

No. 799,137.

PATENTED SEPT. 12, 1905.

J. A. BIRSFIELD.
TRANSMITTER ARM.
APPLICATION FILED FEB. 13, 1905.

2 SHEETS—SHEET 1.

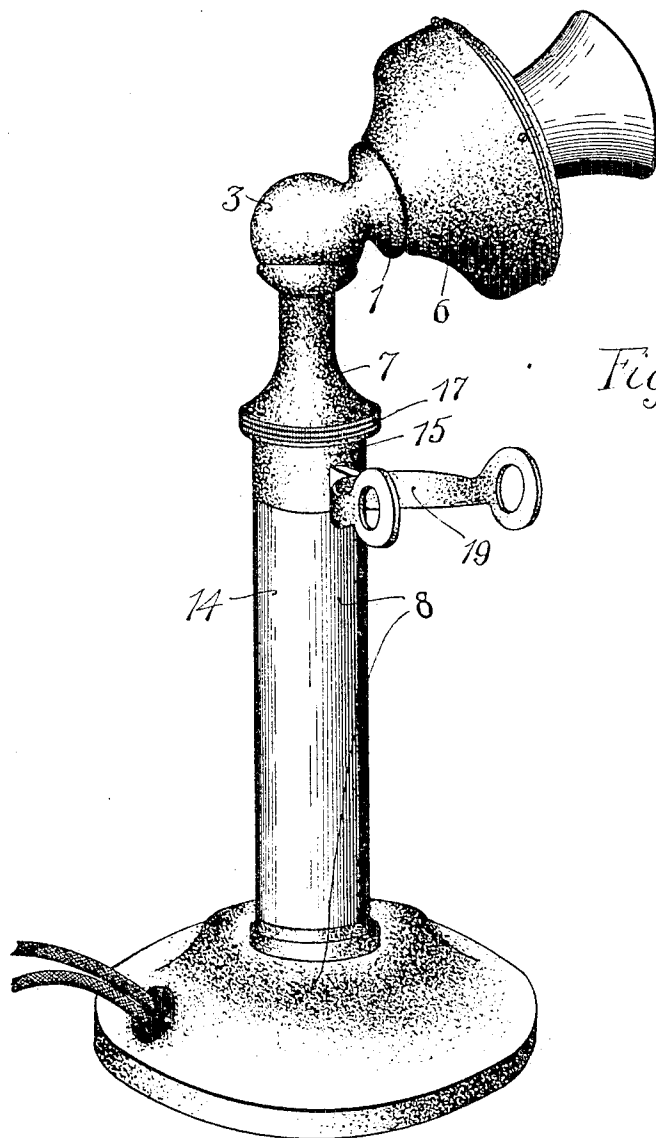


Fig. 1.

Witnesses:

Arthur H. Boettcher
Charles J. Schmidt.

By

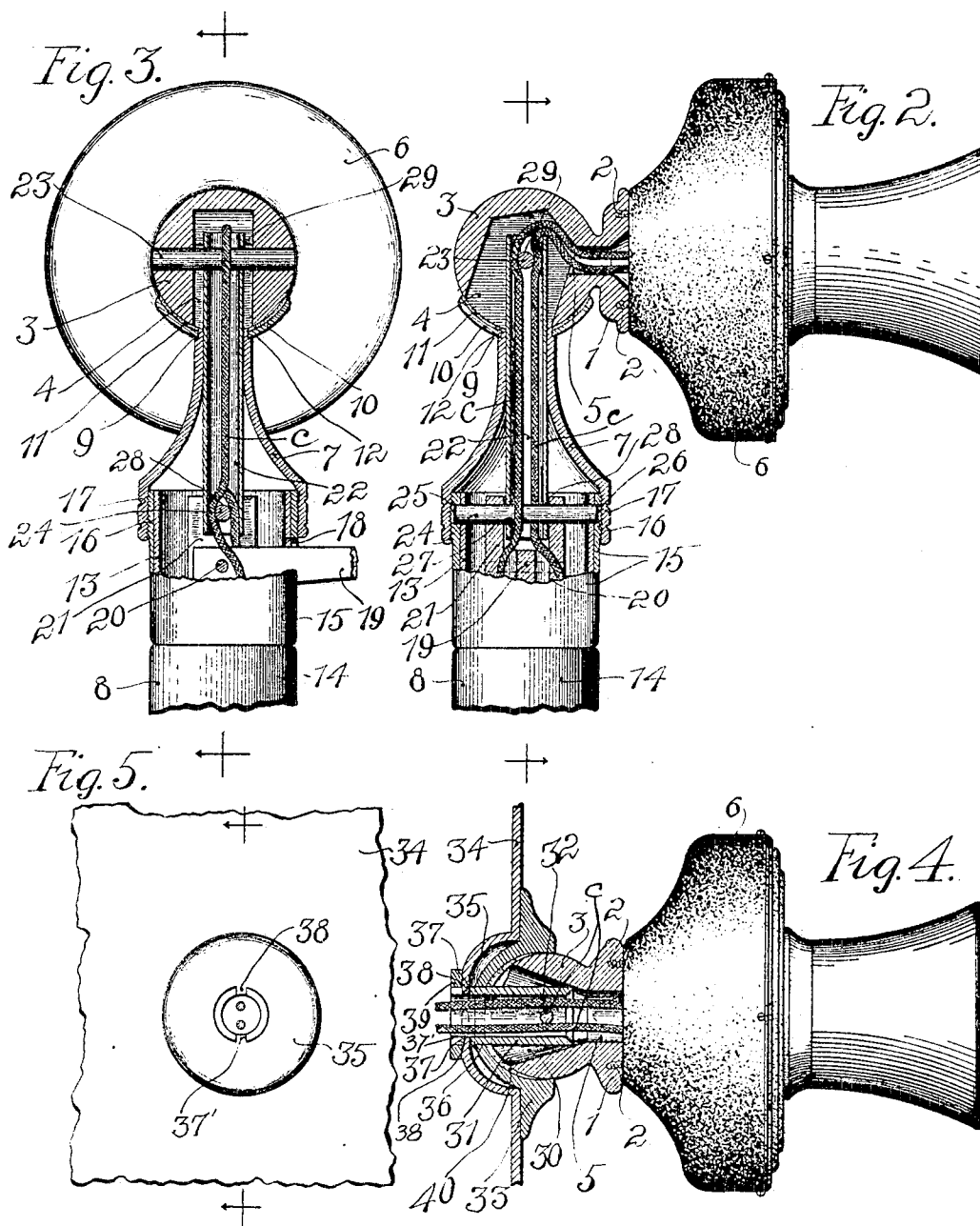
Inventor

Jules A. Birsfield

Charles A. Brown
Attorney.

J. A. BIRSFIELD.
TRANSMITTER ARM.
APPLICATION FILED FEB. 13, 1905.

2 SHEETS—SHEET 2.



Witnesses:
Arthur H. Boettcher,
Charles J. Schmidt

Inventor
Jules A. Birsfield
By Charles A. Brown
Attorney

UNITED STATES PATENT OFFICE.

JULES A. BIRSFIELD, OF ROCHESTER, NEW YORK, ASSIGNOR TO STROMBERG-CARLSON TELEPHONE MANUFACTURING COMPANY, OF ROCHESTER, NEW YORK, A CORPORATION OF NEW YORK.

TRANSMITTER-ARM.

No. 799,137.

Specification of Letters Patent.

Patented Sept. 12, 1905.

Application filed February 13, 1905. Serial No. 245,525.

To all whom it may concern:

Be it known that I, JULES A. BIRSFIELD, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented a certain new and useful Improvement in Transmitter-Arms, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to transmitter-arms, such as are used on desk-stands, hotel sets, combination wall sets, and the like, the object of my invention being to construct a neat-appearing and at the same time an inexpensive and serviceable transmitter-arm.

In the accompanying drawings I have illustrated my invention.

Figure 1 shows the transmitter-arm connecting the transmitter to a desk set. Fig. 2 shows the upper part of a desk set, the connecting arm and mechanism being shown in longitudinal section. Fig. 3 is a rear view of Fig. 2, the connecting arm and mechanism being shown in longitudinal section. Fig. 4 shows the arm connecting a transmitter with a wall set, the arm and mechanism being shown in longitudinal section; and Fig. 5 shows the rear view of Fig. 4.

Like reference characters refer to like parts throughout the various figures.

The arm consists of two relatively movable parts, one part for attachment with the transmitter and the other part for attachment with the supporting object, such as a desk set or wall-box. The transmitter part has a mounting base part 1, to which the transmitter may be secured by screws 2. This base part is connected to a spherical head 3, having a recess 4, which recess is connected with the channel 5, leading through the base 1 and to the interior of the transmitter-frame 6. The other part of the arm shown in Figs. 1 and 2 consists of a supporting cap member 7, having connection with the end of the desk-set standard 8. The upper end of the cap member 7 has annular shoulder 9 for supporting a dish-shaped piece 10, having the same curvature as the spherical head 3 which it receives. A leather washer 11 is disposed within the cup 10 and between the cup and the spherical head, this washer also surrounding the neck 12 above the shoulder 9 to be held in position thereby.

The standard of the desk set is shown as comprising inner supporting-tube 13, surrounded by a sleeve 14, which may be insulating material, and at its upper end being surrounded by a collar 15. The upper end of this collar has a threaded part 16 for engagement by the threaded end 17 of the cap 7. An opening 18 passes through the tube 13 and the collar 15, through which the receiver-hook 19 may pass, the receiver-hook being pivoted at 20 to a supporting-block 21, extending downwardly in the tube 13 for supporting switch mechanism. (Not shown.)

As a means for holding the head 3 in position on a cup 10 I provide a tube 22, which extends downwardly through the cap 7 and into the recess 4, being secured in its upper end to the head 3 by means of a pivot-pin 23, passing through the center of the spherical head 3 and through the tube-walls. To secure the tube 22 to the standard 8, I provide a pin 24. To receive this pin 24, I provide openings 25 and 26, passing on a diametrical line through the collar 15 and tube 13, the pin extending through openings 27, through the upper end of the supporting-block 21, and through openings 28 at the lower end of the tube 22. This pin, besides connecting the tube 22 with the standard 8, serves to hold the collar 15 and mounting-block 21 in proper relative position in respect to the supporting-tube 13. Upon assembly of the various parts the various openings 25, 27, and 28 are brought into line and the pin inserted through either the opening 25 or 26. The length of the pin is slightly less than the outer diameter of the collar 15, and when the pin is in position the cap 7 is threaded to the upper end of the collar 15, the threaded end 16 passing beyond the openings 25 and 26, as shown, thereby locking the pin and the parts supported thereby in position. The cup member 10 is now slipped on neck 12 into engagement with the shoulder 9, and the washer 11 is placed within the cup 10 and surrounding the neck 12. The spherical head 3 is now disposed over the end of the tube 22 to rest within the cup 10, whereupon the pin 23 is inserted through the head and the openings 29 at the upper end of the tube 22. The washer 11 prevents marring of the surface of the head 3 and also provides the necessary friction for holding the transmitter in any position to which it may

have been swung. To produce the necessary friction, the cap 7 after assembly of the parts is unscrewed a slight distance from the collar 15, whereupon pressure will be caused between the cup member 10, the washer 11, and the head 3.

The conductors *c*, connected with the switch mechanism, extend upwardly through the tube 22, one on either side of the pins 24 and 23, these conductors passing through the upper outlet of the tube 22 into the recess 4 and from thence through the channel 5 to the proper transmitter parts within the transmitter-frame 6.

In Fig. 4 I have shown a transmitter-arm for connecting the transmitter-frame with a wall-box or the like. The spherical head 3 is provided with the recess 30, extending lengthwise therethrough and flaring at its rear end to allow rotation thereof about the connecting-tube 31, which is pivoted to the head by means of a pivot-pin 32. The head rests in a cup-shaped escutcheon-plate 33, secured to the front of the wall 34, and extends rearwardly into the cup-shaped chamber 35 in the wall 34. The escutcheon-plate 33 is provided with an opening 36, and the concave chamber 35 has an opening 37, through which openings the tube 31 passes. To hold the tube in position, diametrical slots 37' are cut longitudinally in the rear end of the tube 31, and teeth 38 extend from the frame 35 into the slots 37'. The rear end of the tube is threaded for the reception of a nut 39. A leather washer 40 is disposed between the head 3 and the escutcheon-plate 33, and upon tightening of the nut the head is clamped into friction engagement with the escutcheon-plate 33 and will be held in any adjusted position. The conductors *c* extend through the tube 31 and into the transmitter-frame 6, the conductor being preferably disposed at either side of the pin 32.

I thus provide a very neat-appearing and serviceable transmitter-arm which has a minimum number of simple parts, which consequently renders the construction very inexpensive. This small number of simple parts is possible, as each part performs a variety of functions.

I do not wish to be limited to the exact arrangement and construction herein shown, as changes may readily be made without departing from the spirit of the invention.

I claim as new and desire to secure by Letters Patent—

1. In a transmitter-arm, the combination with a hollow spherical head, of a cup-shaped member for receiving said spherical head, a supporting-frame for said cup-shaped member, and a tube connected with said supporting-frame and to said head at the interior thereof.

2. In a transmitter-arm, the combination with a hollow spherical head connected with a

transmitter to be supported, of a cup-shaped member for receiving said head, a tube extending into said head and pivoted thereto, a supporting-frame for said cup-shaped member and said tube, and adjusting means for causing frictional engagement between said head and said cup-shaped member.

3. In a transmitter-arm, the combination with a hollow spherical head portion for connection with the transmitter to be supported, of a cup-shaped member for receiving said spherical head, a cap member extending from a supporting-frame and from which said cup-shaped member is supported, a tube extending from the supporting-frame through said cap member and into said spherical head, a pivot-pin passing through the center of the spherical head and through the upper end of said tube, and means for securing the lower end of the tube to the supporting-frame.

4. In a transmitter-arm, the combination with a hollow spherical head with which the transmitter to be supported is connected, a cup-shaped member for receiving said spherical head, a cap member secured to the upper end of a supporting-frame and provided at its upper end with a shoulder for supporting said cap member, a tube extending from the supporting-frame through said cup member and into said hollow spherical head, a pivot-pin extending through the center of the spherical head and through the upper end of the tube, means for securing the lower end of the tube to the supporting-frame, and adjusting means for varying the friction engagement between said spherical head and said cup-shaped member.

5. In a transmitter-arm, the combination with a hollow spherical head to which the transmitter to be supported is secured, a cup-shaped member for receiving said spherical head, a cap member having a threaded engagement with the upper end of a supporting-frame, an annular shoulder at the upper end of the cap member for receiving said cup-shaped member, a washer disposed between the spherical head and the cup member, a tube secured to the upper end of the supporting-frame and extending upwardly through the cap-frame into the hollow spherical head, and a pivot-pin passing through the center of the spherical head and through the upper end of said tube, the frictional engagement between said spherical head and said cup-frame being adjusted by the threaded engagement of the cap with the supporting-frame.

6. In a transmitter-arm, the combination with a hollow spherical head, of a supporting-base extending from said head for receiving the transmitter to be supported, a channel extending from the interior of said spherical head through said supporting-base in communicating with the interior of the transmitter, a cup-shaped member for receiving the spherical head, a friction-washer disposed between

said cup-shaped member and the spherical head, a conical cap member having threaded engagement with the upper end of a hollow supporting-frame, an annular shoulder at the upper end of said cap member for supporting the cup-shaped member and the friction-washer, a tube extending from said hollow supporting-frame through the cap member and into the hollow spherical head, a pivot-pin extending through the center of the spherical head and through the upper end of the tube, a pin extending diametrically through the upper end of the walls of the hollow supporting-frame and through the lower end of said tube, and means upon engagement of said cap with the end of the supporting-frame for locking said supporting-frame in position, the frictional engagement between said cup member and the spherical head being controlled by the threaded engagement of the cap member with the supporting-frame.

7. The combination with a hollow spherical head having connection with the transmitter to be supported, of a cup-shaped member for receiving said spherical head, a conical cap-frame having engagement with the upper end of a hollow supporting-frame, said cup-shaped frame being supported at the upper end of said cap-frame, a tube extending from the upper end of the supporting-frame through the cap-frame and into the hollow spherical head, a pivot-pin passing through the center of the spherical head and through the supporting end of the tube, a mounting-block within said supporting-frame for supporting telephonic mechanism, a pin for passing diametrically through the upper end of the walls of said supporting-frame and through the upper end of the mounting-block and through the lower end of the tube, and means upon connection of said cap member with said supporting-frame for locking said pin and the member supported thereby in position.

8. The combination with a hollow spherical head having connection with a transmitter to be supported, of a cup-shaped member for receiving said spherical head, a friction-washer disposed between said cup-shaped member and said spherical head, a conical cap-frame having screw-threaded engagement with the upper end of a collar, a tubular supporting-frame about the upper end of which said collar is disposed, an annular shoulder at the upper end of said conical cap member for receiving said cup-shaped member and said friction-washer, a tube extending from the

upper end of the tubular supporting-frame through the cap-frame and into the hollow spherical head, a pivot-pin passing through the center of the spherical head and through the upper end of said tube, a mounting-frame within the tubular supporting-frame, openings passing diametrically through the upper ends of the collar-walls and tubular frame, openings extending through the upper end of the mounting-frame and diametrically through the lower end of said tube, a pin for passing through all said openings to hold said collar on said tubular frame, to support said mounting-frame, and to secure said tube to the tubular supporting-frame, the threaded end of said conical cap-frame upon engagement with said collar passing beyond the openings through said collar whereby said pin is locked in position, unscrewing of said cap from said collar causing increasing frictional engagement between said spherical head and said cup-shaped member.

9. The combination with a hollow spherical head having connection with a transmitter to be supported, of a cup-shaped member for receiving said spherical head, a supporting-frame to which said cup-shaped member is secured, a tube extending into said hollow spherical head and through the supporting-frame, the upper end of said tube being pivoted to said head, and means engaging the other end of said tube and said frame for securing said spherical head within said cup-shaped member.

10. The combination with a hollow spherical head having connection with a transmitter to be supported, of a cup-shaped member for receiving said spherical head, a supporting-frame to which said cup-shaped member is secured, a member extending into said hollow spherical head and through the supporting-frame, the upper end of said member being secured to said head, means for causing frictional engagement between said head and said cup-shaped member, and adjustable means engaging the other end of said member and said frame for securing said spherical head within said cup-shaped member and for varying the degree of friction.

In witness whereof I hereunto subscribe my name this 9th day of February, A. D. 1905.

JULES A. BIRSFIELD.

Witnesses:

CHARLES J. SCHMIDT,
LEONARD W. NOVANDER.