

W. D. BROWNE.
ELECTRIC SIGNALING BOX.

No. 383,941.

Patented June 5, 1888.

Fig. 1.

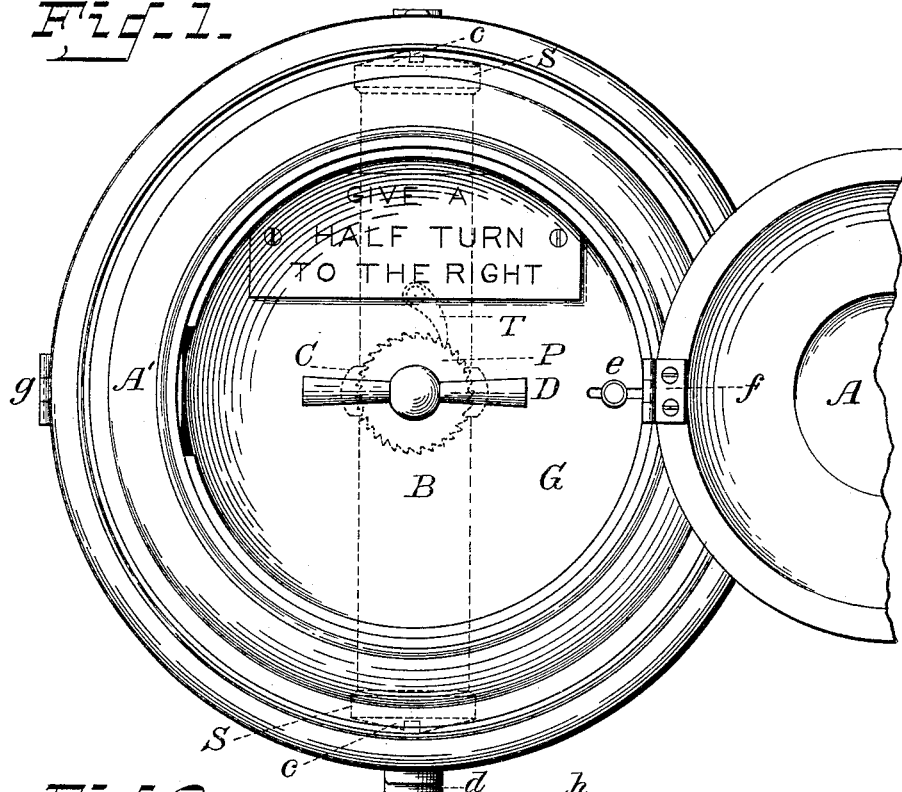
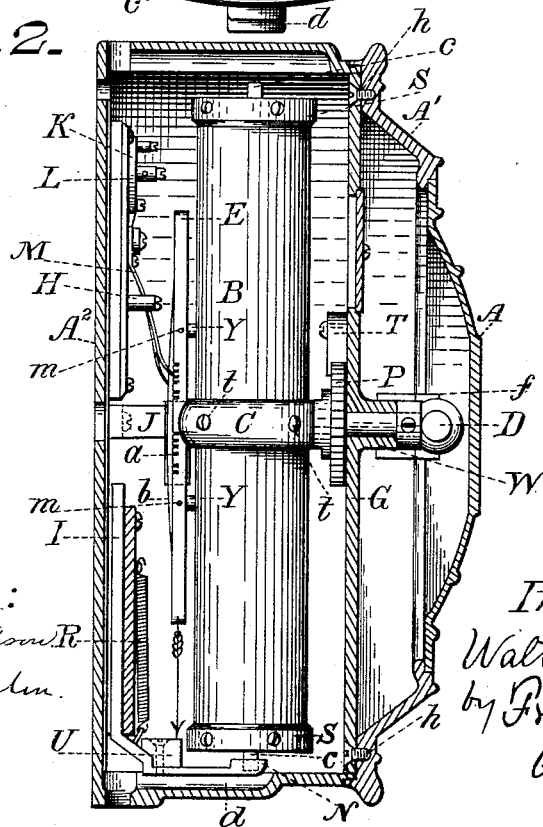


Fig. 2.



Witnesses:

Fred C. Timpson. R.
William P. Allen.

Inventor:

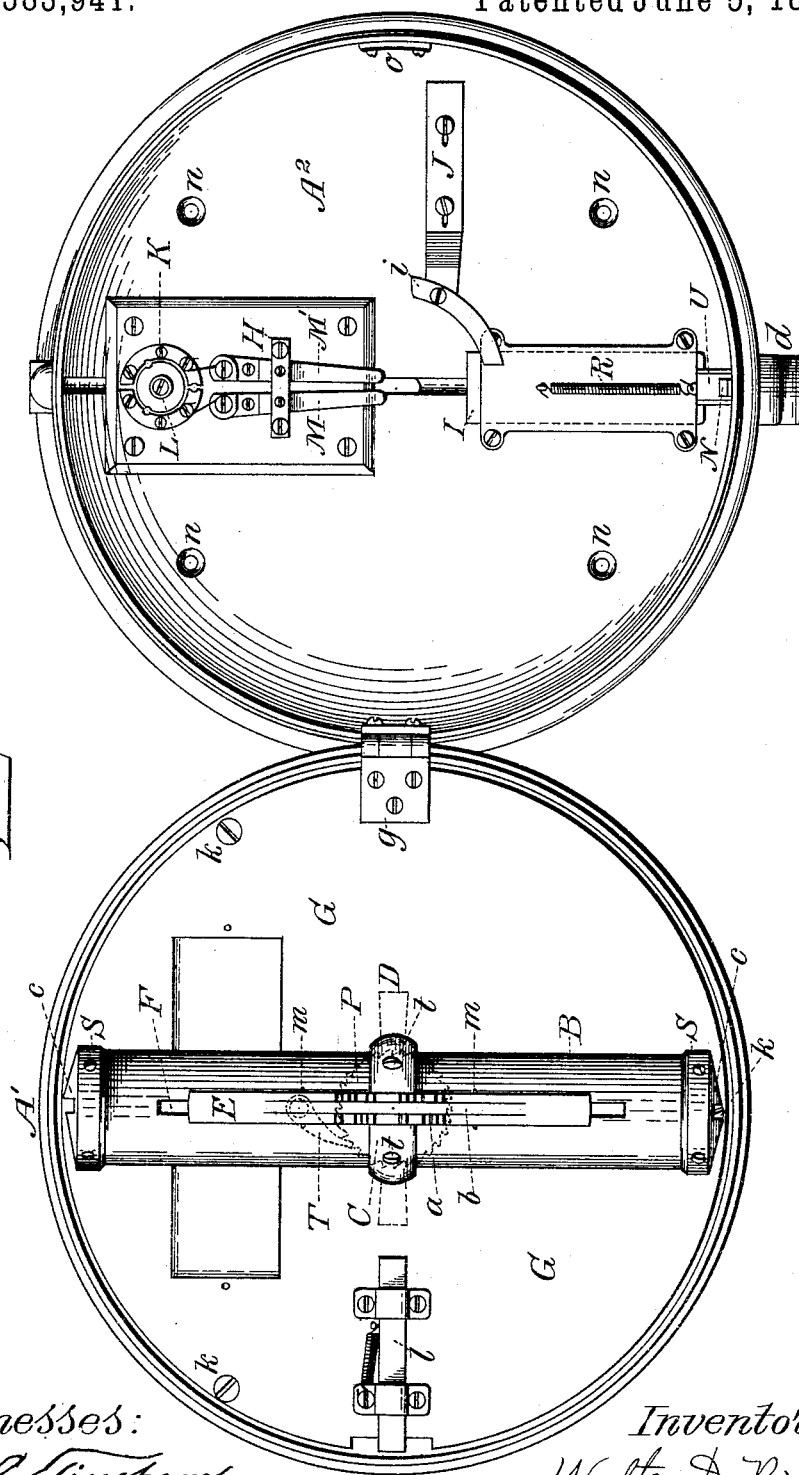
Walter D. Brown.
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FIG. 3.



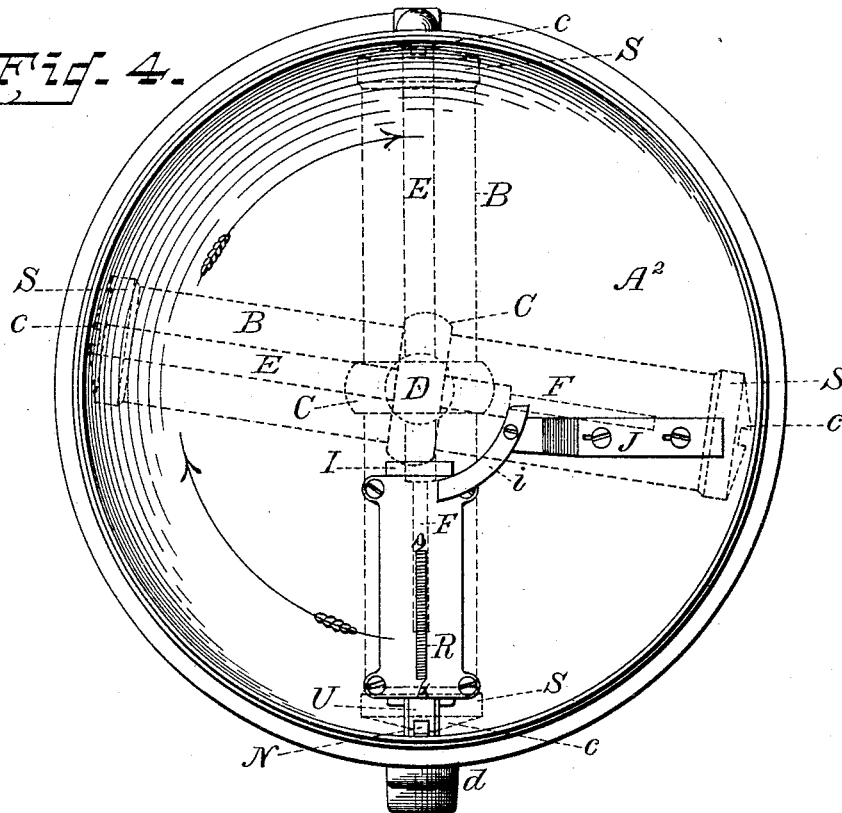
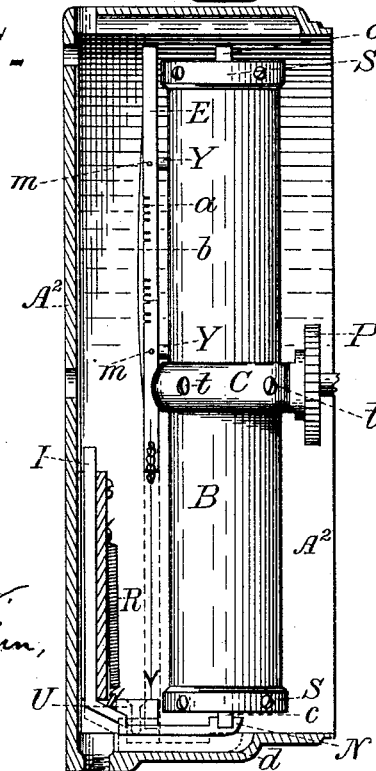
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Fig. 4.Fig. 5.

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Fig. 6.

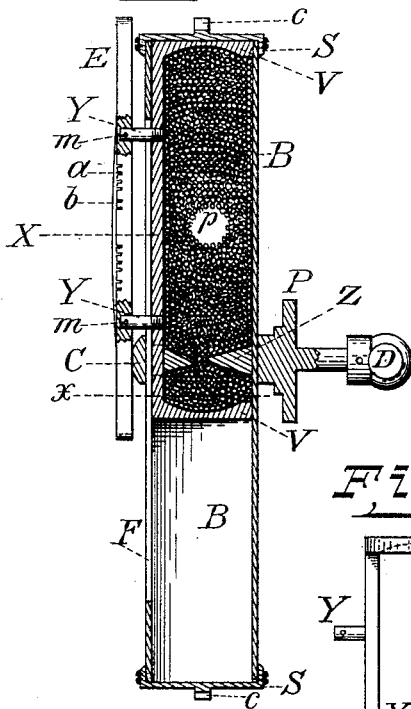


Fig. 7.

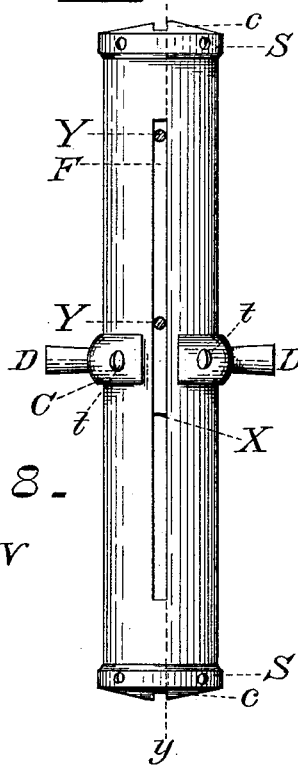


Fig. 8.

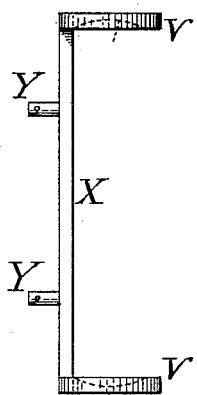


Fig. 9.

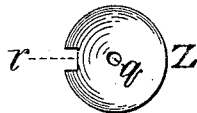
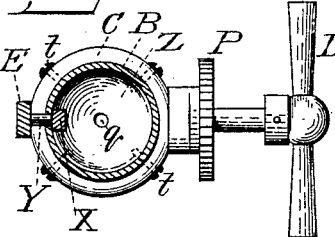


Fig. 10.

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UNITED STATES PATENT OFFICE.

WALTER D. BROWNE, OF SENECA FALLS, ASSIGNOR TO FRED C. TIMPSON,
OF AUBURN, NEW YORK.

ELECTRIC SIGNALING-BOX.

SPECIFICATION forming part of Letters Patent No. 383,941, dated June 5, 1888.

Application filed September 17, 1887. Serial No. 249,909. (No model.)

To all whom it may concern:

Be it known that I, WALTER D. BROWNE, of the village of Seneca Falls, New York, have invented certain new and useful improvements in Electric Signaling-Boxes, of which the following is a description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 shows my invention, with the front door open to permit it to be operated. Fig. 2 shows a central vertical section of the inclosing-case, with side view of its contents. Fig. 3 shows the box opened upon its middle hinge, *g*, thus presenting its contents to view. Fig. 4 shows a front interior view of the rear of the box, with the position of the carrier indicated by dotted lines and with the plate *H* and its connections removed. Fig. 5 is a side view, partly in section, of Fig. 4. Fig. 6 is a sectional view of the carrier with operating-handle and circuit-closing rack attached. Fig. 7 is a rear view of the carrier. Fig. 8 shows the movable carrier-heads and connecting-bar removed from the carrier. Fig. 9 is a top view of the diaphragm; and Fig. 10 is a horizontal section of the carrier above the diaphragm.

The object of my invention is to construct an electric signaling-box which shall operate by gravity. To accomplish this result, I construct my signaling-box as follows: Within an exterior case I suspend a carrier, *B*, of a form which presents like transverse sections at different points of its length, as the cylindrical form shown in the drawings, whereby the movable heads fit it throughout those portions of it which they traverse, and attach thereto a handle, *D*, by which it may be revolved in a vertical plane, the handle being connected with the carrier by a shaft which rests in a bearing, *W*. The carrier *B* is provided with a fixed and perforated or apertured diaphragm, *Z*, at the middle point of its length, and with two movable heads, *V V*, which are retained at a fixed distance from each other by means of a connecting-bar, *X*. The carrier *B* is slotted at its back *F*, Fig. 6, to allow suitable studs, *Y Y*, to extend backward from the connecting-bar *X* and support another bar, *E*, which is provided with circuit-breaking teeth *a*, Fig. 6. The space within the carrier *B* be-

tween the movable heads *V V* is nearly filled with some heavy and finely-divided material, *p*—as, for instance, fine shot—which I have found to be well adapted to the purpose. When the carrier with its movable heads is turned by means of its handle *D*, so as to bring the weight *p* above the diaphragm *Z*, the shot or other material begins to run through the aperture *q* in the diaphragm and to fall upon the lower of the two heads *V*, and by its weight it carries the heads *V V*, connecting-bar *X*, and toothed rack-bar *E* downward, the speed of their descent being regulated by the size of the orifice in the diaphragm and consequent rapidity of flow of the shot, or other material, *p*, constituting the weight. The rack-bar *E* has a central smooth rib, *b*, upon which rests a spring, *M*, and another spring, *M'*, passes over the series of teeth *a*, making an electric circuit with the spring *M* at each tooth and breaking said circuit at the spaces between said teeth. These springs *M* and *M'* are secured upon a plate of non-conducting material, *H*, and are in an electric circuit, which includes an alarm.

L K is a cut-out, which, although not necessary, it is well to insert for purposes of testing or grounding the instrument, *L* being a ground connection.

n n represent screw-holes, whereby the box may be secured to its support.

S S are caps upon the ends of the carrier.

The circuit-breaking teeth *a* may be repeated several times in the length of the bar *E*, if desired, so as to repeat the signal as many times at one descent of the movable heads. A ratchet, *P*, and pawl *T* prevent the carrier from turning excepting in one direction. A curved bar, *i*, supports the lower end of the bar *E* while the carrier is turning, and permits it to begin its descent only when the carrier has assumed a vertical position.

J is a base by which the segment *i* is supported.

A locking-bar, *N*, whose limb *I* slides vertically in a bracket and which is held up by a spring, *R*, engages a notch in the end of the carrier at *c*, when the latter is in a vertical position, and holds it locked until the end of the bar *E*, having accomplished its descent, rests

upon it at U, and by its weight bears it down and disengages the carrier, thus freeing it for another half-revolution.

d is an extension of the box to receive the locking-bar N.

t t are screws securing the carrier to its support C. *k k* are likewise screws in the plate G.

m m are pegs securing the bar E to the studs Y Y.

The last-mentioned three parts are not essential.

In order that the interior of the box may be accessible when necessary, I hinge the carrier-supporting plate G by a hinge, *g*, to the rear portion, A², of the box, the plate G being held by a bolt, *l*, operated by a stud, *e*, Fig. 1, projecting through said plate.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an electric signaling-box, the combination of the hollow reversible carrier provided with a fixed diaphragm constituting a partial division-wall across said carrier, two movable heads connected at a fixed distance,

and a weight, *p*, composed of finely-divided material and contained within said carrier between said heads.

2. In an electric signaling-box, the combination of the hollow reversible carrier provided with a diaphragm constituting a partial division-wall across said carrier, a weight of finely-divided material, two connected movable heads inclosing said weight, and a circuit making and breaking device actuated by said weight and moving with said heads.

3. In an electric signaling-box, the reversible carrier B, in combination with the locking-bar N, and a releasing-bar, E, impelled by gravity.

4. The combination of the hollow reversible carrier B, provided with a fixed diaphragm constituting a partial division-wall across said carrier, a weight of divided material, the sliding heads V V, bar E, and the segmental support *i* for the end of said bar.

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Witnesses:

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