

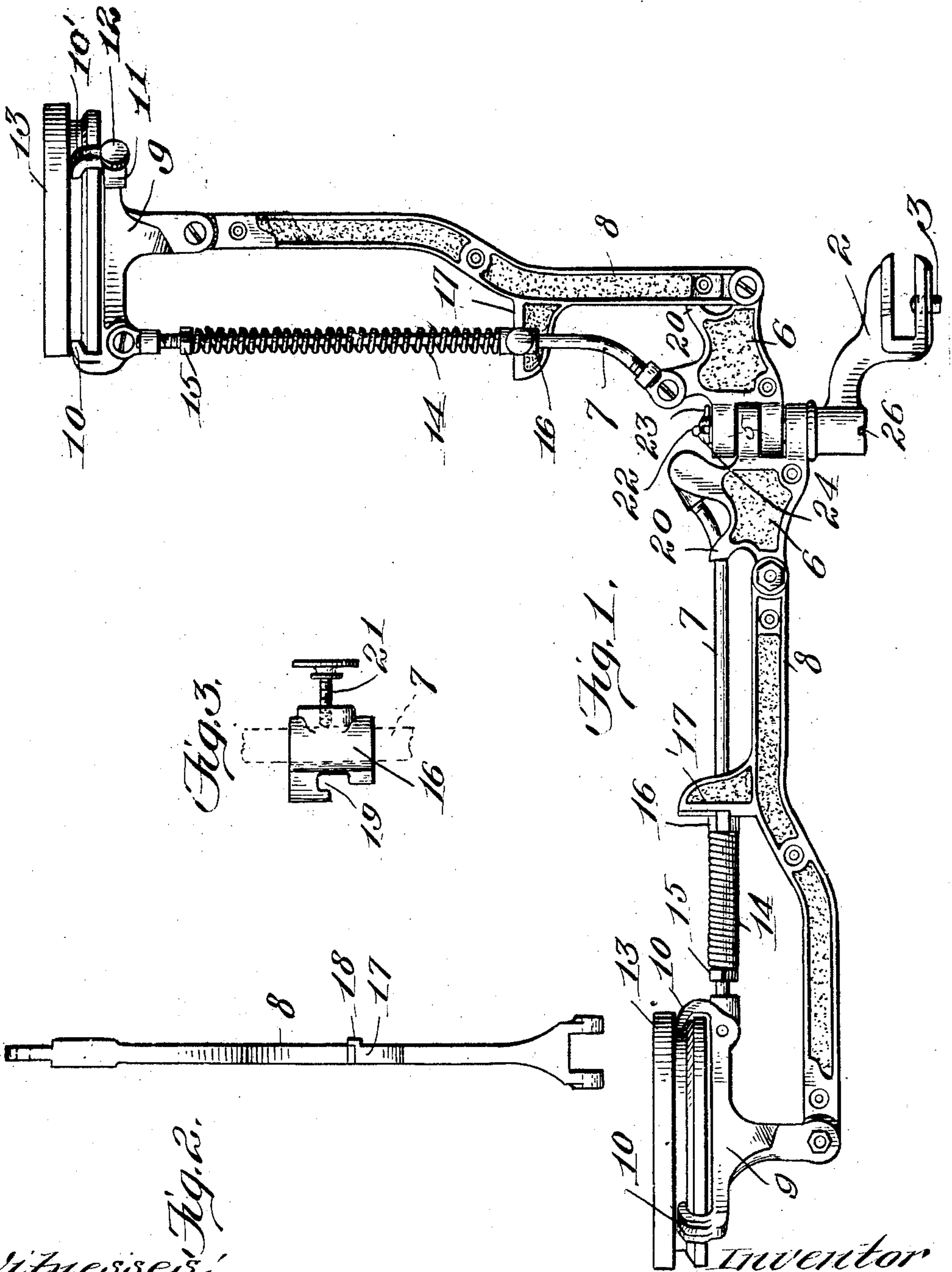
No. 826,686.

PATENTED JULY 24, 1906.

W. B. OLIVER.
TELEPHONE SUPPORT.

APPLICATION FILED OCT. 14, 1904.

2 SHEETS—SHEET 1.



Witnesses:
C. D. Hester
James L. Morris, Jr.

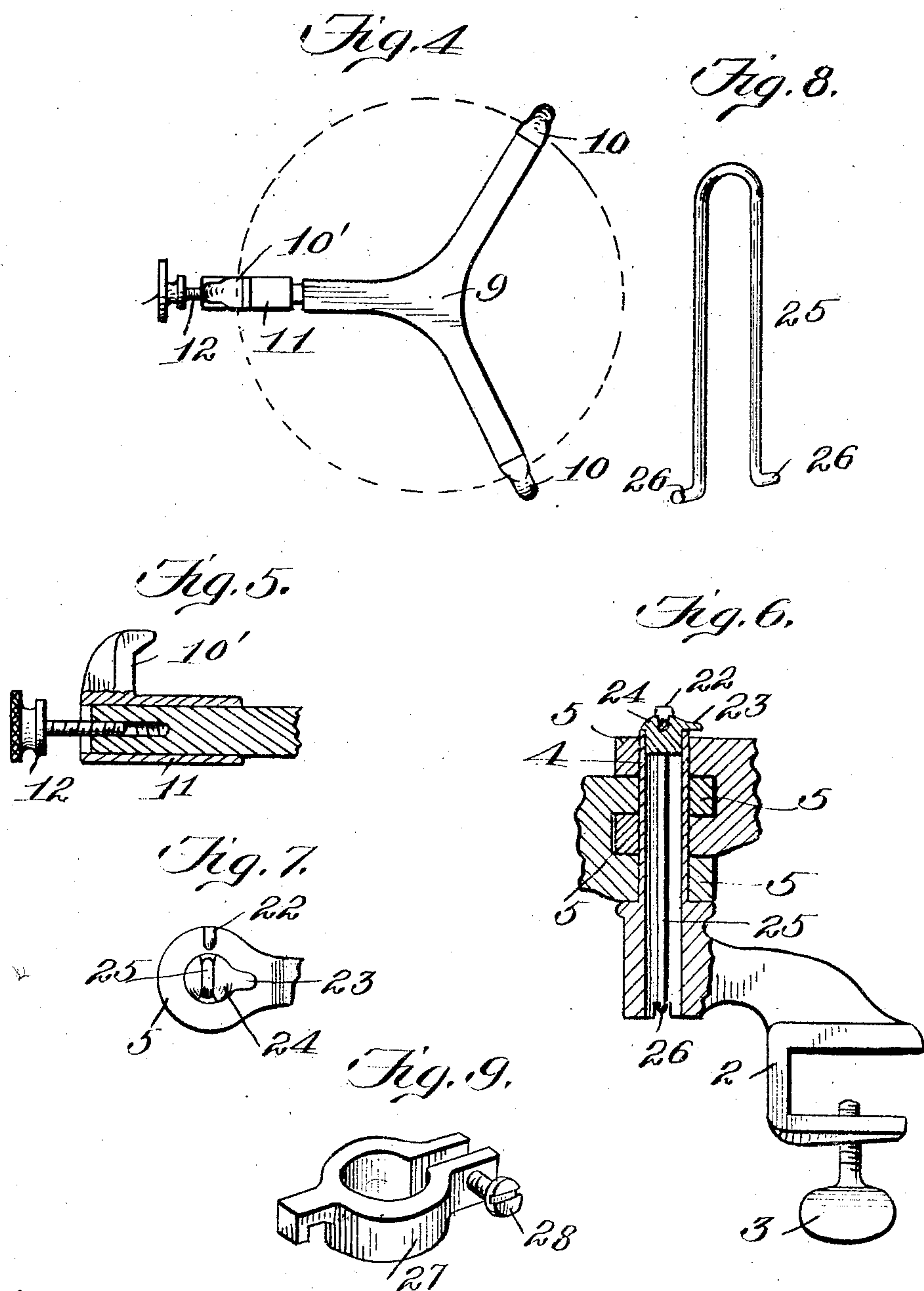
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2 SHEETS—SHEET 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM B. OLIVER, OF BALTIMORE, MARYLAND, ASSIGNOR TO OLIVER MANUFACTURING COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

TELEPHONE-SUPPORT.

No. 826,886.

Specification of Letters Patent.

Patented July 24, 1906.

Application filed October 14, 1904. Serial No. 228,477.

To all whom it may concern:

Be it known that I, WILLIAM B. OLIVER, a citizen of the United States, residing at Baltimore, State of Maryland, have invented new and useful Improvements in Telephone-Supports, of which the following is a specification.

This invention relates to telephone-supports, the object of the invention being to provide a simple device of this character which can be inexpensively and easily made.

The support involves in its make-up a pair of links mounted in some suitable manner, and associated with the links is a bracket for carrying a telephone or any other suitable device and a spring of any suitable character, arranged to resist action of the links relatively to each other during their swing, said spring at the same time serving to counterbalance an article, such as a telephone, on the bracket in the different positions assumed by said bracket. It will therefore be apparent that by the construction outlined there is no tendency on the part of the links to move in either direction of their own action. It requires, however, a very small amount of power to swing the links either to a primary position, which may be approximately vertical, or to any position between said primary or vertical position and a horizontal position.

In the present instance the links mentioned are coöperative with a turnable member, by virtue of which the bracket can be revolved to render the same readily accessible, and I provide means to prevent undue motion of said turnable member and consequent kinking of telephone-wires, and I do this in such a way that there is no possibility of any of the parts being broken or injured.

I have termed the device a "telephone-support," and have done so simply for convenience and also for the fact that the article is especially adapted for carrying one or more telephones. The support may, however, be used in conjunction with other articles.

In the drawings accompanying and forming a part of this specification I illustrate an adaptation involving my invention, which I will fully set forth in the following description; but I do not limit myself to the disclosure thus made, for material variations may be adopted within the scope of my claims suc-

ceeding said description. I desire to state at this time that in the specification I employ certain terms descriptive of certain parts, and I desire it to be understood that these terms are used in their broad senses.

Referring to the drawings, Figure 1 is a front elevation of a support involving my invention and showing the same arranged for carrying two telephones, one pair of links constituting part of the support being down and the other up. Fig. 2 is a detail view of an outer link. Fig. 3 is a similar view of a slide or sleeve which is illustrated in Fig. 1 as operative with each inner link. Fig. 4 is a plan view of a bracket. Fig. 5 is a sectional view through one of the arms of said bracket. Fig. 6 is a vertical section of the lower portion of the device, showing a means for limiting the motion of a turnable member or members. Fig. 7 is a plan view of the parts represented in Fig. 6. Fig. 8 is a detail view of a spring. Fig. 9 is a detail view in perspective of a modified form of slide.

Like characters refer to like parts throughout the different views.

That adaptation of the invention which I for convenience have selected for illustration in the accompanying drawings in order to indicate the advantages of said invention involves in its construction an attaching member, which may be of any suitable character and which is represented as consisting of a clamp, as 2, adapted to be connected to a table, desk, or any other like part and to be held in solid relation with such part by means of a screw, as 3, tapped through the under jaw of the clamp and adapted to engage the under side of the part with which the clamp is connected. From the shank or body of the clamp the vertically-disposed spindle 4 is shown as rising, said spindle being illustrated as hollow or tubular for a purpose that will hereinafter appear, and the same statement applies to the hub of the said shank.

Upon the spindle 4 are arranged for turning movement the sleeves 5, carried by the pedestals or turnable members 6, there being two of said turnable members or pedestals represented, and their sleeves are illustrated as arranged in alternation upon the spindle. By reason of the construction just set forth the pedestals or turnable members 6 can be independently revolved or operated. The

lower sleeve rests upon the hub of the shank of the clamp 2. Associated with each pedestal or turnable member 6 are a pair of links and a bracket, and as they are the same in each case a detail description of one pair of links, the cooperating bracket, and adjunctive devices will suffice for the other, similar characters being used in both cases. The sleeves 5, to which reference has been made, are ordinarily made integral with the turnable member or pedestal 6, the two parts being readily formed by casting.

To the pedestal 6 are represented as pivoted inner and outer links 7 and 8, respectively, the pivots for said links being out of line vertically. Said pivots are represented as being on a diagonal line or a line substantially forty-five degrees to the horizontal, although this exact relation is not necessary. By such relation or an equivalent one the two links 7 and 8 can be swung to a vertical or substantially vertical position, so that when all four links assume such vertical position the device as a whole will occupy a relatively small amount of space laterally.

The upper ends of the links 7 and 8 are connected with a bracket, as 9, of spider or three-arm form. The link 8 is connected with the bracket 9 centrally thereof, while the link 7 is connected to said bracket eccentrically thereof. By reason of the linkage connection between the bracket and the pedestal the bracket will be maintained in horizontalism as the links are swung from a vertical to a horizontal position, and vice versa, in order to assure that a telephone or other device supported upon the bracket will be in proper position for use throughout the entire backward and forward swing of the links.

As previously indicated, the bracket 9 is illustrated as comprising three arms, two of them being provided at their outer ends with hook-like lugs 10, while the third one is provided at its outer end with a sleeve 11, arranged for radial movement with respect to said bracket and adapted to be maintained in an adjusted position by the head of a screw 12 tapped into the body of said third arm. The sleeve 11 is provided on its upperside with a lug 10' complementary to the other two lugs 10, the three lugs serving to engage over a telephone base or over an insulating board or disk 13, upon which said base is adapted to rest and which can be connected rigidly with the bracket by means of the three lugs. Where I use a support with two brackets, I prefer to insulate the two telephones from each other by boards, as 13, directly carried by the brackets 9, and to which the respective telephones are attached in any desirable way. The boards insulate the telephones from each other, so that sounds cannot be transmitted from one to the other when they are on different circuits.

Associated with the links in any desirable

manner is a spring of any suitable character arranged to resist the action of the links relatively to each other during their swing, and this spring is adapted to counterbalance a telephone or other article sustained upon the bracket 9 during the swing of the links, so that the latter will have in themselves no tendency to either move down or up. By reason of the spring, however, very little power is acquired to manipulate the links to get them either to a vertical or horizontal or any intermediate position. The means illustrated for accomplishing the result set forth will now be described.

Surrounding the upper portion of the inner link 7 is a coiled protractile or push spring 14, bearing at its upper end against a shoulder, as 15, on said inner link and at its lower end against a slide 16, also on said inner link, and which may consist of a sleeve. The shoulder or stop 15 is adjustable, it being represented as a nut threaded onto the link 7 and by the movement of which the tension of the spring 14 can be regulated. It will be understood that on the downward or upward swing of the links the inner one has a relative lateral motion with respect to its companion, and it is this motion that is resisted by the spring and in such a way that the weight of the telephone and its accessories naturally is counterbalanced no matter what the positions of the links may be within their swing.

Upon the outer link is an inwardly-extending arm 17, having a bead 18 along its upper edge to slidably fit a groove 19 in the body of the slide or sleeve 16. It will be understood from this that the slide 16 has not only a sliding movement on the inner link 7, but has also a sliding movement on the arm or projection 17, the motions indicated occurring when the links are swung. It will be evident, therefore, that by reason of the construction described the spring acts against both links, the upper end thereof acting against the shoulder or nut 15, while the lower end thereof acts against the sliding sleeve 16 and, through the latter, against the arm 17 of the outer link. Practically the spring is interposed between the two links in order to oppose their relative motions. When the links are initially swung down, the slide 16 first moves outward and subsequently moves inward through the changing relations of the parts, and during such downward swing the spring is compressed by the movement of the slide 16 toward the bracket 9 to increase in efficiency or power and in a ratio proportionate to the increase in momentum of the telephone, so that no matter what the positions of the bracket may be the telephone thereon will be counterbalanced by the spring. One hand, therefore, is only necessary to swing the instrument down, and when the link which was grasped to perform the operation in question is released the links will remain in the

adjusted position. As previously indicated, but a very small amount of power will be required to swing the links upward. To prevent the overthrow of the links, I provide a stop, as 20, on the pedestal or turnable member 6, which stop is adapted to be engaged by the outer link 8 when both links have reached their vertical positions.

It is believed that it will be understood from what has been hereinbefore stated that my article-support involves two members mounted for swinging motion and means of a suitable character, such as a spring, to oppose the relative movement of said members and to apply thereto an increasing effect or resistance as said members swing from one position to another. This increasing effect or resistance occurs in the form of embodiment of the invention shown, as the swinging members move from a substantially vertical to a substantially horizontal position. The spring therefore is arranged to yieldingly, increasingly, and longitudinally resist the opposing movement of the two members in relation to each other during their downward swing and to apply automatically a continuous and increasing longitudinal effect to said members as they swing downward, tending to restore them to their primary position. This action takes place during the entire downward swing from the vertical or substantially vertical to the substantially horizontal.

In some cases it may be desired to positively hold the bracket 9 in an adjusted position. This may be readily accomplished by means of a screw, as 21, tapped through the sleeve 16 and adapted to bite against the link 7.

It will be apparent from the foregoing description that both sets of links can be swung vertically through a range of ninety degrees and in addition to this that they are revolvably mounted, so that I provide for all possible contingencies which might arise during the use of a telephone or telephones.

In using the support in connection with a telephone or telephones I limit the revoluble motion in order to prevent kinking of the wires or the twisting or coiling of the same about the links, and I do this in such a way that no possible injury can result when the limit of turning motion is reached, as I will now describe.

It will be remembered that the pedestals or turnable members 6 are provided with sleeves arranged for turning motion around the spindle 4. The upper sleeve 5 is represented as having a lug 22, which may be cast integral therewith, if desired, and cooperative with a lug 23 on a saddle or button 24, which extends across the top of the tubular or hollow spindle 4. The saddle or button 24 is transversely channeled or apertured to receive the crotch of a bifurcated torsional

spring 25, the legs or branches of which are disposed within the hollow spindle and hub of the clamp 2. The lower ends of the spring have lateral offsets, as 26, fitting in notches or slots in said hub, whereby the spring is held against turning motion. It will be apparent that as the saddle overlies the upper sleeve 5 and that as the spring, by reason of its mounting, is held against upward movement the spring and saddle serve as a simple means for holding the pedestals or turnable members 6 in working or assembled relation with the spindle 4. When the pedestals or turnable members have nearly reached the limit of their revoluble motion, the lug 22 will strike the lug 23 and the shock thereof will be taken up by the spring 25. In other words, the lug 22 will be buffed or will meet a yieldable limiting device. When the two lugs engage, the pedestal with which the lug 22 is associated can be turned a slight distance further or until the spring 25 is tensioned to its maximum extent, and this fact will be at once indicated to the user.

Instead of employing a sleeve 16 such as that indicated in detail in Fig. 3, for example, I may employ a sleeve as 27. (See Fig. 8.) The sleeve 27 is of a split or clamp form and is adapted to frictionally engage the inner link 7, with which it coacts, by tightening up the screw 28, connected with the jaws of the split sleeve or clamp.

As previously indicated, I do not limit the use of the device to any particular field. I have described it explicitly in connection with a telephone, for the reason that it has proven particularly satisfactory in such relation. I do not limit myself to the use of two brackets, for one or more than two may be employed. I have illustrated two to indicate that the cooperating parts thereof can be operated independently of each other.

From what has been hereinbefore stated and upon an inspection of the drawings it will be evident that my support includes at least two swinging members mounted to swing from an upper to a lower position, a bracket associated with said members, and a spring to bodily swing with said two members, the latter coacting to compress the spring as they swing from their upper to their lower position. In the present instance the two members alluded to consist of links, the spring being of such a character as to resist the relative endwise motion of said links to cause the gradual compression of the spring as the links move from a substantially vertical to a substantially horizontal position, by virtue of which the bracket, and hence the links, when the spring is of the proper character, have no tendency in themselves to move in either an upward or a downward direction, the result being that the parts stay in adjusted positions without the necessity of employing positive holding devices for the purpose.

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

1. A support including two members mounted to swing from an upper to a lower position, a bracket associated with said members, and a spring to bodily swing with said two members, the latter coacting to compress the spring as they swing from their upper to their lower position.

2. A support of the class described comprising suitably-mounted links, an article-carrying bracket to which said links are respectively eccentrically and concentrically connected, and a counterbalancing-spring for the article on the bracket, arranged to resist the action of the links relatively to each other during their motion.

3. A support of the class described including two links mounted to swing from a substantially vertical to a substantially horizontal position, a bracket associated with said links, and a spring to bodily swing with the links, the latter coacting to compress the spring as they swing from their substantially vertical to their substantially horizontal position.

4. A support including two members mounted to swing from an upper to a lower position, a bracket associated with said members, and a spring encircling one of the members to bodily swing therewith, the two members coacting to compress said spring as they swing from their upper to their lower position.

5. A support including two links, a turnable member to which the lower ends of the links are pivoted, the links being mounted to swing from a substantially vertical to a substantially horizontal position, a bracket pivoted to the upper or outer ends of the links, and a spring to bodily swing with the links, the latter coacting to compress the spring as they swing from their substantially vertical to their substantially horizontal position.

6. A support of the class described including two members mounted to swing from an upper to a lower position, and a spring to bodily swing with said two members, the latter coacting to compress the spring as they swing from said upper to said lower position.

7. A support of the class described comprising a suitably-mounted link having a projection, a second suitably-mounted link provided with a slide longitudinally movable therealong, said slide being adapted for sliding motion on said projection, a spring arranged to act against said slide and against said second link, and an article-carrying bracket associated with the links.

8. A support of the class described comprising a suitably-mounted link having a projection, a second suitably-mounted link provided with a slide longitudinally movable therealong, said slide being adapted to slide on said projection, means for holding the

slide against longitudinal movement, on the second link, a spring arranged to act against said slide and against said second link, and an article-carrying bracket associated with the links.

9. A support of the class described comprising a suitably-mounted link having a projection, a second suitably-mounted link provided with a slide longitudinally movable therealong, said slide being arranged for sliding motion on said projection, a coiled spring surrounding the second link and bearing at one end against said slide, an adjustable device on the second link, against which the opposite end of the spring bears, and an article-carrying bracket associated with said links.

10. A support of the class described comprising a turnable member, a link operatively connected with said turnable member and having a projection, a second link also operatively connected with said turnable member and provided with a slide longitudinally movable therealong, said slide being adapted to slide on said projection, a spring arranged to act against said slide and against the second link, and an article-carrying bracket associated with the links.

11. A support of the class described comprising a suitably-mounted link having a projection, a second suitably-mounted link provided with a sleeve longitudinally movable therealong, the body of the sleeve being arranged for sliding motion on said projection, a screw tapped through the sleeve and adapted to engage the second link, a spring arranged to act against said slide and against the second link, and an article-carrying bracket associated with the links.

12. A support of the class described comprising a spindle, a plurality of members having sleeved portions, turnable on said spindle, the sleeved portion of one member being intermediate the sleeved portion of the other member, links operatively connected with said turnable members, article-carrying brackets associated with the links, and yieldable means for limiting the turning motion of said plurality of members.

13. A support of the class described comprising a spindle, a turnable member on the spindle, an article-carrying bracket operatively connected with said turnable member, and yieldable means to limit the turning motion of said turnable member and to hold the latter in assembled relation with said spindle.

14. A support of the class described comprising a turnable member, an article-carrying bracket operatively connected with said turnable member, and a yieldably-mounted lug, the turnable member being provided with a lug to cooperate with said other lug, and limit the motion of said turnable member.

15. A support of the class described comprising a tubular spindle, a turnable member

movable on said spindle, an article-carrying bracket connected with said turnable member, the latter having a lug, a non-rotative bifurcated torsional spring fitted in the spindle, and a button extending across the top of the spindle and having a channel to receive said spring, and also provided with a lug to be engaged by said other lug to limit the motion of said turnable member.

16. A support involving two members mounted to swing from a substantially vertical to a substantially horizontal position and capable of relative motion during said swing, and a spring to oppose the relative motion of the members and to act directly against each of them.

17. A support including two members mounted to swing from an upper to a lower position, and spring means to bodily swing with said members, the latter coacting to tension the spring means during said swinging motion.

18. A support involving two members mounted to swing from an upper to a lower position and to move relatively longitudinally to each other during such swing, and

spring means acting against each of the members to yieldingly and increasingly resist such relative longitudinal motion during the motion of the members from their said upper to their said lower position.

19. A support involving a body, two members jointed to said body for swinging movement from an upper to a lower position and for relative longitudinal motion during said swing, an article-carrying device connected with the swinging members, and spring means supported independently of the body and arranged to swing with said swinging members, said spring means being adapted to yieldingly and increasingly resist the relative longitudinal motion of the swinging members during their swing from their said upper to their said lower position.

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

WILLIAM B. OLIVER.

Witnesses:

FRANK W. FARRELL,
HEATH SUTHERLAND.