C. J. WILEY.

PRINTING TELEGRAPH.

No. 182,091. Patented Sept. 12, 1876.

Fig. 2.

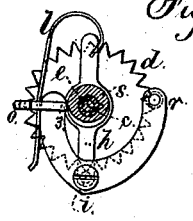


Fig. 3.

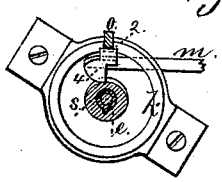
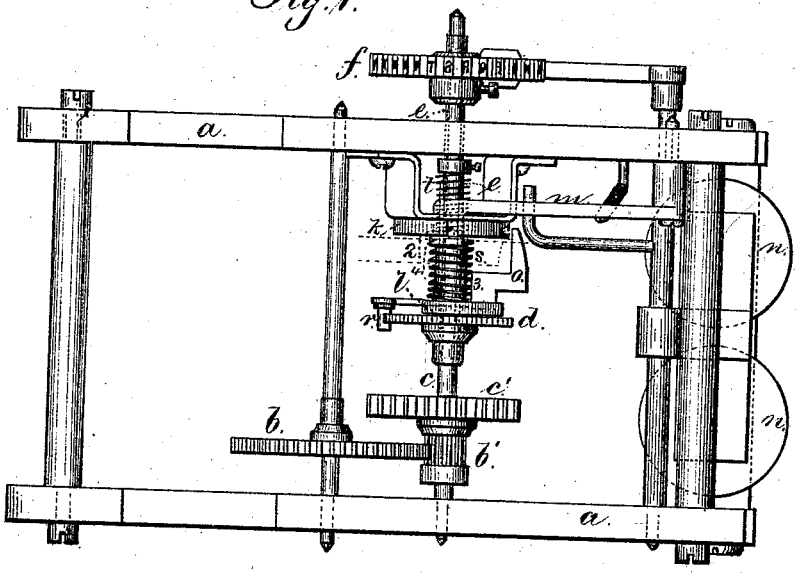


Fig. 1.



Witnesses

Chas. H. Smith

Harold Serrell

Inventor

Charles J. Wiley.

Lemuel W. Serrell

# UNITED STATES PATENT OFFICE.

CHARLES J. WILEY, OF NEW YORK, N. Y.

## IMPROVEMENT IN PRINTING-TELEGRAPHS.

Specification forming part of Letters Patent No. **182,091**, dated September 12, 1876; application filed February 15, 1876.

*To all whom it may concern:*

Be it known that I, CHARLES J. WILEY, of the city and State of New York, have invented an Improvement in Printing-Telegraphs, of which the following is a specification:

This improvement relates to that class of printing-telegraphs in which the type-wheel is revolved by a train of gearing and spring or weight, and the type-wheel is allowed to move by an escapement under the control of an electro magnet or magnets.

My present invention consists in a mechanism that is automatic, and disconnects the revolving mechanism simultaneously with the stopping of the type-wheel at unison. The reverse movement connects the revolving mechanism with the type-wheel, and liberates the same from the unison-mechanism stop.

I make use of a ratchet-wheel upon the shaft that drives the type-wheel; but the type-wheel itself is upon a loose sleeve upon said shaft, and there is upon this sleeve a compound detent, that connects with the ratchet-wheel in one direction and with the unison-stop in the other direction, so that when one is locked the other is unlocked. The unison-stop is a ring with a notch that prevents the compound detent moving except at one point, and there is a screw that receives an end motion as the type-wheel revolves, and after one or more complete turns of the type-wheel the unison can come into action when the detent arrives at its notch; but if the printing-lever is operated at any time it restores the screw and other parts to their original position, disconnecting the detent from unison, and connecting the type-wheel and motor.

In the drawing, Figure 1 is a plan of the type-wheel and its actuating and unison mechanism. Fig. 2 is an elevation of the compound detent, and Fig. 3 is an elevation of the unison-ring.

The frame *a*, driving-wheel *b*, pinion *b'*, escapement-wheel *c'*, and its shaft *c* are of usual character, and the escapement-pallets that operate to control the revolution of the wheel *c'* are of any desired character, the same being moved by electro-magnets, as now usual. The ratchet-wheel *d* is fastened upon the shaft *c*; but the sleeve *e* is loose thereon, and to this sleeve *e* the type-wheel *f* is fastened and the arm *h* is also fastened. Upon this arm *h* is the pivot *i* of the compound detent *o r*, the end *r* being in the form of a tooth to enter between the teeth of the wheel *d*, and the end *o* of the detent being a finger, adapted to enter the notch 2 in the unison-ring *k*. These detents *o* and *r* are at opposite sides of the sleeve *e*, and operate in opposite directions. Hence if one, *r*, is in contact with *d* the other, *o*, is out of the notch 2, and vice versa. A spring, *l*, tends to move the compound detent in one direction, and a lever, *m*, acting with the impression-lever or printing-magnet *n*, serves to move the detent in the other direction. The drawings represent the parts as arranged so that the spring tends to press the detent *o* into the notch 2, and the lever *m* to lift the same out. The screw *s* is adapted to slide endwise upon the sleeve *e*, and while the heel 3 of the detent *o* rests upon that screw such detent *o* cannot fall into the notch 2; but as soon as the screw is moved endwise sufficiently to be clear of the heel 3 of the detent, the spring *l* is free to force the detent *o* into the notch 2 of the unison-ring.

I remark that the unison-ring is preferably stationary, and the lever *m* provided with the block 4 to lift the detent out of the notch 2; but if the other parts were arranged with reference to the same the ring might be upon the lever, and moved thereby. In that case the type-wheel would be stopped by a pin upon the lever falling into a notch in the bottom of the screw-thread, and the compound detent would be connected with the ratchet-wheel or disconnected therefrom by the action of the ring.

The screw *s* is represented as upon a feather on the sleeve *e*, and pressed toward the arm *h* by a spring, *t*, and there is a segment of a nut upon the lever *m* at the block 4. Hence, as the screw revolves with the type-wheel, the nut-segment will draw the screw endwise away from the heel of the detent *o*, and allow that detent *o* to rest upon the unison-ring, and drop into the notch 2 when it arrives there. As soon as the printing-lever is actuated the block 4 lifts the detent *o* out of its notch and the nut-segment out of the screw, and the detent *r* locks the type-wheel to the motor, and the screw is forced along toward the arm *h* by the

spring; but if the screw did not revolve, but were capable of end motion, as aforesaid, a tooth upon the heel of the detent might be used to give the end motion to the screw. There may be one or more type-wheels upon the sleeve *e*, according to the character of the instrument.

I claim as my invention—

1. The combination, with a type-wheel and its motor, of a compound detent that simultaneously disconnects the motor and locks the type-wheel, or the reverse.

2. A notched unison-ring and detent, *o*, in combination with a type-wheel and a screw, substantially as set forth.

3. A screw receiving an end movement as the type-wheel revolves, in combination with such type-wheel, and unison mechanism brought into action by the end movement of the screw, substantially as set forth.

4. The combination of the ratchet-wheel *d*, compound detent *o r*, sleeve *e*, type-wheel *f*, unison-ring *k*, screw *s*, and lever *m*, substantially as and for the purposes set forth.

5. The combination, with the notched unison-ring and the liberating mechanism operated by the press-magnet, of the compound detent *o r*, and a spring to press the detent *o* into the notch of the unison-ring, substantially as set forth.

Signed by me this 14th day of February, A. D. 1876.

CHARLES J. WILEY.

Witnesses:

GEO. T. PINCKNEY.

CHAS. H. SMITH.