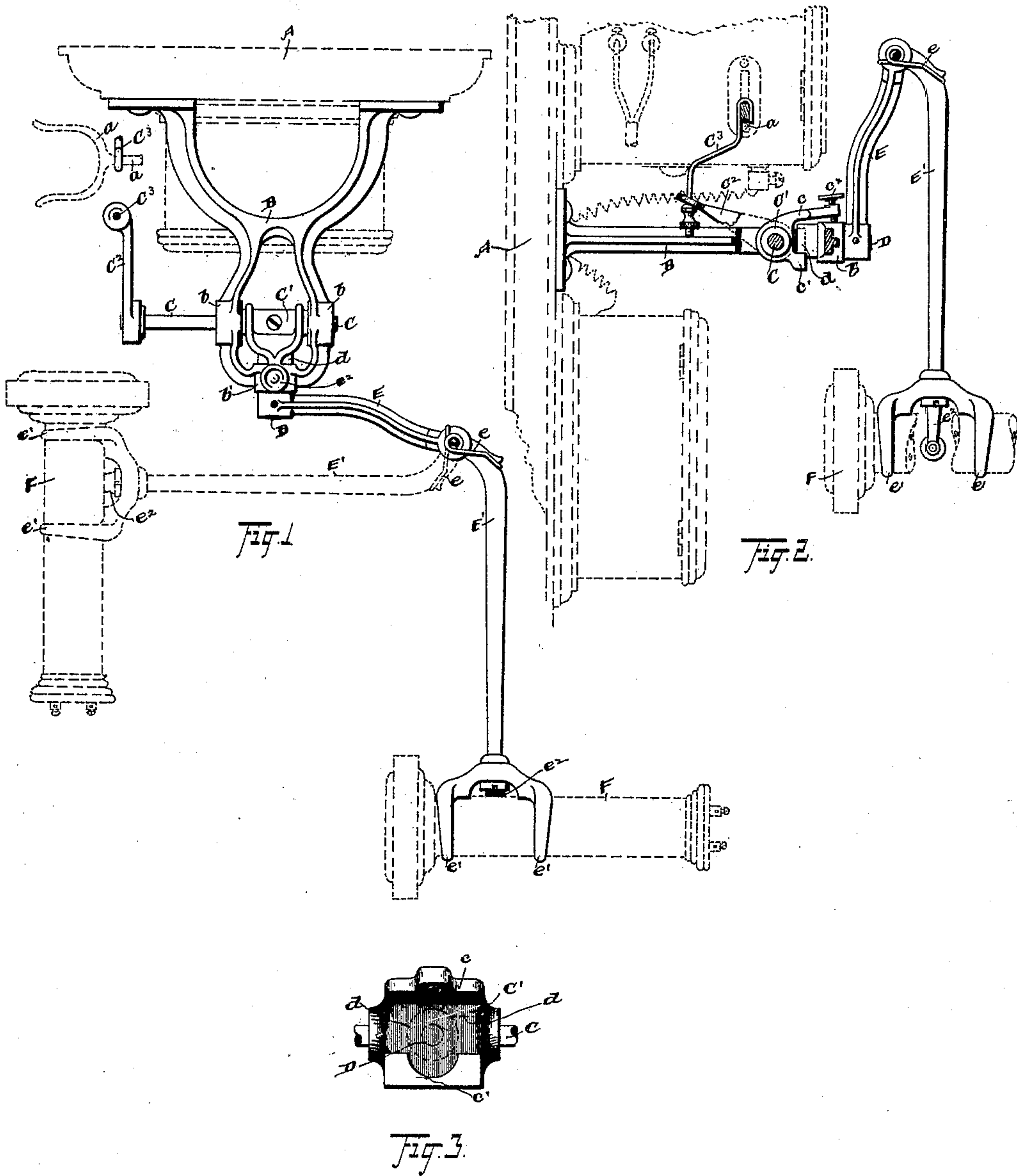


(No Model.)

O. KONIGSLOW.  
TELEPHONE ATTACHMENT.

No. 405,566.

Patented June 18, 1889.



WITNESSES,  
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# UNITED STATES PATENT OFFICE.

OTTO KONIGSLOW, OF CLEVELAND, OHIO.

## TELEPHONE ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 405,566, dated June 18, 1889.

Application filed October 27, 1888. Serial No. 289,263. (No model.)

*To all whom it may concern:*

Be it known that I, OTTO KONIGSLOW, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Telephone Attachments; 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 pertains to make and use the same.

My invention relates to improvements in telephone attachments in which the telephone-receiver is supported by jointed arms with a spring for folding such arms when they are left free, such spring, when the telephone is in use, pressing the receiver against the ear of the operator. The jointed arms are of unequal length, the shorter arm having a horizontal axis, the telephone-receiver being mounted on the free end of the longer arm, whereby when the arms are folded the gravity of the receiver tends to turn the arms to a vertical position. Suitable transmitting mechanism connects the trunnions of these arms with the cut-out lever of the instrument, to the end that the receiver is supported without the aid of the operator, and that the instrument is automatically connected in circuit by turning the jointed arms from their normal or vertical position to the approximately horizontal position required in bringing the receiver to the ear of the operator, and when left free the jointed arms, by the gravity of the receiver, return to their normal position and automatically cut out the instrument in the transition.

In the accompanying drawings, Figure 1 is a plan view. Fig. 2 is a side elevation. Fig. 3 is a front elevation of the yoke.

A represents a telephone of ordinary construction, having the usual spring-actuated lever for cutting out the instrument by depressing the lever against the action of the spring.

B is a forked bracket, the feet thereof being attached to the face of the telephone-board, the bracket extending forward from the instrument, as shown. The bracket is provided with hub *b*, pierced laterally for receiving the rock-shaft C, this shaft extending horizontally and parallel with the face of

the instrument. On this shaft and between the bearings thereof is mounted and rigidly secured thereto yoke C', the latter having upper and lower prongs and toes, respectively, *c* and *c'*, both toes presenting forward.

On shaft C, outside the bearings and on the same side of the instrument with lever *a*, is mounted rock-arm C<sup>2</sup>, the latter extending rearward, with the free end thereof approximately under the free end of lever *a*, this lever and rock-arm being connected by a suitable link C<sup>3</sup>, and the latter having preferably a screw-threaded end and nut, as shown, for adjusting the length of the link.

Bracket B has a hub *b'*, in the bore of which is journaled trunnion D, the latter extending at right angles to shaft C aforesaid. On the inner end of trunnion D is mounted cam *d*, the latter operating between the prongs or toes *c c'* of the yoke aforesaid, and by turning trunnion D in the one direction or the other yoke C' is tilted up or down by the engagement of its toes with the said cam. The upward movement of cam *d* causes the depression of arm C<sup>2</sup>, thereby drawing down the lever *a* and cutting out the telephone. The downward movement of cam *d*, when turned in either direction, causes an upward movement of arm C<sup>2</sup>, whereby lever *a*, by the action of its spring, raises and connects the instrument or closes the circuit. On trunnion D and outside the bearing thereof is mounted primary arm E, this arm extending in the same direction as cam *d*.

To the free end of arm E is pivoted a secondary arm E', the pivotal axis being such that the two arms act in the same or in parallel planes. A spring is connected with these arms at the joint thereof for collapsing or folding the arms. The form of spring is not essential. The spring *e* shown consists of a piece of spring-wire coiled around the projecting ends of the pivotal pin and bearing against the outside of the two arms, such spring being preferable to a flat spring, being less liable to break. The free end of arm E' is provided with claw-shaped fingers *e'*, and with a finger and set-screw *e<sup>2</sup>* for grasping and securing the telephone-receiver F, the latter being of ordinary construction. Any suitable fastening will answer the pur-



pose. Arm  $E'$  is usually about twice the length of arm  $E$ , and consequently when these arms are folded together the receiver  $F$  is some distance beyond trunnion  $D$  and the gravity of the receiver is sufficient to turn arms  $E E'$  to a vertical position, such vertical position being the normal position of these arms when the instrument is not in use, and with such position of parts lever  $a$  remains depressed and the instrument cut out, as aforesaid.

When it is desired to use the instrument, the operator takes hold of the receiver or of arm  $E'$ , and draws the latter forward to approximately right angles to arm  $E$ , and at the same time turns these arms in one direction or the other, according to which ear the operator wishes to apply the receiver, bringing the arms approximately to a horizontal position, or raising or lowering these arms a trifle from a horizontal position, if need be, to bring the end of the receiver against the ear of the operator, and to hold the receiver in such position a thumb-screw  $c^2$  is provided, the screw engaging a threaded hole in toe  $c$  of the yoke and the point of the thumb-screw engaging hub  $b'$ , thereby forming a stop that limits the downward movement of the yoke, and consequently limits the downward movement of the cams and arms. By adjusting this thumb-screw arms  $E E'$  can be held in a horizontal or other suitable position for bringing the receiver in line with the ear of the operator, and the spring  $e$  holds the receiver against the ear of the operator. Of course a tall or short person must have his mouth about opposite the mouth-piece of the instrument, and when in such position but little variation of the receiver is necessary to accommodate different persons. In turning the arm down to a horizontal position cam  $d$  is correspondingly depressed, resulting in the elevation of lever  $a$  and connecting the instrument in circuit, as aforesaid. The operator has only to place the receiver to his ear, after which spring  $e$  holds the receiver with gentle pressure against the ear, leaving both hands of the operator free. When the operator has finished his message, he has only to move his head away from the receiver, where-

upon spring  $e$  folds together arms  $E E'$ . This brings the receiver some distance beyond the center of gravity or axis of arm  $E$ , when, and by means of the gravity of the receiver, these arms turn to a vertical position, and in so doing automatically cut out the instrument, as aforesaid. With this attachment not only the tiresome work of holding the receiver is avoided, but the operator can use his hands, for instance, in writing down messages received, handling the telephone-directory, or in refreshing the memory and stimulating mental activity by well-known methods.

What I claim is—

1. The combination of jointed arms of unequal length, a spring for folding the arms, the shorter arm being mounted on a trunnion to turn in a vertical plane, the longer arm having a telephone-receiver attached to the free end thereof, substantially as indicated, whereby the gravity of the receiver, when left free, tends to turn the arm to a vertical position, substantially as set forth.

2. The combination, with jointed arms mounted on a trunnion, a spring, and receiver, substantially as indicated, of a cam mounted on such trunnion and operating between the prongs of a yoke, the latter, by means of suitable connecting mechanism, being made to operate the cut-out lever of the instrument by turning the jointed arms upon their axes, substantially as set forth.

3. The combination, with jointed arms adapted to operate in the same or in parallel plane, said arms having a horizontal axis and having a spring for folding the joints thereof, such arms having attached at the free end thereof a telephone-receiver, of cam, yoke, rock-shaft, rock-arm, and link, substantially as indicated, for connecting such folding arms of the cut-out lever of the instrument, substantially as set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 17th day of October, 1888.

OTTO KONIGSLOW.

Witnesses:

CHAS. H. DORER,  
ALBERT E. LYNCH.