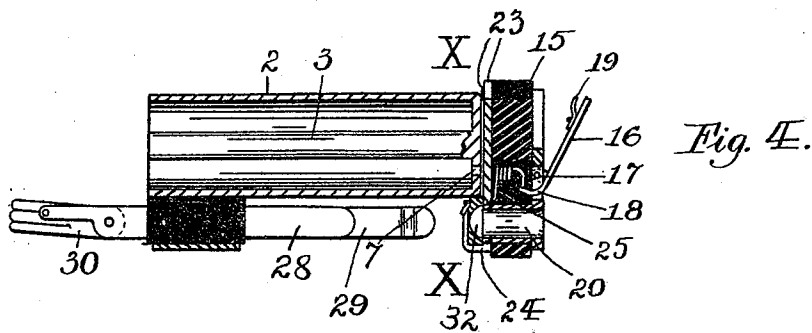
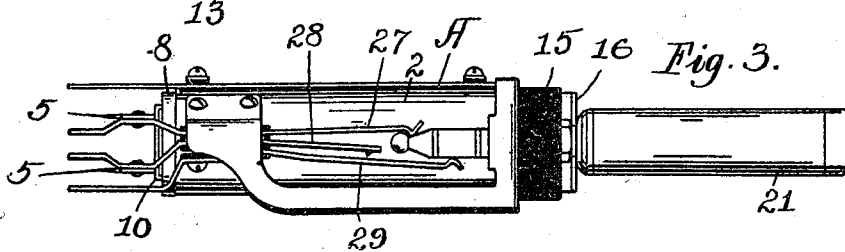
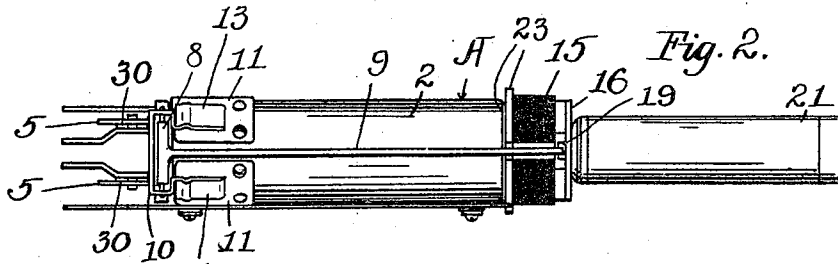
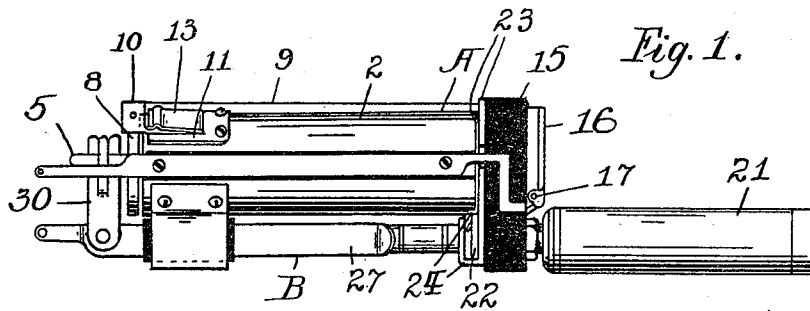


C. D. ENOCHS.
 COMBINED JACK AND DROP FOR TELEPHONE SWITCHBOARDS.
 APPLICATION FILED APR. 30, 1906.

950,168.

Patented Feb. 22, 1910.

2 SHEETS—SHEET 1.



Witnesses:

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 Guy Ruf

Inventor:

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by: H. Bradbury
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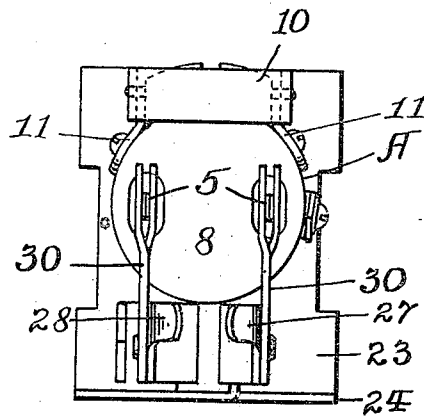


Fig. 5.

Fig. 9.

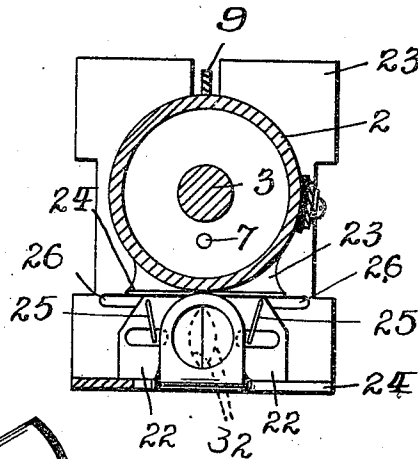
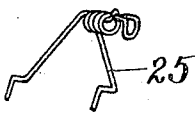


Fig. 6.

Fig. 7.

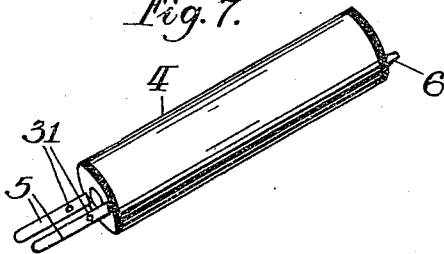
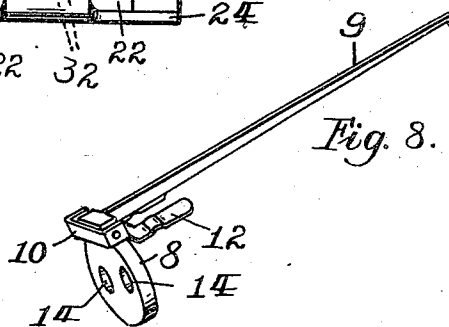


Fig. 8.



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UNITED STATES PATENT OFFICE.

CLAUDE D. ENOCHS, OF LA CROSSE, WISCONSIN, ASSIGNOR TO THE VOTE-BERGER CO., A CORPORATION OF WISCONSIN.

COMBINED JACK AND DROP FOR TELEPHONE-SWITCHBOARDS.

950,168.

Specification of Letters Patent.

Patented Feb. 22, 1910.

Application filed April 30, 1906. Serial No. 314,462.

To all whom it may concern:

Be it known that I, CLAUDE D. ENOCHS, a citizen of the United States, residing at La Crosse, in the county of La Crosse and State of Wisconsin, have invented a new and useful Combined Jack and Drop for Telephone-Switchboards, of which the following is a specification.

My invention relates to a combined jack and drop for telephone switchboards and has among its objects to provide improved means whereby the drop coil can be taken out of its shell without opening any soldered or screw connections; a drop shutter which obscures the end of the armature tongue from view; restoring mechanism for the drop shutter which can never exceed a certain amount of force in closing the shutter, no matter how hard the plug is inserted, and means for normally closing the jack socket.

A further object is the saving of time and labor in effecting repairs or changing the parts of the jack and drop.

To accomplish these objects and such others as may appear, the invention comprises certain novel combinations of parts hereinafter more particularly described and claimed.

In the accompanying drawings forming part of this specification, Figure 1 is a side elevation of my invention; Fig. 2 is a plan view looking down upon Fig. 1; Fig. 3 is another plan view looking up at Fig. 1; Fig. 4 is a longitudinal section of Fig. 1, showing the shutter open and the plug and drop coil removed; Fig. 5 is an enlarged end view of Fig. 1; Fig. 6 is an enlarged sectional view taken on the line X—X of Fig. 4; Figs. 7 and 8 are perspective views of the drop coil and armature removed, and Fig. 9 is a perspective view of the shutter spring.

In the drawings are included the drop mechanism A and the jack mechanism B, which are associated together in the usual manner to operate the drop shutter and make electrical connections with the various circuits.

2 represents a tubular shell, one end of which is closed and the other open, provided with a rigid core 3. A removable electromagnet or drop coil 4, having two rigid projecting terminals 5 on its outer end, is adapted to slip over the core and into the

shell. The inner end of the magnet coil has a small point 6, which passes into an opening 7 in the closed end of the shell and holds the coil in place. The outer end of the core 3 is contiguous to an armature 8 and attracts it when the coil of the magnet is energized. This armature carries a latch bar 9 and is pivoted in a yoke 10, which is removably fastened to the shell by means of spring catches 11. The yoke 10 is provided with a pair of crimped tongues 12, which are adapted to be engaged by clips 13 on the spring catches to support the yoke and cause the armature to play in front of the magnet. The armature has a pair of openings 14, through which the terminals 5 on the magnet coil project without coming into contact therewith. The closed end of the shell is fastened to an insulating head block 15, which carries a swinging drop shutter 16. This shutter is pivoted in the usual manner, as at 17, and tends to fall into a horizontal position but is normally held up by the latch bar 9, which engages an indent 19 carried by the shutter. A tongue is provided on the lower edge of the drop shutter and is turned into a chamber in the head block. Below the shutter is a socket 20, passing through the head block, which is adapted to receive the connecting plug 21 in the customary manner.

Moving horizontally to close the socket 20 on the inner face of the head block are a pair of slides 22, which are adapted to close together at the inner end of the socket. Between the inner end of the shell and the head block are a pair of metal plates 23. These plates are bent to form shoulders 24, between which the slides are adapted to work. The slides are folded together by means of a spring 25, which passes through a slot 26 in one of the plates 23 and is looped upward to engage the tongue 18 on the drop shutter. When the plug 21 is withdrawn from its socket the spring closes the slides and rises above the tongue on the shutter. When the plug is inserted in the socket the spring and slides serve to retard its inward movement and thus allowing the force exerted in closing the shutter never to exceed a certain amount, no matter how hard the plug is inserted. When the drop coil is energized and the plug removed the latch bar disengages the shutter, which falls. When the plug is inserted in its socket, the

slides are spread apart and the loop of the spring thus drawn down, carrying with it the tongue 18 and closing the shutter. The meeting edges of the slides are beveled at 32 to permit the end of the plug to easily spread them apart.

The jack springs 27, 28 and 29 are of ordinary construction and are adapted to be connected with the line and magnet circuits in the customary manner. The tail pieces of the jack springs 27 and 28 are each provided with a connector 30, which is pivoted thereto and adapted to make metallic connection with the rigid terminals of the drop call. Each connector is split and preferably made of resilient material to cause a spring impingement between it and the terminal which it engages. Indents 31 on the terminals of the drop coil prevent their coming into contact with the armature. The outer ends of the terminals 5 may be provided with knife edges to cause them to easily guide between the arms of the connectors. When it is desired to remove or repair the drop coil the connectors are swung down into the position shown in Fig. 4; the armature is removed by disengaging the yoke from the spring catches and the drop coil may then be drawn out of the shell.

It is obvious that the construction above set forth may be changed and modified without departing from the spirit of this

invention, and I do not limit or confine myself to the exact construction described. 35

Having described my invention, what I claim as new and desire to protect by Letters Patent, is:—

1. A drop including a shutter having an inturned tongue, a jack associated with said drop and provided with a plug socket, a slide normally closing said socket, and a spring adapted to close said slide and restore said shutter when said slide is opened. 40

2. A drop including a shutter, a jack associated with said drop and provided with a plug and plug socket, a pair of slides normally closing said socket, and a spring connection between said slides and shutter to close said slides over said socket and restore said shutter when said slides are opened. 45 50

3. A drop including a shutter having an in-turned tongue, a jack associated with said drop and provided with a plug socket, a pair of slides folding over said socket, and a connection between said slides and shutter for restoring the latter when said slides are opened. 55

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses. 60

CLAUDE D. ENOCHS.

Witnesses:

P. J. RIEGGER,
WM. A. GRIMES.