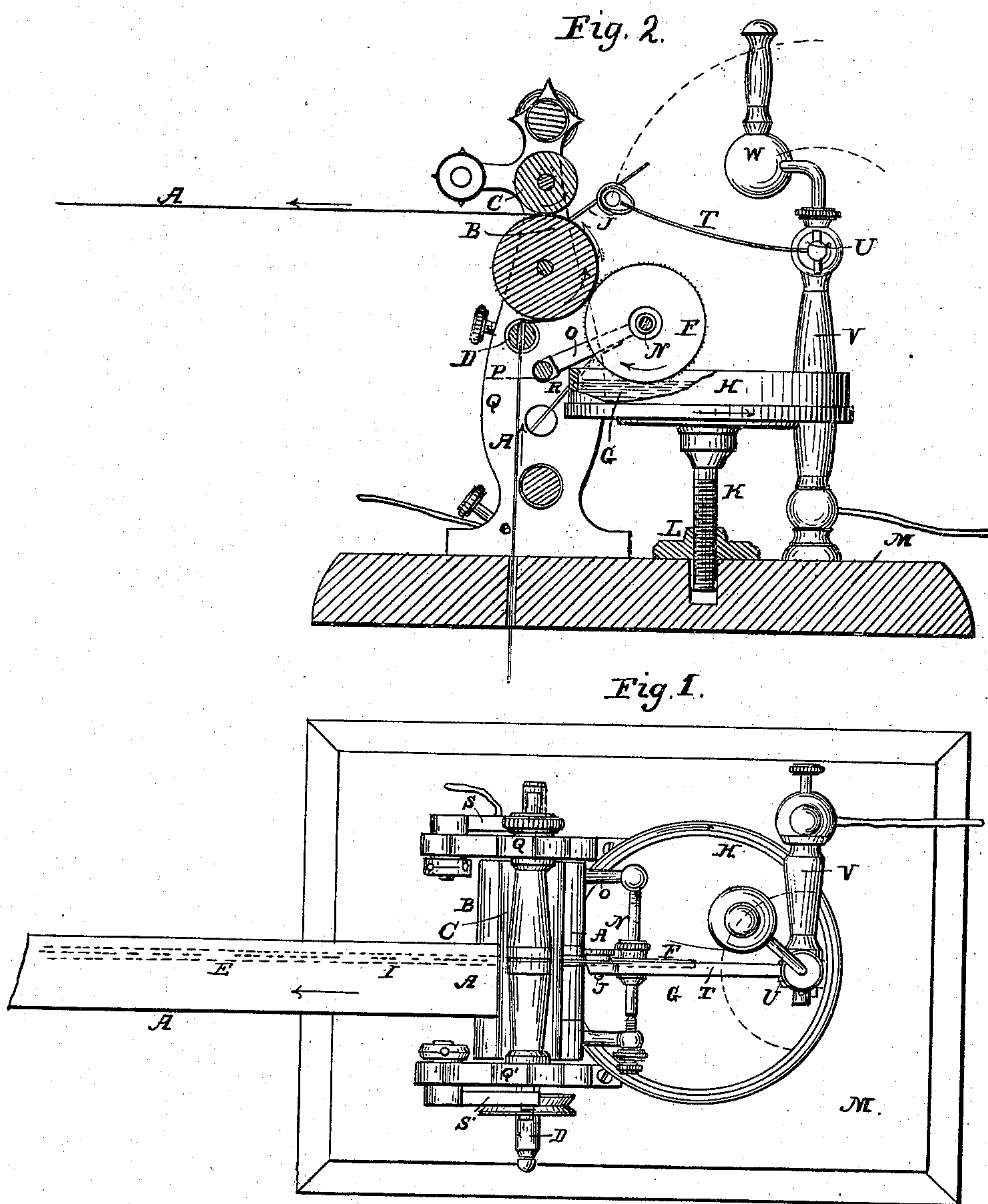


A. F. PARK.
Automatic Telegraph.

No. 56,988.

Patented Aug. 7, 1866.



Witnesses:
Horace D. Merrill
Lebbe Smith

Inventor
Austin Ford Park

UNITED STATES PATENT OFFICE.

AUSTIN FORD PARK, OF TROY, NEW YORK.

IMPROVEMENT IN ELECTRO-CHEMICAL TELEGRAPHS.

Specification forming part of Letters Patent No. 56,988, dated August 7, 1866.

To all whom it may concern:

Be it known that I, AUSTIN FORD PARK, of the city of Troy, in the county of Rensselaer, and State of New York, have invented a new and useful Improvement in Electro-Chemical Telegraphs, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, in which—

Figure 1 is a plan, and Fig. 2 a sectional elevation, of a mechanism used in carrying my said invention into operation, like parts being marked by the same letters in both figures, and their directions of motion indicated by arrows thereon.

My invention consists in the recording of telegraphic signs by electro-chemical action in a wet or moist and chemically-prepared line or path made in and lengthwise of a comparatively wide and dry strip or fillet of paper as the latter is moved along to receive the telegraphic signs.

In carrying this invention into operation I employ any suitable kind of mechanical and electro-chemical means or devices. Thus, for example, in the mechanism represented by the aforesaid drawings the fillet of paper A is supported and moved along to receive the telegraphic signs by two clamping-rollers, B C, and a guide, D; and as the fillet of paper is thus moved along the wet or moist and chemically-prepared line or path E is made therein by a rotary disk or wheel, F, mounted so that its lower edge is in a suitable chemical solution, G, in a reservoir, H, and its upper or side edge against the fillet of paper where it wraps around the roller B, and the telegraphic signs I are recorded in the wet or moist and chemically-prepared line or path thus made in the paper by means of a metallic pen-wire, J, constantly resting in the wet or moist line or path, and constituting therewith a part of a main or local telegraphic circuit, in such manner that the chemical solution in the wet or moist line or path will corrode the metal pen-wire and thereby cause the latter to make a colored mark on the moving paper during and in consequence of the passage of each telegraphic pulsation of electricity. A good record of the telegraphic signs will generally be secured by having the pen-wire J of iron or steel and the chemical solution G of yellow prussiate of potash dissolved in water and acidulated

with nitric acid; and a good solution for like use may be made by mixing together twelve parts of water, seven of a saturated solution of yellow prussiate of potash in water, one and one-fourth of nitric acid, and two of concentrated ammonia; or I sometimes use a dry fillet of paper previously prepared by being steeped throughout in a suitable chemical solution (for example, in a weak solution of prussiate of potash with or without nitrate of ammonia) and then dried, and in such case make the wet or moist chemically-prepared line or path in the fillet of paper with water acidulated with nitric acid or other suitable liquid; but I generally prefer to effect the entire chemical preparation of the paper in the operation of wetting or moistening the line or path for the reception of the telegraphic signs, and I sometimes wet or moisten the line or path in the moving fillet of paper by means of a common paper-ruling or other hollow reservoir-pen, but generally prefer to use for that purpose a very fine toothed rotary disk or wheel F dipping in a reservoir, H, as above specified.

In the apparatus shown by the aforesaid drawings the upper roller, C, is pressed toward the roller B by adjustable springs S S', so that the two rollers will turn together and draw the paper along properly upon turning the roller B, and those rollers are longer than the width of the strip of paper A, and the paper-guide D is adjustable lengthwise of the rollers, so that the fillet of paper can be passed between the rollers in different positions in respect to the path-wetting wheel F and pen-wire J, and can consequently have a series of parallel rows of telegraphic signs recorded thereon, the same as is commonly the case in the Morse electro-magnetic telegraph.

The reservoir H is mounted on a standard, K, which can be screwed up and down in a nut, L, fast on the wooden base M, so as to thereby make the moistening-disk F dip properly in a greater or less quantity of liquid in the reservoir, and the disk F is mounted on an axis, N, in a frame, O, which is pivoted at one side, P, to the supports Q Q' of the rollers and pressed toward the latter by an adjustable spring, R, so as to make the disk F bear with an adjustable yielding pressure against the moving fillet of paper.

The pen-wire J is clamped to one end of a

spring, T, which is fast at its other end to a hub, U, which is pivoted on a standard, V, and provided with an adjustable weighted arm, W, Fig. 1, whereby the pen-wire J can be readily made to bear with more or less force on the moving paper fillet, while the spring T allows the pen-wire to ride over and spring around obstructions in its path with less danger of catching into and tearing the wet or moist paper than if the pen-wire was pressed on the paper by a dead weight; and the telegraphic circuit is completed between the metallic pen-holder support V and roller-stand Q' by the hub U, spring T, and pen-wire J, the wet or moist line in the fillet of paper and the rollers B and C, and wheel F, axis N, and pivoted frame O.

By my aforesaid improvement of recording telegraphic signs by electro-chemical action in a wet or moist chemically-prepared line or path made in a strip or fillet of dry or nearly dry paper as the latter is moved along to receive the telegraphic signs, the recorded signs are presented in a generally better or more convenient condition to be read and copied off than if they were recorded by a like electro-chemical action in a spiral line on a revolving disk of wet or moist chemically-prepared paper, as in the well-known Bain electro-chemical telegraph; and by my said improvement the moving fillet of paper, with the telegraphic signs just recorded thereon in the wet or moist line or path, is then, as a whole, in a much drier condition and far stiffer and stronger and

less liable to be torn or injured, or to wet, soil, and corrode the hands of a telegraph operator while he is handling the fillet of paper in receiving, reading, and copying off the telegraphic signs, than if the latter were recorded by a like electro-chemical action on a like strip or fillet of paper made wet or moist with a like chemical solution throughout the whole width of the paper fillet while being moved along to receive the telegraphic signs.

Indeed, with my said improvement, the little dampness in the wet or moist line or path is generally so quickly absorbed by the drier paper on each side of that line or path that the moving fillet of paper may be handled, in receiving and copying off the telegraphic signs, immediately after they are recorded, with about the same ease, neatness, and freedom from liability of tearing the paper fillet as if the signs were recorded by indentation in a moving dry fillet of paper, as in the well-known Morse electro-magnetic telegraph.

What I claim as my invention, and desire to secure by Letters Patent, is—

The recording of telegraphic signs by electro-chemical action in a chemically-prepared wet or moist line or path made in a strip or fillet of paper as the latter is moved along to receive the telegraphic signs, substantially as herein set forth.

AUSTIN FORD PARK.

Witnesses:

HORACE D. SHERRILL,
LESLIE SMYTH.