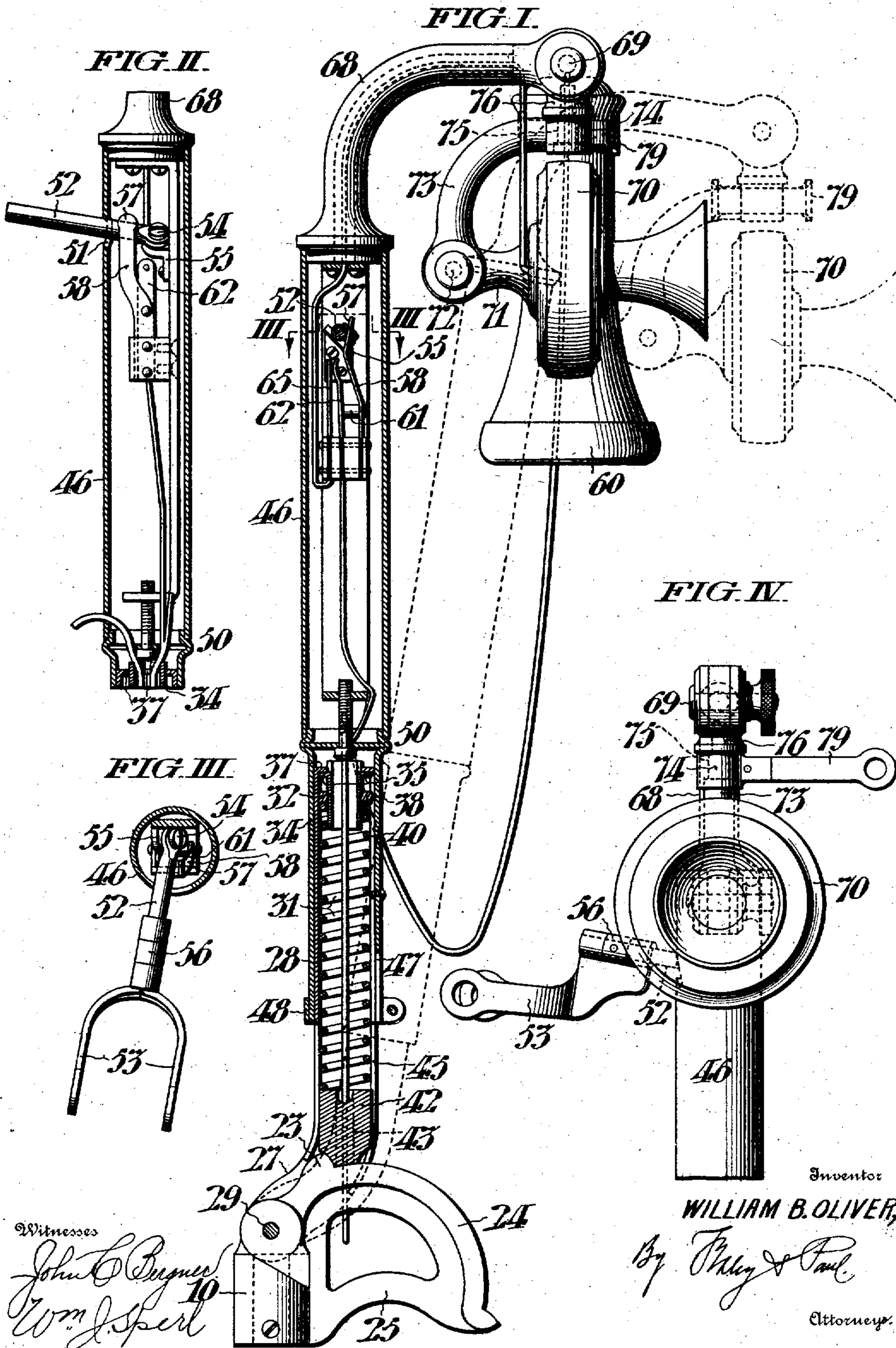


W. B. OLIVER.
TELEPHONE STAND.
APPLICATION FILED JAN. 15, 1907.



UNITED STATES PATENT OFFICE.

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TELEPHONE-STAND.

No. 858,822.

Specification of Letters Patent.

Patented July 2, 1907.

Original application filed June 15, 1906, Serial No. 321,889. Divided and this application filed January 15, 1907.
Serial No. 352,397.

To all whom it may concern:

Be it known that I, WILLIAM B. OLIVER, of No. 317 Lees avenue, Collingswood, in the county of Camden and State of New Jersey, have invented certain new and useful Improvements in Telephone-Stands, whereof the following is a specification, reference being had to the accompanying drawings, this being a divisional case in relation to my application, Serial No. 321,889, filed June 15, 1906.

My invention relates to a telephone stand, comprising a support pivotally mounted and so balanced by means of self-contained spring devices, as to be capable of remaining in a state of equilibrium when placed in any of the positions which are within the range of its pivotal adjustment.

Self-balancing supports of various types are now in general use as carriers for the ordinary desk telephone stand, the support proper and the telephone stand being separate and distinct structures. This organization, as a whole, involves the use of somewhat cumbersome parts, and one object of the present invention is to simplify the structure by the elimination of certain relatively unimportant features, thus directly combining the transmitter casing and the receiver with the self-contained spring support, while at the same time permitting the use of the transmitter casing and receiver in the form commercially employed in the desk instruments referred to.

In the accompanying drawings, Figure I, is a view partly in side elevation and partly in a vertical axial section of the support and the telephone elements combined therewith showing the foot of the support, but not the base on which said foot is preferably mounted. Fig. II, is a view in vertical axial section through the upper portion of the support, the plane of section being at right angles to that shown in Fig. I. Fig. III, is a transverse section through the support on the line III, III, in Fig. I. Fig. IV, is a front view of the upper end of the support showing the transmitter casing, the main receiver hook and the auxiliary receiver hook.

The standard or support comprises the foot, two telescoping tubular members (which I term the upper and lower stems), and an overhanging top portion. The support terminates at its lower end in a foot 10, which is adapted to be pivotally mounted upon a suitable support. The foot 10, carries a segmental cam piece 24, stoutly supported by means of a web 25. The upper end of the foot is cut away at each side so as to form flat bearing faces adapted to receive the bifurcated and rearwardly curved ends 27, of the lower stem 28, which are rotatably mounted upon the pivot 29. A stop 23, limits the rearward movement of the standard.

The balancing devices are organized as follows:—The

lower stem 28, which is preferably tubular as shown, carries a coiled spring 31, whose upper end abuts against the ring nut 32, which is mounted upon the threaded tubular piece 34. The upper end of the piece 34, is slotted and the portions 35, corresponding with the extent of the slots are turned outwardly into a horizontal position. These portions 35, engage beneath the overhanging flange 37, formed on the upper end of the lower stem 28, so that the tubular piece 34, is rotatably supported against upward thrust. The ring nut 32, carries a pin 38, which engages in a vertical slot 40, formed in the lower stem 28, and preferably extending throughout substantially the greater portion of its length. The lower end of the spring 31, exerts pressure against the bearing block or shoe 42, which slides freely within the lower stem 28. Holes 43, are formed through said shoe 42, to permit the passage of the telephone wires which extend down through the standard and emerge at the lower end thereof. The lower surface of the shoe 42, is adapted to ride upon the curved surface of the cam piece 24, when the standard is turned from a vertical position as indicated in dotted lines.

The lower stem 28, has a relatively wide slot 45, to permit it to be turned down over the cam 24, and the configuration of the cam surface is such that as the standard is turned more and more towards a horizontal position the shoe 42, is forced upwards within the standard, thus compressing the spring 31, with a progressively increasing ratio. By a proper co-relation between the strength of the spring, the curve of the cam, and the weights of the supported parts, substantial equilibrium may be maintained in any position of the standard, as will readily be understood. The upper stem 46, also preferably tubular, is fitted telescopically upon the lower stem, being slotted as indicated at 47, and provided with a screw clamping band 48, so that the two parts may be maintained in any given longitudinal adjustment with relation to each other. The upper stem 46, itself is preferably constructed in two parts, secured together at the region 50. The upper portion of the upper stem is hollow and is adapted to contain in its interior the circuit wires and contact pieces characteristic of any ordinary desk telephone instrument. The construction and general organization of these being well understood it is not deemed necessary to describe the same, except that so far as they represent peculiarities due to their present embodiment. Near the upper end of the upper stem 46, an inclined slot 51, is formed to permit the up and down movement of the receiver hook, whose bifurcated end is indicated at 53, its shank 52, being pivotally mounted at 54, on an inclined plate 55, which affords a bearing surface parallel to the in-

clination of the slot 51. The bifurcated end portion 53, of the receiver hook is mounted upon the shank 52, by means of a swivel connection 56.

The purpose of giving an inclination to the slot 51, and pivoting the shank upon an axis inclined with relation to the axis of the standard and also of employing a swivel mounting for the part 53, is to insure the proper action of gravity upon the parts, irrespective of the inclination of the standard, as a whole, to the perpendicular. As before stated, the contact pieces, et cetera, may be of any of the well known types, the spring 58, having its upper end 57, of such configuration as to bear laterally and upwardly against the shank 52, of the receiver hook.

The position of the parts shown in the various figures is that which occurs when the receiver 60, is lifted from the hook, and the spring 58, has thrown the shank 52, of the hook, to its uppermost position on the slot 51. Under these circumstances, the spring member 58, presses the stud 61, against the switch 62, and thus establishes the circuit between said switch member and the line conductor 65. When, however, the receiver 60, is placed upon the hook, the action of gravity causes the latter to descend the incline of the slot 51, and the shank 52, of the hook forces the spring 58, in the corresponding direction, so that the pressure of the stud 61, upon the switch member 62, is relieved and the latter springs out of contact with the member 65.

It will be noted that by reason of the swiveled connection 56, between the end portion 53, and the shank 52, the receiver will hang in a vertical position, no matter what may be the inclination of the standard to the vertical, and furthermore, by reason of the inclined axis upon which the shank 52, is pivoted, and the freedom allowed by the inclined slot, the proper gravitational effect of the receiver is always insured.

The upper end 68, of the standard is reduced in size and bent outwardly so as to form an overhanging support for the telephone transmitter casing 70. In the instance shown, this casing is of the ordinary type found in desk instruments and has a rearwardly projecting part 71, which is pivotally connected at 72, to a curved arm 73. Said arm 73, terminates in a cylindrical boss 74, which is pivoted upon a vertical axis by means of a screw pin 75, secured to a downwardly depending piece 76, which is pendulently secured to the overhanging support 68, by means of the horizontal pivot 69. It will thus be seen that the connection between the transmitter casing 70, and the support 68, is of such a character as to permit the pendulum-wise swing of the casing, which maintains it in its proper relation in all the various positions of the support with reference to the vertical, and also that the transmitter casing and mouth piece are revoluble upon a vertical axis, thus greatly adding to the convenience of the device.

An auxiliary receiver hook 79, projects laterally from the part 74, so as to both rotate and swing therewith, the purpose of such auxiliary hook being to permit the hanging up of the receiver when it has been removed from its spring actuated hook 53, and during the interval when it may be desired to maintain the talking circuit, although the telephone itself is temporarily not

in actual use. It will be noted that the auxiliary receiver hook is at the right hand of the mouth piece as faced by the user, and that it maintains its definite position with relation to the mouth piece regardless of the swinging or rotating movement of the transmitter casing, thus avoiding confusion with the normal or regular receiver hook which is usually located at the level of the mouth piece. The circuit wires lead down through the standard and pass through the openings 43, in the shoe 42, emerging at the foot and being then led in any suitable manner to make connection with the induction coils, not shown.

To avoid prolixity in my claims I use the term "self-balancing support," as meaning a pivotally mounted structure of the kind described, controlled by self-contained spring devices, which together with the friction of the moving parts maintain the structure and the elements carried thereby practically in a state of equilibrium as against the action of gravity in any of the various positions which the standard may assume.

I claim:—

1. In a telephone support, the combination with a self-balancing standard, having an overhanging portion; of a spring actuated receiver hook mounted in said standard below said overhanging portion; and a transmitter casing pendulently connected to said overhanging portion.

2. In a telephone support, the combination with a self-balancing standard having an overhanging portion; of a transmitter casing pendulently connected thereto, and laterally rotatable thereon.

3. In a telephone support, the combination with a self-balancing standard; of a transmitter casing pendulently supported thereto; and an auxiliary receiver hook attached to the pendulently supported member and moving therewith.

4. In a self-balancing telephone support, the combination of a standard and a spring actuated receiver hook pivoted upon an axis inclined to the axis of the standard, said standard being provided with an opening adapted to permit the rotative movement of the hook upon its axis, irrespective of the position of the standard.

5. In a self-balancing telephone support, the combination with the standard; of a receiver hook and shank pivoted upon an axis inclined to the axis of the standard and a bifurcated end portion mounted to swivel upon said shank; said standard being provided with an opening adapted to permit the rotative movement of the shank upon its axis, irrespective of the position of the standard.

6. In a self-balancing support, the combination of a standard of tubular form; a coiled wire spring inclosed therein and a telescopic sleeve carrying at its upper end a lateral projection and a pivotally suspended telephone transmitter.

7. A self-balancing telephone support comprising a standard; and a telescopic sleeve carrying at its upper end a lateral projection, a pivotally suspended transmitter, an axially inclined receiver hook and a spring contact piece adapted to be actuated by said receiver hook.

8. A self-balancing telephone support comprising a standard, said standard containing a telephone switch and switch springs, and means for actuating said switch; a laterally overhanging projection at the upper end of said standard and a pivotally suspended transmitter.

In testimony whereof, I have hereunto signed my name, at Philadelphia, in the State of Pennsylvania, this tenth day of January, 1907.

WILLIAM B. OLIVER.

Witnesses:

JAMES H. BELL,

WILLIAM J. SPERL.