

(No Model.)

2 Sheets—Sheet 1.

E. E. SALISBURY & A. E. DEAN.
COMBINED DISTRICT TELEGRAPH AND TELEPHONE SYSTEM.

No. 546,904.

Patented Sept. 24, 1895.

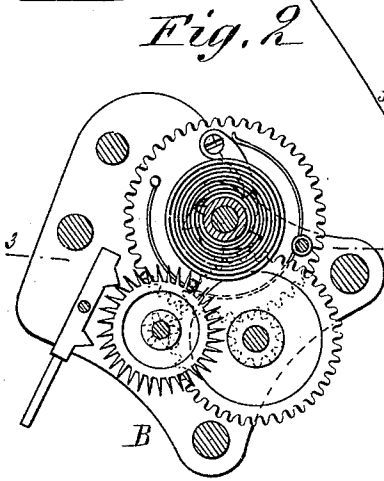
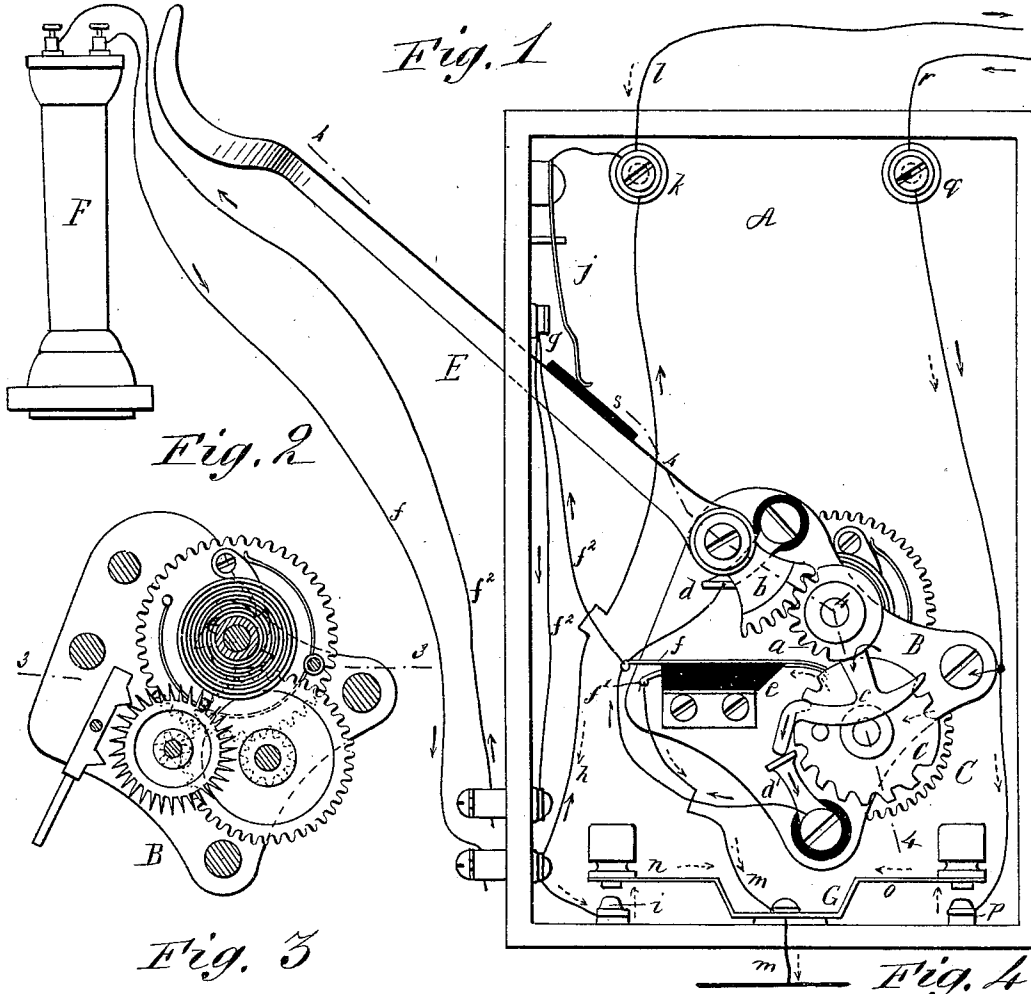
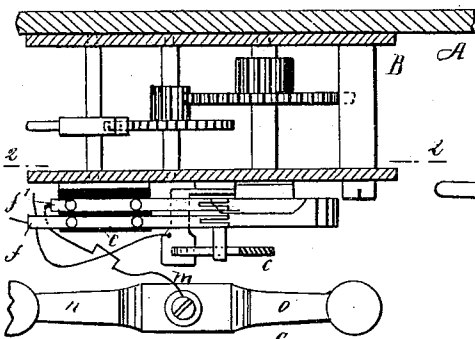
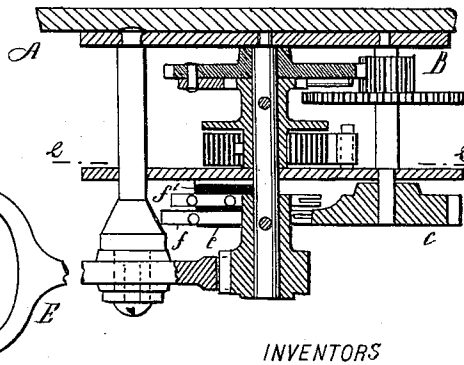


Fig. 3



WITNESSES:

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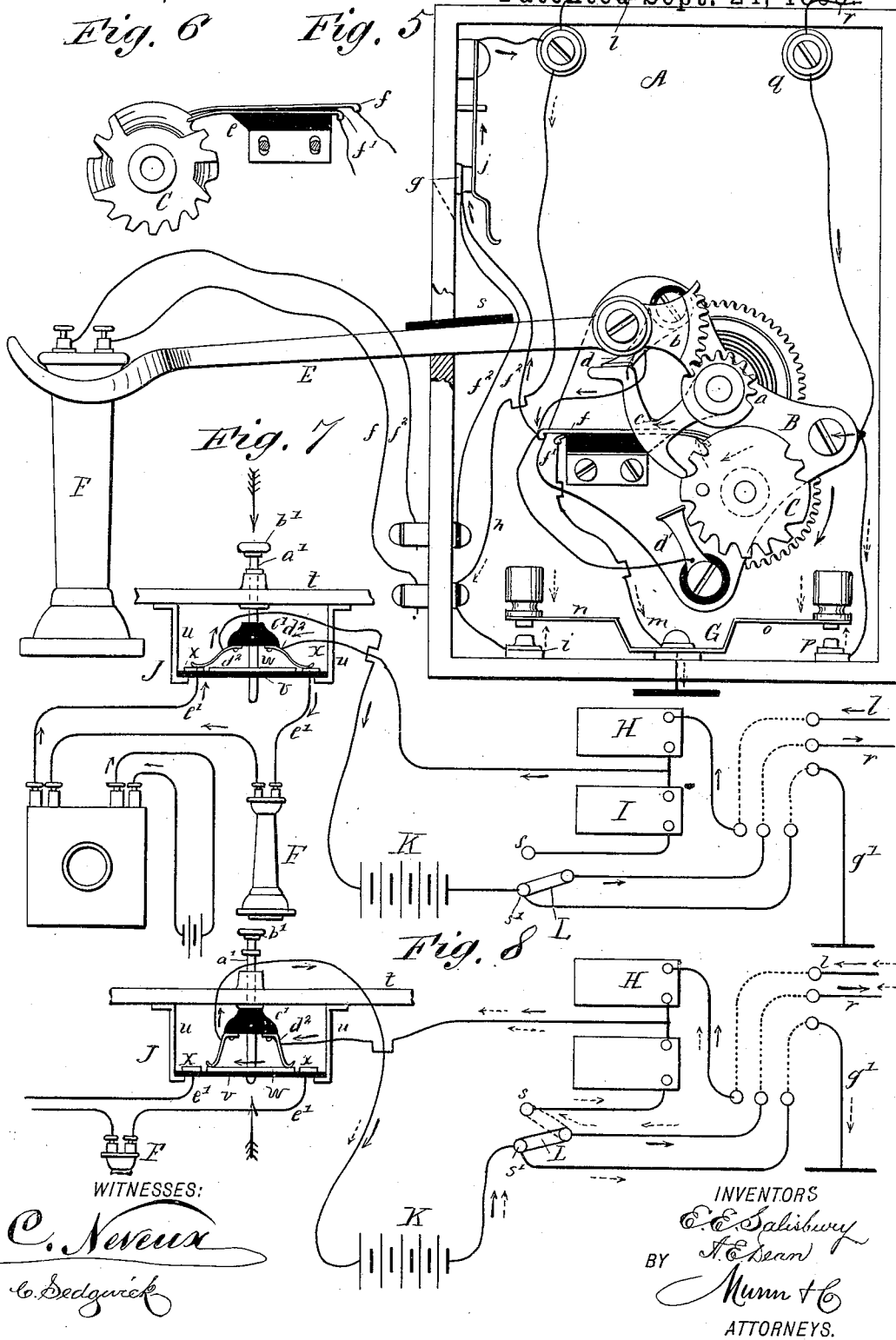
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Fig. 6

Fig. 5



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UNITED STATES PATENT OFFICE.

EDGAR E. SALISBURY AND ALBERT E. DEAN, OF TACOMA, WASHINGTON.

COMBINED DISTRICT TELEGRAPH AND TELEPHONE SYSTEM.

SPECIFICATION forming part of Letters Patent No. 546,904, dated September 24, 1895.

Application filed August 21, 1894. Serial No. 520,888. (No model.)

To all whom it may concern:

Be it known that we, EDGAR E. SALISBURY and ALBERT E. DEAN, of Tacoma, in the county of Pierce and State of Washington, have invented a new and Improved Combined District Telegraph and Telephone System, of which the following is a specification, reference being had to the annexed drawings, forming a part thereof, in which—

Figure 1 is a side sectional elevation of a call-box provided with a telephone attachment. Fig. 2 is a vertical transverse section of the movement, taken on line 2 2 in Figs. 3 and 4. Fig. 3 is a horizontal section taken on line 3 3 in Fig. 2. Fig. 4 is a horizontal section taken on line 4 4 in Fig. 1. Fig. 5 is a side elevation, partly in section, of the call-box, with the telephone-supporting lever depressed. Fig. 6 is a detail view of the break wheel and springs, and Figs. 7 and 8 are diagrams of the central-office connections.

Similar letters of reference indicate corresponding parts in all the views.

The object of the invention is to combine with district-telegraph call-boxes and central-office apparatus a telephone system which may be used in conjunction with the call system for verifying the signals of the call-box and for giving orders for messengers, thereby saving the time generally consumed by the messenger in going to the house of the subscriber.

Our invention consists in the combination, with one of the arbors of the call-box, of a telephone-supporting lever adapted to wind the actuating-spring of the call-box by the weight of the telephone hung thereon, but capable of being lifted by the said spring when the lever is released by the removal of the telephone.

It also consists in a telephone cut-out operated by the telephone-supporting lever; also in a key for grounding the line at either side of the call-box.

It further consists in central-office devices for throwing the central-office telephone and transmitter into or out of the circuit, all as will be hereinafter more fully described.

The call-box A is provided with the usual movement B, carrying the break-wheel C,

which is provided with two series of contacts. On the spring-arbor D of the said movement is placed a pinion *a*, which is engaged by a toothed sector *b* on the telephone-supporting lever E, which is pivoted to the frame of the movement B. The free end of the lever E is forked to receive the telephone F. On the arbor D is placed a lever *c*, which is capable of touching either of the contact-pieces *d d'*, secured to the frame of the movement B, but insulated therefrom, said contact-pieces forming stops to limit the movement of said lever *c*. To an insulating-block *e*, secured to the frame of the movement, are attached break-springs *f f'*, which rest upon the break-wheel C, and to one end of the spring *f* are electrically connected the contact-pieces *d d'*. The said break-spring *f* is also connected electrically with one binding-post of the telephone by a wire *f²*, which is also connected with the contact *g*, the remaining binding-post of the telephone being connected by the wire *f³* with a wire *h*, extending from the ground-contact *i* to the cut-out spring *j*, the wire *h* being connected to the binding-post *k*, which receives the line-wire *l*. The contact *g* is in position to complete the circuit with the spring *j* when the latter is free to act. The spring *f'* is connected with the ground-wire *m*, which is also connected with the double key G, having arms *n o*. The arm *n* of the key extends over the contact *i*. The arm *o* of the key extends over the contact *p*, which is connected electrically with the movement B and with the binding-post *q*, which receives the line-wire *r*. The lever E carries an insulating-plate *s*, which is capable of engaging the spring *j* as the lever rises, so as to lift the said spring from the contact *g*.

At the central office the line-wire *l* is connected with the relay H, which in turn is connected with the relay I, the latter being connected with the contact-point *s*. At the central office is placed a switch J, which connects the central-office telephone with the subscriber's line. To the board *t* are attached the brackets *u*, which support the plate *v* of insulating material. On the said plate *v* is secured a metallic strip *w* and contact-pieces *x*, placed near but not in contact with the ends

of the strip *w*. A rod *a'*, passing through the board *t* and plate *v*, is provided with a button *b'* on its outer end and carries between the board *t* and plate *v* a button *c'* of insulating material. To the said button *c'* are attached springs *d*², which normally rest on the strip *w* near its ends, as shown in Fig. 8. The wire connected with the relays *H I* is connected electrically with one of the springs *d*², the remaining spring being connected electrically with the battery *K*. The contacts *x* are connected with the wires *e'*, leading from the transmitter and receiver of the central-office telephone *F*. The remaining pole of the battery *K* is connected with the contact *s'* of the switch *L* and with the ground-wire *g'*. The arm of the switch *L* is capable of being moved over the point *s'*, thereby grounding the line *r* when desirable. When the circuit is intact, the ground is not used either at the central office or at other points.

When the subscriber desires to signal the central office, he removes the telephone *F* from the lever *E*, which is raised by the action of the spring of the movement *B*, cutting in the call-box momentarily by breaking contact between the arm *c* and stop or contact *d'*, the said movement in the meantime revolving the break-wheel *C*, signaling the number of the subscriber, which is indicated at the central office, the lever finally coming in contact with the stop or contact piece *d*, whereupon the circuit is again completed through the telephone. When the lever *E* comes in contact with the spring *j*, it lifts it from the contact *g*, and thus cuts in the telephone, when conversation may be carried on with the central office through the telephone *F*. After receiving the alarm at the central office the operator pushes the button *b'*, thereby throwing the telephone into the line-circuit, when conversation can be carried on.

Should the line break or become inoperative on either side of the call-box, the line may be grounded by pressing one or the other of the keys *n o*, thereby completing the circuit through the ground. After this the telephone *F* is hung up on the lever *E*, thereby causing the lever to descend, winding the spring of the movement *B*, and at the same time restoring the contact of the spring *j* with the contact *g*, thereby cutting the telephone out of the circuit and returning the call-box to the circuit. Should the circuit become broken, the switch *L* is thrown into contact with the point *s'*, thus grounding the line *r*.

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

1. The combination, of a signaling mechanism, comprising a spring, a break wheel and contact springs for the break wheel, and swinging arm actuated by the signaling mechanism, contacts arranged in position to be engaged by and forming stops for the arm when in its extreme positions, a telephone circuit connected to the said contacts and also to the contact springs of the signaling mechanism, and a movable telephone support connected to and adapted to actuate the signaling mechanism, substantially as set forth.

2. The combination of a signaling mechanism, comprising a break wheel and contact points adapted when the break wheel is rotated to contact therewith, a signaling arm actuated by said swinging mechanism, a contact adapted to be engaged by and forming a stop for the arm when the said arm is in one position, a telephone circuit having one terminal connected to the said contact and also to the signaling mechanism, and a movable telephone support adapted to actuate the signaling mechanism, said swinging arm of the signaling mechanism being adapted when the telephone is arranged on the movable support, to be moved out of engagement with said contact, to break the telephone circuit, substantially as set forth.

3. The combination of a signaling mechanism comprising a break-wheel, contact points adapted when the break-wheel is rotated to contact therewith, a swinging arm adapted to be actuated by the signaling device insulated contacts arranged in position to be engaged by and forming stops for the swinging arm when in its extreme positions, a telephone circuit having one terminal connected to both of said contacts and having its other terminal connected to the signaling mechanism, and a movable telephone support connected to and adapted to actuate the signaling mechanism when moved, said telephone circuit being adapted to be broken whenever the signaling mechanism is actuated and the swinging arm moved out of contact with either of the said contacts, substantially as set forth.

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Witnesses:

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