

(No Model.)

2 Sheets—Sheet 1.

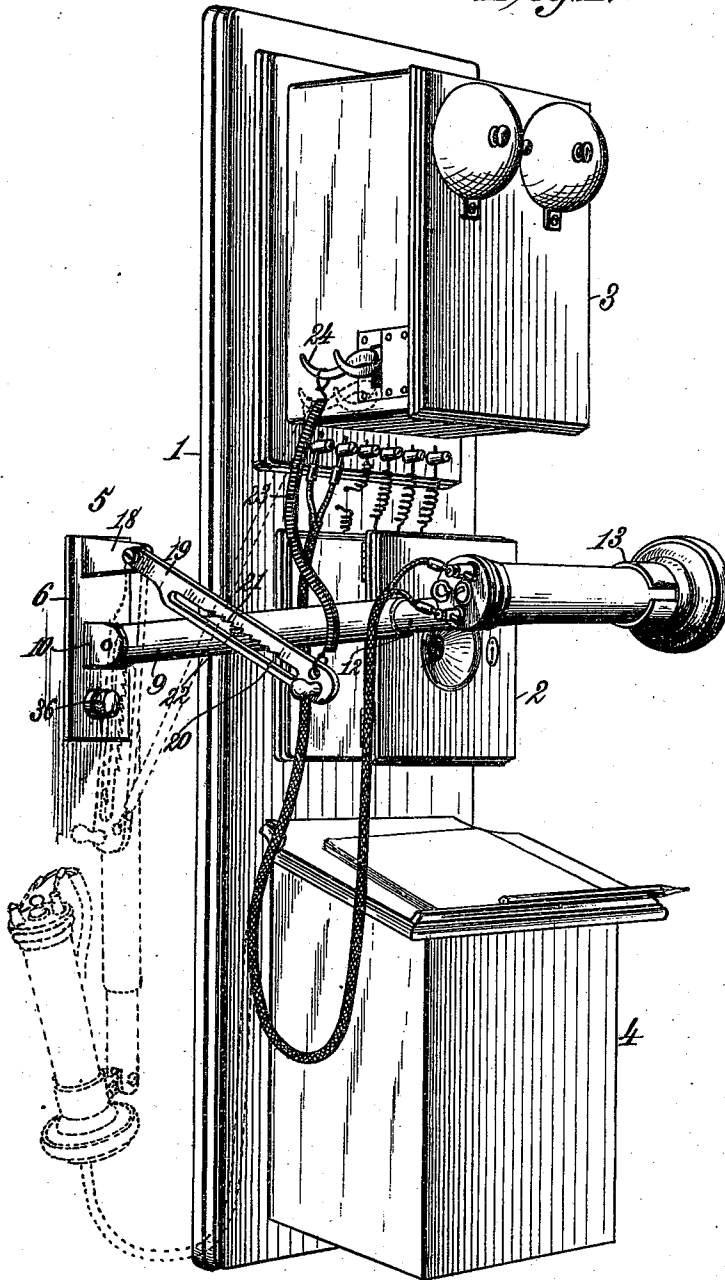
N. L. BURCHELL & B. L. NEVIUS, Jr.

SUPPORT FOR TELEPHONIC RECEIVERS.

No. 501,405.

Patented July 11, 1893.

Fig 1.



Witnesses.

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Fig. 2.

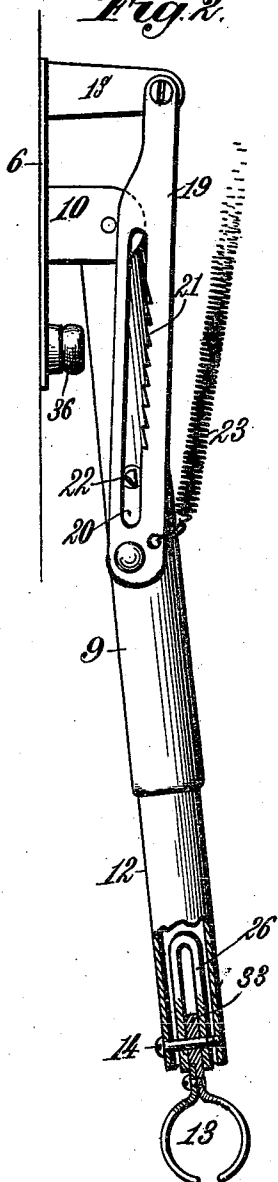


Fig. 3.

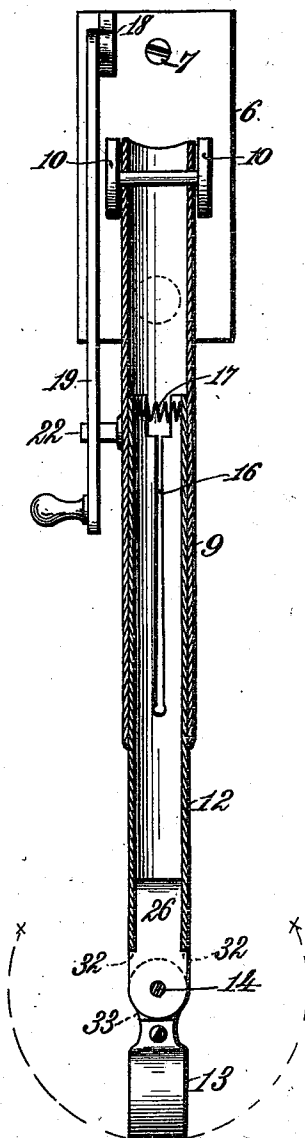
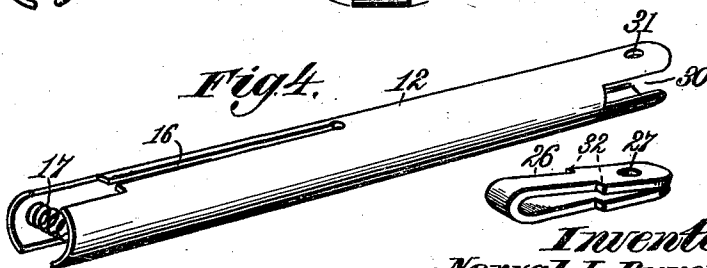


Fig. 4.



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UNITED STATES PATENT OFFICE.

NORVAL L. BURCHELL AND BURNET L. NEVIUS, JR., OF WASHINGTON,
DISTRICT OF COLUMBIA.

SUPPORT FOR TELEPHONIC RECEIVERS.

SPECIFICATION forming part of Letters Patent No. 501,405, dated July 11, 1893.

Application filed November 3, 1892. Serial No. 450,859. (No model.)

To all whom it may concern:

Be it known that we, NORVAL L. BURCHELL and BURNET L. NEVIUS, Jr., citizens of the United States, residing at Washington, in the District of Columbia, have invented new and useful Improvements in Supports for Telephonic Receivers, of which the following is a specification.

Our invention relates to devices for supporting the receiver of a telephone of any type, in such position that it shall be adapted to the ear of the listener and enable the latter to place himself in such relation to the transmitter as may be most convenient leaving both hands entirely free for the purpose of making memoranda of the message sent, or received, or for other purposes.

It is also one purpose of our invention to provide a support for a telephone-receiver which shall be readily and instantaneously adjustable, in order to bring the receiver to any desired point, with relation to the ear, the construction and arrangement of parts being such that, by bringing the receiver to the ear, the telephone-switch will be so operated as to connect the local instrument with the main line and cut out the magnet-call, while the return of said support to its non-operative position will operate the switch in the reverse manner, cutting in the magneto-call and cutting out the main-line, thereby leaving the electric-connections in their normal position, or in other words, in circuit with the central office, only.

It is one special purpose of our invention to provide simple means whereby the adjustment of the arm supporting the receiver shall impose a suitable tension upon the connection operating the telephoneswitch and thereby by shift the same, the tension thus produced being such as to not only effect the result stated, but being, also, utilized for the purpose of throwing the switch positively in one direction and then releasing said switch and permitting it to resume its normal position, in order to cut the main line into and out of circuit, with the local instrument, and for so operating the ratchet-arm as to disengage it from the holding-pawl on the receiver-supporting-arm when the latter is not in operative position, and to release the electrical

connection controlled by said arm, whenever it is raised, and enable the ratchet arm to engage the holding-pawl on said supporting-arm, automatically.

It is a further purpose of our said invention to provide a holding or supporting-arm, having a suitable clamp for the receiver, and provided with an extensible, telescoping arm, whereby the receiver may be located nearer to, or farther from the transmitter, according to the preference of the person using the telephone.

Finally, it is one important purpose of our invention to provide a clamping support for the telephone-receiver, which shall have an inherent elasticity and be capable of insertion in the external end of the telescoping, or secondary arm, forming the support of the telephone-receiver, and having such construction that it will, by its own elasticity, furnish all the frictional contact required in order to hold the clamp at any desired point.

The invention consists in the several novel features of construction and new combinations of parts hereinafter fully set forth and then more definitely and particularly pointed out in the claims which conclude this specification.

To enable others skilled in the art to make, construct, and use our said invention, we will proceed to describe the same in detail, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a telephone provided with our invention. Fig. 2 is a detail side-elevation, showing elastically sustained arm in which our invention is embodied. Fig. 3 is a detail sectional elevation of the parts shown in Fig. 2. Fig. 4 is a detail perspective of the secondary telescopic arm of the receiver-support, together with an illustration of the inserted, elastic bearing for the axis of the clamp holding the receiver.

In the said drawings the reference-numeral 1 indicates the backing, or base piece of the housing, or casing of the telephone having the ordinary transmitter box 2, the box 3 for the magneto-call, and the lower housing 4 for the cells of the local battery. Upon the end wall 5 adjacent to the base-piece 1 is mounted a base-plate 6, fastened in place by screws

7, which enter, or pass through, openings in said base plate and then enter the wall, or, if preferred, the face of the base plate upon which the transmitter and other parts of the telephone proper have support. At, or near, the center of this bracket-plate is pivotally connected an arm 9, preferably of tubular form, and of any suitable length, the pivotal connection being usually made upon lugs 10. In the end of the tubular arm 9 is inserted, in such manner as to have a telescopic extension and contraction, a secondary arm 12, upon the outer end of which is a clamp, having curved arms to clasp a telephone-receiver, as more fully set forth hereinafter. The end of the arm 12 which enters the primary arm 9, is cleft, or split, by a longitudinal central cut 16, and in the extremity of said arm is inserted a spring 17, of any suitable form, whereby the cleft, or separated parts of the arm are pushed, or forced apart, thereby creating an increased friction upon the interior of the primary arm 9. It should be noted that the arm last named is pivoted to its bracket plate upon a horizontal axis, whereby its pivotal movement is in a vertical plane, while the secondary arm 12 is capable of a rotary adjustment, in addition to its longitudinal movement within the primary arm. Upon the bracket plate, or base-plate 6, is formed or mounted an arm 18, upon which is pivoted one end of a ratchet-arm 19, having a longitudinal slot 20, one side of which is provided with ratchet-teeth 21. These teeth are so faced that when in normal engagement with a pawl 22, projecting from the primary arm 9, they will support the latter in any position at which it may be placed. In order to drop the said arm 9 to or approximately to, a horizontal position, the ratchet-arm 19 is simply moved far enough to disengage its teeth from the holding pawl 22, whereupon gravity will cause the primary arm to drop. Inasmuch as the same force of gravitation also is exerted upon the ratchet-arm 19, whereby its teeth are normally held in engagement with the holding-pawl 22, and as it is desirable that these teeth shall, upon the downward movement of the primary arm 9, be automatically given clearance from said teeth, we connect the free end of the ratchet-arm to one end of a spiral, or other spring 23, which we extend upward and connect its other end to the lever-end of a switch 24, which, in the ordinary form of telephone, projects from a slot in the magneto-box. When the arm 9 is lowered, the tension of the spring 23 not only draws upon the ratchet arm 19 with sufficient force to separate its ratchet-teeth from the holding pawl 22, but it is also placed under sufficient strain, when dropped to its lowest point, to operate the switch 24 exactly in the same manner as in the common telephone, in which the receiver is hung directly upon the forked end of the switch lever.

The preferred form of the clamping-support for the receiver is shown in Fig. 4, and

consists of a duplex metallic piece, 26, formed of steel, or other suitable metal, bent at, or near, its middle portion to bring its ends into suitable proximity, the elasticity of the metal, being sufficient to hold the ends together. In the latter are formed openings or perforations 27, which receive the pivotal support or the axis 14 of the two-part clamp 13. This clamp is, in all cases, preferably composed of two integral members, or shanks but may, nevertheless, be formed of two separate parts united in any suitable manner. The ends of the pivotal axis 14 have bearings in the end of the secondary, or telescoping arm 12, within which the contacting ends, or shanks, of the clamp are inserted. This extremity of the secondary arm is provided with a double, or diametrically opposite pair of slots 30, and with diametrically opposite openings, or perforations, 31, to receive the ends of the pivotal axis 14, seen in Fig. 2.

The ends of the clamp support 26 in which the two part clamp for the receiver has support, are widened somewhat, as compared with the bent, or folded shank, thereby forming shoulders 32 on each side which rest upon the edges of the secondary arm at the ends of slots 30, formed in the outer extremity of the secondary arm at two points diametrically opposite each other. The outward elastic expansion of the two contacting ends of the clamp support 26 is effected by the insertion between them of the circular part 33 of the clamp-support for the receiver, the permanent attachment of the parts being effected by the rivet, or bolt, 14, which passes through the ends of the secondary arm, through the ends of the clamp-support and through the center of the circular part 33. The bearing support afforded by the opposite shoulders 32 and by the contact of the centrally folded, interior lying portion of the clamp-support, and by the confinement of the shouldered portion of said clamp-support between the extremities of the secondary arm, is of the firmest and most durable character, as the frictional contact is thrown mainly upon the two ends of the two part clamp, instead of being produced by a longitudinal strain of the bolt or rivet, the wear being, in this manner, constantly compensated.

Upon the base-plate 6 we prefer to mount, or attach, a bumper, or elastic cushion 36, usually formed of rubber, or some other suitable elastic material, and so located that it will receive the impact of the primary arm 9, when the latter is dropped by its own gravity, and thereby avoid too great shock upon the connected parts and too severe a tension upon the elastic connection 23. It should be noted that, when the said arm is dropped and allowed to assume a normal position, the elasticity of the connection 23 is such that the arm 9 will usually be sustained either out of contact therewith or at such a point that a very slight pressure, only, will be exerted

upon the bumper, or cushion, 36. It should be noted, also, that our invention is applicable to the receivers of phonetic apparatus of other kinds than telephones, as, for example, to the ear-phones, or receivers, of a phonograph, or graphophone, or to any form of phonetic apparatus in which a receiver is used.

What we claim is—

1. In a telephone, the combination with a pivotally supported arm having a telescopic extension, of a duplex clamping support inserted in the end of said telescopic extension, a two part clamp adapted to hold a telephonic receiver and having its shanks inserted between the arms of the duplex clamping support, and a pivot for said clamp and clamping support, substantially as described.

2. In a telephone, the combination with a tubular pivotally supported arm, of a tubular telescopic extension having a slotted end inserted in and adjustable within said pivoted arm, a spring to force apart the slotted portion of said telescopic extension and cause it to have a frictional engagement within the pivoted arm, and an adjustable clamp carried by the outer end of the telescopic extension and adapted to hold a telephone receiver, substantially as described.

3. In a telephone, the combination with a primary arm, pivotally connected, at one end, to a support, of a secondary arm telescoping within the primary arm, and a ratchet-arm having a separate pivotal support and provided with teeth which engage a holding pawl on the primary arm, substantially as described.

4. In a telephone, the combination with a primary arm pivotally supported at one end, of a secondary arm telescoping within said primary arm and provided with a clamp for the telephone receiver, a ratchet-arm having a separate pivotal support and provided with ratchet teeth engaging a holding-pawl upon the primary-arm, and an elastic connection between the said ratchet-arm and the telephone switch, substantially as described.

5. In a telephone, the combination with an arm pivotally supported at one end, of a ratchet-arm having a separate pivotal support, and an elastic connection between said ratchet arm and the telephone-switch which is placed under tension when the arm is dropped, substantially as described.

6. In a telephone, the combination with an

arm having pivotal support at one end, a ratchet-arm having a separate pivotal support and provided with a slot having ratchet-teeth upon one side adapted to engage a holding-pawl upon the arm, and an elastic connection between the ratchet arm and the telephone-switch, whereby the movement in one direction will place said spring under tension, operate the switch, and throw the ratchet-teeth off the holding-pawl, while movement in the opposite direction will relax said tension, release the switch, and permit the ratchet-plate to engage the holding-pawl, substantially as described.

7. In a telephone, the combination with a pivotally supported extensible arm having a slotted end, of a duplex clamping support inserted in the slotted end of said arm and provided with broadened shouldered ends adapted to engage in and against the ends of the opposite slots of said arm, and an adjustable clamp having its shank inserted in said clamping support and pivotally connected therewith and with the end of the extensible arm, substantially as described.

8. In a telephone the combination with a receiver supporting arm, of a clamp-support composed of a piece of metal folded in the middle, and having its contiguous ends widened and shouldered, to lie in and against the ends of opposite slots in the end of said arm and a two-part clamp having a portion interposed between and pivotally connected to said ends, substantially as described.

9. In a telephonic, or other phonetic apparatus, the combination with a phonetic receiver of a pivotally mounted, extensible support, a pivotal clamp for the receiver, a supporting-arm having a separate support an elastic connection between said supporting-arm and the telephone switch, or other adjustable part, and a bumper, or cushion, arranged to receive the impact of the supporting-arm, when the same is suddenly dropped, substantially as described.

In testimony whereof we have hereunto set our hands and affixed our seals in presence of two subscribing witnesses.

NORVAL L. BURCHELL. [L. S.]
BURNET L. NEVIUS, JR. [L. S.]

Witnesses:

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