No. 680,077. Patented Aug. 6, 1901.

H. B. SABIN.

TELEPHONE TRANSMITTER ARM JOINT.

(Application filed Jan. 28, 1901.)

(No Model.)

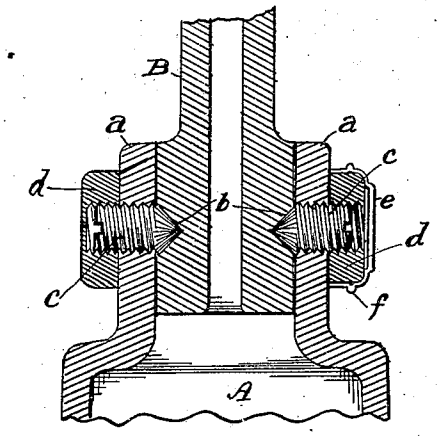

Fig. 2

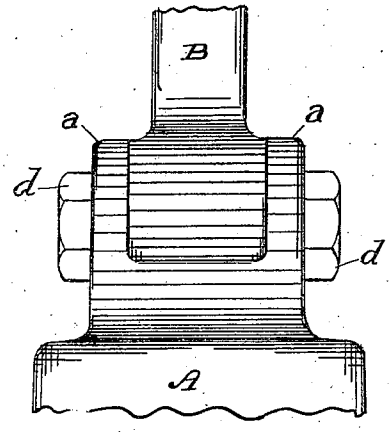

Fig. 1

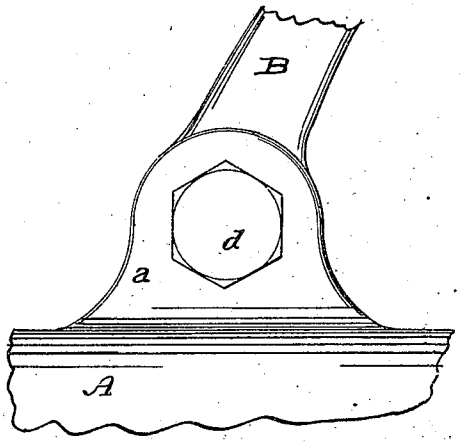

Fig. 3

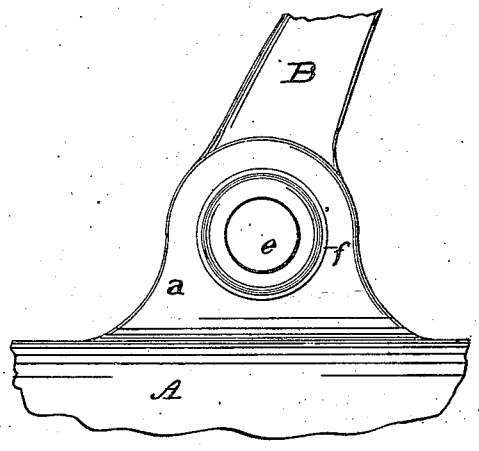

Fig. 4

WITNESSES:

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TELEPHONE-TRANSMITTER-ARM JOINT.

SPECIFICATION forming part of Letters Patent No. 680,077, dated August 6, 1901.

Application filed January 28, 1901. Serial No. 44,959. (No model.)

To all whom it may concern:

Be it known that I, HERBERT B. SABIN, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Telephone-Transmitter-Arm Joints; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in "telephone-transmitter-arm joints," by which term is meant the joint by which the movable arm carrying the transmitting-mouthpiece is secured to the base by being pivoted between the two lugs with which the base is ordinarily provided.

The object of the invention is to improve the construction, to avoid the defects found in previous constructions, and to secure a simpler, cheaper, and more efficient joint than heretofore employed; and the invention consists in the construction and combination of parts, as hereinafter fully described, and specifically pointed out in the claims.

In the drawings, Figure 1 represents in end elevation the lugs and upper part of a transmitter-arm base and the lower part of the arm pivoted between the lugs thereof, the remaining portions of the arm and base not being shown. Fig. 2 represents in central vertical section the construction of the joint shown in Fig. 1, and Figs. 3 and 4 represent in side view the structure shown in Figs. 1 and 2.

A represents the base, *a a* the lugs thereon, between which the arm B is pivoted. In order that the arm B should be readily capable of movement on its pivot and at the same time be so firmly held as to remain in the position in which it is placed without being displaced by accidental causes, it is essential that the joint should be one which shall have sufficient friction to maintain the arm in position and yet not bind the arm so tightly as to prevent its easy movement. When the arm is pivoted between the lugs simply by means of a screw passed through the lugs and entering the arm or by means of a pivot passed through the arm and lugs and having a nut on each end outside of the lugs, it has been found practically impossible to keep the nut from working loose unless provided with a check-nut, which of course takes up additional room and is besides objectionably clumsy in appearance. In order to dispense with the check-nut, a spring interposed between the arm and lugs, so as to give the necessary friction and yet permit of easily moving the arm, has been employed; but it has been found that such construction is unsatisfactory in use, for the reason that the spring is liable to break or lose its tension and its use adds materially to the labor and expense involved in joining the arm to the base; also, the tension of the spring aids in working loose the screw, which secures the base to the lug, owing to the absence of a check-nut. Inasmuch as compact construction having as few parts as possible and no projecting parts that can be avoided is especially desirable in telephone-arm construction, it is one object of my invention to dispense with the unsatisfactory and objectionable spring and to obtain the advantages of using a check-nut without increasing the space occupied therefor and without the appearance of the use of a check-nut. To accomplish the foregoing objects, I provide the base of the arm B on each side with a conical depression, and I thread through the lugs *a* a conical-pointed screw *c*, which may be headed, but is preferably straight and slotted, as shown in Fig. 2, and which in any case is threaded upon that portion which protrudes outside the lug *a* when the parts are assembled, and I thread upon the projecting part of the screw *c* a nut *d*, which occupies substantially no greater space than would be occupied by the head of an ordinary pivot-screw, but which forms an effective lock-nut to prevent the loosening of the screw *c* by movement of the arm B. The nut *d* may be solid, but preferably is capped by an ornamental covering-cap *e*, forced upon the nut *d*, and which cap, being imperforate, gives an exceedingly neat and pleasing finish and may, if desired, be ornamented in any suitable way—for instance, the cap may be circular and provided with a milled edge or rim *f*.

By the foregoing construction I accomplish the following desired results: First, the con-

ical point of the screw *c*, fitting in the conical depression *b* in the arm B, affords a smooth easy-acting joint, having much less friction than where a spring is employed. In the second place, the movement of the arm B upon the conical point has practically no tendency to loosen the screw *c*, whereas any screw threaded into the arm or into the lugs alone, if the spring is used, is certain to work loose if unprovided with a check-nut. In the third place, the employment of the check-nut *d* practically prevents the working loose of the screw *c;* but if it should occur by removing the check-nut *d* and turning up the screw *c* to the proper bearing and replacing the check-nut *d* the readjustment is effected more readily than with any other construction, and especially where springs are used, since the complete removal of one of the screws *c* will not permit the arm B to become displaced, as the opposite screw will hold it. Finally, in addition to the saving in number of parts and in labor and expense of making the same there is a saving in amount of machine-work required to fit the base B to the lugs *a*, as no recesses for the springs or other work has to be made. By this means I am enabled to use a check-nut and obtain all the advantages thereof without the structure having the appearance of a check-nut nor occupying the room ordinarily needed therefor.

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

1. In a pivoted transmitter-arm joint, the combination of the arm seating between the lugs of the base and having on each side a conical depression, screws threaded through the lugs and projecting outside the same, said screws having conical points entering and fitting the conical depressions in the arm, and nuts threaded on said screws outside the lugs and serving as lock-nuts without occupying more space than a single nut, substantially as described.

2. In a pivoted transmitter-arm joint the combination of the arm seating between the lugs of the base and having on each side a conical depression, screws threaded through the lugs and projecting outside the same, said screws having conical points entering and fitting the conical depressions in the arm, and capped nuts threaded on said screws outside the lugs and serving as lock-nuts without extending beyond the shoulder of the base, substantially as described.

3. In a pivoted transmitter-arm joint the combination of the arm seating between the lugs of the base and having on each side a conical depression, headless screws threaded through the lugs and projecting outside the same, said screws having conical points entering and fitting the conical depressions in the arm, and nuts threaded on said screws outside the lugs and serving as lock-nuts without occupying more space than a single nut nor extending beyond the shoulder of the base, substantially as described.

4. In a pivoted transmitter-arm joint the combination of the arm seating between the lugs of the base and having on each side a conical depression, headless screws threaded through the lugs and projecting outside the same, said screws having conical points entering and fitting the conical depressions in the arm, and capped nuts threaded on said screws outside the lugs and having no exterior opening, whereby the nuts serve as lock-nuts without the appearance thereof and without occupying more space than a single nut nor extending beyond the shoulder of the base, substantially as described.

In testimony whereof I hereto affix my signature in presence of two witnesses.

HERBERT B. SABIN.

Witnesses:
R. C. HARTSHORNE,
HATTIE A. STEVENSON.