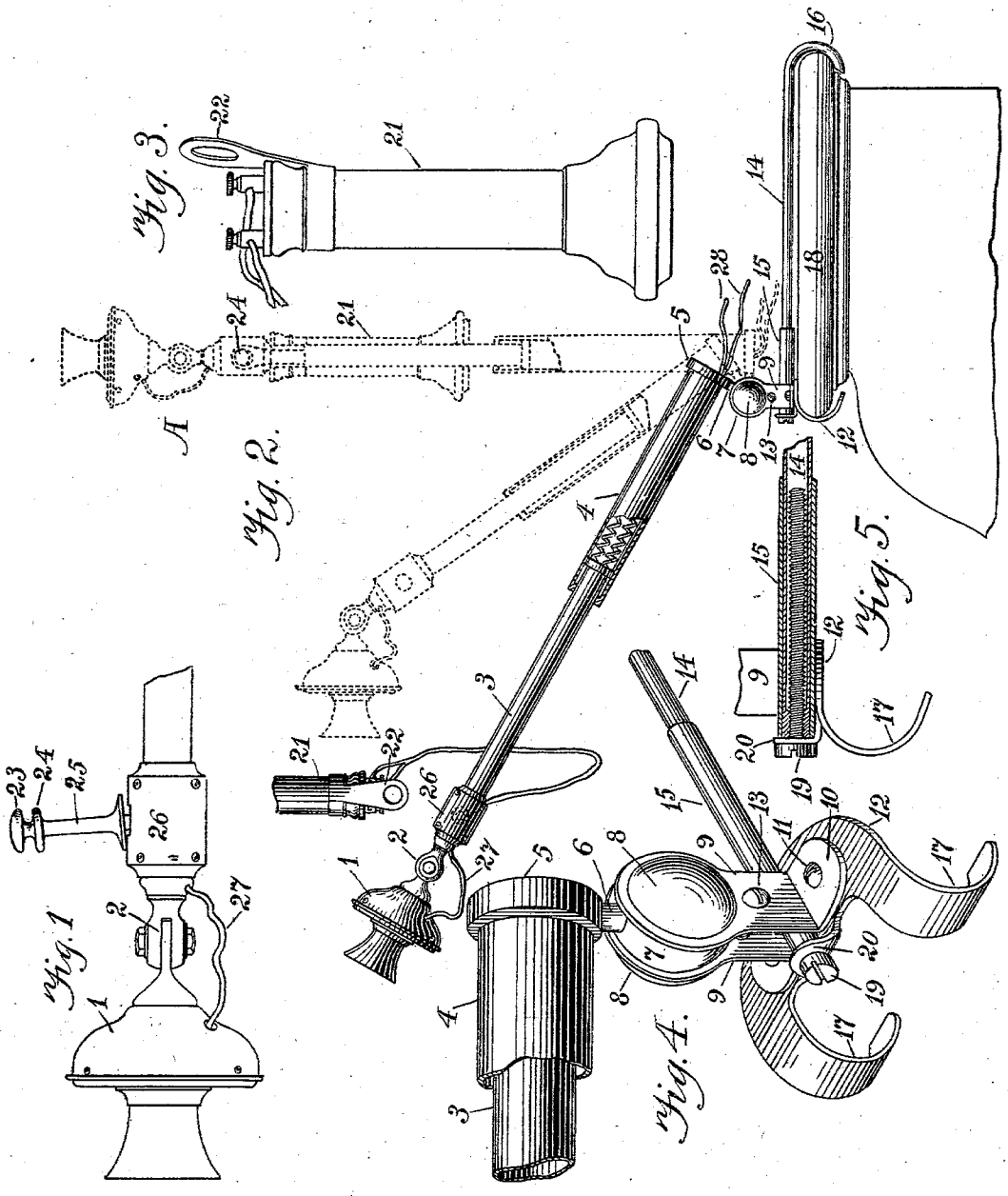
No. 758,304. PATENTED APR. 26, 1904.

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OFFICE DESK TELEPHONE.

APPLICATION FILED NOV. 16, 1901.

NO MODEL.



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No. 758,304. Patented April 26, 1904.

UNITED STATES PATENT OFFICE.

ALAN ROBB FERGUSSON, OF NEW YORK, N. Y., ASSIGNOR TO ELECTRO-MECHANICAL SPECIALTY COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

OFFICE-DESK TELEPHONE.

SPECIFICATION forming part of Letters Patent No. 758,304, dated April 26, 1904.

Application filed November 16, 1901. Serial No. 82,495. (No model.)

To all whom it may concern:

Be it known that I, ALAN ROBB FERGUSSON, a citizen of the United States, residing in New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Office-Desk Telephones, of which the following is a specification.

This invention relates to telephones adapted for use on office-desks, and is intended to overcome certain inconveniences attending their use.

An office-desk telephone usually comprises a transmitter mounted upon a portable stand which is of sufficient weight to give stability and has a hook or switch upon which hangs a receiver which holds the transmitter-circuit open. Such a telephone occupies considerable room upon the desk and is constantly in the way, so that as its use is infrequent the inconvenience of having it upon the desk offsets its advantage to an undue extent. Moreover, the weight of the stand proves an objection to its use. Again, if the telephone is used upon a roll-top desk, as is often the case, it cannot be used by others when the desk is closed and locked, which often proves a serious inconvenience. Moreover, it is inconvenient for a person standing at the desk to use the telephone, and in lifting the stand about there is a constant liability to disturb or break the connecting-wires.

The object of my invention is to avoid the objections above noted and to provide for setting the receiver and transmitter entirely out of the way when out of use and leaving the desk clear for ordinary purposes at all times. At the same time I make it possible to bring the transmitter instantly and easily into position for use, whether the user is sitting or standing and whether the desk is open or locked. Further, the telephone is accessible from different portions of the table or desk and is easily adjusted to accommodate any operator, the necessity of lifting about a heavy stand is avoided, and the danger of impairing the connections is eliminated.

Another object of the present invention is to provide a device by which a telephone-transmitter may be swung, with its support, at such a substantial arc from an upright position that if the receiver is hung upon the receiver-hook the switch controlling the ringing-circuit will not be operative when the staff is in a substantial horizontal position, but becomes operative only when the staff is in a substantial vertical position when the hanging up of the receiver upon the receiver-hook will open the talking and close the ringing circuit.

My invention consists in certain features of construction and combinations of devices, all as will be hereinafter fully set forth, and pointed out in the concluding claims.

In the accompanying drawings, Figure 1 is a view of the transmitter end of the apparatus, showing particularly a novel form of receiver-hook. Fig. 2 is a view of the apparatus clamped upon a roll-top desk, one position of use being indicated by full lines and another by dotted lines, the upright disuse position being also shown by dotted lines. Fig. 3 shows a receiver provided with an eye adapted to the hook shown in Fig. 1. Fig. 4 is a perspective view of a ball-and-socket joint and adjoining parts at the base of the apparatus. Fig. 5 is a sectional detail of a clamping-base, whereby the apparatus may be secured upon a desk.

In the several views similar numerals of reference designate similar parts.

1 designates a transmitter of usual type, which is pivotally mounted at 2 upon the end of a section 3 of a telescopic hollow staff, the other section, 4, whereof is provided with a collar 5, a stem 6, and a ball 7, adapted to be clamped between shells 8, formed upon arms 9, the latter being secured by ears 10 and screws 11 to a base 12. The arms 9 are transversely connected by a clamping-screw 13, whereby the shells or socket-sections 8 may be pressed against the ball 7, so as to produce the requisite degree of friction and hold the telephone-staff in any position. The part 12

forms one member of a desk-clamp, the other member thereof consisting of a rod 14, telescoping into a supporting-sleeve 15, secured upon the part 12 and having at its outer end a crook 16, which is opposed to a pair of fingers 17, formed integrally upon the part 12 and adapted to catch over the forward edge of a desk-top 18, the crook 16 catching over the rear edge thereof. A clamping action is effected by a screw 19, which is threaded into the tube 14, the head of the screw bearing against an upturned ear 20, formed upon the part 12, so that by driving in the screw the crook 16 may be drawn toward the fingers 17 until the apparatus is firmly clamped upon the desk-top.

One section, 3, of the telescopic staff is provided with a switch 26 of the ordinary telephone-switch type. The switch-hook 25 is hinged within the switch-box and is adapted to operate in the plane of the axis of the telescopic staff. Fig. 1 illustrates this switch-hook 25 in a tilted-up position, in which position the talking-circuit is closed. When the staff is in an upright position, a receiver 21 of the usual type is provided with an eye 22 between the head 23 and the guard 24 of the receiver-hook 25. It is obvious that the weight of the receiver will depress the receiver-hook 25 in this upright position of the telescopic staff only and will open the talking-circuit but close the ringing-circuit.

An essential of the underlying invention consists in the fact that the telescopic staff must be swung at a substantial arc from the horizontal position before the controlling-switch can be operated by the weight of the receiver.

The extensibility of the clamping-base enables the apparatus to be secured conveniently upon various sizes and styles of desks and tables. The tubular crook 16 forms a very strong finger, which is not likely to become bent when clamping. The telephone may be adjusted to any part of a desk-top or narrow table. The ear 20, by affording a bearing for the head of screw 19, enables the bracket 12 to take the clamping stress directly, so that the tube 15 acts only as a guide for the rod 14 and is not liable to be injured or loosened by the action of the screw. The screw 13 enables the shells 8 effectually to clamp the ball 7, so that the staff when swung to a horizontal position is not liable to settle by its own weight. The arrangement of the staff 4 at right angles or crosswise to the stem 6 enables the staff to be swung in any direction. By forming the staff telescopically an adjustment of the mouth-piece is afforded longitudinally of the staff, so that it is practicable to adjust the telephone to suit a user either standing or sitting at any portion of the desk. By having the section 3 rotatable in the section 4 and by the provision of the joint at 2 the transmitter 1 may be faced in any desired direction. The hollow staff protects the connecting-wires, and when the device is firmly secured to a desk it becomes impossible to break the wires at 28, while by coiling said wires within the staff extension of the latter is permitted without putting tension upon the former. By providing the keepers 23 and 24 upon the hook the receiver is prevented from slipping off if the staff is brought down from an upright position before the receiver is unshipped. So long as the telephone is in use it is immaterial in what position the staff stands, since the receiver coacts with the switch only when the telephone is out of use. When the telephone is out of use, the staff is swung up, where it not only enables the receiver to operate the switch, but is also entirely out of the way and gives perfect freedom to the user of the desk. The telephone may be used whether or not the desk is opened or closed and whether or not the operator is standing or sitting. It is accessible from all portions of the desk and can in no wise interfere with the opening of drawers or adjustment of books or papers, and it is not liable to be toppled over and damaged.

The apparatus is extremely simple and inexpensive to manufacture and not at all liable to get out of order, while it is readily adapted to desks generally used.

I do not regard it as essential in all cases that all of my present improvements be included in a single apparatus—as, for instance, 12, 14, 16, and 17 may be omitted and another base employed. Again, the staff extension need not always be in the form of a tube or rod. In fact, the extension feature may be dispensed with in some cases without departing from the spirit of my invention. The joint at 2 while desirable is not necessarily employed in all forms of my invention. Any other connection may be established between the staff 4 and the base of the apparatus instead of a universal joint. I believe I am the first to provide a telephonic apparatus of the kind described in which a base is clamped upon a desk and in which a staff may be swung down so as to adjust the transmitter and then be swung up again and a receiver hung upon a switch thereon. I am not aware of any prior adjustable transmitter-supporting staff having thereon a switching-hook which may be held down by a receiver when said staff is swung into an upright position of disuse. One important feature of my invention resides in mounting a transmitter and switch upon a staff which may be tipped to various positions upon a base, the latter being by preference in the form of a fixture, although it may be in other forms, so that the user need only to adjust the staff, which is far easier and more convenient than to lift about a heavy stand. It should be further

noted, also, that the construction for hanging the receiver in place enables the receiver, held in a substantially vertical position by the user, to be suspended in such position on the receiver-support whatever the angular position of the staff with reference to the vertical. Moreover, the receiver suspended from the receiver-support retains its vertical position as the staff is swung from one position to another and the free end thereof raised or lowered.

Having described my invention, I claim—

1. In a desk-telephone, the combination with a support, and a staff having a swinging connection therewith, of a transmitter on the staff, a receiver-support mounted on the staff independently of the transmitter between the point at which the staff is supported and the point at which the transmitter is connected to the staff, a receiver, and means for suspending the vertically-positioned receiver in position on the receiver-support whatever the angular position of the staff with reference to the vertical.

2. In a desk-telephone, the combination with a transmitter, of a staff mounted upon a support, a universal joint so that said staff may be swung upon said support in a substantial arc in diverse directions to and from an upright position and a switch on said staff adapted to be operated by a receiver when said staff is in an upright position.

3. In a desk-telephone, the combination with a support, and a telescopic staff having a swinging connection therewith, of a transmitter on the staff, a receiver-support mounted on the staff independently of the transmitter between the point at which the staff is supported and the point at which the transmitter is connected to the staff, a receiver, and means for suspending the vertically-positioned receiver in position on the receiver-support whatever the angular position of the staff with reference to the vertical.

4. In a desk-telephone, the combination with a clamping-base, of an extensible staff mounted thereon by a universal joint, a transmitter mounted on one end of said staff, a movable switch carried by said staff, and a receiver adapted to operate said switch.

5. In a desk-telephone, the combination with a support, and a staff having a swinging connection therewith, of a transmitter on the staff, a receiver-support mounted on the staff independently of the transmitter between the point at which the staff is supported and the point at which the transmitter is connected to the staff, a receiver, and means for maintaining the receiver suspended from the receiver-support in a vertical position as the staff is swung from one position to another.

6. In a desk-telephone, the combination with a support, and a staff having a swinging connection therewith, of a transmitter hinged to the staff, a receiver-support mounted on the staff independently of the transmitter between the point at which the staff is supported and the point at which the transmitter is connected to the staff, a receiver, and means for maintaining the receiver suspended from the receiver-support in a vertical position as the staff is swung from one position to another.

7. In a desk-telephone, the combination with a support and a telescopic staff having a swinging connection therewith, of a transmitter hinged to the staff, a receiver-support mounted on the staff independently of the transmitter between the point at which the staff is supported and the point at which the transmitter is connected to the staff, a receiver, and means for maintaining the receiver suspended from the receiver-support in a vertical position as the staff is swung from one position to another.

8. A desk-telephone comprising a clamping-base and a socket upon said base, a staff provided with a solid ball held in said socket, a transmitter pivotally mounted upon the end of said staff and a switch having a movable receiver-hook carried on said staff.

9. In a desk-telephone, the combination with a solid ball mounted in opposite portions of a socket and provided with a stem working between said portions, of a telescopic staff mounted upon said stem and extending transversely thereof, a transmitter pivotally mounted upon said staff, and a switch having a movable receiver-hook carried by said staff.

10. In combination with a base having an integral clamping-bar, a guiding device, a longitudinally-adjustable clamping member working in said guiding device, means for drawing together said clamping member and a hollow telescopic staff connected by a universal joint to said base, and carrying a switch having a movable receiver-hook and having mounted at one end a transmitter.

11. In combination, a base 12 having integral clamping-fingers 17 and a tubular guide 15, a tubular rod 14 adjustable in said guide, and provided with an integral crook 16; a screw threaded into said rod 14 and whose head engages with an upturned ear 20 provided upon said base; arms 9, 9 extending from the base 12 and having a screw for drawing the arms toward each other; shells 8 provided upon said arms; a hollow telescopic staff, a transmitter and a receiver-switch carried upon said staff, and connecting-wires led through the hollow of said staff.

12. In a desk-telephone, the combination with a support, and a staff having a universal swinging connection therewith, of a transmitter on the staff, a receiver-support mounted on the staff, a receiver, and means for suspending the vertically-positioned receiver in

a vertical position on the receiver-support whatever the angular position of the staff with reference to the vertical.

13. In a desk-telephone, the combination with a support, and a staff having a universal swinging connection therewith, of a transmitter on the staff, a receiver-support mounted on the staff, a receiver, and means for maintaining the receiver suspended from the receiver-support in a vertical position as the staff is swung from one position to another and the free end thereof raised or lowered.

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