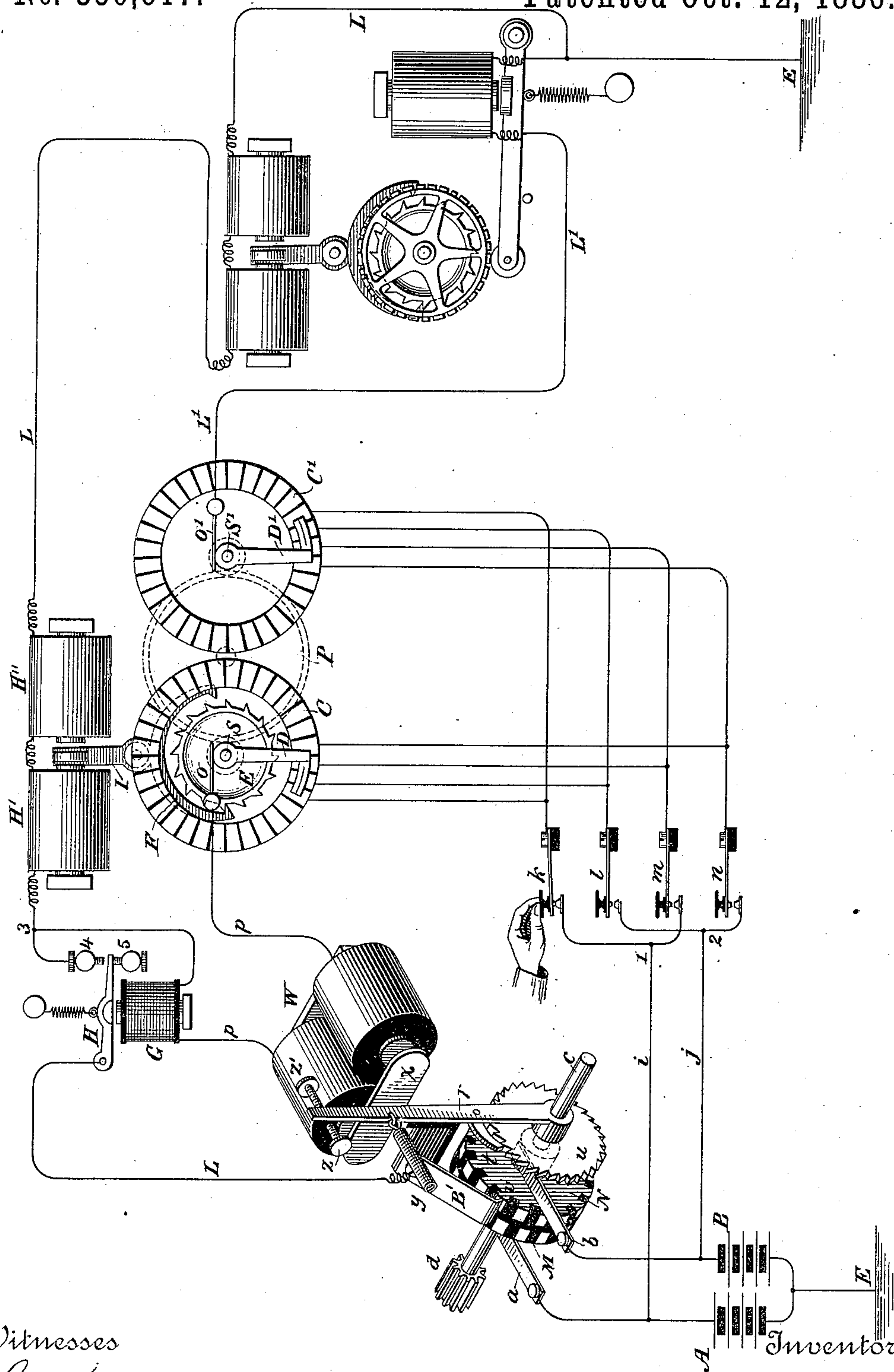


(No Model.)

C. L. BUCKINGHAM.
PRINTING TELEGRAPH TRANSMITTER.

No. 350,617.

Patented Oct. 12, 1886.



Witnesses

Geo. W. Brock
Carrie O. Ashley

Inventor
C. L. Buckingham

UNITED STATES PATENT OFFICE.

CHARLES L. BUCKINGHAM, OF NEW YORK, N. Y.

PRINTING-TELEGRAPH TRANSMITTER.

SPECIFICATION forming part of Letters Patent No. 350,617, dated October 12, 1886.

Application filed March 6, 1886. Serial No. 194,210. (No model.)

To all whom it may concern:

Be it known that I, CHARLES L. BUCKINGHAM, of the city, county, and State of New York, a citizen of the United States of America, have made a new and useful Improvement in Double-Circuit Printing-Telegraph Transmitters, of which the following is a specification.

My invention relates to transmitting-instruments for that class of printing-telegraphs in which the step-by-step rotation of the type-wheel is controlled or effected by short electrical impulses upon one circuit, and in which while the type-wheels are arrested printing is effected through the agency of the second and independent circuit.

My invention consists in employing a constantly-rotating pulsator upon a type-wheel circuit, or in connection therewith, and means for constantly connecting the transmitting battery or batteries both to the type-wheel circuit and to the printing-circuit. By this arrangement the transmitting-battery can be constantly connected to the type-wheel circuit for the purpose of locking the type-wheels of the receiving-instruments in any desired position for printing, and a sufficiently-prolonged current can be transmitted over the printing-circuit to effect the operation of printing without arresting the rotation of the pulsator.

In another application of even date herewith I have described and claimed the means by which I am enabled to employ a constantly-rotating pulsator in a printing-telegraph system, and I therefore only desire to claim a suitable arrangement of apparatus for applying my invention, as set forth in said application, to a printing-telegraph system employing two circuits, one for controlling the type-wheels and the other the printing mechanism.

I will now describe my invention by reference to the accompanying drawing, in which M N are the two insulated sections of the constantly-rotating pulsator, having conducting-spaces upon the one directly opposite insulating-spaces upon the other.

A B are transmitting-batteries connected to earth E, and, respectively, to contact-springs *a b*.

c is a shaft, upon which is fixed driving-

pinion *d*, the pulsator-wheel, and a ratchet-wheel, *u*.

r is an armature-lever loosely mounted upon shaft *c*, carrying pawl *t* and the broad contact-spring B'. The to-and-fro movement of said lever between its contacts *z z'* is controlled by retracting-spring *y* and the armature *x* of electro-magnet W, whose coils form a part of branch *p*.

L is the main line, whose circuit is completed through armature-lever H, contact 4, and electro-magnet H' H". The latter magnet, which is preferably the ordinary form of polarized electro-magnet, controls armature-lever I and escapement-pallet F. The pallet F in turn controls the step by-step rotation of escapement-wheel E, shaft S, and sunflower-arm D, whose free end sweeps over the insulated switch of the sunflower C. Alternate transmitting-keys, as *km* and *ln*, are joined together through their anvils at points 1 and 2, and thence by wires *ij* to the batteries A B.

Instead of employing a single sunflower arrangement, as is shown in my other application of this date, I find it necessary in the present case to have two sunflowers, C C', whose rotating arms D D' are both controlled by the single escapement electro-magnet H' H", by means of the spur-wheel P, which gears with pinions upon shaft S and shaft S'. Each transmitting-key is connected with a strip upon each sunflower, as shown in the drawing, and the printing-circuit L' is connected to the contact-spring *o'*, which is in constant electrical contact with the rotating arm D', whose free end sweeps over the insulated strips of sunflower C'. In this arrangement, upon depressing a transmitting-key, as *k*, the pulsator-circuit is broken and a constant circuit is completed through the transmitting-key to the type-wheel circuit by means of sunflower C, and also to the printing circuit through sunflower C'. It is apparent from the foregoing that by this arrangement an impulse over the type-wheel circuit, already begun by the rotating pulsator, may be continued for any desired length of time through a transmitting-key and the sunflower C, thus locking the type-wheels in any desired position of rotation, while at the same time a continuous current is transmitted

over the printing-circuit L' for the purpose of effecting impressions upon the type-wheels.

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

5 1. In a printing-telegraph system, a constantly-rotating pulsator, two main lines, one for controlling the type-wheels and the other the printing apparatus, and two sunflower devices, in combination with transmitting-keys
10 for constantly connecting the transmitting-battery with the two circuits, as and for the purpose described.

2. In a printing-telegraph system, the combination of a constantly-rotating pulsator, two main-line circuits, two sunflower devices controlled by a single electro-magnet, H' H'', and transmitting-keys, with their electrical connections, as and for the purpose described. 15

CHARLES L. BUCKINGHAM.

Witnesses:

WM. ARNOUX,

JAMES H. STELLGES.