

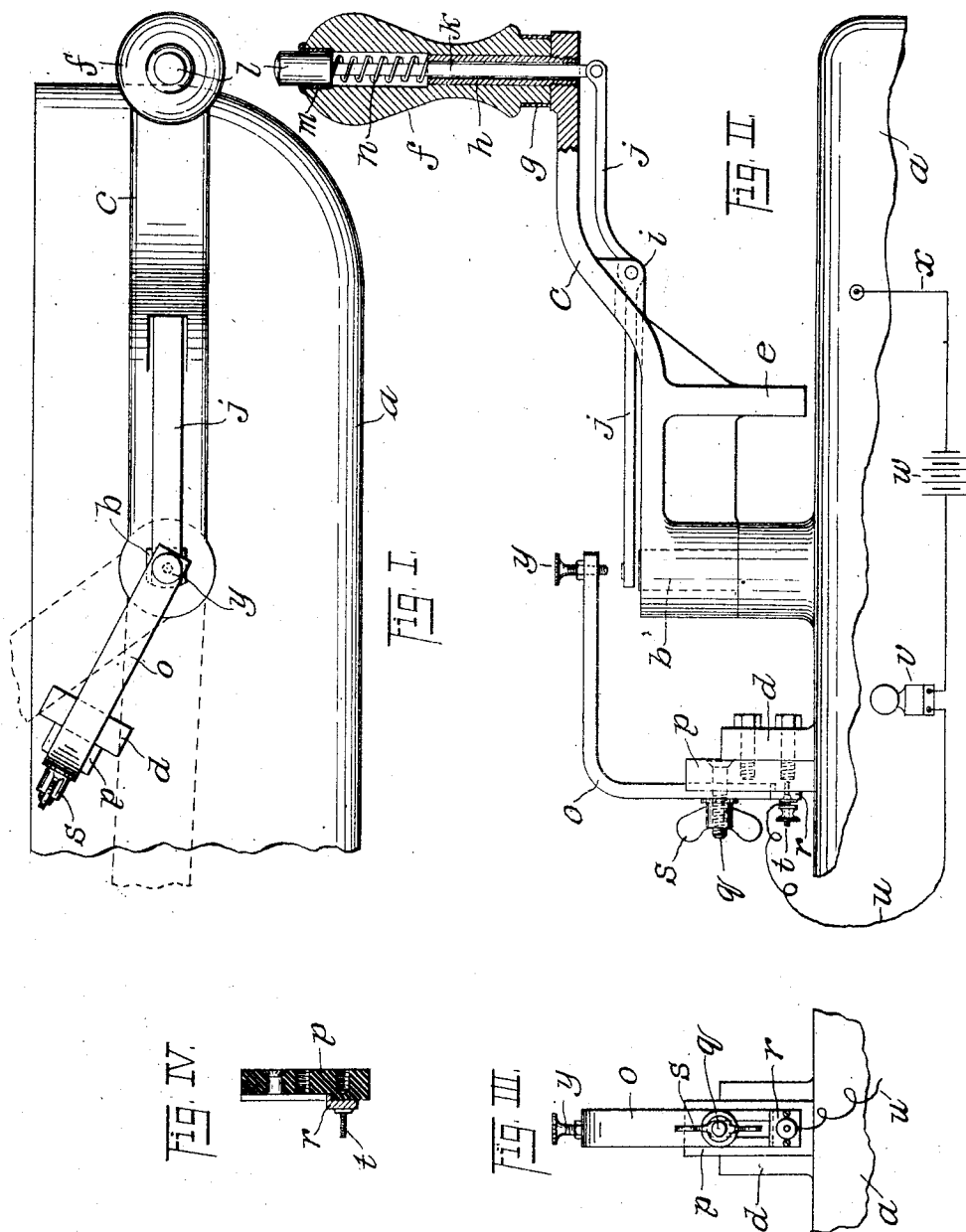
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PATENTED AUG. 29, 1905.

W. LINTERN.

CONTROLLER ATTACHMENT FOR SUPPLEMENTARY CIRCUITS.

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Witnesses  
 Jno. J. Sullivan  
 Jno. F. Strasser

Inventor,  
 William Lintern,  
 by Luther L. Hopper,  
 Attorney.

# UNITED STATES PATENT OFFICE.

WILLIAM LINTERN, OF WESTPARK, OHIO, ASSIGNOR TO THE NICHOLS-LINTERN COMPANY, OF CLEVELAND, OHIO, A CORPORATION.

## CONTROLLER ATTACHMENT FOR SUPPLEMENTARY CIRCUITS.

No. 798,427.

Specification of Letters Patent.

Patented Aug. 29, 1905.

Application filed November 7, 1904. Serial No. 231,690.

*To all whom it may concern:*

Be it known that I, WILLIAM LINTERN, a citizen of the United States, residing at Westpark, in the county of Cuyahoga and State of Ohio, have invented new and useful Improvements in Controller Attachments for Supplementary Circuits, of which the following is a specification.

This invention relates to attachments for controllers of motor-cars or other vehicles, through which an electric circuit supplementary to the controller-circuits may be operated; and it has for its object to provide such an attachment which may be operated in the most convenient manner without necessitating the operator's removing his hand from the controller-handle. The supplementary circuit may be employed for any desired purpose for which it is adapted—such, for example, as for ringing a gong in any part of the car, for a conductor's signal, or for operating fenders, lights, or other devices. The operator's hands being constantly engaged with the power-controller and brake, the prime object of this attachment is to provide means whereby a supplementary circuit may be closed by simple pressure of the operator's thumb.

Minor objects growing out of the construction and arrangement of the parts of the attachment will become apparent from the description and be set forth in the claims.

To these ends my invention consists in the novel features, arrangements, and combinations hereinafter described and claimed, an embodiment thereof as applied to the controller of an electric-motor car being illustrated in the accompanying drawings, in which—

Figure I is a plan view of a portion of an electric controller provided with the circuit-closing attachment. Fig. II is an elevation of the upper portion of an electric controller equipped with my attachment, the supplementary electric circuit being shown diagrammatically. Fig. III is an end elevation showing the parts of the apparatus which are attached to the controller-box. Fig. IV is a sectional elevation of the block *p*.

The reference-letter *a* indicates an electric controller of the type usually employed upon motor-cars, having a squared shaft *b* projecting upward through its top, upon which a hand-lever *c* is removably fitted. A stop *d*

projects above the top of the controller-box and is usually made integral therewith, its purpose being to limit the movement of the hand-lever *c* by intercepting the depending rib *e* thereof. Thus the travel of the hand-lever *c* is less than a complete circle, the dotted lines in Fig. I indicating its extreme positions, in one of which the power is shut off from the motor and in the other the motor receives the maximum power. The swinging end of the hand-lever *c* is raised above the level of its hub, as shown, and is provided with an upright handle *f*, which is preferably of hard wood, having a metallic ferrule at *g* and a metallic bushing *h* driven therein and screw-threaded, as shown, or otherwise firmly secured to the hand-lever *c*.

A metallic lever *j* is fulcrumed to the hand-lever *c* at *k*, and its inner arm passes through a suitable aperture in the hand-lever and extends horizontally over and slightly beyond the center of the hub of the hand-lever. The outer arm of the lever *j* extends to its termination close to the hand-lever beneath the handle *f*, where it is hinged to an upright rod *l*, passing loosely through the bushing *h* and having rigidly secured to its upper end a cylindrical push-button *l* of a larger diameter than said rod. The button *l* is fitted to extend loosely into the bore of the handle, said bore being preferably bushed with metal at *m*. The upper end of the button *l* projects normally some distance above the handle *f*, as shown in Fig. II, and is upheld by a spiral spring *n* in the handle-bore thereunder, which spring rests upon the bushing *h*.

Rigidly secured to the stop *d* is an upright guide-block *p*, of hard rubber or other suitable electrically-non-conducting material, having a broad groove in its outer face, in which a contact-arm *o* is slidably fitted. A stud-bolt *q* is carried by the guide-block *p*, and the arm *o* is slotted upward from its lower end, so that it may be slid down over said bolt to its normal position in contact with a metallic plate *r*, secured to the guide-block at the bottom of its groove. A thumb-nut *s* on the bolt *q* serves to clamp the arm *o* to the guide-block *p*. The contact-piece *r* may be an angle-plate, as shown, or of any suitable form, and any suitable means besides the screws shown in the figures may be employed for securing it to the insulator *p*; but it must be provided with means, such as a binding-

post *z*, for the attachment of a conducting-wire *u*, which latter is connected to the electric device or devices—such as a bell *v*, as shown, or a lamp, or a combination of bell and lamp, or other devices to be operated by the supplementary circuit—and from thence said conducting-wire is carried to a battery or generator *w*. The battery or generator *w* is connected by a conducting-wire *x*, preferably with the controller *a*, as shown; but where the controller is properly grounded it is obvious that the wire *x* may also be connected with the ground-wire of the motor-circuit. The upper end of the contact-arm *o* is extended horizontally over the hub of the controller-handle, and an adjustable contact-screw *y* is threaded vertically therein in line with the axis of the controller-shaft *b*.

In the operation of the device it is evident that in any position of the controller-handle the operator can readily depress the push-button *l* with his thumb without releasing his grasp upon the handle *f* and that such depression of the push-button operates to throw the inner end of the lever *j* into contact with the end of the contact-screw *y*, which closes the supplementary circuit and operates the bell *v* or other electric devices connected therein. The block *p* being composed of non-conducting material serves to insulate the arm *o* and contact-plate *r* from the controller. When it is desired to remove the controller-handle from its shaft *b*, the arm *o* may first be removed by loosening the thumb-nut *s*.

Without limiting myself to details of construction, which may be varied within the scope of the invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In apparatus of the class described, the combination with conducting means for an electric circuit, of a controller-handle, a push-button in said handle, and operative means whereby an inward thrust of said push-button closes said circuit, substantially as set forth.

2. In apparatus of the class described, the combination with a power-controller, of conducting means for an electric circuit, a controller-handle, a push-button in said handle, and operative connections whereby at any point in the travel of said handle said circuit may be closed by an inward thrust of said push-button, substantially as set forth.

3. In apparatus of the class described, the combination with a power-controller, of conducting means for an electric circuit, a removable controller-crank provided with a handle, a push-button in said handle, and operative means whereby an inward displacement of said push-button effects the closing

of said circuit, said means being adapted to permit the removal of said crank, substantially as set forth.

4. In apparatus of the class described, the combination with a power-controller, of a contact-arm connected in an electric circuit and insulated from said controller, a controller-handle, a push-button in said handle, and operative means whereby an inward thrust of said push-button effects an electrical connection between said arm and said controller, substantially as set forth.

5. In apparatus of the class described, the combination with a power-controller, of a removable contact-arm connected in an electric circuit and extended over the shaft of said controller, an insulator interposed between said arm and said controller, a controller-handle provided with a push-button, and operative means whereby a displacement of said push-button effects an electrical connection between said arm and said controller, substantially as set forth.

6. In apparatus of the class described, the combination with conducting means for an electric circuit, of a controller having a removable crank provided with a handle, a lever fulcrumed to said crank having its inner arm extended over the center of said crank, a push-button in said handle operatively connected to the outer arm of said lever, and an arm electrically connected to said conducting means secured to and insulated from said controller and extended over the inner end of said lever, substantially as set forth.

7. In apparatus of the class described, the combination with conducting means for an electric circuit, of a power-controller, a removable crank upon said controller provided with a handle, a lever fulcrumed to said crank having its inner arm extended over the center of said crank, a push-button in said handle operatively connected to the outer arm of said lever, a guide-block of insulating material rigidly attached to said controller, a contact-piece secured to said guide-block and connected to said conducting means, and a removable contact-arm adapted to slide upon and be clamped to said guide-block bearing against said contact-piece and adapted to be engaged by the inner end of said lever, substantially as set forth.

In testimony whereof I affix my signature, in the presence of two subscribing witnesses, at Mansfield, Ohio, this 3d day of November, 1904.

WILLIAM LINTERN.

Witnesses:

GEORGE A. MEAD,  
F. W. MILLER.