C. F. JENKINS.

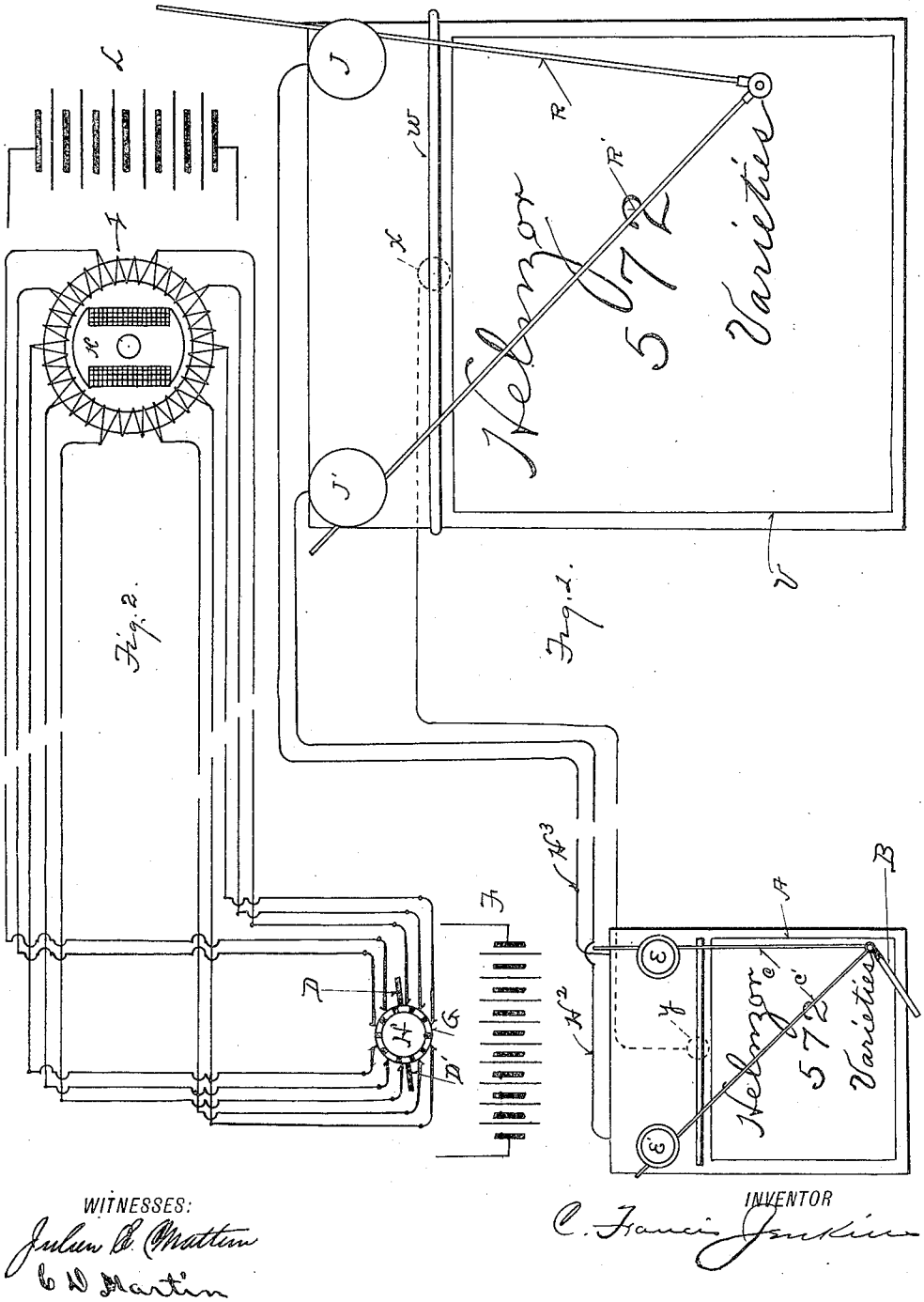
TELAUTOGRAPH.

APPLICATION FILED FEB. 7, 1908.

909,421.

Patented Jan. 12, 1909.

2 SHEETS—SHEET 1.



WITNESSES:

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2 SHEETS—SHEET 2.

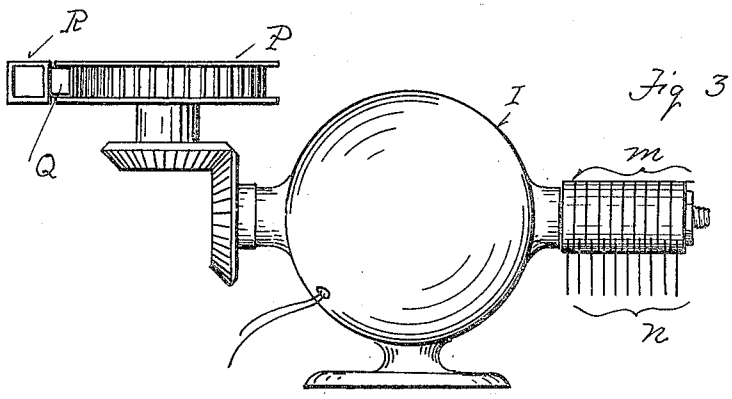


Fig. 3

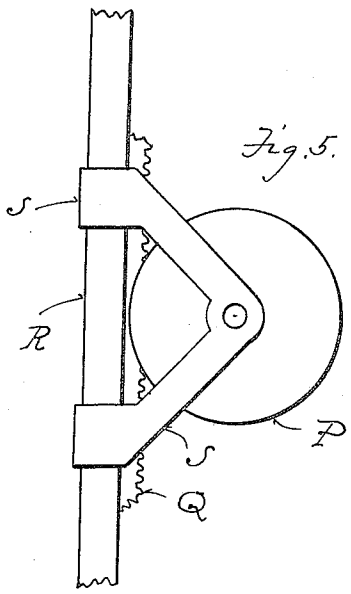


Fig. 5.

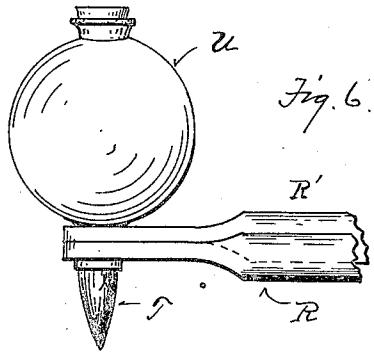


Fig. 6.

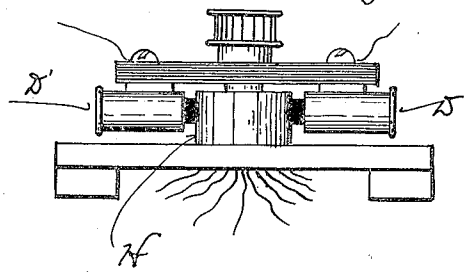


Fig. 4.

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UNITED STATES PATENT OFFICE.

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TELAUTOGRAPH.

No. 909,421. Specification of Letters Patent. Patented Jan. 12, 1909.

Application filed February 7, 1908. Serial No. 414,701.

To all whom it may concern:

Be it known that I, CHARLES FRANCIS JENKINS, a citizen of the United States, residing at Washington, District of Columbia, have invented certain new and useful Improvements in Telautographs, of which the following is a specification.

This invention relates, broadly, to apparatus for reproducing a facsimile of handwriting, known in the art as telautographs.

The principal object of the invention is to reproduce handwriting in a very greatly magnified facsimile—an autographic billboard whereon a newspaper, for example, may display the news of the day.

In general, the invention consists of a transmitting station and a reproducing station, separated by such distance as circumstances impose. The transmitting station consists of devices for introducing electric current into the several pairs of wires of a multiple-wire cable in succession to produce a rotary field in the two motors which actuate the two writing arms of the reproducing station apparatus.

Thus, in the drawings Figure 1 shows transmitting and reproducing stations; Fig. 2 diagrammatically represents the wiring; and Figs. 3, 4, 5 and 6, details of the instruments.

In the several drawings A represents a sheet of paper on which a pencil B is writing. To the point of the pencil are attached two thin rods C C′ each of which actuates a rotating brush-holder carrying a pair of brushes D D′ in boxes E E′. These brushes are terminals of a source of electrical energy F and distribute the current to the ten segments G of the commutator H. From each commutator a ten-wire cable (H^2 and H^3) carries the current to a ten-section field of a motor I under each of the boxes J J′. The armature K of the motors is magnetized from a separate source of current L.

The brushes D D′ rotate about the commutator H sending current into the wires in succession thus energizing the field coils of the motors I in succession, producing a rotating magnetic field. The armature will follow the field around, to the right or left as the field rotates to the right or left, and will stop and be held stationary when the field ceases to rotate. It will thus be seen that the armature of each motor follows exactly the reciprocating rotation of the brushes about the commutator H. With the shifting of the brushes in each box E E′ controlled by the movement of the pencil point, it will readily be understood that similar marking arms actuated by the motors controlled by the two pairs of current-distributing brushes would duplicate the writing of the pencil point. And if the current strength was proportioned to the work any magnification of the writing could be made and in exact facsimile. I prefer, for the present, to accomplish this in the following manner: Motor I, instead of having a rotating field and constantly magnetized armature, has a magnetically-rotating armature (as well as a physical rotation) and a stationary field. Thus, the insulated rings M are terminals of the several armature coils, and the brushes N are terminals of the cable wires. On the opposite end of the armature shaft is a bevel gear which meshes with another similar bevel having mounted thereon a spur gear P which engages with a rack Q rigidly fastened along the hollow writing-arm R. A frame S S′, Fig. 5 (not shown in Fig. 3) holds the rack in mesh with the gear while allowing the arm free longitudinal and circular movement in the plane of the billboard. Similar racks and pinions on the transmitting arms and brush holder stem respectively, give rotary motion to the brush holders in box E′ and E. If, therefore, there be located at the joint of the two arms R R′ a marking brush T, supplied with a marking fluid, as from the reservoir U, a magnified facsimile of the original writing will be produced on the billboard V.

For lifting the arms out of contact with the billboard when desired, as, for example, in returning to cross a "t" or dot an "i", the bar W is provided, raised by the electromagnet X on the closing of the key *y* when the writing arms C C′ are lifted.

It will be understood that the brush-holder will rotate several times in one direction in making a vertical stroke, the height of the paper, for example, and that the motor armature will similarly rotate several times in one direction to reproduce a like vertical line on the billboard.

To control the reproducing station from the transmitting station by means of a rotating field is, I believe, broadly new in the art.

To roll up the paper to cover the board with a fresh section of paper a motor or

other suitable means may be employed not necessarily a part of the present invention.

In the claims the words "magnetic field" are intended to apply to either the rotor or stator part of the motor, in whichever the shifting magnetic field occurs.

What I claim, is:—

1. In telautographic apparatus, the combination of a transmitting instrument, a reproducing instrument having a plurality of stylus-actuating motors therein, and means in the transmitting instrument for producing complete revolutions of said motors.

2. In telautographic apparatus, the combination of a transmitting instrument, a receiving instrument having a plurality of stylus-actuating motors therein, and means in the transmitting instrument for distributing electrical current successively to the several coils of said motors to produce a shifting magnetic field therein, to cause complete rotations of the motor armatures.

3. In telautographic apparatus, the combination of a transmitting instrument having a plurality of writing arms, a commutator and brushes attached thereto, a reproducing instrument having a plurality of stylus-actuating motors, and means whereby movement of said writing arms shifts the relation of the commutator and brushes to distribute electrical current successively to the several coils of said motors to produce complete rotation therein.

4. In telautographic apparatus, the combination of a transmitting instrument having electric distributing brushes attached to a writing stylus, of a reproducing instrument having a plurality of stylus-actuating motors therein, and means in the transmitting instrument for distributing electric current successively to the several coils of stylus-actuating motors in the reproducing instrument, said motors being capable of complete rotation and having writing arms attached thereto.

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

C. FRANCIS JENKINS.

Witnesses:
JULIEN E. MATTERN,
C. D. MARTIN.