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1,579,301

J. S. GARVIN

RELAY

Filed Feb. 28, 1924

Fig. 1

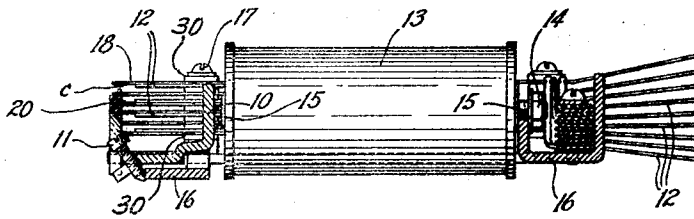
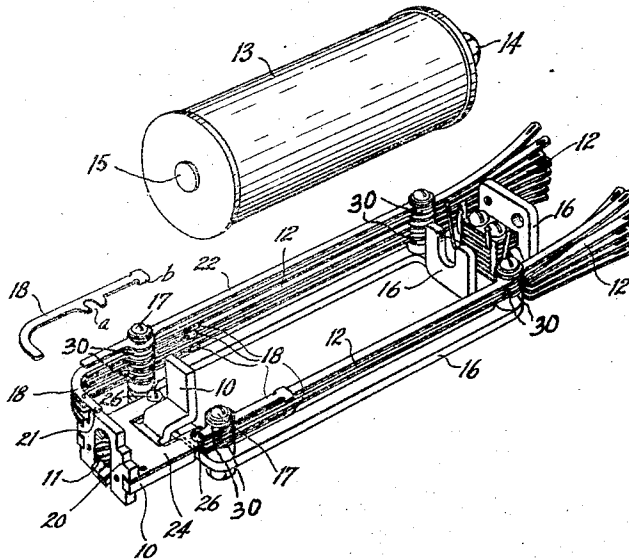


Fig. 2



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UNITED STATES PATENT OFFICE.

JOHN S. GARVIN, OF BOGOTA, NEW JERSEY, ASSIGNOR TO WESTERN ELECTRIC COMPANY, INCORPORATED, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

RELAY.

Application filed February 28, 1924. Serial No. 695,741.

To all whom it may concern:

Be it known that I, JOHN S. GARVIN, a citizen of the United States, residing at Bogota, in the county of Bergen and State of New Jersey, have invented certain new and useful Improvements in Relays, of which the following is a full, clear, concise, and exact description.

This invention relates to relays having a plurality of contact springs arranged close together in what is usually referred to as a spring "pile up".

The object of this invention is to improve apparatus of this character and more specifically to facilitate the removal and replacement of individual springs, without disturbing the remainder of the spring combination.

A feature of this invention, therefore, resides in providing a relay having contact springs which can be quickly removed or replaced without disturbing the rest of the spring pile up, as previously mentioned.

For a better understanding of this invention reference can be had to the accompanying drawing in which Figs. 1 and 2 are side and perspective views, respectively, showing in detail the parts of a relay embodying the invention.

A description of a relay embodying the invention follows: The armature 10, adjustment screw 11 and the flexible spring 24 may be removed from and replaced on the mounting plate 16 by removing the screws 26 without disturbing the spring "pile-up" 12 or the coil 13.

The contact spring members 18 having a slot "a" lips "b" and contact "c" are held against spring 22 in the spring pile-up by means of washers 30 and screws 17. By loosening the screws 17, a quick removal or replacement of the contact spring 18 is effected.

The stepped armature block 20, (which is preferably of some insulating material,) forming a part of the armature 10, cooperates with the spring ends 21 of the pile-up to flex the spring ends against the contact springs 18 for making contact.

The core 15, of the coil 13, protrudes at one end and is screw-threaded to receive a washer and a nut 14 for the purpose of holding the coil in a rigid manner on the mounting plate 16. By this construction, it will be obvious that the coil 13 may be removed or replaced without disturbing the spring

"pile-up". Only a part of the unit type spring combination, which may be assembled independent of the relay, is shown in Fig. 1.

What is claimed is:

1. A relay having a spring combination comprising a plurality of springs positioned one above the other in a desired space relation, one or more contact members for making contact with and extending the springs of said combination, each of said contact members including a plurality of lips for making contact in alignment with its associated spring, said contact members being adapted to be quickly removed or replaced without disturbing the rest of said combination of springs.

2. A relay having a combination of springs in fixed super-position one to another, a contact extension member for each of said springs, each said extension member comprising means including a plurality of lips for making contact with its associated spring and a slot for enabling its removal or replacement without disturbing the spring combination.

3. A relay having short contact members in combination with a plurality of springs positioned one above the other in a desired space relation, each of said contact members comprising means including a slot for enabling the mounting thereof, and a plurality of lips for making contact in alignment with its associated spring.

4. A contacting device comprising in combination a removable coil, an armature, adjusting means for said armature, a mounting plate, a spring combination comprising a plurality of springs separated by thin washers in fixed super-position one to another and situated adjacent to said mounting plate, contact members adapted to be easily removed and interchanged for making contact with the springs of said combination, each of said contact members comprising means including a plurality of lips for making contact in alignment with said springs and means cooperating with said armature for actuating said contact members to cause the closing and opening of contacts of said spring combination.

In witness whereof, I hereunto subscribe my name this 23rd day of February, A. D., 1924.

JOHN S. GARVIN.