K. E. LAMKIN.

ADJUSTABLE TELEPHONE SUPPORT.

APPLICATION FILED DEC. 15, 1919.

1,364,118. Patented Jan. 4, 1921.

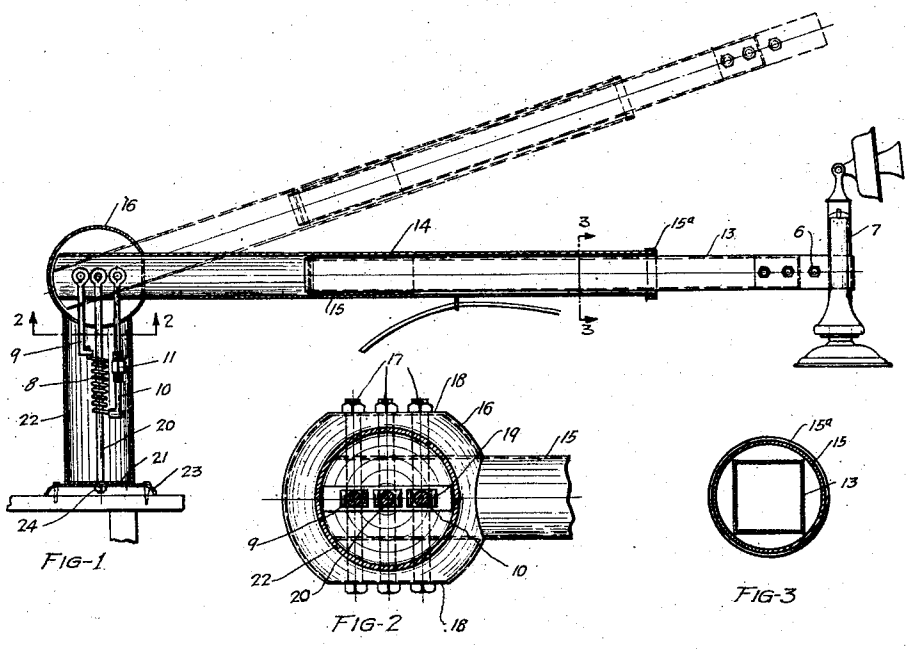


FIG-1. FIG-2. FIG-3.

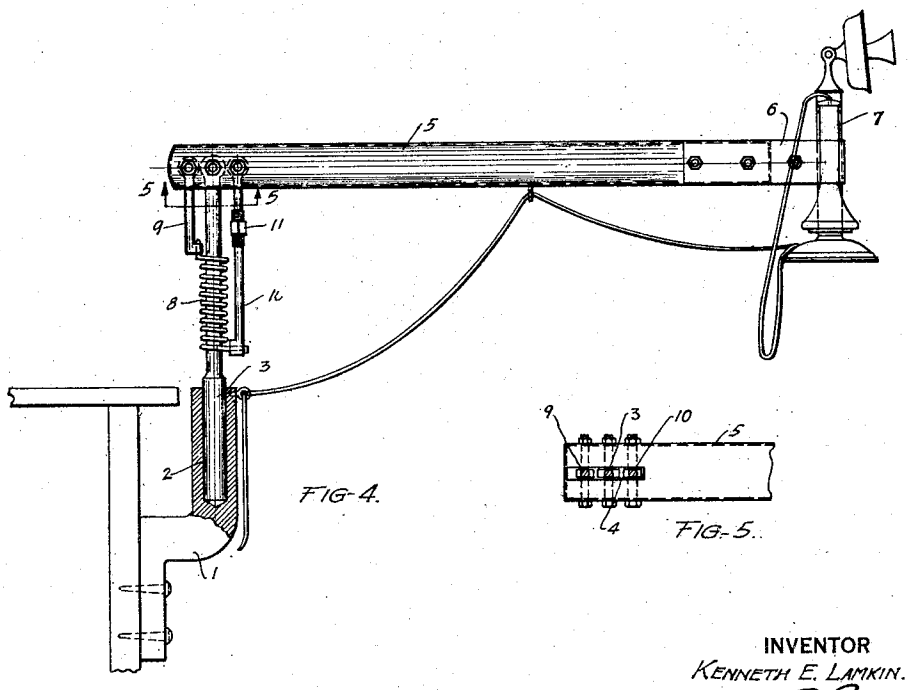


FIG-4. FIG-5.

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ADJUSTABLE TELEPHONE-SUPPORT.

1,364,118. Specification of Letters Patent. Patented Jan. 4, 1921.

Application filed December 15, 1919. Serial No. 345,058.

To all whom it may concern:

Be it known that I, KENNETH E. LAMKIN, a citizen of the United States of America, residing at Birmingham, in the county of Jefferson and State of Alabama, have invented certain new and useful Improvements in Adjustable Telephone-Supports, of which the following is a specification.

My invention relates to an adjustable telephone support capable of the requisite universal adjustment and also, where desired, capable of longitudinal extension so that it is adapted to meet the requirements for use on various desks and mercantile fixtures.

The essential feature of my invention is the pivoting of the telephone supporting arm for vertical play on a swivel support and the provision of operating connections from opposite sides of its pivot to a spring so arranged and mounted that it will return the arm, when released in lowered position, to its raised position and will not interfere with free horizontal play for the arm.

In one embodiment, the arm is pivoted to a vertical shaft which turns in a socket and is surrounded by a coiled tension spring having the operating connections above described from its ends to the arm on opposite sides of the shaft. In the other embodiment the arm is provided with a ball seated on a tubular stand in which it has free lateral movement and limited vertical movement restrained by a spring mechanism as above described, and in this form, if desired, the arm may be formed by telescoping sections so as to provide adjustment any length therefor. This latter form is of the more ornamental and expensive type but does not otherwise differ in function from the simpler embodiment in which the arm supporting shaft turns in a socket.

My invention further comprises the novel details of construction and arrangements of parts, which in their preferred embodiments only are illustrated in the accompanying drawings, in which:—

Figure 1 illustrates in side elevation the ball joint type of my invention with the telephone drawn down to operating position and the tubular support shown in vertical section.

Figs. 2 and 3 are sectional views taken on the lines 2—2 and 3—3, respectively, of Fig. 1.

Fig. 4 is a view similar to Fig. 1 of a different form of my invention showing the swivel shaft bearing in vertical section.

Fig. 5 is a detail bottom view of the swinging arm taken on line 5—5 of Fig. 4.

Similar reference numerals refer to similar parts throughout the drawings.

The adjustable telephone support illustrated in Fig. 4, being the simpler form and more easily understood, will be first described. It comprises a bracket 1 adapted for attachment to a desk or wall and having a vertical socket 2 in which a swivel pin 3 is mounted free to turn about a vertical axis therein. This pin at its upper end is inserted through the bottom slot 4 near one end of the swinging arm 5, which at its other end carries any suitable type of clamp 6 adapted to engage and firmly hold a telephone 7. A coiled tension spring 8 is mounted around the pin 3 and is connected at its upper end by a rod 9 to the end of the arm 5 on one side of the pin 4 while the opposite end of the spring 8 is connected by a rod 10 to the arm 5 on the opposite side of the pin 4. The upper ends of the rods 9 and 10 and of the pin 3 are connected to the arm 5 by bolts passing through the arm and loosely through holes in the flattened ends of said rods and pin. The rod 10, if desired, may be made adjustable in length by interposing a turn buckle 11 to connect its sections and which can be turned to shorten or lengthen the arm and regulate the tension on the spring 8. When the telephone is not in use the arm 5 will be drawn up by spring 8 so as to support the telephone in elevated position where it will be out of the way and not interfere with the use of the desk or obstruct work about the fixture to which the support is attached. Under such conditions the spring 8, being held by the pin 3 as a guide, will have contracted to its minimum operating length but will be still under sufficient tension acting through its connections to the arm on opposite sides of its pivot to hold the arm in such elevated position. When it is desired to use the telephone, the latter is grasped and drawn downwardly, which causes the arm 9 to pull the top end of the spring upwardly and the arm 10 to push the bottom end of the spring downwardly, thus increasing the spring's tension until the arm is released, when the spring will pull the arm 5 back to its raised position. The swivel pin 3 being free to turn in the socket

2 will permit the arm 5 to be swung freely laterally and the pivotal connection of the arm 5 to said pin will permit the arm, within the limits allowed by the spring 8, to swing vertically. These two motions give the requisite universal adjustment for the telephone support with a minimum number of parts, all of which are simple and inexpensive character. The turn buckle will regulate the tension on the spring so as to hold the arm at the desired elevation.

Where a more elaborate and ornamental fixture is desired, the mechanism illustrated in Fig. 1 may be used. Here the telephone clamp 6 is mounted on the outer end of a square arm 13 having at its other end a washer or packing 14 which fits with a sliding fit into the tubular arm 15 similar to arm 5. The outer end of arm 15 is closed by a screw cap or plug 15ª having a square hole for arm 13 and serving to prevent its detachment from the arm 15. The arms 13 and 15 are thus telescoped to provide an extension support which can be lengthened or shortened. The tubular arm 15 has its other end introduced through a hole provided therefor into a hollow sphere or ball 16, and it is made fast in the ball by three pins 17 passing horizontally through opposite flattened sides 18 of the sphere and through the end of the tubular arm 15 in the sphere. In the under portion of the sphere in a vertical plane with the bottom slot 4 in the arm 15 is a longitudinal slot 19 and through these slots 4 and 19 passes downwardly a swivel rod 20 having its upper end loosely mounted on the center pin 17 while its lower end is passed axially through the bottom 21 of a tubular standard 22 and also through a base 23 on which said standard is rigidly mounted. The top of the tubular standard is left open and forms a seat for the ball or sphere 16 and a nut 24 screwed on the other threaded end of the swivel rod 20 serves to pivotally assemble the sphere and telephone supporting arms on the tubular standard and base, leaving the sphere free to swivel with the rod 20 while resting on the ball bearing at the top of the tubular standard. The coiled tension spring 8 surrounds the swivel rod 20 within the tubular support and is connected at its upper end to the rod 9 and at its lower end to the rod 10, these rods both passing upwardly through the standard and through the slots 4 and 19 and being pivotally connected at their upper ends to the end pins 17.

In operation, having secured the base 23 to the support for the fixture, the extension arms 14 and 15 will be held normally in elevated position by the action of the spring 8 which will function as described in connection with Fig. 4. In assuming this elevated position, the sphere 16 will turn in the top of the tubular standard like a ball bearing and in whatever position it thus assumes the arm is still free to turn with the swivel rod as a vertical axis, due to the fact that such rod is free to turn in the vertical axis of the tubular standard. As the telephone arm is drawn down the sphere turns in its bearing and the rod 9 and 10, in the manner already described, stretch the spring 8, the tension on which can be regulated by the turn buckle 11, and which is adapted to return the extension telephone support to elevated position. This fixture conceals all working parts and presents an attractive ornamental appearance. The vertical adjustment of the arm being limited it is only necessary that its pivot have an approximately semi-spherical bearing, but I prefer to use the sphere or ball for ornamental purposes with its sides flattened to simplify attachment of the pins 17.

It is understood that my invention can be variously modified in its detailed construction without departing from the essence of my invention, and all such changes as come within the scope of the appended claims are within the contemplation of my invention.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A swinging arm having means at its free end for attachment to a telephone or the like, a standard free to turn about a vertical axis, a bearing for the standard, means to pivotally connect said swinging arm for vertical play to said standard, a spring rotatable with the standard, and elements reversely operable by a downward swinging movement of said arm and each so connected to said spring as to increase its tension by their respective relative movements, as and for the purposes described.

2. A swinging arm having means at its free end for attachment to a telephone or the like, a pivot pin, a swivel bearing in which the pin is free to turn about a vertical axis, means to pivotally connect said swinging arm for vertical play to said pin, a coil spring movable with the pin, and adjustable means, reversely operable by the vertical swinging movements of said arm, which are connected to opposite ends of said spring and are adapted to bring the spring under increasing tension as said arm is swung downwardly from normal elevated position.

3. In combination, a swinging arm having means at one end for attachment to a telephone, a standard, means to pivot said arm free for vertical play to said standard, a support in which said standard is free to turn about a vertical axis, rods connected to the swinging arm on each side of its pivot, and a spring connecting the free ends of

said rods and subjected thereby to increasing tension as the swinging arm is drawn downwardly, substantially as described.

4. In a device of the character described, in combination, a vertical pivot and a bearing therefor, a vertically swinging arm connected to the top of the pivot, a coil spring surrounding the pivot, connections from the swinging arm on opposite sides of the pivot to opposite ends of said spring for the purposes described, and means at the free end of said arm for attachment to a device to be adjustably supported thereby.

5. In an adjustable telephone support, an extension arm adapted for connection at its free end to a telephone, a ball bearing at the other end of the arm, a rod connected to said bearing and free to turn with the arm about a vertical axis, a coil spring surrounding said rod, and rods connecting the opposite ends of said spring to the said arm on opposite sides of the diametric center of said bearing.

6. In an adjustable telephone support, an extension arm adapted for connection at its free end to a telephone, a spherical bearing fixed at the other end of the arm, a tubular seat for said spherical bearing, a pivot rod concentric with said seat and connected to said bearing free to turn with the arm about a vertical axis in said seat, a coil spring surrounding said rod, and rods connecting the opposite ends of said spring to the said arm on opposite sides of the diametric center of said bearing, there being in the base of said spherical bearing an elongated slot lying in a vertical plane with the extension arm and adapted for the free passage therethrough of the several rods entering the seat, substantially as described.

In testimony whereof I affix my signature.

KENNETH E. LAMKIN.

Witness:
NOMIE WELSH.