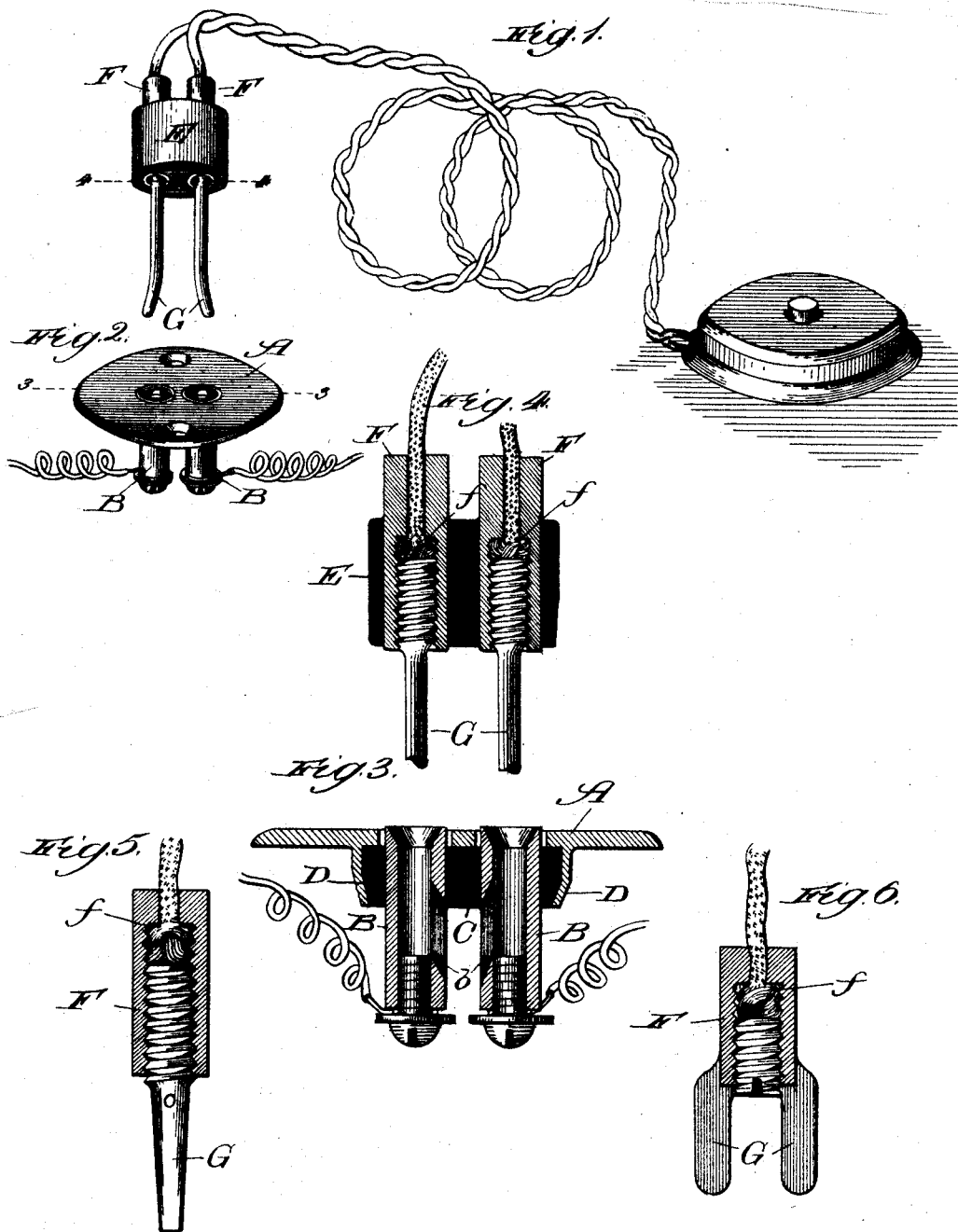


(No Model.)

J. F. WOLLENSAK.  
FLEXIBLE ELECTRIC CONNECTION.

No. 421,802.

Patented Feb. 18, 1890.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

JOHN F. WOLLENSAK, OF CHICAGO, ILLINOIS.

## FLEXIBLE ELECTRIC CONNECTION.

SPECIFICATION forming part of Letters Patent No. 421,802, dated February 18, 1890.

Application filed October 19, 1889. Serial No. 327,559. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN F. WOLLENSAK, a citizen of the United States, residing at Chicago, Illinois, have made certain new and useful Improvements in Flexible Electric Cord-Bell Connections, of which the following is a specification.

The object of my invention is to make a flexible electric cord-bell connection, designed for places where the push-button is to be movable or capable of being placed in different positions, as on the table in a dining-room to be pressed by the hand, or under the table to be pressed by the foot, or in a chamber, where it is desired at times to have the push-button in a bed for the use of an invalid, and for similar purposes; and my invention consists in the features and details of construction hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of the push-button, flexible cord, and plug by which the electrical connection is made. Fig. 2 is a perspective view of the floor-plate to which the connection is made. Fig. 3 is a vertical section of the floor-plate, taken in the line 3 3 of Fig. 2. Fig. 4 is a vertical section of the plug, taken in the line 4 4 of Fig. 1, and Figs. 5 and 6 are vertical sections of modified plugs.

In making my improved flexible electric cord-bell connection I make what I term a "floor-plate" A, that is adapted to be attached to a floor, or to a table, or to a wall, or in any other convenient place in various rooms of a house.

This floor-plate is connected to the respective wires of an electric circuit connecting with a bell or other alarm, which will be rung or sounded when the circuit is closed. These electric wires are fastened by binding-screws to tubes B, which are attached to the floor-plate through means of an insulating-piece C, by which they are insulated from the floor-plate. This insulating piece is preferably fastened to the floor-plate by inserting it within an annular flange D of the plate, and then turning or bending the edges of the flange in against or upon the insulating piece, as shown in Fig. 3. This will effect a certain firm and secure fastening of the insulating-piece to the floor-plate. The tubes B, as their name implies, are hollow and open at the top of the floor-plate. When this plate is arranged

in a floor or other place where it occupies a vertical position, there will naturally accumulate in the tubes dust and other foreign substances that may interfere with the operation of the parts. To keep the tubes clean, therefore, I prefer to provide them with a slanting hole or opening *b*, as shown in Fig. 3, to enable the dust or other material getting into them to pass out without lodging or accumulating therein. I next make a plug E, to which the push-button is connected by a flexible cord. This plug is made of insulating material with tubes F extending through the same to afford means for connecting the two members of the flexible cord to them. In making this connection I prefer to provide the tubes F with screw-threads at the lower end to enable the contact-pieces G to be inserted and fastened. These contact-pieces are preferably slightly sprung apart at their outer ends, as shown in Fig. 1, and are of a proper size and distance apart to enable them to be inserted into the tubes B of the floor-plate. In inserting them the ends are slightly pressed toward each other, so that a sure contact is secured. As they are slid into the tubes B they come into metallic contact therewith, so as to continue the electric circuit to the wires of the flexible cord. The holes passing through the tubes F are preferably made with a shoulder *f*, as shown in Fig. 4.

To effect the attachment of the cord to the tubes in the plug the cords are pushed through before the contact-pieces G are inserted. The covering material is turned back, so as to expose the ends of the wires, and the wires are bunched or knotted. The cord is then drawn back until the bunch or knot of covering material and exposed wires rest against the shoulders *f*, when the contact-pieces G are screwed in tightly against the bunches or knots, pressing them firmly against the shoulders *f*, and securing a metallic connection between the wires of the flexible cord and the contact-pieces. The same result will of course be obtained if, instead of screwing the ends of the contact-pieces directly against the bunched wires a loose piece of metal be inserted between them, which will be pressed against the bunched wires when the contact-pieces are screwed in.

In Figs. 5 and 6 I have shown modified

forms of plug adapted to be used for electric telephone-bell and cut-out connections; but the attachment of the cord to these plugs is the same as above described, and depends  
5 upon the bunching of the covering of the wires and the wires themselves and the pressing them firmly against a shoulder, as already explained, although in Fig. 6 this is effected by a simple screw.  
10 In operation the floor-plates are located wherever desired in the various rooms of the house. The push-button, with its flexible cord and plug, may be carried about by the person, or left in any convenient place. When  
15 it is desired to ring the bell, the contact-pieces are pushed into the tubes of the floor-plate and the push-button pressed, when the bell will be rung. Where the flexible cord and push-button are used in a dining-room, they  
20 may be removed, as any other article, and placed on the table when a meal is served. When they are intended to be used in a sick-room, they may be placed in the bed of the

invalid, so that they may be convenient for use whenever required.

What I regard as new, and desire to secure by Letters Patent, is—

1. The combination of a floor-plate, a flange extending out therefrom and bent or overlapping at its edge, an insulating-piece fastened thereto by the bent or overlapping edge  
30 of the flange, and tubes arranged in the insulating-piece and in metallic connection with the wires of the circuit, substantially as described.

2. The combination of a floor-plate, tubes arranged therein, but insulated therefrom, and in metallic connection with the wires of the circuit, and contact-pieces adapted to fit  
40 into the tubes in the floor-plate to make electrical connection, substantially as described.

JOHN F. WOLLENSAK.

Witnesses:

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