

B. WEISS.

Telegraphic-Relay Instrument.

No. 28,334.

Patented May 15, 1860.

Fig. 1.

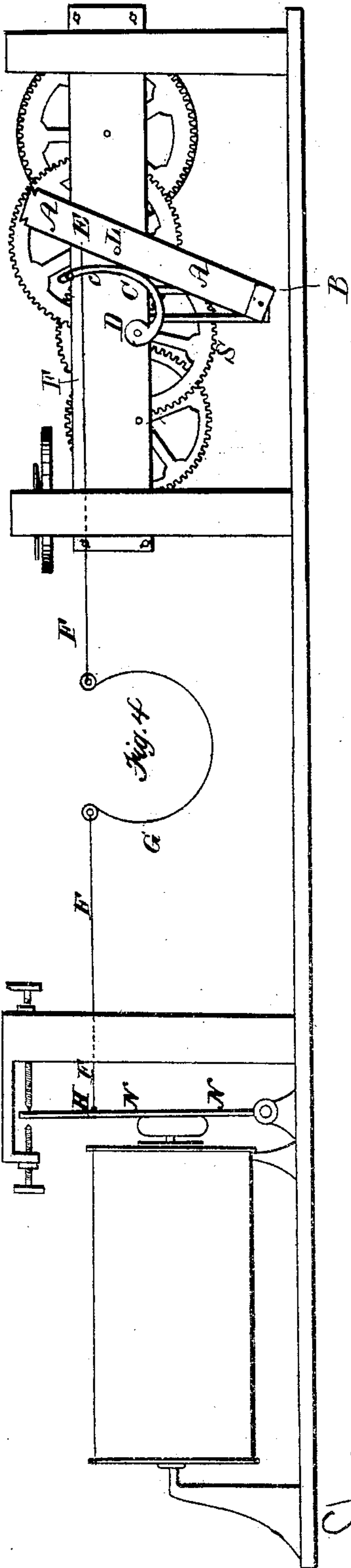
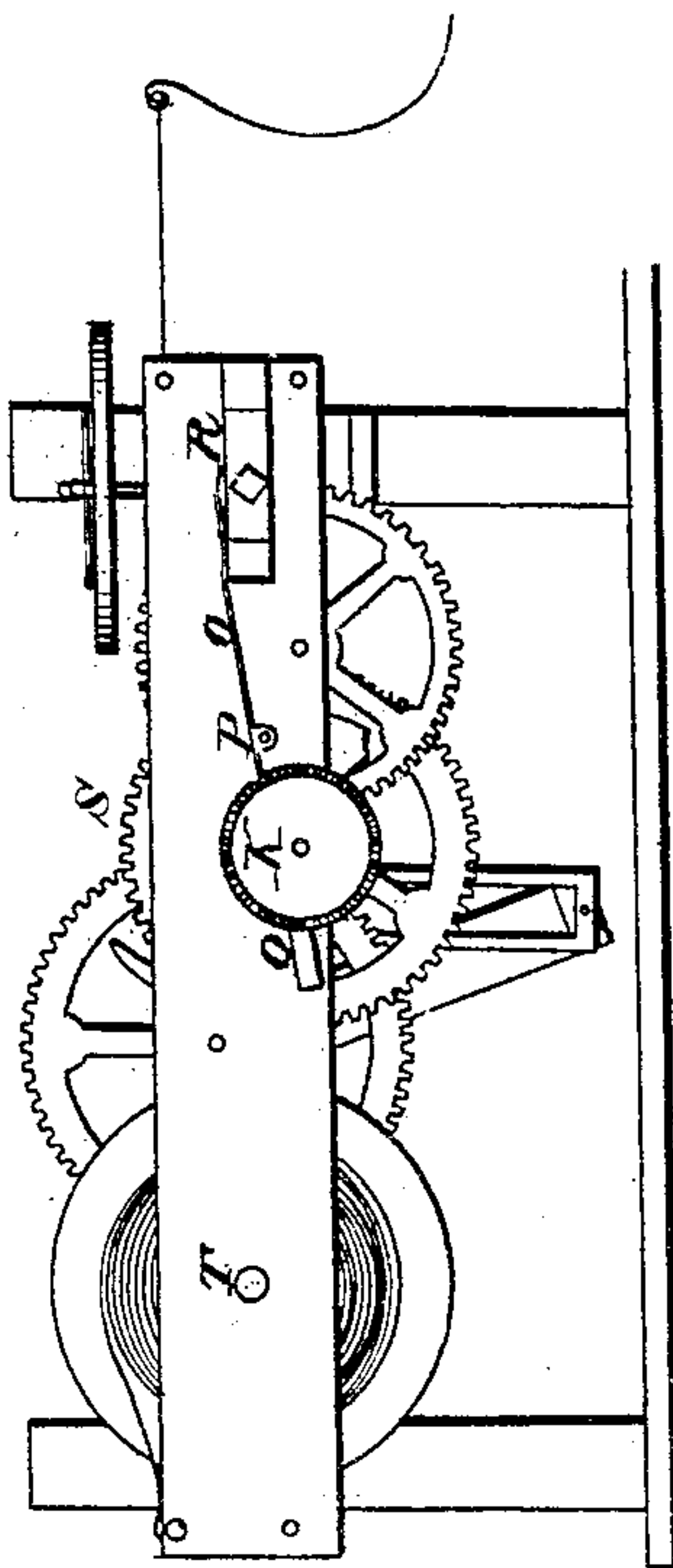


Fig. 2.

Fig. 3.



Witnesses.
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JEDEDIAH WEISS, OF BETHLEHEM, PENNSYLVANIA, ASSIGNOR TO HIMSELF
AND CHAS. BRODHEAD, OF SAME PLACE.

IMPROVEMENT IN TELEGRAPHIC MACHINES.

Specification forming part of Letters Patent No. **28,334**, dated May 15, 1860.

To all whom it may concern:

Be it known that I, JEDEDIAH WEISS, of the borough of Bethlehem, county of Northampton, and State of Pennsylvania, have invented a new and useful machine for bringing telegraphic stations in adjustment with other stations when an existing adjustment has been destroyed by a change in the electric current or from some other cause.

This invention is designed to meet a difficulty experienced by telegraphic operators when they get out of adjustment with one or more stations by reason of a change in the electric current produced by a change in the atmosphere or other cause. An operator may be called from another station, yet he will not hear the call if his instrument is not in adjustment, unless he be directly at the instrument, and by consequence he has to be constantly running the circuit by opening and closing the spring, which is spiral or nearly circular, as in the drawings and model, (or sometimes an elastic substance is used, and to any of which this invention is adapted,) and connected by a string or wire with the armature of the relay-magnet, to ascertain whether he is not being called by some other operator from a station with which he is not in adjustment.

This invention will enable the operator to be in any part of his room and attending to any other business and hear a call from any and all stations on the line in a longer or shorter period of time, as the clock-work may be so regulated as to run the circuit in any desired time. The model herewith submitted runs the entire circuit and brings every station in adjustment for a short time, in the period of six minutes, then springs back and goes over the circuit again. This by way of explanation of the practical uses of the machine.

The nature of my invention consists in the application of common clock-work (with additions as hereinafter described) to the expansion and contraction of the springs or elastic substance commonly used by telegraphic operators for the purpose of adjustment with other stations; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, refer-

ence being had to the annexed drawings, making part of this specification, in which—

Figure 1 represents the rear side of the machine. Fig. 2 represents the ordinary relay-magnet used in telegraphing; Fig. 3, a front view of Fig. 1, and Fig. 4 the spring ordinarily used.

A A in Fig. 1 represents a lever working on a pivot, B. This lever has a sliding extension to lengthen or shorten the circuit. At E on said lever a string or wire, F F F, connects the lever with the spring G, Fig. 4, and thence with N N at the point H, N N representing the armature of the relay-magnet.

C C C represents an eccentric revolving on an axis, D, which point D is the extremity of the axis of the wheel S in Figs. 1 and 3, and the other extremity of which is a brass knob, K, in Fig. 3.

O O in Fig. 3 represents a lever working on a pivot, P, and resting lightly on the axis of the wheel S and nearly touching the axis of another wheel at R.

L in Fig. 1 represents a roller attached to the lever A A, and against which roller the eccentric works when the machine is in motion.

K, a brass knob, is the extremity of the axis of the wheel S in Fig. 3, and is wedge-shaped where the lever O O rests upon it, and is so constructed as to move back and forth for the eighth of an inch without affecting the wheel S or the eccentric. When this brass knob is revolved by hand it carries the axis of S and the eccentric around with it. The clock-work is wound up at T in Fig. 3.

The operation of the machine is as follows: When the clock-work is set in motion we will suppose the spring G to be closed. By the revolution of the wheel S the eccentric C C C is revolved against the roller L on the lever A A, moving said lever with it, and as the lever moves, it being connected with the spring G and thence with the armature of the relay-magnet at H, it gradually opens the spring to the extent which the size of the eccentric and the size of the spring may require. (This spring will be regulated in size and stiffness by operators to suit their own views, being so arranged that the circuit will be gone over when

the spring has so far expanded as to let the roller L pass over the end of the eccentric.) When the eccentric has passed under the roller L of the lever A A, the circuit has been gone over, and the strength of the spring G immediately brings the lever A A back to a nearly perpendicular position, when the eccentric at its axis D again comes in contact with the roller L on the lever A A and runs the circuit over again, as before. During this circuit a call from any station on the line can be distinctly heard for a period of time sufficient to inform any other operator whether he was called, it being supposed that if this instrument were introduced each operator would continue calling a station for the period which the machine used would require to bring each and every station in adjustment. When a station hears that he is called he goes quickly to his instrument, presses the brass knob K in Fig. 3 inward. Its wedge shape raises the one end of the lever O O and depresses the other end upon R, the axis of another wheel, which pressure immediately stops the clock-work, leaving his station in adjustment and his instrument ready to receive the message for which he has been called.

If the clock-work should have carried the station out of adjustment after he heard the call and before he was able to stop it, he has only to turn the knob K slightly back until he comes in adjustment, which is done in an in-

stant. This is readily accomplished when the works are stopped, as the axis of the wheel S can be moved by turning the knob K, thus opening or closing the spring without interfering with the clock-work, if in motion, or without moving the clock-work when stopped; if the knob K is tightly pressed in, so as to press the lever O O on the wheel at R.

When the message is received the operator has only to draw back the knob K, which relieves the axis R from the pressure of the lever O O and the instrument again commences running the circuit, to be again manipulated as above when the station is again called.

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

The application of clock-work to the drawing out and letting back of the spiral spring, circular spring, or elastic substance (commonly used for adjusting the telegraphic circuit) by combining with the clock-work the eccentric C C C, the lever A A, and roller L, the movable axis to the wheel S, the sliding wedge-shaped knob K, and the lever O O in the manner and with the effect set forth particularly in the foregoing specification and the annexed drawings.

JEDEDIAH WEISS.

Witnesses:

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