(No Model.) 2 Sheets—Sheet 1.

C. E. SCRIBNER.

AUXILIARY FIRE ALARM SIGNAL APPARATUS.

No. 487,095. Patented Nov. 29, 1892.

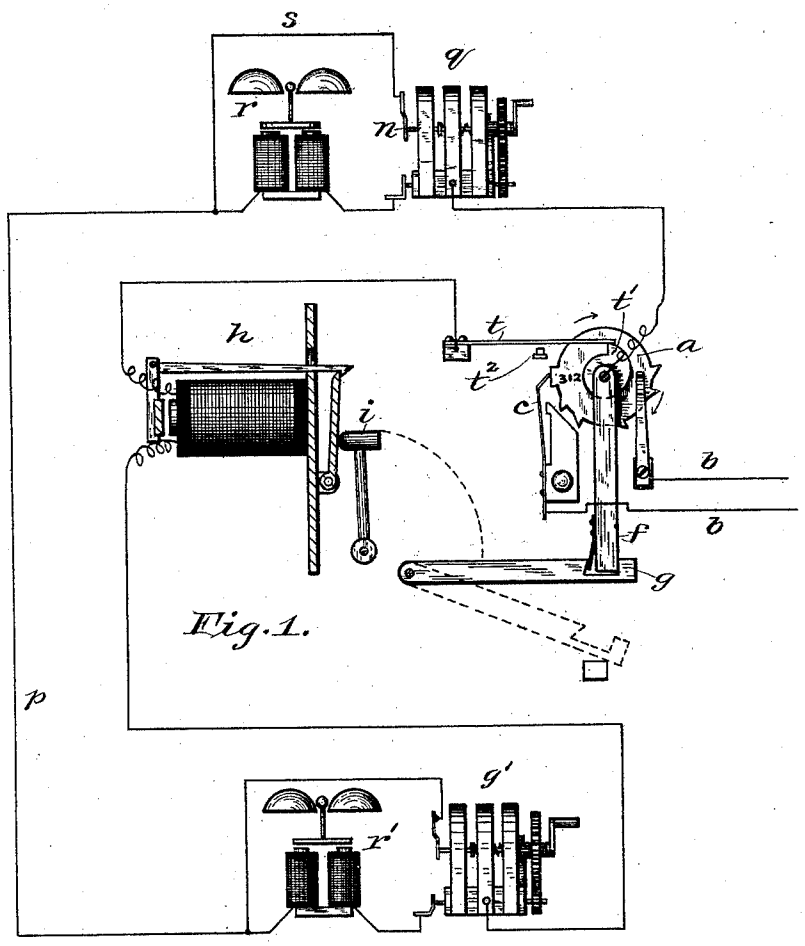

Fig. 1.

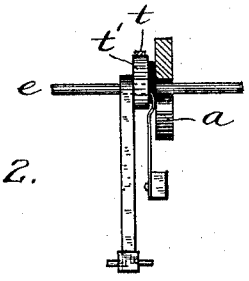

Fig. 2.

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(No Model.) 2 Sheets—Sheet 2.

C. E. SCRIBNER.

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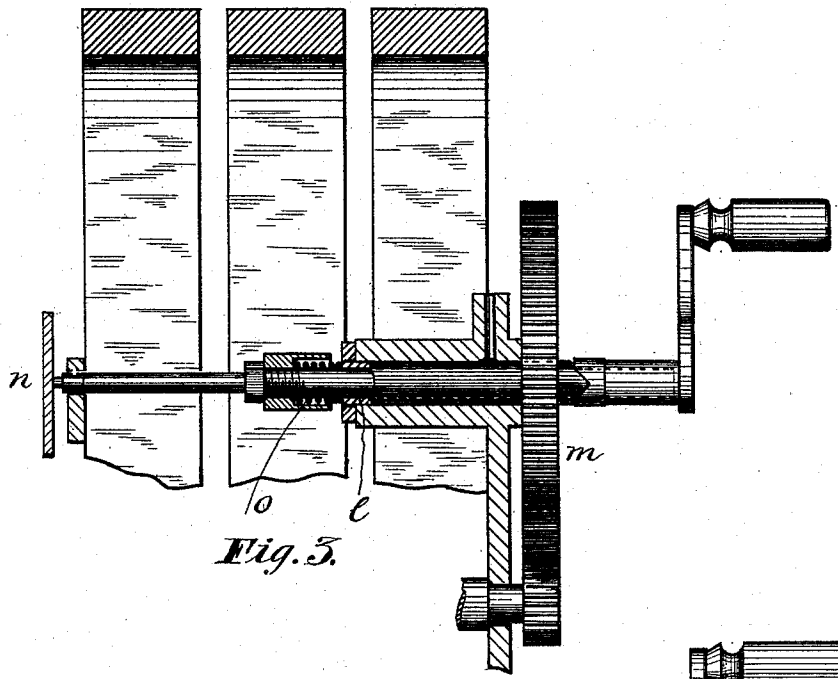

Fig. 5.

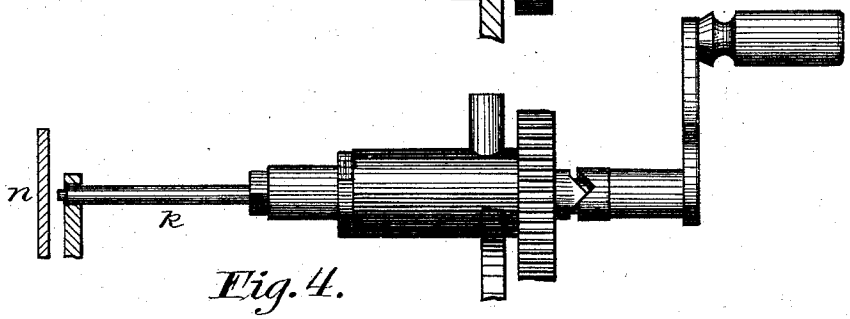

Fig. 4.

Witnesses:
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UNITED STATES PATENT OFFICE.

CHARLES E. SCRIBNER, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE WESTERN ELECTRIC COMPANY, OF SAME PLACE.

AUXILIARY FIRE-ALARM-SIGNAL APPARATUS.

SPECIFICATION forming part of Letters Patent No. 487,095, dated November 29, 1892.

Application filed June 1, 1888. Serial No. 275,759. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. SCRIBNER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Auxiliary Fire-Alarm-Signal Apparatus, (Case No. 167,) of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

In fire-alarm systems the fire-alarm boxes are distributed throughout the city at different stations, as is well known. These boxes are so arranged that they may be readily opened, so as to send in the signal. Heretofore auxiliary electric apparatus has been provided for operating a box from a distance. For example, we will suppose a fire-alarm box placed at a corner near a factory. In this factory on different floors circuits have been run and connected with suitable apparatus, so that the box may be turned in by operating the apparatus from different points of the factory without going to the box.

My invention relates more especially to such auxiliary apparatus; and it consists in providing, in connection with a fire-alarm-signal box, an auxiliary circuit, including a generator and bell at one or more stations thereon, so arranged that when the generator is operated the bell in connection with that generator will be rung until the break-wheel of the signal-box begins to turn, whereupon the bell will be disconnected from the circuit and cease to ring. The one operating the generator will know that the break-wheel is started when the bell ceases to ring.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 illustrates a signal-box and my auxiliary apparatus connected therewith. Fig. 2 is a side elevation, partially in section, of the break-wheel, the spring-finger forming connection therewith, and the cam and contact normally included in the auxiliary circuit. Figs. 3 and 4 are detailed views illustrative of the manner of automatically moving the shaft of the magneto-generator longitudinally to open a shunt-circuit around the machine.

Like parts are indicated by similar letters of reference throughout the different figures.

Referring to Fig. 1, it will be understood that the break-wheel or character-wheel *a* is of well-known construction, and when set in motion the fire-alarm circuit *b b* is interrupted by the contact-spring *c* passing over the teeth or characters of the wheel. Thus wheel *a* is provided with six teeth in such relation to each other that the wheel when set in motion would indicate the number "312."

A well-known form of signal-box is shown and described in Letters Patent No. 382,788, granted to John Young May 15, 1888.

The break-wheel *a* is mounted rigidly upon a shaft *e*, but insulated therefrom, as shown in Fig. 2. A clock-train (not shown in the drawings) tends to turn the shaft in the direction indicated by the arrows in Fig. 1. The shaft is, however, held from turning by an arm *f*, resting in a notch provided in the pivoted arm *g*. On throwing down the arm *g* to the position indicated by the dotted lines in Fig. 1, the shaft *e*, and with it the break-wheel *a* is set in motion, the arm *f* being carried with the shaft. The box is normally set, as shown in Fig. 1, with the end of arm *f* resting in the notch of pivoted arm *g*. Ordinarily the signal is given by releasing the arm *f* from the notch by hand, it only being necessary to pull down the pivoted arm *g*. This act is called "pulling a box."

I have provided an apparatus by which the box may be pulled or set in motion from one or several points by simply closing a circuit through an annunciator *h*, the falling of the shutter of the annunciator serving to operate a weight *i*, which falls against the arm *f*, thus sending in the signal over the fire-alarm circuit *b b*. Apparatus for thus operating the box electrically from a distance has been heretofore employed. I have, however, provided in the auxiliary circuit at different points a bell and generator. Each generator and its bell are normally shunted out of the auxiliary circuit, the shunt being automatically opened when the generator is operated. Va-

rious devices have been heretofore provided for automatically opening such shunts on turning the crank of the generator. Such an automatic device is described and claimed in Letters Patent No. 309,617, granted Elisha Gray December 23, 1884, for telephone-call boxes.

In Figs. 2 and 3 I have shown a well-known automatic device for opening the shunt. The shaft *k* extends through the sleeve *l*. This sleeve *l* is rigid with the driving-wheel *m*. When the crank is turned, as shown in Fig. 4, the shaft *k* is moved longitudinally, so as to open the connection with contact *n*. When the generator is at rest the spring *o* brings the shaft to its normal position in contact with contact *n*, as shown in Fig. 3.

As illustrated in Fig. 1, the auxiliary circuit *p* contains the generator *q* and bell *r* at one station and at another station a similar generator *q'* and similar bell *r'*. By sending current from either generator *q* or *q'* over the auxiliary circuit *p* the break-wheel *a* will be released and set in motion—that is to say, the fire-alarm signal will be sent over circuit *b b*. Any number of stations may be provided upon the same auxiliary circuit, a generator and bell normally shunted out of circuit being provided at each of the stations.

We will suppose the crank of generator *q* to be turned. The shunt *s* around said generator *q* and the bell *r* will be opened at *n*. The bell *r* will ring until the break-wheel *a* has started, whereupon the auxiliary circuit *p* will be opened between the spring-contact *t* and the cam or eccentric *t'*, whereupon the bell *r* will cease ringing. Therefore the user upon observing that the bell *r* has ceased ringing will know that the box has been turned in. The manner of thus automatically opening the auxiliary circuit will be understood by reference to Fig. 2. The break-wheel *a* is rigid upon the shaft *e*, but insulated therefrom. The eccentric *t'*, which turns also with shaft *e*, is therefore disconnected from break-wheel *a* and the fire-alarm circuit *b b*. A stop t^2, placed under the spring *t*, prevents the spring *t* from coming against the eccentric except at its highest point.

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

1. The combination, with an automatic fire-alarm-signal box, of an auxiliary circuit, including a source of electricity and an electro-magnetic signal device in a shunt of said circuit, said circuit being connected with a circuit-breaking device which is operated by the fire-alarm-signal box to break the said circuit when the said fire-alarm-signal box is brought into service, whereby the auxiliary circuit is interrupted to cause the electro-magnetic signal device included in shunt thereof to cease operating, substantially as described.

2. A fire-alarm-signal box, in combination with an auxiliary circuit connected at the fire-alarm box with a circuit-breaking device mechanically connected with the signal-box transmitter, and electro-magnetic releasing mechanism included in said auxiliary circuit for releasing the break-wheel of the signal-box, and at each of two or more stations upon the auxiliary circuit a generator and electro-magnetic signal device, a shunt or short circuit at each station normally closed around the generator and bell of its station, and means for opening said shunt automatically when the generator is operated, whereby the fire-alarm-signal box may be turned in by operating the generator at any one of said points while the auxiliary circuit is opened immediately on the starting of the break-wheel to cause the electro-magnetic signal of the station whose generator has been operated to cease ringing, substantially as described.

In witness whereof I hereunto subscribe my name this 18th day of May, A. D. 1888.

CHARLES E. SCRIBNER.

Witnesses:
CHAS. C. WOODWORTH,
GEORGE P. BARTON.