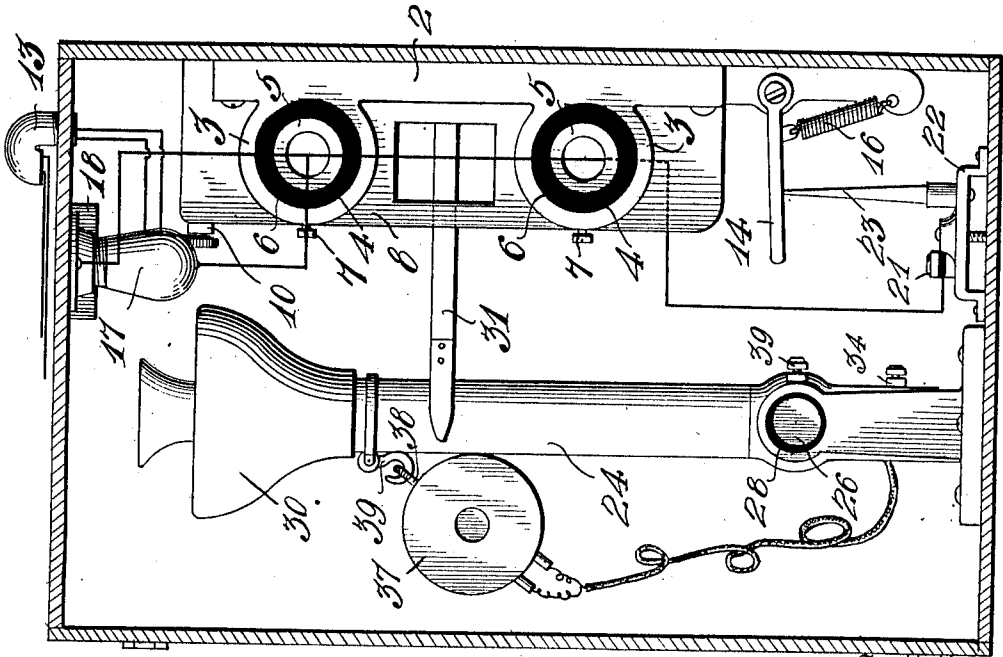
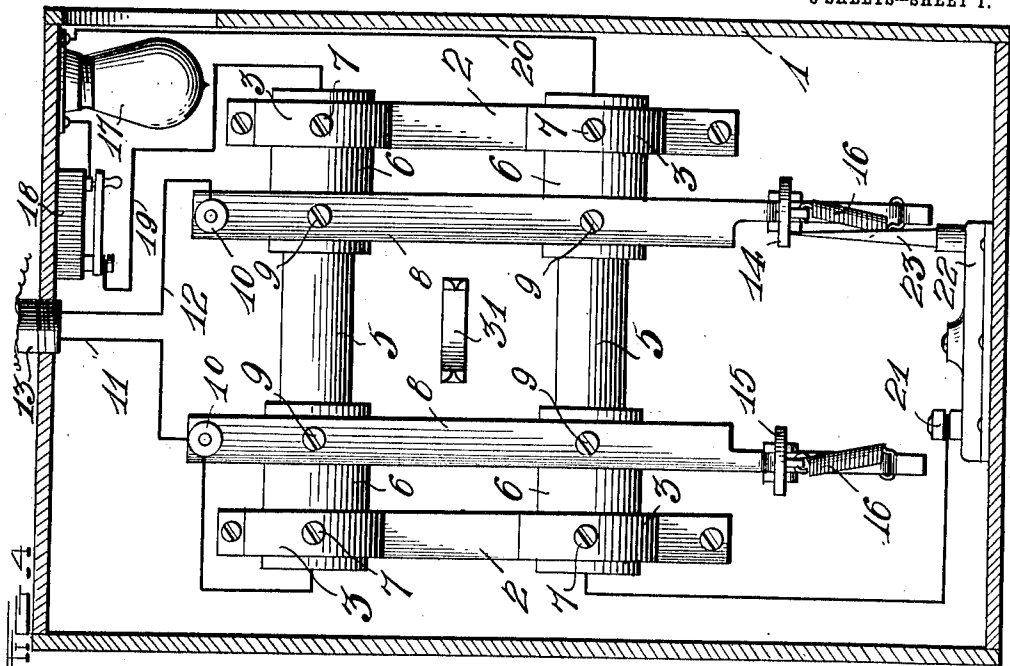


W. E. FROST.
RAILROAD TELEPHONE.
APPLICATION FILED APR. 10, 1911.
1,019,628.
Patented Mar. 5, 1912.
3 SHEETS—SHEET 1.

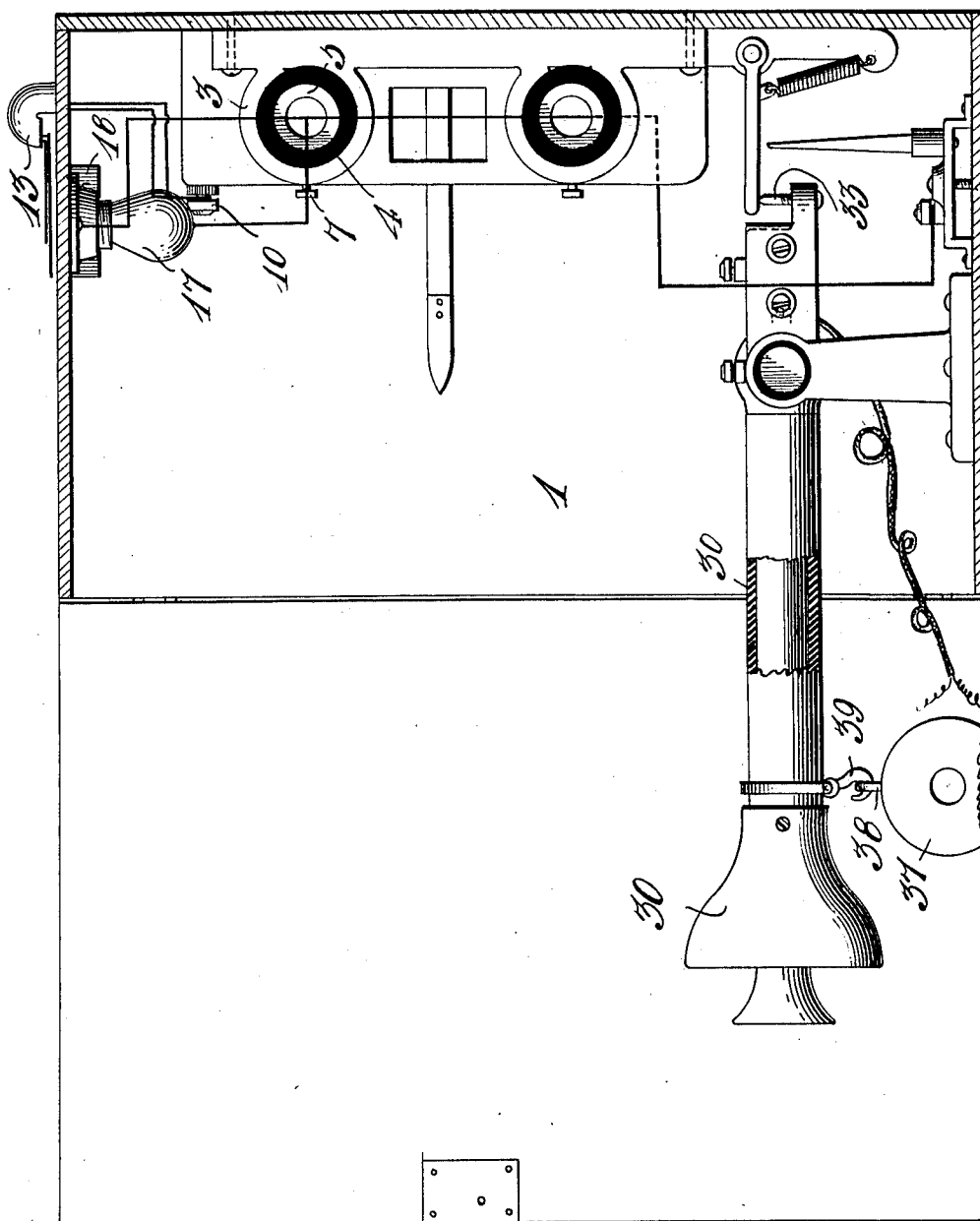


Witnesses
Walter E. Frost
by *A. B. Wilson & Co.*
Attorneys

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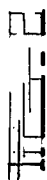
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Witnesses

A. R. Libbey
C. D. Hopkins



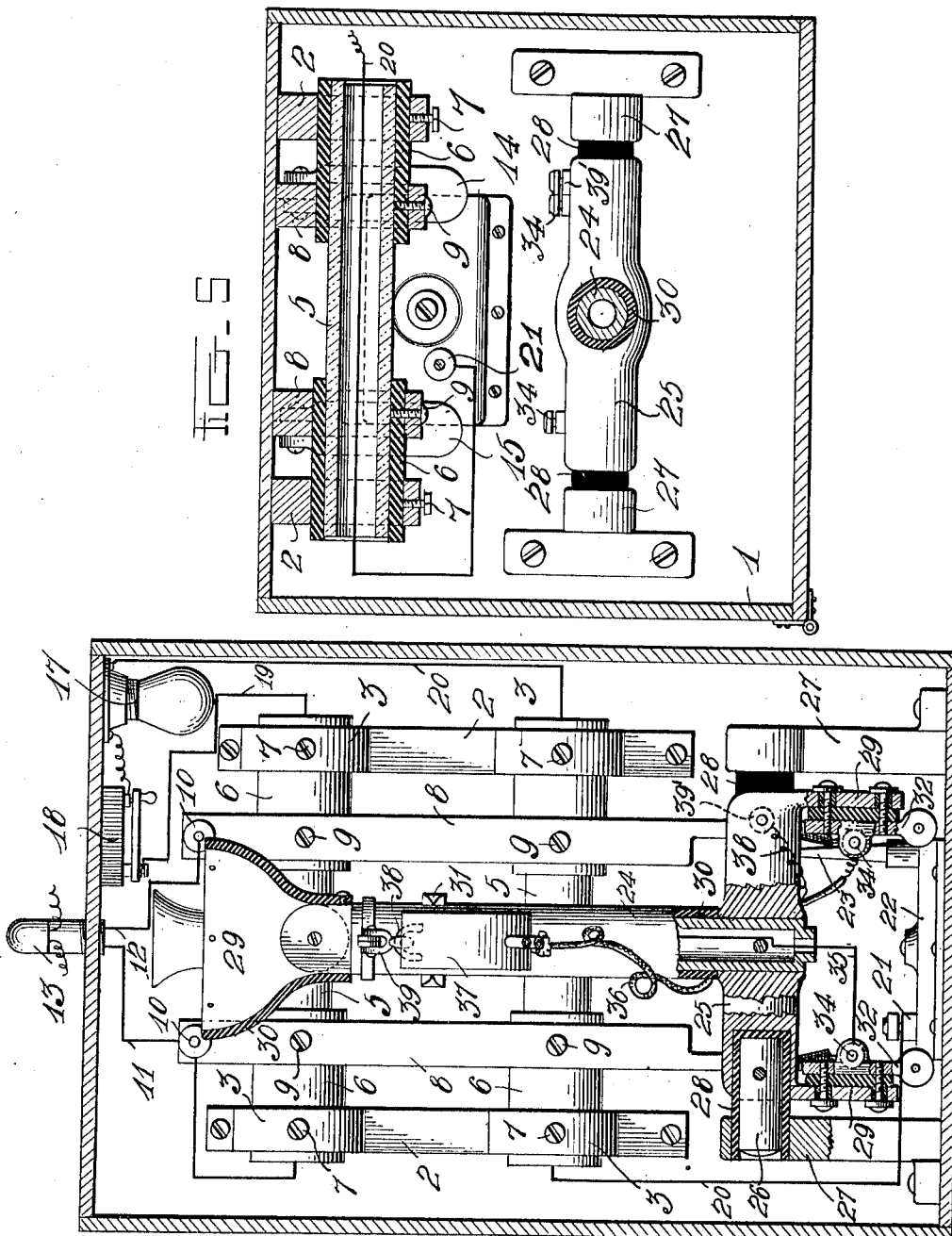
Inventor
Walter E. Frost

by *A. B. Wilson & Co.*
Attorneys

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3 SHEETS-SHEET 3.



Witnesses
W. P. Hardy
W. B. Hopkins

Inventor
Walter E. Frost

by A. B. Wilson & Co
Attorneys

UNITED STATES PATENT OFFICE.

WALTER E. FROST, OF LEWISTON, MAINE, ASSIGNOR OF ONE-FOURTH TO ALFRED L. CHILDS AND RALPH W. CROCKETT AND ONE-FOURTH TO WILLIAM W. SANBORN, ALL OF LEWISTON, MAINE.

RAILROAD-TELEPHONE.

1,019,628.

Specification of Letters Patent.

Patented Mar. 5, 1912.

Application filed April 10, 1911. Serial No. 620,055.

To all whom it may concern:

Be it known that I, WALTER E. FROST, a citizen of the United States, residing at Lewiston, in the county of Androscoggin and State of Maine, have invented certain new and useful Improvements in Railroad-Telephones; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in railroad telephones.

One object of the invention is to provide a telephone of this character adapted to be secured to a suitable support along a railroad whereby the engineer or other person on a train stopping near the telephone may use the same.

Another object is to provide a telephone having a light or other signal whereby the engineer of an approaching train may be signaled to stop and come to the telephone.

With these and other objects in view the invention consists in certain novel features of construction, combination and arrangement of parts as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings: Figure 1 is a sectional view of a telephone constructed in accordance with the invention showing the parts in inoperative position; Fig. 2 is a similar view showing the parts in operative position; Fig. 3 is a vertical sectional view through the telephone casing at right angles to and on the line 3—3 of Fig. 1; Fig. 4 is a similar view on the line 4—4 of Fig. 2 showing the arrangement of the switch and current conducting plates; Fig. 5 is a horizontal sectional view on the line 5—5 of Fig. 4.

In the embodiment of the invention I provide a suitable box or casing 1 which is adapted to be secured to a telegraph pole or other support. Arranged in the casing 1 is a switch mechanism comprising a frame or rack consisting of attaching plates 2 adapted to be secured to the back wall of the box or casing by screws or other suitable fastening devices. On the plates 2 are formed outwardly projecting substantially circular lugs 3 in which are formed circular passages 4. Arranged in the passages in the lugs

3 are glass conducting and switch bar supporting tubes 5 on the outer ends of which are arranged sleeves 6 of rubber or other insulating material. The tubes 5 are secured in the lugs of the plates 2 by set screws 7. Secured to the glass tubes 5 between the plates 2 and spaced a suitable distance apart and from said plates are current conducting bars or switch members 8, said members being fastened to the tubes 5 at the inner ends of the insulating sleeves 6 by set screws 9.

On the upper ends of the switch members or bars 8 are arranged binding posts 10 to which are connected the inner ends of the current conducting wires 11 and 12 which preferably enter the box through a tube 13 arranged in the upper end thereof and from said tube connect with the main telephone wires. On the lower ends of the bars 8 are pivotally connected forwardly projecting contact plates 14 and 15 which are adapted to be engaged by the contact terminals of the telephone instrument as will be hereinafter more fully described. The plates 14 and 15 are yieldingly held in operative position by coiled springs 16 connected thereto and to the extensions on the lower ends of the switch bars or members 8 as shown.

Arranged at a suitable position in the box is a signal light 17 which is preferably in the form of an incandescent lamp. One terminal of the lamp is connected to a switch 18 arranged on the casing, said switch being in electrical connection with the main supply wire 11 through a branch conducting wire 19 which is connected with the switch and passes through the upper tube 5 and is connected to the binding post 10 to which the supply wire 11 is connected. The other terminal of the lamp is connected by a branch conducting wire 20 extending therefrom and passing through the lower tube 5 and having its opposite end connected to a binding post 21 arranged on a bracket 22 secured in the bottom of the casing. The binding post 21 is connected to a contact finger 23 also secured to the bracket 22 and projecting upwardly in position to be engaged by the contact plate 14 of one of the switch plates or member 8 to the opposite end of which is connected the current supply wire 12. When the plate 14 is thus in contact with the finger 23 and the switch 18 closed the cir-

cuit will be completed to the lamp 17, thus lighting the same when the current is turned on at the other end of the line thereby indicating to the engineer of an approaching train or to others for whom the signal is intended that the party at the other end of the line desires to communicate with them at the telephone.

My improved telephone comprises a metal tube 24 connected at its inner end to a forked cross head 25 on the outer ends of which are formed pintles 26 which are pivotally mounted in supporting standards 27 and are insulated from said standards by insulating sleeves 28. On the outer end of the tube is arranged a transmitter 29 which may be of the usual or any suitable construction and which together with the tube 24 is provided with a suitable covering 30 of insulating material whereby all danger of shock to the person using the same is obviated. When in inoperative position the transmitter and its supporting tube are swung upwardly to a vertical position as shown in Fig. 1 of the drawings in which position said parts are secured by a supporting clip 31 secured to the rear wall of the box or casing and projecting forwardly between the members of the switch mechanism as shown.

On the forks or arms 29 of the cross head 25 are secured contact terminal plates 32, said plates being insulated from the forks 29 as shown. In the plates 32 are arranged contact screws 33 which when the instrument is swung down to an operative position as shown in Fig. 2 of the drawings will engage the contact terminal plates 14 and 15 on the ends of the contact bars 8. On the plates 32 are arranged binding posts 34 to one of which is connected a branch conducting wire 35 which extends through the tube 24 and is connected at its outer end with the transmitter as shown. To the binding post 34 of the opposite fork is connected the conducting cord or wire 36 to which the receiver 37 is connected. The receiver 37 may be of any suitable construction and has arranged thereon an eye or loop 38 adapted to be engaged with a hook 39 secured to the tube 30 of the transmitter whereby the receiver is supported when not in use. The conducting cord 36 of the receiver is branched out at its inner end and one of said branches is connected to the binding post 34 as hereinbefore stated while the other branch 38 is connected to a binding post 39' on the cross head 25. By thus arranging the wires and the contact terminal plates 32 and screws 33 it will be seen that when the telephone is swung down in operative position and the screws 33 thus engaged with the terminal plates 14 and 15 of the switch mechanism that the current will be supplied to the transmitter and re-

ceiver of the telephone and that when the telephone is swung up to an inoperative position that the current will be cut off from the instrument. When the telephone instrument is swung down to an operative position the same will be yieldingly supported by the engagement of the terminal screws 33 with the spring retracted terminal plates 14 and 15 which will obviate any jars which might occur if the instrument was swung down against a solid contact. In thus swinging the telephone instrument to an operative position it will be seen that the contact plate 14 will be disengaged from the contact finger 23 thus automatically breaking the circuit of the signal lamp, while the instrument is being used. When the person signaled to the telephone desires to call the attention of the party at the other end of the line the switch 18 may be opened and closed in quick succession or any other signal previously agreed upon may be sent back to the party at the other end of the line to inform said party that the person signaled is at the telephone.

From the foregoing description taken in connection with the accompanying drawings the construction and operation of the invention may be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention as defined in the appended claims.

Having thus described my invention what I claim is:

1. A telephone of the character described comprising a box or casing, a switch mechanism arranged therein, main current conducting wires connected with said switch mechanism, contact terminal plates arranged on said switch mechanism and yieldingly held in operative position, a telephone instrument pivotally mounted in said casing, contact terminals arranged on the inner end of said instrument and adapted to be brought into engagement with the yielding contact plates on said switch mechanism whereby the telephone instrument is electrically connected to the main supply wires, means to hold said instrument in an inoperative position, and a signal light adapted to be operated by the telephone circuit.

2. A telephone of the character described comprising a box or casing, a switch mechanism arranged therein, contact plates yieldingly secured to said switch mechanism, telephone supporting standards arranged in said casing, a telephone instrument pivotally supported in said standards, said instruments comprising a forked cross head pivotally mounted and insulated from

5 said standards, a tube connected to said
cross head, a transmitter arranged on the
outer end of said tube, a casing formed of
insulating material and arranged around
10 said tube and transmitter contact terminals
secured to and insulated from the forks of
said cross head, contact screws arranged in
said plates and adapted to be brought into
engagement with the yielding contact plates
15 on said switch mechanism when said tele-
phone instrument is swung down to an op-
erative position, a receiver, means to sup-
port said receiver on said tube when the re-
ceiver is not in use, and main current con-
ducting wires connected with said switch
20 mechanism, current conducting wires to
connect said transmitter and receiver with
the terminal plates on said forked cross head
whereby when said terminal plates are en-
gaged with and disengaged from the con-
tact on said switch mechanism the circuit
from the main current wires to said tele-
phone instrument will be opened and closed.

25 3. A telephone of the character described
comprising a box or casing, a switch mech-
anism arranged therein, said mechanism
comprising a pair of attaching plates, lugs

formed on said attaching plates, tubes
formed of non-conducting material and hav-
ing their ends engaged with and fastened in
30 said lugs, insulating sleeves arranged
around said tubes between the same and said
lugs, current conducting bars arranged on
and insulated from said tubes, extensions
formed on the lower ends of said bars, ter-
35 minal contact plates pivotally connected to
the extensions of said bars, springs to yield-
ingly hold said plates in operative position,
a telephone instrument pivotally supported
in said casing and adapted to be swung to
40 operative and inoperative positions, and ter-
minal contacts on said instrument adapted
to be brought into engagement with the con-
tact plates on said switch mechanism where-
45 by the circuit from the switch mechanism
to the telephone instrument is opened and
closed.

In testimony whereof I have hereunto set
my hand in presence of two subscribing
witnesses.

WALTER E. FROST.

Witnesses:

RALPH W. CROCKETT,
BLANCHE H. CRAFTS.