(No Model.)

R. ANDERSON.

TELEGRAPHIC TRANSMITTER.

No. 304,059. Patented Aug. 26, 1884.

Fig. 1

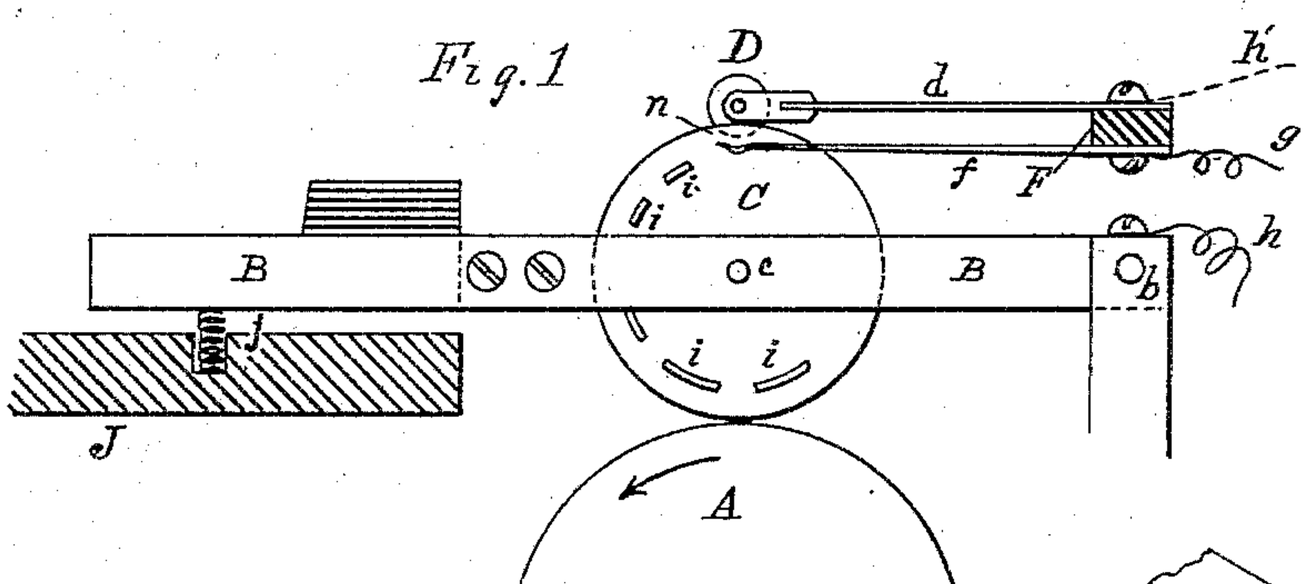


Fig. 2.

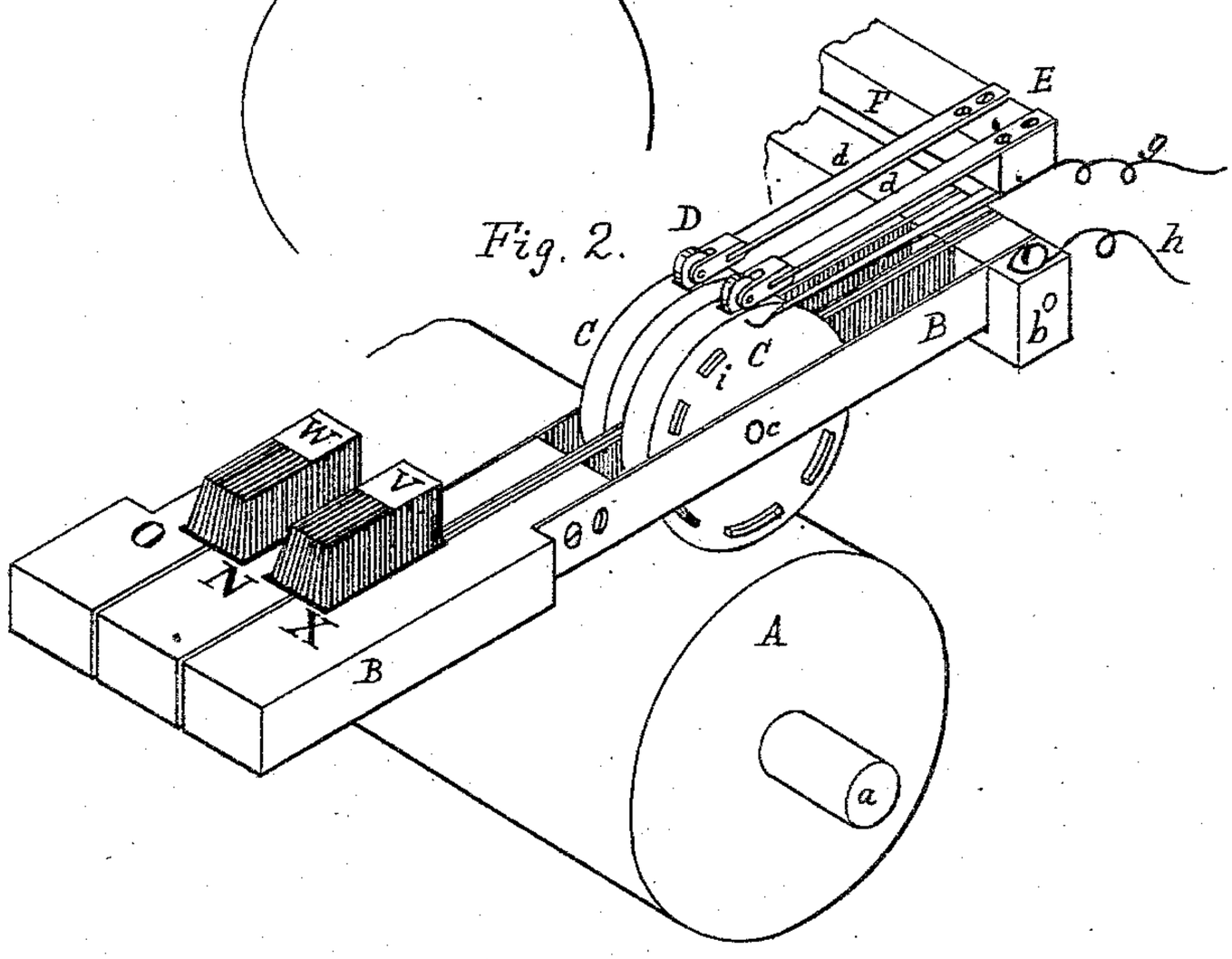


Fig. 4.

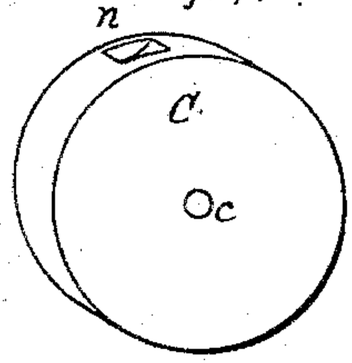
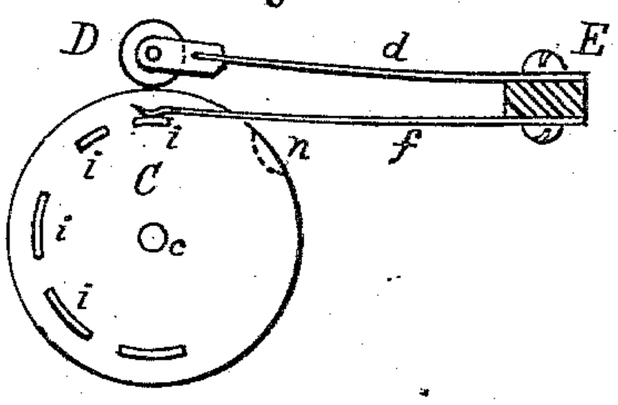


Fig. 3.



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TELEGRAPHIC TRANSMITTER.

SPECIFICATION forming part of Letters Patent No. 304,059, dated August 26, 1884.

Application filed March 2, 1883. (No model.)

To all whom it may concern:

Be it known that I, RUFUS ANDERSON, a citizen of the United States, and a resident of Peekskill, county of Westchester, and State of New York, have invented an Improvement in Key-Board Transmitters for Telegraphic Purposes, of which the following is a specification.

This invention relates to mechanism for making and breaking the circuit in telegraphic work where ordinarily a "key" is used, and has for its object the simplification of the act of transmission, so that no special skill or knowledge on the part of the operator is required, so far as the act of transmission is concerned. Said object is attained by a key-board, a series of circuit-wheels, and an actuating friction-roller, arranged as hereinafter shown. A key-board, circuit-wheels, and a friction-roller have before been used for the same purpose; but the device necessitates an oscillating movement of the circuit-wheels as the friction-roller revolves within the periphery of said wheels, it not being possible therefore for the latter to make a complete revolution. This backward motion of the circuit-wheel involves a loss of time in the operation of the machine. In my invention I overcome this difficulty by having the circuit-wheel revolve always in one direction.

In the drawings, Figure 1 is an end elevation of the essential parts of the invention. Fig. 2 is a perspective view of the same. Figs. 3 and 4 are views of details.

A is a rubber cylinder capable of revolving on its bearings *a a*, and driven at a moderate speed by any suitable means.

B B are key-levers pivoted at *b*. There are as many of these levers as there are letters or characters to be transmitted, and they are arranged in order at right angles to the cylinder A, and a little way above it, as shown. These key-levers are slotted in their middle to receive the disk or roller C, which is pivoted at *c*. The disk C is of metal, and the lever B is so situated with reference to cylinder A as to allow the lower edge of disk to just touch the uppermost part of A. A spring, *j*, resting in part of frame J, is provided to take the weight of the lever and disk, so that the latter barely, if at all, touches A. The upper part of the disk C has a notch, *n*, Fig. 4, in which, when the disk is at rest, lies the small roller D. This roller is pivoted in the end of a spring, *d*, which has its other end rigidly secured to part of the frame at E. The tension of this spring is so adjusted that when the roller is in the notch there is no tension, and the roller need not even touch the disk; but if the notch *n* is moved away, as in Fig. 3, so the roller touches the periphery of disk, the spring will then press downward. On the side of the disk C which is in the circuit through connection *h* are arranged the projections *i i*, &c., that as they revolve touch the end of the spring *f*, (see Fig. 3,) and thereby close the circuit (through connection *g*) a length of time depending on the length of the projection.

The operation of the machine is as follows: When motion (in direction of arrow) is imparted to the cylinder A, the rest of the machine remains quiescent, because the spring *j* keeps the disk C just clear of the cylinder; but when the key B is depressed, however slightly, the friction between A C causes the latter to instantly begin to revolve, the notch *n* at once leaves the roller D, and the latter rides over the circumference of C. The tension of the spring *d* then keeps up the contact between C and A, even when the finger or the pressure is removed from the key. This contact will continue till C makes a complete revolution; but so soon as the revolution is complete and the notch *n* gets to its starting-point the roller D drops in it, the pressure that caused the contact between C and A ceases, and the disk stops. During the revolution just described the circuit would be closed and opened in accordance with the arrangement of the projections *i i*, &c. An instantaneous touch of the key is all that is necessary for each letter, and the depression need not exceed one-sixteenth of an inch.

The roller A is preferably made, in part at least, of soft rubber.

If the support F is a non-conductor, the connection *h* might be made through *h'*, thence through roller D.

The contacts *i* may be obtained either by notches in C, or projections, as shown.

To insure smooth movement when notch *n* passes over cylinder A, the notch is not cut clear through edge of disk, but as shown in Fig. 4.

This machine is designed more particularly for a special kind of telegraphic work; but it can be applied to ordinary "Morse" work by making the disks C of different diameters to correspond with the length of the letter, so that if the keys are fingered properly there will be the same interval between all letters, whether long or short.

The roller D may be dispensed with, and the end of the spring *d* be used in its place; but the disk will evidently require less to drive it if D is used; or the roller and spring both might be dispensed with and friction between C and A be obtained by the pressure of the finger only, the motion being limited to one revolution by other means, one of which might be by a flatted spot on circumference of disk, which, when it came to A, would stop the contact.

I limit my claims to a device in which the contact-wheel revolves in one direction only.

I claim—

1. In combination with a continuously-revolving cylinder, a series of circuit-wheels mounted on key-levers, said circuit-wheels revolving in one direction only, on being brought into contact with the periphery of said cylinder by the action of said key-levers, substantially as described.

2. In an automatic telegraphic transmitter, the cylinder A, the key-lever B, the disk C, having notch *n*, the roller D, and the spring *d*, combined as set forth.

3. In an automatic telegraphic transmitter, the cylinder A, the key-lever B, the disk C, having notch *n*, and contacts *i i*, the roller D, spring *d*, and the contact-spring *f*, substantially as set forth.

RUFUS ANDERSON.

Witnesses:
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