paper-frame axis *t*, and lever-axis N.

The lever B is kept down at its front end by the slender spring *s*, (the tension on which is capable of adjustment by the small winding-key *n'*,) except when a current of electricity is established through R R', when K will be drawn down and the strip of paper at the slot I raised just enough to come in contact with the point of the pen. As the lever B is made very

light, the force required to effect this movement is not great, and is capable of being exerted by a magnet and coils established in the main line of a telegraph-wire.

The strip of paper R is drawn forward by a train of clock-work in the well-known manner heretofore employed. As this part of the machinery is not claimed by me, I have only represented in the drawing enough to explain the manner in which I operate the inking apparatus in my machine.

V V are two vertical supports, sustaining a rod, *h*, on one end of which is an arm, *l*, carrying at its extremity a pendulous piece, *m*, which, by reason of an alternating partial revolution given to the rod *h*, comes first to dip its lower extremity into the reservoir of ink *e'*, and then to apply it to the nib of the pen P. For the purpose of imparting this alternating motion to *h*, an arm, *g*, is fastened to it by means of the screw-nut J. A connecting-rod, *f*, gives motion to *g*, which is received from the slide *d* on the upright *e*, and which that slide receives through the connecting-rod *z* from the crank *y* on the shaft *x*, which shaft is put in motion by the wheel *w*, the latter receiving motion from the wheel *w'* attached to any convenient part of the clock-work C, which draws forward the strip of paper. M represents a winch for winding up this clock-work, and M' a cord to which the weight is attached; *q*, one of the principal wheels of the said works. When the crank *y* is at the highest point of its revolution the arm *g* is at the highest point, and then the pendulous piece *m* dips into the ink. When the crank *y* is at its lowest point, *g* is also at its greatest depression, and then, the arm *l* having made nearly half a revolution, *m* presents its lower extremity to the nib of the pen. In this manner the frequency of replenishing with ink is dependent entirely on the rate at which the paper is drawn forward. Every part of the strip of paper near the pen is entirely exposed to view. When I use a local battery I

still employ the marking with a pen, as above set forth, moving the paper to the pen instead of the pen to the paper.

Having thus described the construction and action of my machine, what I claim as my invention, and desire to secure by Letters Patent, is—

1. Moving the paper on which telegraphic marks are made into and out of contact with a stationary pen, by which means I avoid the danger of dispersing the ink, which happens when the pen is rapidly agitated, and also gain the advantage of supplying the ink while the telegraph is in action to a pen wholly at rest, as herein set forth.

2. Operating the magnet which effects the movement of the paper directly through the main telegraphic circuit, thereby dispensing with the secondary or receiving magnet and local battery.

3. The arrangement herein described for conveying ink to the stationary pen of a marking magnetic telegraph by means of an adjustable feeder regulated to correspond in its action with the rate of motion given to the strip of paper on which the telegraphic marks are to be made, in a manner substantially as herein set forth.

4. The horizontally adjustable supporting-stand A, in combination with the stationary pen-axis *a*, the paper-carrier *o*, and its adjusting-screw H, and with the vibrating lever B, when employed to adjust the direction of motion of the paper and allow the marks to be made along its central lines, in the manner and for the purposes herein set forth, not intending in these claims to limit myself to the precise arrangements of parts herein described, but to vary the same at pleasure while I attain the same ends by means substantially the same.

CALEB WINEGAR.

Witnesses:

B. FRANK WINEGAR,
EDWARD CURRY.