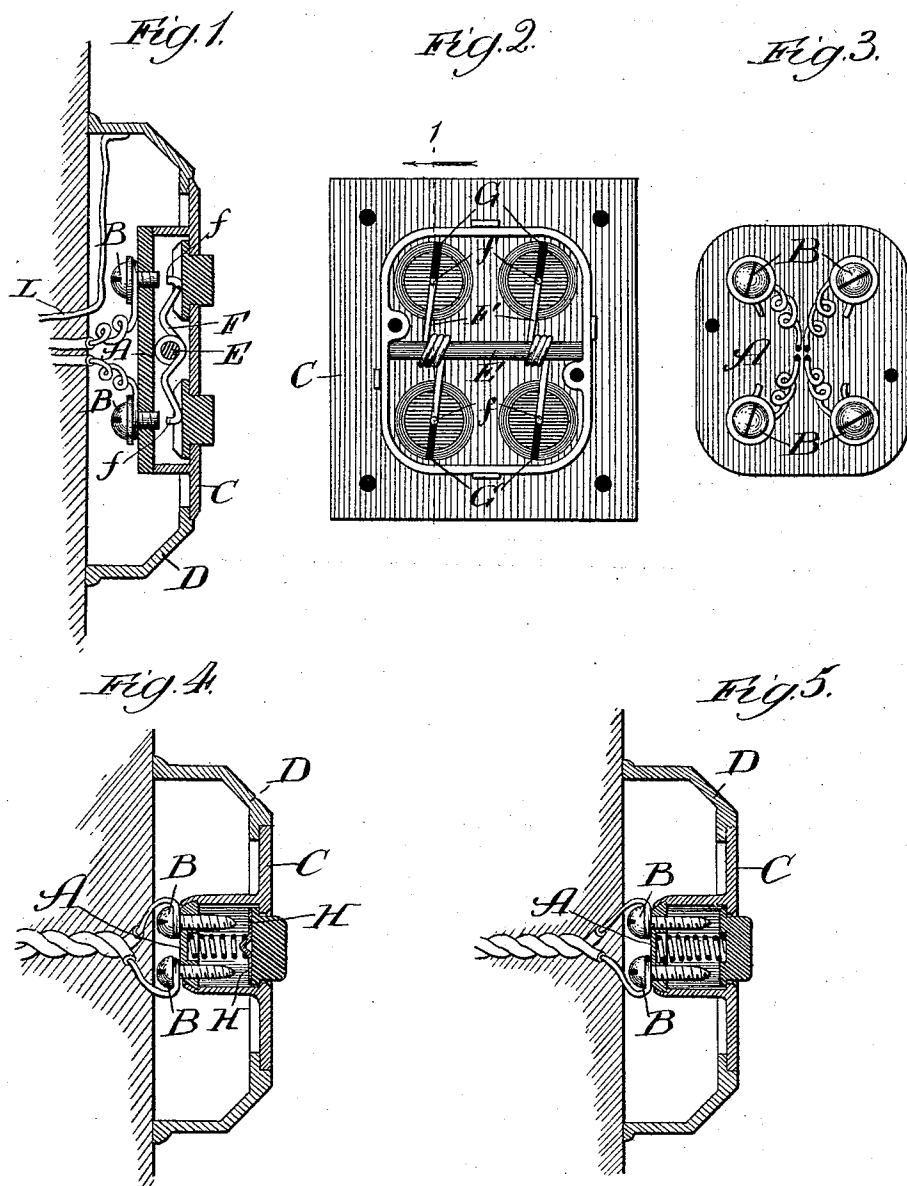


(No Model.)

J. F. WOLLENSAK.
ELECTRIC PUSH.

No. 459,605.

Patented Sept. 15, 1891.



Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN F. WOLLENSAK, OF CHICAGO, ILLINOIS.

ELECTRIC PUSH.

SPECIFICATION forming part of Letters Patent No. 459,605, dated September 15, 1891.

Application filed January 28, 1891. Serial No. 379,423. (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 invented certain new and useful Improvements in Electric Pushes, of which the following is a specification.

This invention is intended to be an improvement upon the one covered by my patent, No. 421,340, issued to me February 11, 1890, in that the separate contact-pieces are dispensed with and a circuit effected through the direct instrumentality of the binding-screws; and my invention consists in the features and details of construction hereinafter described and claimed.

In the drawings, Figure 1 is a vertical section taken through my improved push in line 1 of Fig. 2, looking in the direction of the arrow. Fig. 2 is a plan view of the bottom side of the face-plate. Fig. 3 is a plan view of the bottom of the insulated back, and Figs. 4 and 5 are transverse sections showing the invention applied to single pushes.

In making my improved electric push I make a plate A of any proper insulating material or of metal insulated from the binding-screws, and hereinafter in speaking in the specification or claims of an "insulated plate" I mean to indicate either kind. I provide this plate with binding-screws B arranged on the outside or back. The binding-screws pass through the plate and extend into the interior of the push, so that their ends may serve the purpose of contact-points in completing the circuit. I make a face-plate C, provided with holes for the buttons adapted to be secured in proper position upon the case D. I arrange a rod E between the rows of pushes where the invention is applied to compound pushes, which may be supported in place in any suitable manner. This rod is intended to extend along the inner side of the face a sufficient distance to afford means for supporting as many springs F as the number of buttons intended to be used may require. These springs are made of wire containing sufficient resilience, and are attached to the rod by coiling them around the same or in any other convenient manner and extending them out on either side to bring the ends of each spring over two of the button-holes.

The ends of the springs are turned down so as to form points *f*, which rest in their normal position immediately over the exposed ends of the binding-screws, which, as before said, extend down into the interior of the push. The buttons are provided at their inner ends with a slot or channel G, as shown in the drawings, and the springs are intended to rest in these slots or channels, so as to hold them in their proper positions, and so that they will be prevented from turning round. The contact-pieces usually employed, and shown in my patent on which this is an improvement, are entirely dispensed with, and the binding-screws themselves made to not only hold the wires of the circuit in place, but to afford the means for completing the circuit when the buttons are pushed in, so as to bring the points *f* of the springs against them. The necessity of making and applying such contact-pieces is thereby entirely dispensed with. The circuit is made by carrying a wire L from the battery to any desired point upon the case or frame D, which it will be understood is made of metal and capable of acting as a conductor. The current of electricity will pass along the case and enter the rod E, whence it will pass into the springs F, which are carried into contact with the binding-screws B when the buttons are pushed in.

In Figs. 4 and 5 I have illustrated single pushes with the binding-screws extended through the insulated back and far enough into the push to enable the button to be pressed against the points of the screws when it is pushed in. When the button is made of some non-conducting material, as in Fig. 4, it may be faced with metal H in the usual way, as shown; but where it is made entirely of metal, as in Fig. 5, such metal of course is unnecessary, and the circuit is completed as soon as the button material touches the points of the binding-screws. In all the figures, however, the binding-screws are made to perform the double function of attaching the wires of the circuit and of affording the instrumentality for completing the circuit as soon as the buttons are pressed down enough to bring the metal, whether springs, facing-plate, or the material of the button, into contact with the points of the screws.

I may say, in conclusion, that the essential improvement in my present invention over my patent above mentioned consists in the fact that I arrange the binding-screws on the outside of the insulated plate of the push, extend them through into the interior of the push far enough to enable them to operate as the means for completing the circuit when the buttons are pushed in, and dispensing with the usual separate contact-pieces which have heretofore been employed to enable the circuit to be completed.

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

1. In electric pushes, the combination of a plate of insulating material, binding-screws for holding both ends of the circuit-wires, arranged on the outside and both extending through into the interior to operate as contact-points, and a face having a loose button which completes the circuit as it is pressed in through the direct instrumentality of both binding-screws, substantially as described.

2. In electric pushes, the combination of a plate of insulating material, binding-screws for holding the ends of the circuit-wires, arranged on the outside and extending through into the interior to operate as contact-points, a face having buttons slotted at their inner ends, and springs resting in the slots of the buttons and preventing them from turning and adapted to be pressed into position by the buttons to complete the circuit through direct contact with the binding-screws, substantially as described.

3. In electric pushes, the combination of a plate of insulating material, binding-screws for holding the ends of the circuit-wires, arranged on the outside and extending through into the interior to operate as contact-points, a face having buttons, a rod supported on the inner side of the face, and springs attached

to the rod and extending over the button-holes and adapted to be pressed into position by the buttons to complete the circuit through direct contact with the binding-screws, substantially as described.

4. In electric pushes, the combination of a plate of insulating material, binding-screws for holding the ends of the circuit-wires, arranged on the outside and extending through into the interior to operate as contact-points, a face having buttons slotted at their inner ends, a rod supported on the inner side of the face, and springs attached to the rod and extending over the button-holes and resting in the slots of the buttons and preventing them from turning and adapted to be pressed into position by the buttons to complete the circuit through direct contact with the binding-screws, substantially as described.

5. In electric pushes, the combination of a plate of insulating material, binding-screws for holding the ends of the circuit-wires, arranged on the outside and extending through into the interior to operate as contact-points, a case for supporting the plate and attaching it to the place of use, a face having buttons slotted at their inner ends, a rod supported on the inner side of the face, springs attached to the rod and extending over the button-holes and resting in the slots of the buttons and preventing them from turning and adapted to be pressed into position by the buttons to complete the circuit through direct contact with the binding-screws, and a frame surrounding the plate and holding the same at the proper distance from the plate, substantially as described.

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