

No. 839,830.

PATENTED JAN. 1, 1907.

G. D. FOSTER.  
TELEPHONE HOOK SWITCH.  
APPLICATION FILED JULY 26, 1904.

2 SHEETS—SHEET 1.

Fig. 1.

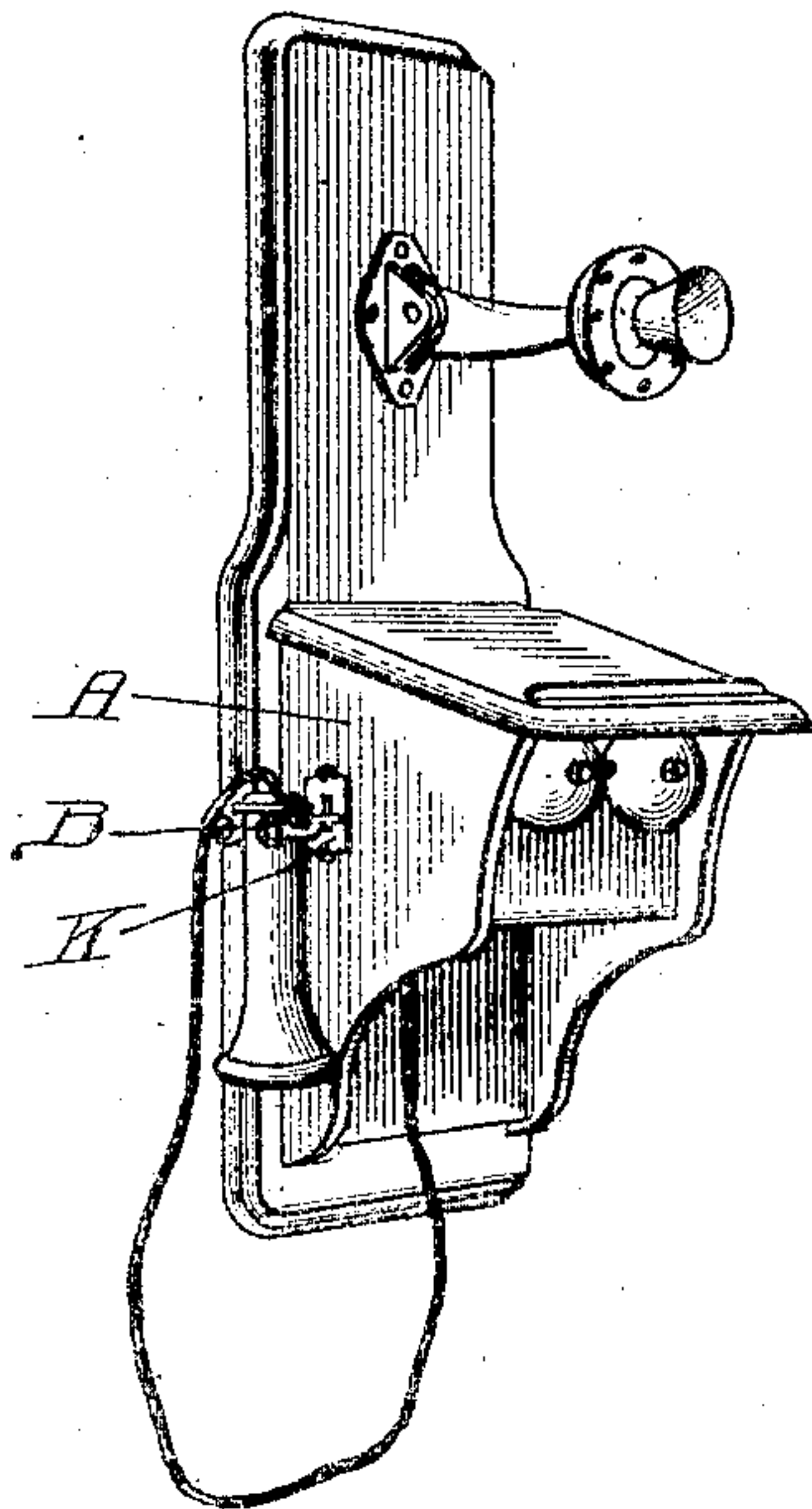
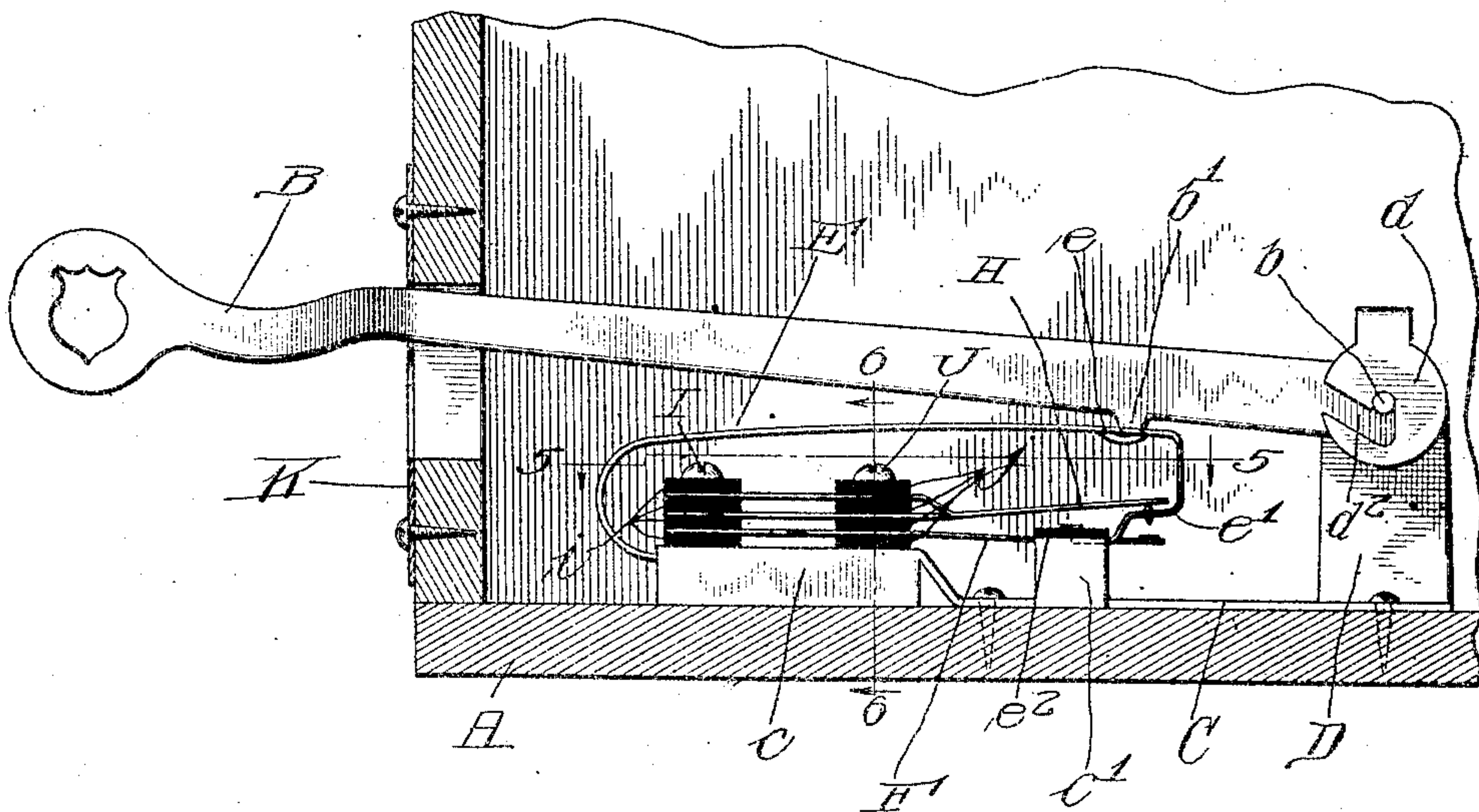


Fig. 2.



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2 SHEETS—SHEET 2.

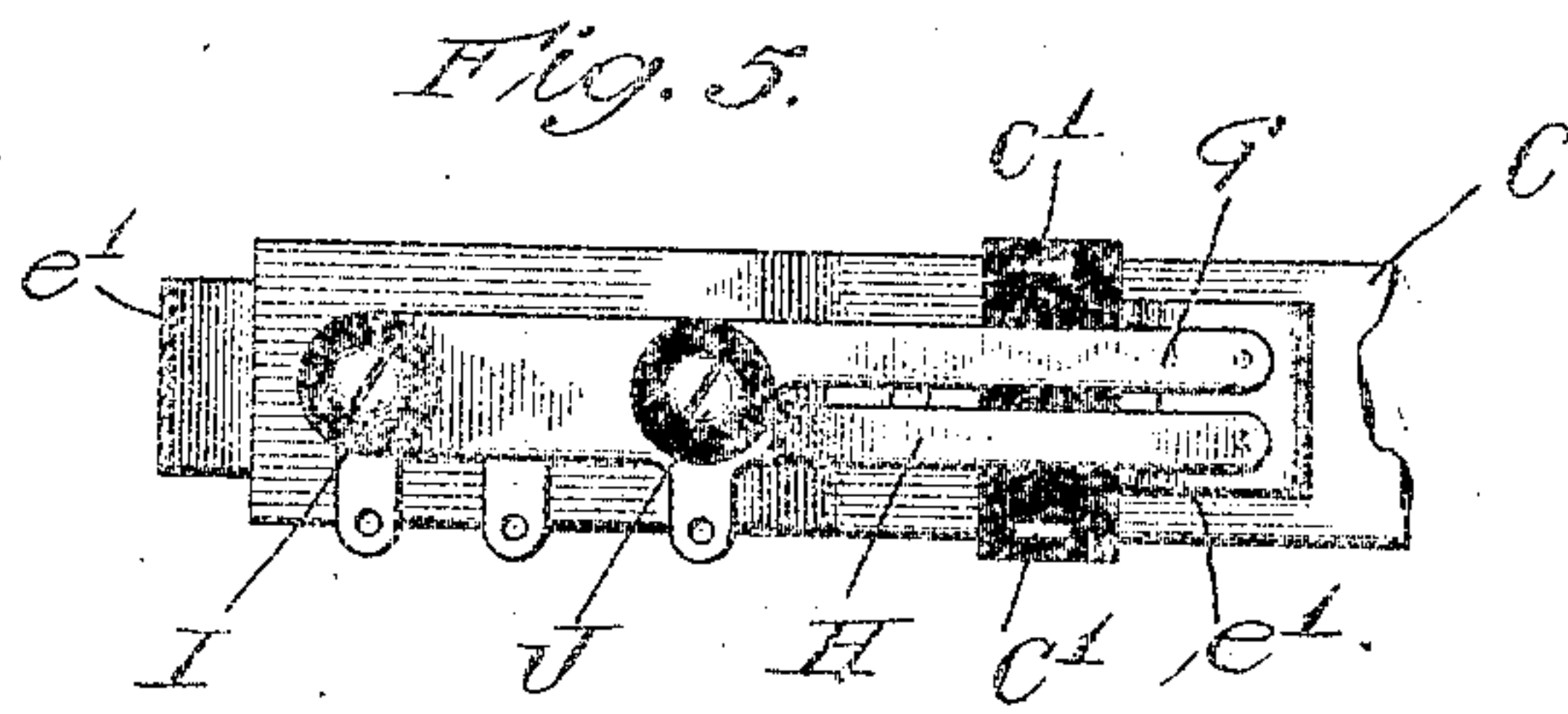
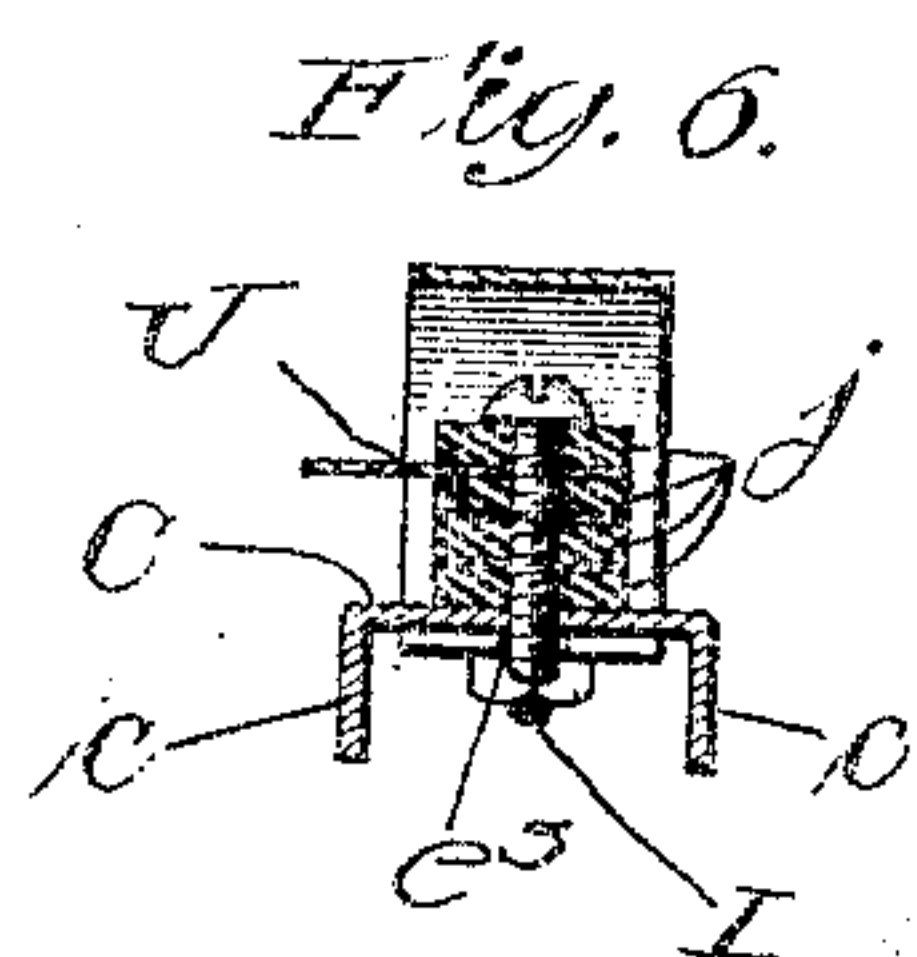
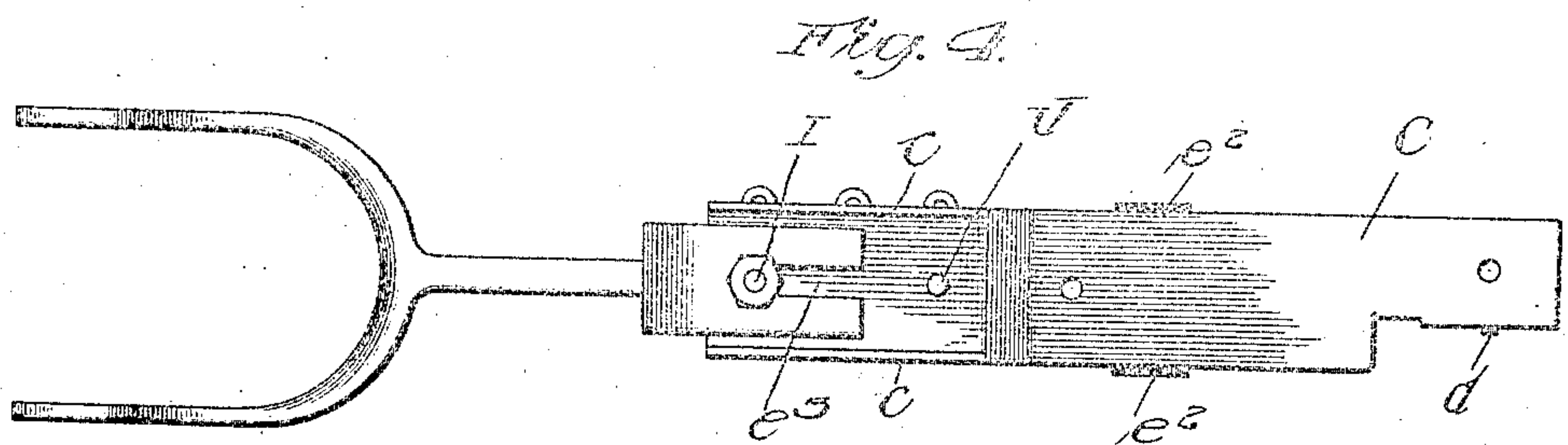
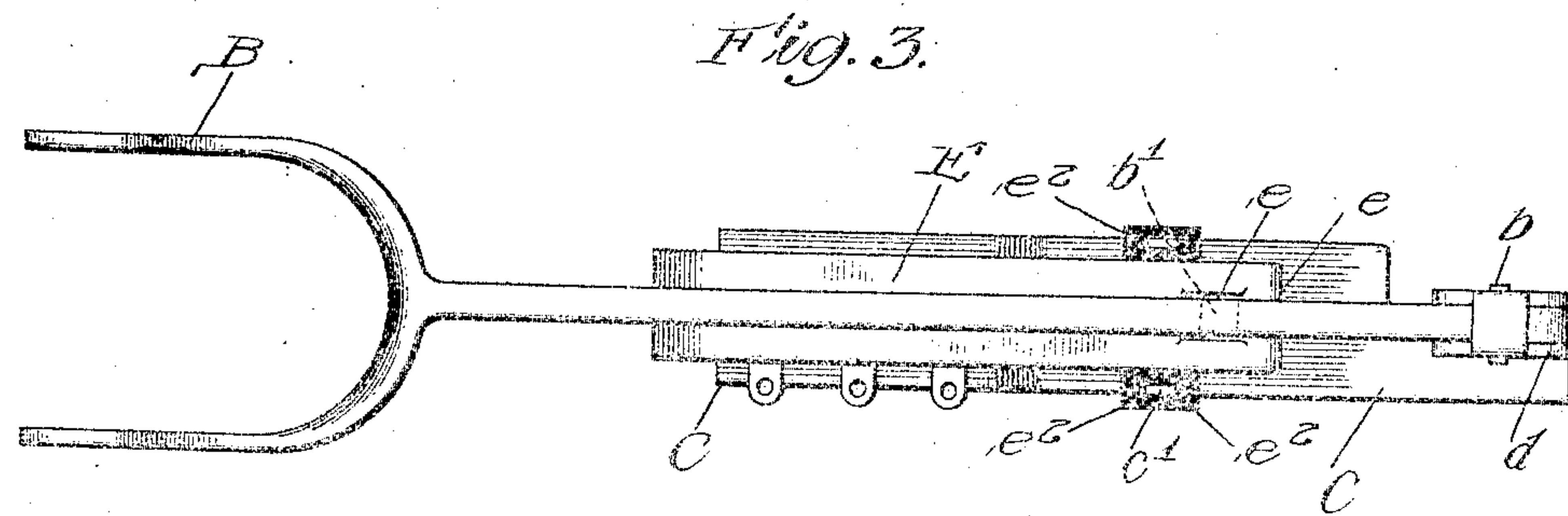


Fig. 7.

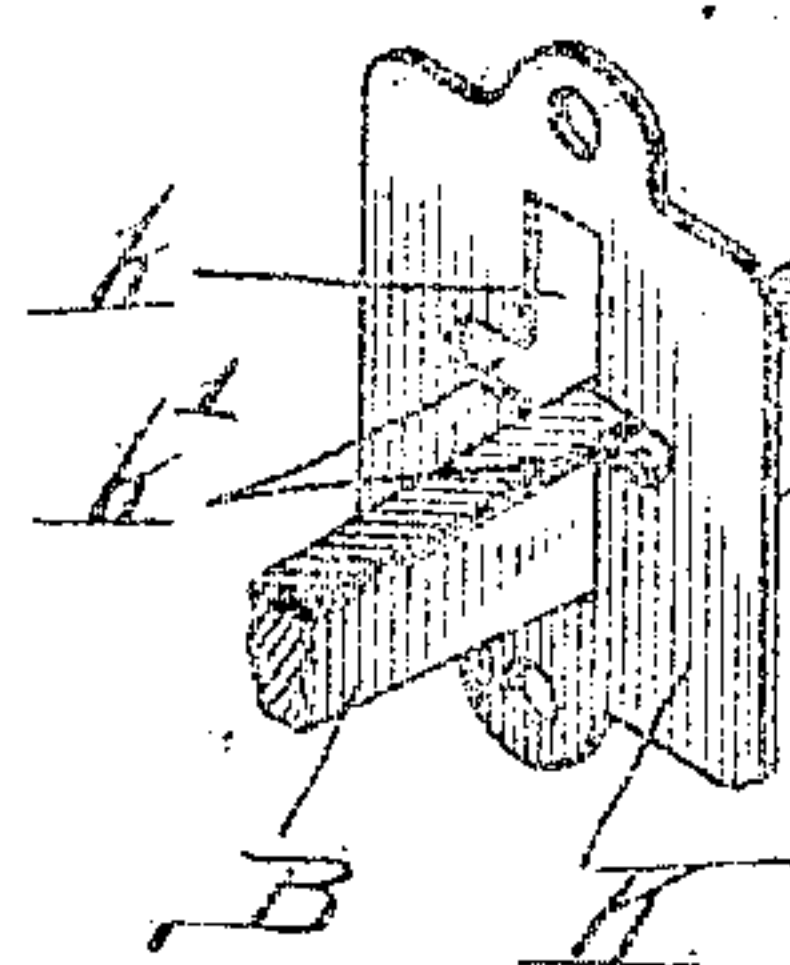
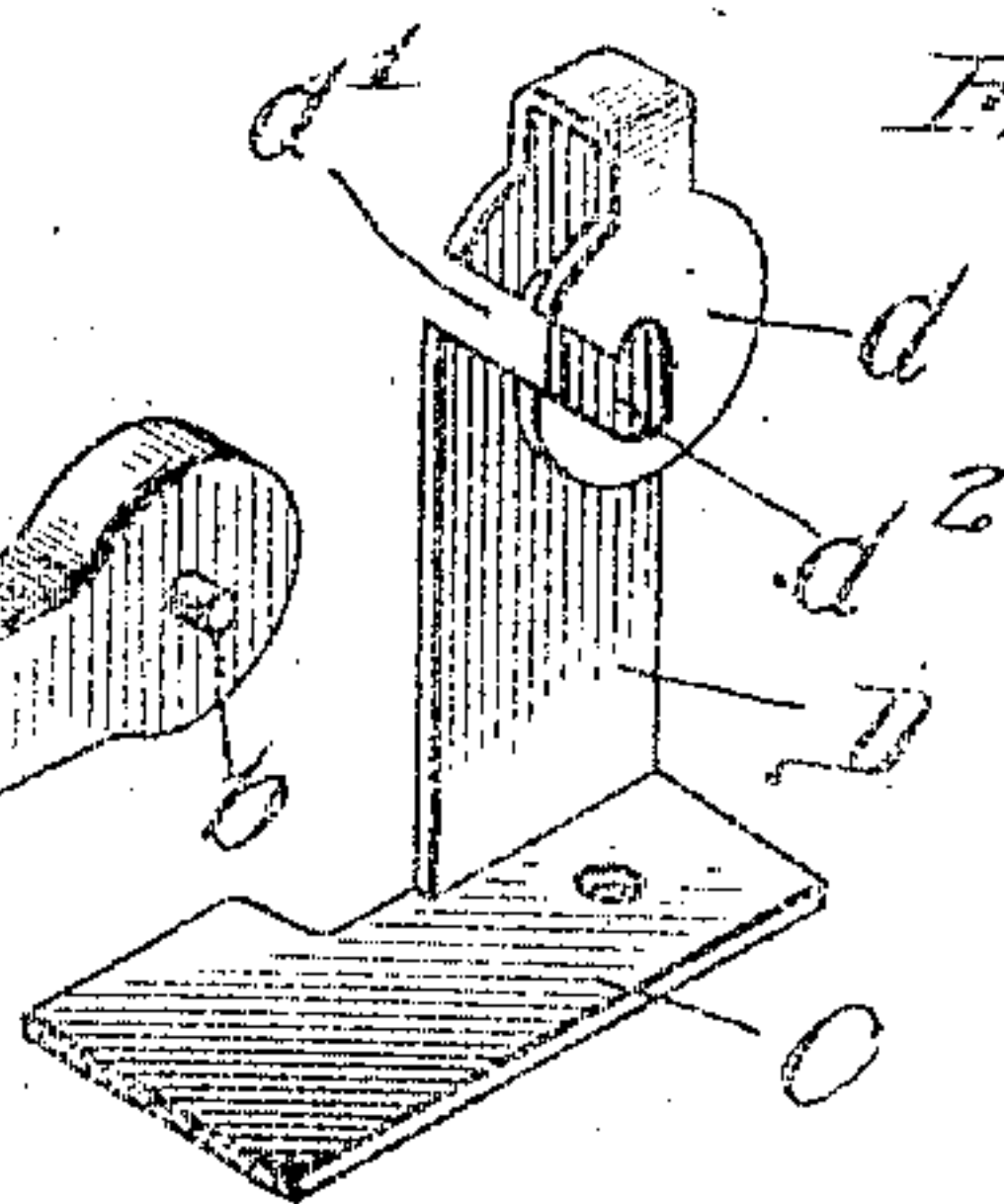


Fig. 8.



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# UNITED STATES PATENT OFFICE.

GEORGE D. FOSTER, OF CHICAGO, ILLINOIS, ASSIGNOR TO AMERICAN  
ELECTRIC TELEPHONE COMPANY, OF CHICAGO, ILLINOIS, A COR-  
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## TELEPHONE HOOK-SWITCH.

No. 839,830.

Specification of Letters Patent.

Patented Jan. 1, 1907.

Application filed July 26, 1904. Serial No. 218,301.

*To all whom it may concern:*

Be it known that I, GEORGE D. FOSTER, a citizen of the United States of America, and a resident of Chicago, Cook county, Illinois, have invented a certain new and useful improvement in Telephone Hook-Switches, of which the following is a specification.

My invention relates to subscribers' telephone apparatus; and it relates more particularly to the hook-switch upon which the receiver is normally supported and by which the connection is automatically established when the said receiver is removed therefrom, and it therefore contemplates a hook-switch having a hook or lever arm which is readily removable from the balance of the switch and which may be easily and quickly removed from the subscriber's telephone apparatus independently of all other parts, and it also contemplates certain details and features of improvement tending to increase the general efficiency of a device of this character.

In the accompanying drawings, Figure 1 is a perspective of a subscriber's wall telephone set having a hook-switch embodying the principles of my invention. Fig. 2 is an enlarged vertical section through the box or front portion of the said wall telephone set, showing the receiver removed, so as to permit the switch-hook to rise, and showing the hook-switch in side elevation. Fig. 3 is a top plan of the hook-switch shown in Fig. 2. Fig. 4 is a bottom plan of the same. Fig. 5 is a horizontal section on line 5 5 in Fig. 2. Fig. 6 is a vertical section on line 6 6 in Fig. 2. Fig. 7 is a perspective of the inner end portion of the switch-hook, showing the same extending through the specially-formed escutcheon employed in connection with the said hook. Fig. 8 is a perspective of the bearing or portion of the bracket upon which the said hook is removably mounted.

It will be readily understood that my improved hook-switch can be employed in connection with any known, approved, or desired form of telephone apparatus. Obviously it may be included in the apparatus of a wall telephone set or a desk set or in any other place where it is desirable to support a telephone-receiver or other instrument in such manner that a connection is automatically established when said receiver or other instrument is removed from its normal rest-

ing-place. For this reason and although I have elected to illustrate my invention in connection with a wall telephone set I do not limit myself to any particular use or to any particular telephone apparatus. As illustrated, however, my improved hook-switch is inclosed within the box or closure A in the usual and well-understood manner. It will be observed that the forked end of the hook B extends through the side of the box and is adapted to support the telephone-receiver in the manner illustrated. The inner end of said switch-hook is provided with a pivot-pin *b*, and the bracket plate or body C of the said hook-switch is provided with an upright portion D, formed at its top with an overhanging and downwardly-bent portion *d*. Said pivot-pin *b* is, it will be seen, adapted to engage the inner ends or terminal portions of two slots *d'* and *d''*, formed in the parallel upper portions of the upright D. So far as the broad idea of a switch-hook which is readily removable independently of all other parts is concerned it is obvious that any suitable spring arrangement can be employed for raising the hook when the telephone-receiver is removed therefrom. For example, the bracket-plate C may be formed with a raised box-like portion *e*, having one end portion of a spring E secured thereto. As illustrated, the other end portion of this spring is provided with a depression *e'*, adapted to be engaged by a lug *b'*, extending downwardly from the under side of the switch-hook. In addition it will be seen that the spring E has a downwardly-bent portion *e'*, adapted when the hook is up to engage the under side of a piece of insulation *e''*, which is rigidly secured to upwardly-bent side portions *e'* of the bracket-plate and which acts as a stop to limit the upward movement of said spring. The forked end portion *e'* of the said spring straddles the inner lower switching-spring F, which also when the hook is up bears upon the under side of the insulation *e''*.

Normally the spring portion *e'* bears against the switch-spring F; but when the hook is up then the spring portion *e'* bears against and establishes electrical connection between the two upper switching-springs G and H, as shown in Fig. 2. It will be observed that the lifting-spring E has a slot *e''*, whereby it may be properly adjusted upon the bracket-plate, and also that all of said



springs are preferably secured to the bracket-plate by means of screws I and J, with small disks of insulation *i* and *j* serving to insulate the switching-springs from each other and also from the bracket-plate. Thus when the receiver is removed from its resting-place the switch-hook rises and automatically effects the desired switching operation. Also the slots *d'* *d''* permit the switch-hook to be disengaged from its bearing and readily removed from the structure as a whole. Obviously and owing to the stop *e''*, which engages the forked end portion *e'* of the lifting-spring, the latter cannot exceed the desired limits of its upward movement when the hook-switch is removed.

The escutcheon K is preferably formed with a vertical slot *k* and with horizontally or laterally extending slots *k'*. With this construction the said escutcheon can be secured to the outer surface of the box A in the usual and well-known manner and without interfering with the easy removal of the switch-hook. This is due, it will be seen, to the fact that said escutcheon has the horizontal slots *k'*, through which the pivot-pin *b* may pass readily when the switch-hook is withdrawn. Thus, as stated, the switch-hook is readily removable independently of all other parts and without producing abnormal or undesirable positions on the part of any of the switch-springs or other elements.

With the arrangement shown and described it will be seen that the switch-hook B is removable without entering the inclosure or casing of the telephone. It can also be replaced without opening or entering said casing.

From the foregoing it will be seen that my invention comprises two elements—namely, the switch-hook and the base—and that, broadly considered, one of such elements is provided with a pivot, while the other element is provided with a notch adapted to be engaged by the said pivot, the lifting-spring of the switch serving to keep the pivot properly seated in the notch, thus permitting the switch-hook to be readily and easily inserted in and removed from the base.

What I claim as my invention is—

1. A subscriber's telephone apparatus comprising an inclosed hook-switch having a hook which is readily removable independently of all other portions of the apparatus, said hook having its outer end adapted to receive and support a telephone-receiver, and said hook being removable endwise in the direction of its outer end without entering the inclosure.

2. A subscriber's telephone set comprising a support, a switch-hook removably pivoted upon said support, spring means for operating said hook, and means for inclosing all except the free outer end of said hook, said hook having its outer end adapted to receive

and support a telephone-receiver, and said hook being removable endwise in the direction of its outer end without entering the inclosure.

3. A hook-switch comprising a slotted bearing portion, a lever provided with a pivot-pin adapted to be inserted in said slots, spring means for operating said lever-arm, means for inclosing all except the free outer end portion of said lever-arm, and an escutcheon secured to said inclosure and formed with both vertical and horizontal slots through which the lever-arm and its pivot may pass when said arm is withdrawn.

4. A hook-switch comprising a support, an inclosure, a lever-arm removably pivoted thereon, a lifting-spring engaging the lever-arm, a stop adapted to engage and limit the upward movement of said spring, switch-springs engaged and operated by said lifting-spring, and a slot through which the lever is removable without entering the inclosure.

5. A telephone set comprising a switch-hook provided at its inner end with a rigid pivot-pin, said hook and its pin being readily removable independently of all other parts, and a casing inclosing all but the outer end of said switch-hook, said switch-hook removable and replaceable without entering the casing.

6. A telephone set comprising a switch-hook provided at its inner end with a rigid pivot-pin, a spring-switch operated by said switch-hook, and a bracket-plate adapted to receive said pivot-pin, whereby the hook and its pin are removable as a unit independently of all other parts, and a casing inclosing all but the outer end of said switch-hook, said switch-hook removable and replaceable without entering the casing.

7. A telephone hook-switch comprising an operating-spring, switching-springs, and rigid insulating means for engaging the operating-spring and thereby holding the same and the switching-springs in operative position when the switch-hook is removed from the structure, said insulating means adapted to engage the end of the operating-spring.

8. In a telephone hook-switch, the combination with a closed casing, of a base mounted therein and an operating-lever so pivoted on said base that it may be removed without entering the casing.

9. In a telephone hook-switch, the combination with a closed casing, of a base therein, a circuit-changing device mounted on the base and a lever for operating said circuit-changing device and so pivoted on said base that it may be removed from engagement with the base and the circuit-changing device without entering the casing.

10. In a telephone hook-switch, the combination with a closed casing, of a base mounted therein and an operating-lever so pivoted on said base that it may be removed



without entering the casing, the base being provided with oblique slots, and the said lever having a pivot adapted to engage said slots.

- 5 11. In a telephone hook-switch, the combination with a closed casing, of a base therein, a circuit-changing device mounted on the base and a lever for operating said circuit-changing device and so pivoted on said base  
10 that it may be removed from engagement with the base and the circuit-changing device without entering the casing, and an escutcheon secured to the outside of said casing and provided with a vertical slot for the lever,  
15 and with a horizontal slot to permit the lever-pivot to pass through the escutcheon.

12. In a telephone hook-switch, the combination of a hook, a base, a pivot on one of said elements, the other element having a pivoting and releasing notch engaged by said 20 pivot, switch-contacts mounted on the base and operated by said hook, and a lifting-spring engaging the hook to keep the pivot properly seated in the said notch, whereby the hook is easily released from and inserted 25 in said base.

Signed by me at Chicago, Cook county, Illinois, this 23d day of July, 1904.

GEORGE D. FOSTER.

Witnesses:

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WALTER A. SITTING.