

No. 713,829.

Patented Nov. 18, 1902.

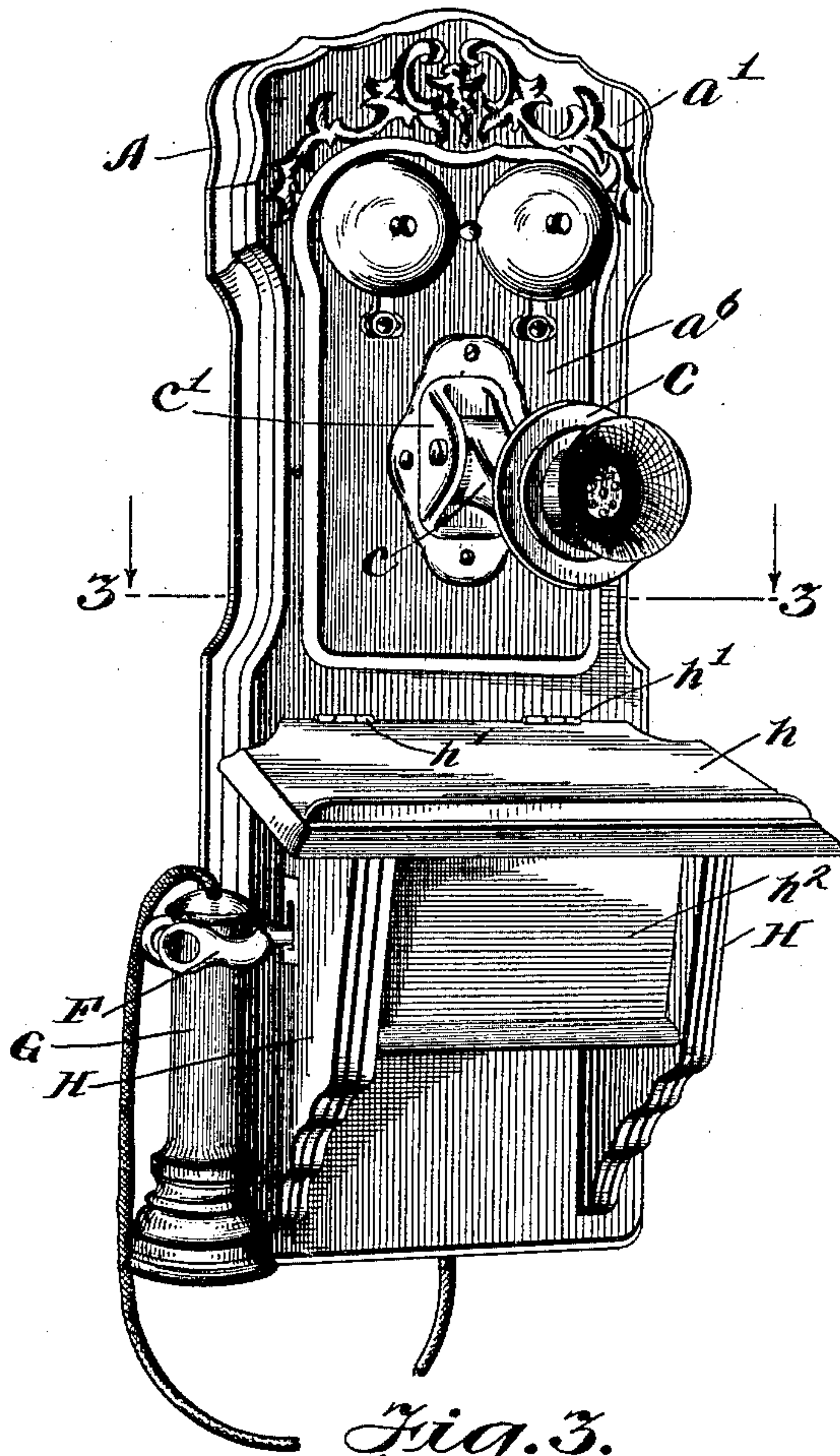
E. E. YAXLEY.  
TELEPHONE.

(Application filed Oct. 9, 1901.)

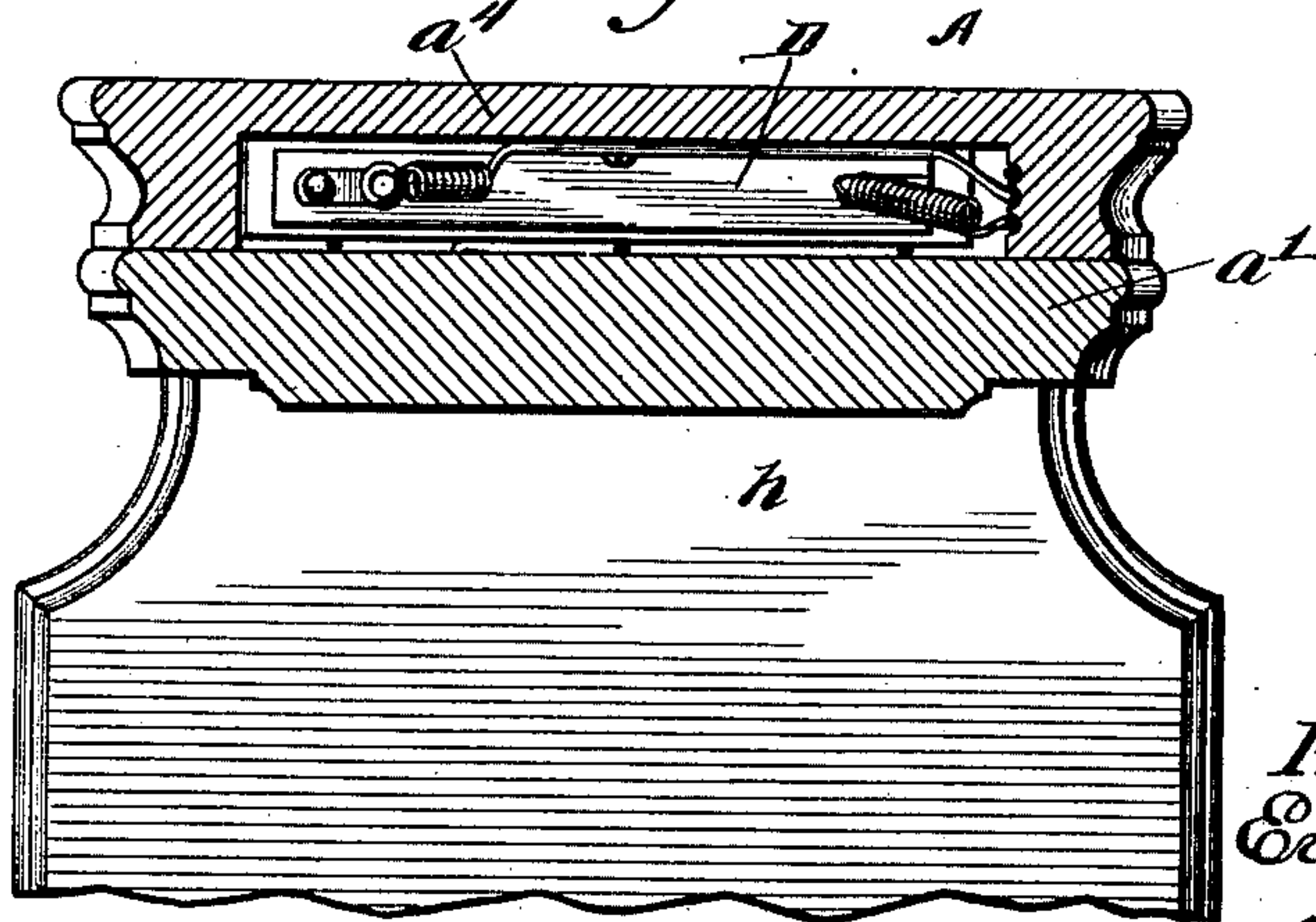
(No Model.)

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*Fig. 1.*



*Fig. 3.*



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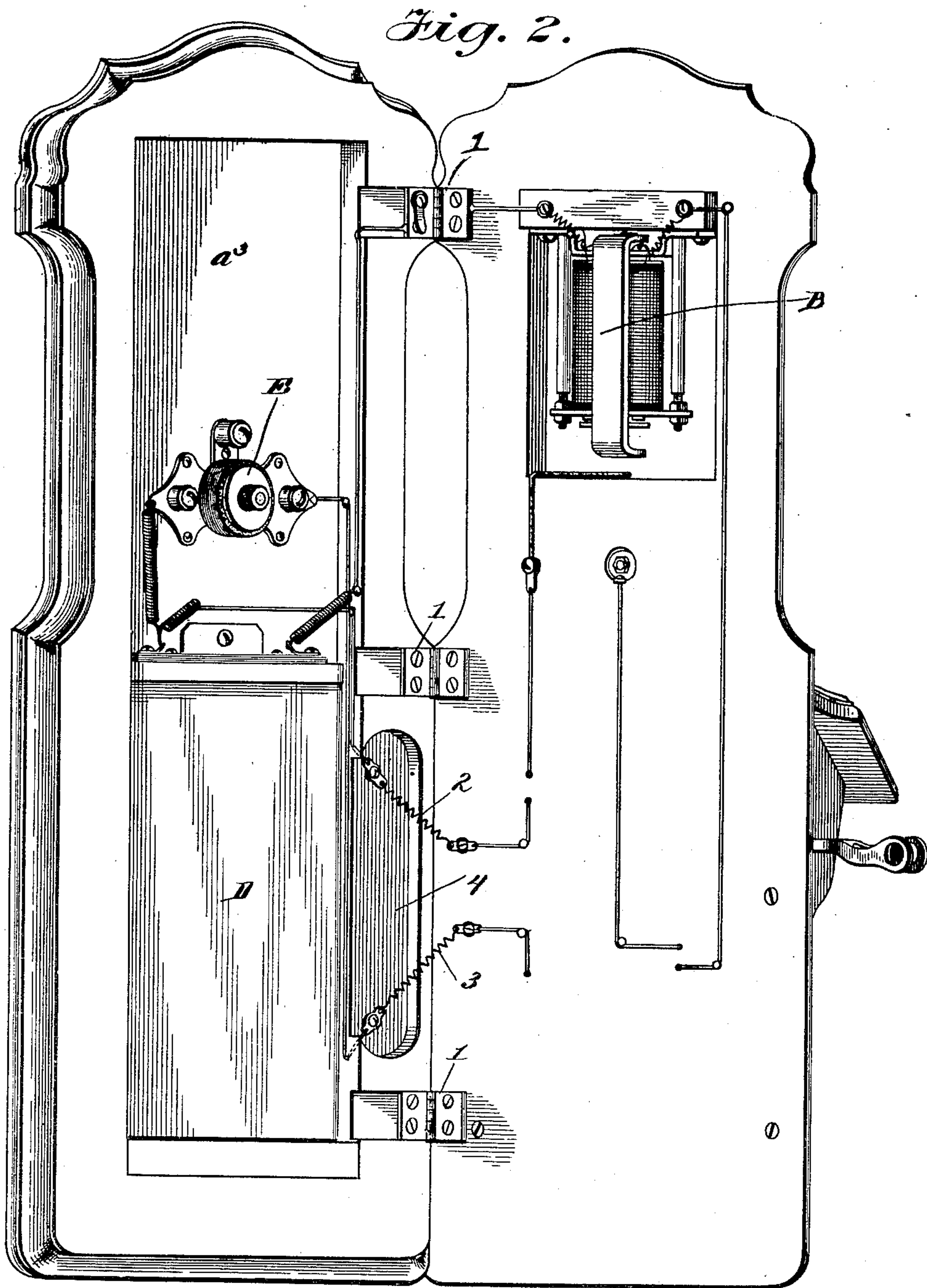
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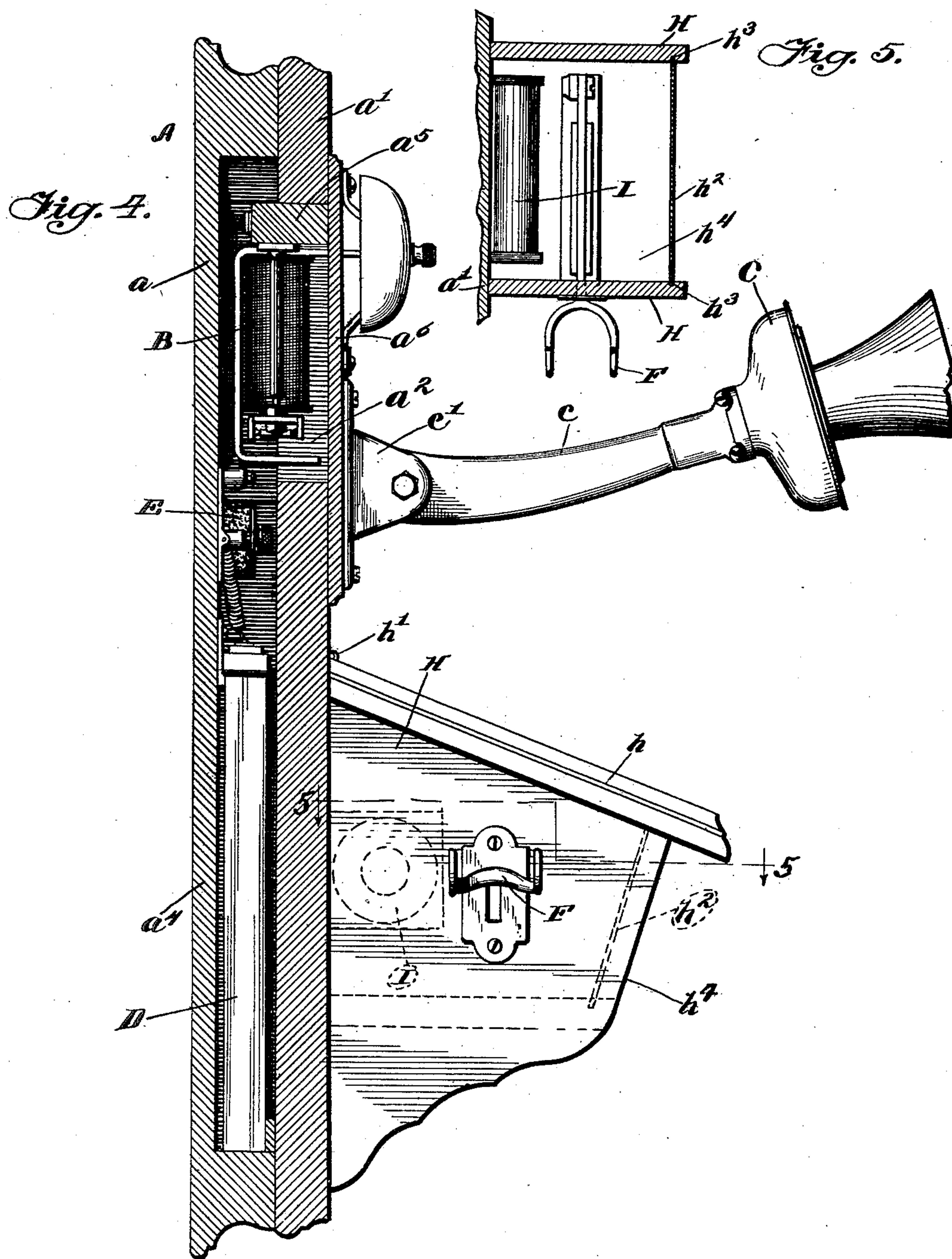
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**3 Sheets—Sheet 3.**



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# UNITED STATES PATENT OFFICE.

ERNEST E. YAXLEY, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE AMERICAN ELECTRIC TELEPHONE COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF NEW JERSEY.

## TELEPHONE.

SPECIFICATION forming part of Letters Patent No. 713,829, dated November 18, 1902.

Application filed October 9, 1901. Serial No. 78,085. (No model.)

*To all whom it may concern:*

Be it known that I, ERNEST E. YAXLEY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Telephones, of which the following is a specification.

My invention relates to what are known as "wall-telephones." A wall-telephone usually consists of a back adapted to be screwed or otherwise attached to a wall and adapted to afford a support for the usual electrical devices—such, for example, as the transmitter, receiver, bell, condenser, lightning-arrester, and induction-coil.

The objects of my invention are to provide a wall-telephone of a simple, compact, and efficient construction, to provide a construction and arrangement tending to reduce the thickness of the back, to arrange and dispose the various parts in such manner as to render each of the various electrical devices readily accessible, and to provide certain details and features of improvement tending to reduce the cost of manufacture and to render a device of this character efficient and serviceable.

To the foregoing and other useful ends the back or back board of my improved wall-telephone is preferably composed of two flat or substantially flat sections which are hinged together at their side edges and adapted to lie flatwise together, so as to provide a flat and comparatively thin back or back board for the telephone. The flat and comparatively thin back board thus provided is adapted to be secured or attached to a wall in the usual manner. To this back board are attached the various electrical devices, such as the transmitter, receiver, condenser, lightning-arrester, and the induction-coil. Preferably one of said back-board sections is recessed or hollowed out from top to bottom or substantially for its full length, so as to provide between the two sections a chamber for the condenser, lightning-arrester, and the magnets for the bell. The outer of said sections is preferably adapted to support the bell, transmitter, induction-coil, and the receiver and receiver hook or lever. The condenser and

lightning-arrester are preferably mounted in the said recess formed in the other section. The magnets for the bell are preferably arranged in a recess formed in the upper portion of the outer back-board section. This outer back-board section is, as stated, hinged to the other section, and when closed together the two flat sections constitute a flat and comparatively thin back for the telephone. The recessed formation of the two back-board sections permits of a desirable and advantageous disposition of the bell, lightning-arrester, and condenser and permits these three devices to be arranged in such manner as to be readily accessible. When the two sections are closed together, the bell-magnets occupy a position at the top of the chamber which extends, as stated, substantially from top to bottom of the telephone back board. The condenser, which is preferably flat and comparatively thin, occupies the lower portion of the chamber formed by the recess in the back member or section of the telephone back board, and the lightning-arrester occupies a position between the bell-magnets and the condenser. The transmitter is secured in any suitable manner to the outer back-board section. The induction-coil and the receiver hook or lever can be located and arranged so as to be readily accessible in a box or inclosure constructed so as to project outwardly from the lower portion of the outer back-board section. Preferably the top or lid of this box or inclosure is hinged at its back edge to the back board, and the front or forward wall of this box or inclosure is preferably removable for the purpose of giving greater access to the receiver-hook and the induction-coil. The nature and advantages of my invention will, however, hereinafter more fully appear.

In the accompanying drawings, Figure 1 is a perspective of a wall-telephone constructed in accordance with my invention. Fig. 2 is a perspective of a wall-telephone shown in Fig. 1, the two back-board sections in this case, however, being opened or thrown apart, so as to expose the interior and show the arrangement and disposition of the various electrical devices. Fig. 3 is a horizontal section



on line 3 3 in Fig. 1. Fig. 4 is a vertical section through the back board of the telephone, the box or inclosure for the receiver-hook and induction-coil being shown in side elevation.

5 Fig. 5 is a cross-section on line 5 5 of Fig. 4, showing the arrangement of the induction-coil and receiver hook or lever and also showing the manner in which the front or forward wall of the box or inclosure is made re-  
10 movable.

As thus illustrated, my invention comprises a back or back board A, which, it will be observed, is of greater length than width and which is flat or substantially flat and comparatively thin. This back board is preferably composed of two flat boards or sections adapted to lie flatwise together. The section  $a$  is adapted to be screwed or otherwise fastened to the wall. The outer flat section  $a'$  is preferably provided with hinges  $l$ , which connect it with the inner or back section  $a$ . In this way the two flat sections are hinged together at their side edges and, as stated, are adapted to lie flatwise together, so as to provide a flat and comparatively thin back board for the telephone.

In order to provide a suitable chamber for certain of the various electrical devices usually comprised in a telephone of this character, the inner or back section  $a$  is preferably recessed or hollowed out for substantially its full length. This recess, as shown in Figs. 2 and 4, is of such height as to extend substantially from the top to the bottom of the back board and is of such depth and character as to provide between the two sections a comparatively thin chamber for containing, in this case, the condenser, lightning-arrester, and bell-magnets. Preferably the outer section  $a'$  is provided with a recess or opening  $a^2$ , which, it will be observed, extends entirely through the section. The recess  $a^3$  in the inner or back section does not, it will be observed, extend entirely through the section. In this way the inner or back section  $a$  is so formed as to have a relatively thin back wall  $a^4$ . The outer section  $a'$  forms the front or outer wall of the recess or chamber  $a^3$ . The recess or opening  $a^2$  is designed to cooperate with the upper portion of the recess  $a^3$  in accommodating the bell-magnets. These bell-magnets B are preferably secured to a bar  $a^5$ , which is in turn preferably secured to a relatively thin plate  $a^6$ . This plate  $a^6$  is secured to the outer surface or the front of the back-board section  $a'$  and is adapted to cover the opening  $a^2$ . It will be readily understood that the bell and the bell-magnets B can be of any suitable known or approved form. The transmitter C can also be of any suitable or approved form and may be provided with an arm  $c$ , having a swinging connection with the bracket-plate  $c'$ , which latter is preferably secured to the plate  $a^6$ .

63 When closed together, the two sections of the back board provide, as stated, a comparatively shallow chamber  $a^3$ , and the condenser

D is therefore preferably flat and comparatively thin and is, as shown in Figs. 2 and 4, adapted to fit within the lower portion of said chamber or recess  $a^3$ . This condenser may be of any suitable or desired form. The lightning-arrester E is preferably and desirably located between the condenser and the bell-magnets. It will be readily understood that this lightning-arrester can be of any suitable and approved form. When thrown apart, as shown in Fig. 2, these three electrical devices—that is to say, the bell-magnets B, the condenser D, and the lightning-arrester E—are all accessible and so located and arranged as to be readily and easily detached or removed from the telephone back board. At this juncture it will be observed by reference to Fig. 2 that one of the electrical connections is made through the upper hinge  $l$ , and also that certain other electrical connections are made through the coil-springs 2 and 3. It will be observed that these springs have their opposite ends attached respectively to the front and back sections of the telephone back board A. These springs provide flexible or extensible electrical connections which permit free swinging or relative movement between the two back-board sections. When the outer section is swung back and closed, the coil-springs 2 and 3 occupy the recess 4, formed in the section  $a$  of the telephone back board. It will be seen that this recess 4 is arranged at one side of the condenser D. In this way this supplemental recess 4 serves to protect the coil-springs 2 and 3 against injury in closing the outer back-board section.

The receiver hook or lever F, which is adapted to support the usual receiver G, is arranged to project from the side of the box or inclosure H, which latter is constructed to project from the lower portion of the outer back-board section  $a'$ . It will also be observed at this juncture that this box or inclosure is adapted to contain an induction-coil I. It will be readily understood that this induction-coil, and also the receiver hook or lever, can be of any suitable or desired form of construction. With respect to the arrangement or disposition of these two devices, however, the receiver hook or lever F is preferably arranged between the induction-coil and the front or outer wall of box or inclosure. The top or lid  $h$  of this box or inclosure is preferably provided with hinges  $h'$ , which connect with the front or forward section of the telephone back board A. In this way the top or lid can be raised to permit access to the induction-coil and receiver-hook, and in order to render these devices further accessible the front or forward wall  $h^2$  of this box or inclosure is made removable. This removable front wall of the box or inclosure is preferably comparatively thin and adapted to rest in grooves or channels  $h^3$ , formed on the inner surfaces of the side walls  $h^4$ . With this arrangement the lid  $h$  can be lifted up, and by then lifting or pulling out the wall  $h^2$



ready and convenient access may be had to the interior of the box or inclosure H.

It will be seen that by my invention I provide a wall-telephone having a flat and comparatively thin back board and that the construction, although simple and compact, renders the various electrical devices unusually accessible.

I claim as my invention—

10 1. A wall-telephone comprising a couple of flat, or substantially flat, boards or sections hinged together at their side edges and adapted to lie flatwise together, one of said boards or sections being recessed or hollowed  
15 out to provide a chamber, the two boards or sections when lying flatwise together providing a flat and comparatively thin back board, a transmitter attached to the front or outer section of said back board, a bell also secured  
20 to said front or outer section of the back board, the magnets of said bell occupying a position at the upper portion of the recess or chamber formed in one of said sections, a flat and comparatively thin condenser fitted with-  
25 in the lower portion of the chamber provided by said recess, a lightning-arrester secured to the inner or back section of said telephone-back and occupying a position between the condenser and bell-magnets, and a box or in-  
30 closure projecting from the lower portion of the outer section of said back board, said box or inclosure being adapted to contain an induction-coil and receiver hook or lever, substantially as described.

35 2. A wall-telephone constructed with a flat and comparatively thin back board composed of two flat boards or sections hinged together at their side edges and adapted to lie flatwise together, the inner or back section of said  
40 back board being recessed or hollowed out substantially from top to bottom, the chamber or cavity provided by said recess being adapted to inclose or contain certain electrical devices comprised in said telephone, a re-  
45 ceiver hook or switch supported externally to said back board, a receiver adapted to be carried by said hook or switch, and a transmitter projecting or extending outwardly from the front of said back board.

50 3. A wall-telephone constructed with a flat and comparatively thin back board, composed of two flat boards or sections hinged together at their side edges and adapted to lie flatwise together, the back or inner section of said  
55 back board being recessed or hollowed out to provide a comparatively shallow chamber or cavity which extends substantially from top to bottom of said back board, a telephone-bell secured to the outer or front section of said  
60 back board and having its magnets occupying a position within the upper portion of said recess or chamber, a flat and comparatively thin condenser fitted within the lower portion of said recess or chamber and secured to the  
65 inner or back section of said telephone back board, a lightning-arrester secured to the inner or back section of said back board and

occupying a position in the said recess or chamber between the condenser and bell-magnets, and a suitable transmitter and re- 70 ceiver carried by and supported by the front or outer back-board section, substantially as described.

4. A wall-telephone comprising a flat and comparatively thin back board composed of 75 two flat boards or sections hinged together at their side edges and adapted to lie flatwise together, the inner or back section of said telephone back board being recessed or hollowed out to provide a chamber which extends sub- 80 stantially from top to bottom of the back board, the outer section of said back board being recessed at its upper portion, a telephone-bell secured to the outer section of said telephone back board and having its magnets in- 85 closed by the chamber formed by the said recesses in the two boards or sections, a swinging telephone-transmitter carried by the outer section of said back board, a flat and comparatively thin condenser fitted within the 90 lower portion of the chamber formed by the recess in the inner or back section of the telephone back board, and a box or suitable inclosure projecting from the lower portion of the outer section of the said telephone back 95 board, said box or inclosure being adapted to inclose certain of the electrical devices including the receiver hook or lever, substantially as described.

5. A wall-telephone comprising a flat and 100 comparatively thin back board composed of two flat boards or sections adapted to lie flatwise together, the back or inner section of said back board being adapted for attachment to a wall or other surface, means for securing 105 the two flat sections of the back board tightly together, the inner or back section of the back board thus provided being recessed or hollowed out substantially from top to bottom, such recess extending partly through 110 the back section, so as to, in effect, provide the latter with a comparatively thin back wall, a suitable transmitter and receiver and receiver hook or lever carried by the outer section of said back board, the recess in the 115 back section of the back board providing between the two sections a comparatively thin chamber adapted for containing certain of the electrical devices including bell-magnets and a flat condenser, substantially as de- 120 scribed.

6. A wall-telephone comprising a flat and comparatively thin back board composed of two flat boards or sections hinged together at their sides and adapted to lie flatwise to- 125 gether, the inner or back section of said back board being recessed substantially from top to bottom, so as to provide between the two boards or sections a suitable chamber, the front or outer section of the back board being 130 provided with a recess or opening at its upper portion, an outer plate covering said recess or opening in the outer back-board section, a telephone bell and transmitter secured



to said covering-plate, the magnets of said bell being inclosed within the chamber provided by the recesses in said telephone back-board sections, a flat and comparatively thin condenser fitted within the lower portion of the recess in the back or inner section of the telephone back board, and a suitable receiver and receiver hook or lever carried by said outer back-board section, substantially as described.

7. A wall-telephone comprising a flat and comparatively thin back board composed of two flat boards or sections adapted to lie flatwise together, said flat boards or sections being so relatively formed as to provide between them a comparatively thin or shallow chamber which extends substantially from top to bottom of said back board, said chamber being adapted to contain certain of the electrical devices including the bell-magnets and the flat condenser, and a suitable transmitter and receiver and a receiver hook or lever mounted upon or carried by the outer section of the telephone back board, substantially as described.

8. In a wall-telephone set, the combination of a back board, a box projecting from the face of said back board, said box having a pair of side walls with vertically-disposed and oppositely-arranged grooves, the front wall of said box consisting of a piece of thin sheet metal inserted in said grooves, and the said box also having a swinging lid hinged at its rear edge and adapted to cover and overhang the said removable sheet-metal front wall.

9. A wall-telephone comprising a back board constructed with a flat and comparatively thin back board composed of two flat boards or sections adapted to lie flatwise together, the back or inner section of the back board being recessed or hollowed out to provide between the two sections a chamber for containing certain electrical devices, a supplemental recess formed in the same section at one side of the lower portion of said first-mentioned recess, and hinges for connecting the side edges of the two sections of the telephone back board, a suitable transmitter and receiver and a receiver hook or lever mounted upon or carried by the outer swinging sections of the said back board, electrical devices including a telephone bell and condenser arranged within the chamber provided by the main or first-mentioned recess in the said back

or inner section of the telephone back board, and a pair of coil-springs each having one end secured to the said back section at a point within the said supplementary recess, the opposite ends of said springs being secured to the inner surface of the front or outer section of said back board, and said springs being adapted to serve as yielding or extensible mediums of connection between certain of said electrical devices, the springs lying within the said supplemental recess when the two sections of the back board are brought together, substantially as described.

10. A wall-telephone comprising a flat and comparatively thin back board composed of two flat boards or sections hinged together at their sides and adapted to lie flatwise together, the back or inner section of said back board being recessed or hollowed out substantially from top to bottom for the purpose of providing a comparatively thin chamber adapted to contain certain of the electrical devices comprised in said telephone, a suitable transmitter and a receiver and receiver hook or lever mounted upon or carried by the outer section of said back board, a telephone-bell also mounted upon or carried by the said outer section of the telephone back board, the magnets of said bell occupying a position within the upper portion of the recess or chamber formed between the back-board sections, a suitable condenser and lightning-arrester arranged within said chamber, a supplemental recess or chamber formed in the said back section at one side of said condenser, a pair of coil-springs having their opposite ends secured respectively to the front and back sections of the telephone back board, said springs being adapted to serve as mediums of electrical connection between certain of the electrical devices, said springs lying within the said supplemental recess when the two sections of the back board are closed or brought together, and the upper of said hinges being adapted and arranged for serving as a medium of electrical connection between certain of said electrical devices, substantially as shown and described and for the purpose set forth.

Signed by me at Chicago, Cook county, Illinois, this 3d day of October, 1901.

ERNEST E. YAXLEY.

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