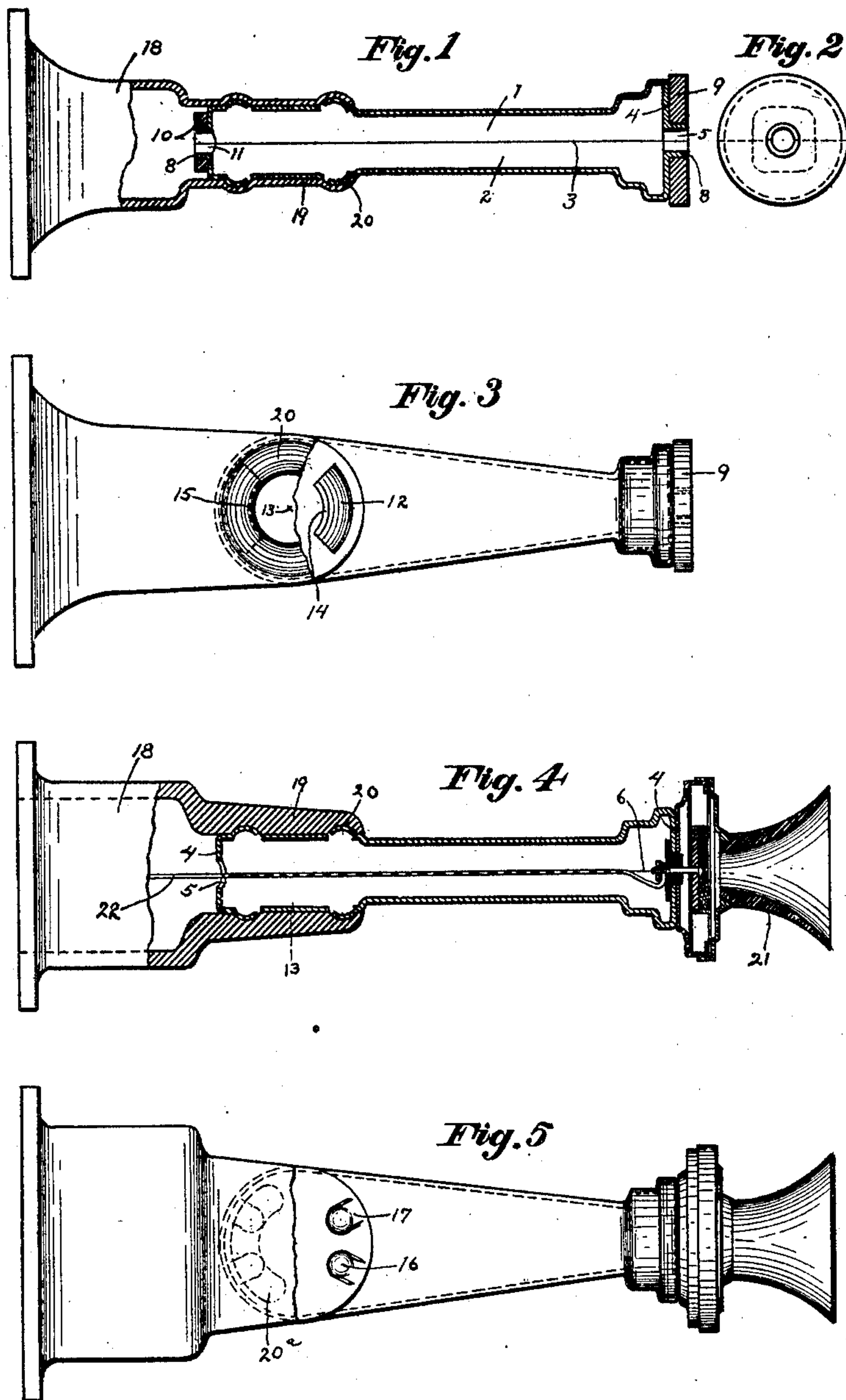


No. 675,087.

Patented May 28, 1901.

J. F. CRAVEN.
TRANSMITTER ARM.
(Application filed Jan. 9, 1901.)

(No Model.)



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UNITED STATES PATENT OFFICE.

JAMES F. CRAVEN, OF PITTSBURG, PENNSYLVANIA.

TRANSMITTER-ARM.

SPECIFICATION forming part of Letters Patent No. 675,087, dated May 28, 1901.

Application filed January 9, 1901. Serial No. 42,598. (No model.)

To all whom it may concern:

Be it known that I, JAMES F. CRAVEN, a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Transmitter-Arms; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to supporting-arms for telephone-transmitters, and more particularly to that kind in which the arm is pivoted to the base, so that the transmitter may be raised or lowered in order to adapt it to the use of persons of different heights.

One object of my invention is to provide a transmitter-arm and base of this character which have the appearance of an ordinary solid transmitter-arm and base, but which are stronger and more rigid, which are simple and cheap to make, and which provide an unobstructed passage from end to end thereof in order to contain and conceal the conducting-cords leading to the transmitter.

A further object of my invention is to provide a transmitter-arm and its supporting-base wherein the transmitter-arm is pivotally supported by the base without the use of removable pins, bolts, screws, nuts, or similar devices and wherein the transmitter-arm is frictionally held in any desired position by the resiliency of the metal forming the arm or base.

To these ends my invention comprises a transmitter-arm composed of two members made from stamped sheet metal having their meeting faces lying in close proximity and conforming to each other, whereby said members may be readily joined together to form a cheap, light, and strong transmitter-arm which is hollow from end to end and is adapted to conceal the conducting-cords leading to the transmitter.

My invention also consists in a base formed of stamped sheet metal, which base is strong, light, and hollow to conceal the cords. My invention further comprises a base provided with grooves or depressions and an arm provided with ribs or projections which are adapted to fit in the grooves or depressions in the base to pivotally support the transmitter-arm, the said ribs or projections on the arm being preferably formed on tongues which

are stamped up from the metal composing said arm, whereby said projections or ribs are yielding or elastic in order to permit the insertion of the arm in the base and to supply the requisite friction to support the arm in any position to which it may be turned.

In the accompanying drawings, Figure 1 is a longitudinal horizontal section of one form of my improved transmitter-arm and the base, the latter being broken away. Fig. 2 is a front end view of the arm. Fig. 3 is a side view of the arm and base, the latter being broken away. Fig. 4 is a longitudinal horizontal section of a modified form of arm and base, showing the transmitter attached; and Fig. 5 is a side view of the same.

The transmitter-arm is composed of the members 1 and 2, formed of thin plate or sheet metal stamped into proper form, with the meeting edges of the side flanges 3 conforming to each other and with the end flanges 4 provided with cut-away portions to form the central hole 5 when the said members are joined together. The members 1 and 2 are united, preferably, by means of solder between the meeting edges of the flanges 3, as shown at 6, Fig. 4. In the modification shown in Figs. 1 to 3 the said members 1 and 2 are provided at their forward ends with the semicircular projections 8, which are surrounded by the washer 9 to unite the forward ends of said members and form a proper support for the transmitter, the projections 8 forming the walls of the central hole 5. The rear ends of the members in this modification are provided with similar semicircular projections 8, united by means of a band or ring 10, and form the walls of the hole 11. It is preferred, however, to unite the members by means of the solder before mentioned, for the reason that it is simpler and cheaper, as well as providing a closed joint or seam which is readily concealed by the varnish.

The members 1 and 2 are formed by suitable dies in an ordinary stamping-press, as will be readily understood, and in making said members they are provided at their rear ends with preferably two arc-shaped projections or ribs 12, the same being concentric with the point 13. The metal of the arm is slit, as at 14 and 15, at the ends and one side of these projections or ribs, whereby said pro-

jections are formed on substantially tongue-springs cut and stamped up from the metal of the arm. Instead of having the slit 14 on the shorter side of the arc-shaped ribs or projections it might form the outer or longer curve of said projections, as will be readily understood. Instead of making these projections in the form of arc-shaped ribs they may be composed of one or more projecting lugs or bosses 16, as shown in Fig. 5, each of which is formed on the end of a spring-tongue 17, struck up from the metal of the arm. In Fig. 5 two such projections or bosses are shown on each side of the vertical line passing through the point 13; but one is sufficient, and more than two may be used, if desired. Furthermore, a single arc-shaped rib, extending somewhat more than a semicircle, may be used in place of the two arc-shaped ribs 12. (Shown in Fig. 3.) The base 18 is made hollow, as shown, and is provided with the ears 19, as is common in this class of devices, the said ears having formed on their inner sides the annular or arc-shaped grooves or depressions 20, which are formed in the base either during the casting thereof, when the base is made of cast metal, as shown in Figs. 4 and 5, or in case the base is made of sheet metal, as shown in Figs. 1 and 3, the said grooves are formed therein by suitable dies, as will be readily understood. These grooves or depressions receive the ribs or projections 12 on the sides of the transmitter-arm, which are arranged concentric with the grooves or depressions, so that said grooves and ribs form a convenient means for pivoting the arm to the base. The ribs or projections being formed on yielding tongues stamped up from the metal of the arm permit the arm being forcibly inserted between the ears 19 of the base, the said projections or ribs yielding inwardly until the arm is in its proper position in the base, when said projections or ribs will spring outwardly into the grooves 20, thereby securely holding the arm in the base. The said projections furthermore form means which frictionally bear against the sides of the base, so as to hold the transmitter-arm at any angle to which it may be turned. The base 18 (shown in Fig. 1) is stamped up from sheet metal either as a single piece or as two shells which are afterward united by solder or other suitable means.

The grooves or depressions 20 are either annular, as shown in Fig. 3, or merely arc-shaped, as shown at 20^a, Fig. 5. In the latter case two such depressions are preferably provided, although one is sufficient, and the ends of such arc-shaped depressions act as stops for the projections 12 or 16 and limit the movement of the arm about its pivot.

In the use of my device the transmitter 21 will be suitably secured to the end flanges 4 of the arm or to the washer 9, and the said arm may serve as one of the conductors for the transmitter, the other conductor, as shown at 22, passing through the hollow arm

into the base. If desired, however, both conductors for the transmitter may be in the form of cords passing through the hollow arm and into the base. The hole in the arm is unobstructed from end to end and communicates with the hollow in the base.

It is obvious that the members 1 and 2 might be united in any other manner than those disclosed. It is also obvious that the grooves 20 might be formed in the arm and the spring projections or ribs 12 and 16 on the base, especially when the form of base shown in Figs. 1 and 3 is employed; but this would expose the slits 14 and 15 on the outside of the base and render said base unsightly. It will be observed that the arm is oblong in cross-section at the point where it is pivoted in the base, so that it is capable of slight compression sidewise. Since the arm is made of sheet metal which has a certain amount of resiliency, this enables the arm to be pivoted in the base in the ordinary way, but with the sides of the arm in contact with the ears of the base, so that the spring of the metal will furnish enough friction to hold the arm in any position to which it may be turned without the necessity of striking spring-tongues up from the arm. In some cases a single centrally-located projection on each side of the arm, formed on a spring-tongue struck up from the metal of the arm, will furnish a convenient pivot for the arm and sufficient friction to hold the arm at any desired angle. In such cases the base will have a single centrally-located circular depression formed in each ear for receiving the projection on the side of the arm.

It will be seen that my transmitter-arm and base can be cheaply and expeditiously made by stamping the same out of metal in an ordinary stamping-press and that the means shown enable it to be pivoted in the base without the use of screws, bolts, pins, or other detachable means, thereby greatly simplifying the construction and at the same time providing means for frictionally holding the arm at any desired angle.

What I claim, and desire to secure by Letters Patent, is—

1. A transmitter-arm comprising longitudinal members of stamped-up sheet metal having their meeting edges conforming to each other, and means uniting said members to form a single hollow arm with the meeting edges of the members in contact with each other.

2. A transmitter-arm comprising two longitudinal stamped-up members, and means uniting said members to form a single hollow arm with the meeting edges of the members in contact with each other, in combination with a hollow base in which said arm is pivoted.

3. A transmitter-arm comprising two longitudinal members of stamped-up sheet metal, and means uniting said members to form a single arm hollow from end to end with the

meeting edges of the members in contact with each other, in combination with a hollow base in which said arm is pivoted, a transmitter mounted on the outer end of said arm, and a
5 conductor extending from the transmitter through the hollow arm into the base.

4. The combination of a base and an arm pivoted therein, said parts having flat meeting faces provided with circular or arc-shaped
10 depressions and ribs or projections coöperating therewith, whereby said arm is pivotally supported in the base.

5. The combination of a base and an arm pivoted therein, said arm being composed of
15 a stamping of resilient sheet metal, whereby the sides of said arm bear yieldingly against the base to frictionally support the arm at any desired angle.

6. The combination of a base and an arm
20 pivoted therein, of a spring-tongue struck up from the metal composing the arm and bearing against the base to frictionally support the arm at any desired angle.

7. The combination of a base and an arm,
25 one of said parts being provided with yielding projections for pivoting said arm in the base, and the other of said parts being provided with depressions for receiving said yielding projections.

30 8. The combination of a base and an arm, one of said parts being provided with annu-

lar or arc-shaped grooves or depressions and the other of said parts having spring ribs or projections adapted to coöperate therewith.

9. The combination with the hollow base
35 provided with annular or arc-shaped grooves or depressions, of a hollow sheet-metal arm provided with spring projections adapted to engage the grooves or depressions in the base.

10. The combination with a base provided
40 with annular or arc-shaped grooves or depressions, of an arm composed of sheet metal having tongues struck up therefrom, said tongues forming ribs or projections to engage the depressions or grooves in the base.

11. A hollow base composed of sheet metal
45 stamped into proper form and having ears stamped out of the metal composing said base, in combination with an arm pivoted between
50 said ears.

12. A hollow base composed of sheet metal
55 stamped into proper form, in combination with a hollow arm, said parts having flat meeting faces provided with coöperating depressions and projections whereby said arm is pivotally supported in the base.

In testimony whereof I, the said JAMES F. CRAVEN, have hereunto set my hand.

JAMES F. CRAVEN.

Witnesses:

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F. W. WINTER.