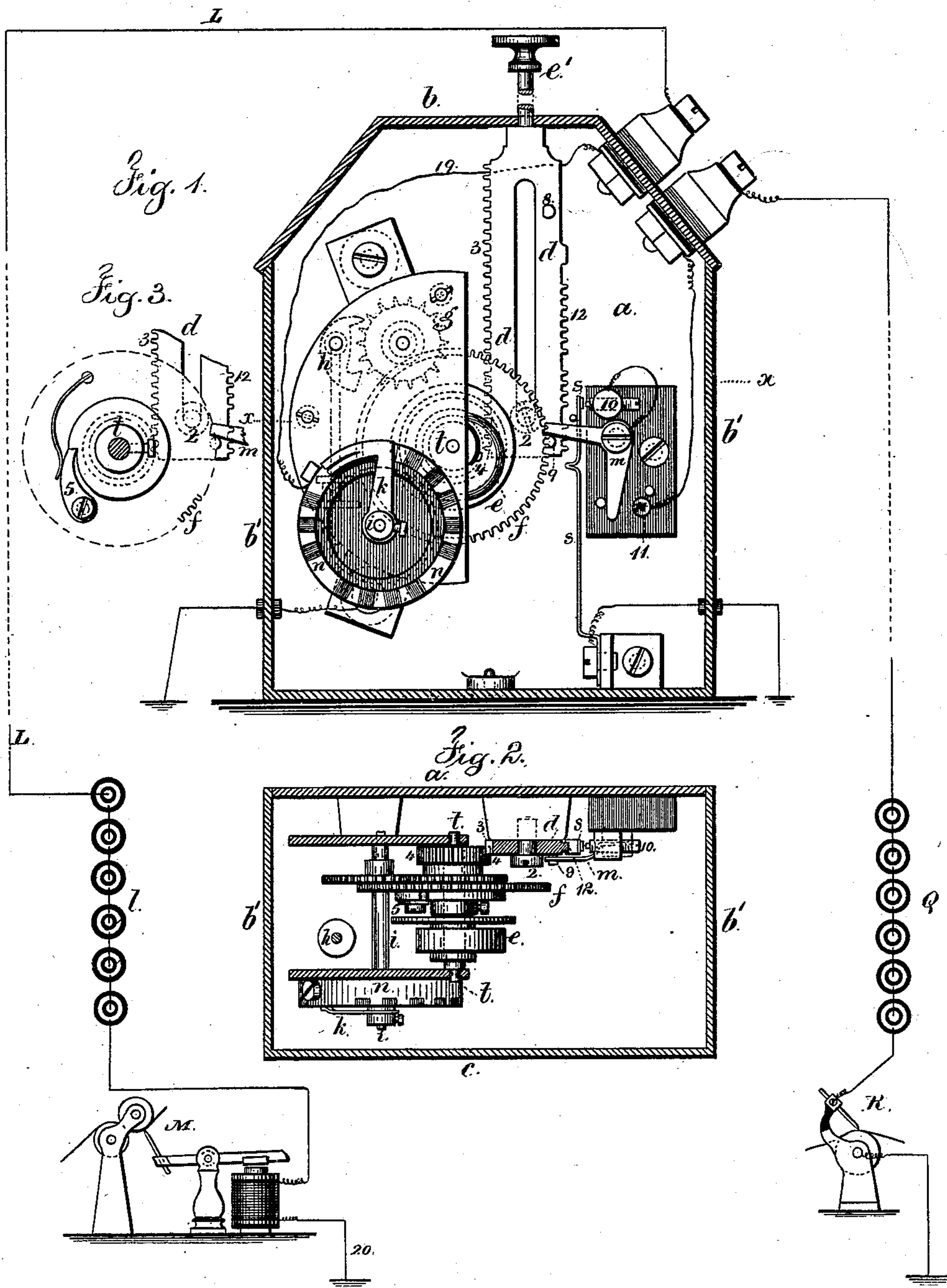


J. J. BRADLEY.
Fire and District Alarm Telegraph-Box.
No. 204,708. Patented June 11, 1878.



Witnesses

Chas H. Smith
Geo. T. Pinckney

Inventor.

James J. Bradley.
for Lemuel W. Ferrell atty

UNITED STATES PATENT OFFICE.

JAMES J. BRADLEY, OF NEWARK, NEW JERSEY.

IMPROVEMENT IN FIRE AND DISTRICT ALARM TELEGRAPH BOXES.

Specification forming part of Letters Patent No. **204,708**, dated June 11, 1878; application filed April 8, 1878.

To all whom it may concern:

Be it known that I, JAMES J. BRADLEY, of Newark, in the county of Essex and State of New Jersey, have invented an Improvement in District-Alarm Telegraphs, of which the following is a specification:

I make use of an alarm-box provided with a push-button and slide-rack, which rack acts to wind up a spring, and at the extreme of the movement the spring is connected with a train of gearing and escapement, that is revolved by the spring and gives motion to a circuit-breaker around a metal ring with non-conducting sections upon the face. This gives the signal in one circuit. Simultaneously with the connecting of the spring with the train of wheels the slide-rack moves a switch-lever and connects another circuit, and the pulsations in this to give the signal are produced by teeth upon the slide that act upon a circuit-breaking spring, and the completion of the return movement again moves the switch and breaks the circuit. By this arrangement two separate signals can be given to one main by different routes or to two different central offices, such as a messenger and a police station, and by the use of a switch either circuit can be broken, so as not to operate the same, if desired.

In the drawing, Figure 1 is a section of the box and elevation of the parts therein, illustrating also the circuit connections to the distant instruments; and Fig. 2 is a sectional plan at the line *x x*.

The box is made with the back *a*, top *b*, sides *b'*, and front *c* of suitable size and construction. The push-button *e'* and its rod are connected to the slide *d*, that is slotted, and guided by a screw, 2, that passes through such slot. At one side of this slide there are teeth 3, that act upon the pinion 4 to give it and the shaft to which it is attached one complete revolution when the slide receives its full endwise movement, and in so doing the spring *e* is wound up and a pawl, 5, (see Fig. 3,) is revolved around a disk upon the wheel *f*, and re-enters the single notch therein, so that the spring *e* gives the shaft *t* and its wheels a complete revolution when pressure upon the push-button is released, and in so doing the

slide and push-button are moved back to their normal position.

There is an escapement-wheel, *g*, and pallet-vibrator *h* to prevent the return movement being too sudden, and as the train of gearing is revolved the shaft *i* and spring-arm *k* are turned over the insulated metallic ring *n*, so as to make and break the circuit as the spring-arm is moved over the conducting and non-conducting portions of the said ring, these portions being so located as to give the desired signals.

The circuit from the battery *l* is through the line *L* and wire 19 to the insulated ring *n*, and thence, by the spring-arm *k* and its shaft, to the earth, the record being made at the distant station by the Morse register *M*, or other suitable receiving-instrument, the current returning by the wire 20 from earth.

Adjacent to the slide *d* there is a switch, *m*, that is operated by pins 8 and 9 near the ends of the movement of such slide, and as the push-button is pressed in the said switch closes the circuit from the battery *Q* through 10 and *m* to the contact-point 11.

Upon the edge of the slide *d* are the teeth or projections 12, arranged to represent numbers, letters, or other signals, and these teeth act against the V-shaped projection of the circuit-spring *s*, and close and open the circuit as the slide moves back to its normal position. At the end of the movement the switch *m* is again moved by the pin 9 to break the circuit of the battery *Q*.

The circuit from the battery *Q* is represented as connected with the chemical receiving-instrument *R* at the distant station and the spring *s* with the earth.

By this arrangement two signals can be sent simultaneously in different directions or over different circuits from one signal-box, and by placing a switch in either circuit operated by hand that circuit can be cut out when it is not desired to send any signal over the same.

I am aware that a revolving arm and circuit-breaking ring have been used; also, that push-buttons and reciprocating circuit-breakers have been employed. In my apparatus I am able to operate two independent circuit-connections by one simple device, because I

make use of the rack of the push-button itself as one circuit-breaker. This rack operates the speed-regulating train of wheels, and the revolution of that train operates the other circuit-breaker.

I claim as my invention—

In an alarm or signal instrument having two independent electric circuit-connections, the combination of a push-button, a rack, a train of wheels to regulate the speed, a spring that is wound by the rack, a circuit-breaking ring,

and an arm revolved by the gearing, and a circuit-breaker upon the rack-bar acting in the second circuit, and a switch moved by such rack-bar, substantially as set forth.

Signed by me this 15th day of February, A. D. 1878.

JAS. J. BRADLEY.

Witnesses:

J. T. MURRAY,

ABRAHAM MANNERS.