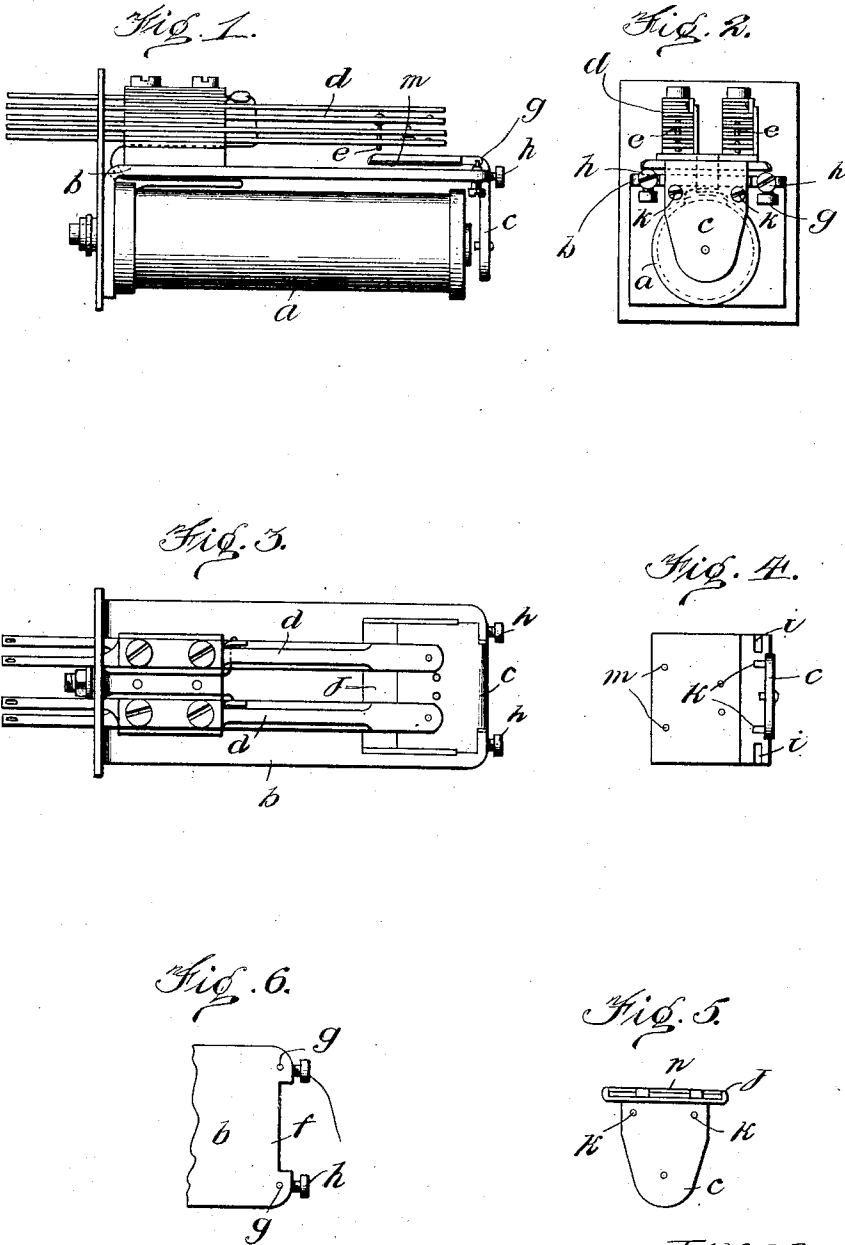


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RELAY FOR TELEPHONE CENTRALS, &c.
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1,300,022.

Patented Apr. 8, 1919.



Inventor:
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attys

UNITED STATES PATENT OFFICE.

MORTEN BALTHAZAR RICHTER, OF COPENHAGEN, DENMARK.

RELAY FOR TELEPHONE-CENTRALS, &c.

1,300,022.

Specification of Letters Patent.

Patented Apr. 8, 1919.

Application filed February 6, 1917. Serial No. 146,927.

To all whom it may concern:

Be it known that I, MORTEN BALTHAZAR RICHTER, a subject of the King of Denmark, residing at Copenhagen, Denmark, have invented a new and useful Improvement in Relays for Telephone-Centrals, &c.; and I do hereby declare the following to be a full, clear, and exact description of the same.

The invention relates to improvements in the relays used for telephone plants of the kind in which the magnetic flux is closed through an electro-magnet a rectangularly bent yoke and a likewise substantially rectangularly bent armature which can rock on the free end of the said yoke, and the invention consists in certain measures, through which the friction and thus the wear of the working parts is much diminished, whereby the safety in working and the durability of the relay is essentially augmented, as also the adjustment of the parts is much facilitated compared to the hitherto known relays of the kind in question.

A modification of the invention is represented in the annexed drawing, in which—

Figure 1 shows a side-view,

Fig. 2 a rear-view,

Fig. 3 a top-view,

Figs. 4 and 5 the armature seen from below and in front-view respectively, and Fig. 6 a detail.

The relay comprises an iron core provided with a coil *a* which core is fastened to the yoke consisting of a stamped and rectangularly bent iron plate *b*. The armature *c* likewise consists of a stamped and bent iron plate which can rock on the free end of the plate *b*. Whereas in the hitherto used relays of this kind the armature was pressed springily against the sharpened upper edge of the plate *b*, the armature according to the present invention is only influenced by gravity and the spring tension of the contact springs in question to be overcome, whereby is obtained a great sensitiveness of the relays, so that at a given working tension it responds with the greatest security. The contact springs in question, various numbers of which may be found depending on the number of contacts which are to be closed or interrupted, are designated by *d*, and the contact springs are actuated by a slight lifting of the pins or the tongues *e*

stamped out of the material of the springs. The end of the plate *b* is provided with a notch *f* for accommodation of the downwardly bent end of the armature *c*. On both sides of the notch are screwed in the plate *b* from below pointed screws *g*, which subsequent to adjusting of the relays may be secured by screws *h*. The armature *c* is provided with two notches *i*, Fig. 4, by which they ride on the points of the screws *g* as shown in Fig. 1, and the armature therefore rocks on the points of the screws *g*, thus on a line substantially at the same level as that of the touching points between the armature and the ends of the pins or tongues *e*. It is hereby obtained that the sliding of the ends of the said pins on the uppermost surface of the armature becomes as small as possible during the motion of the armature, and the friction which takes place during this sliding is a minimum, the armature at the touching points being provided with a glass plate resistant to wear, which also insulates the tongues of the contact springs from each other. The downwardly pointing part of the armature has two screws *k* protruding under the end of the plate *b*, without, however, normally touching the same, and serves for preventing the armature from falling off during transport and mounting. Small projections *m*, Figs. 1 and 4, on the armature serve for abutment against the upper surface of the plate *b* when the armature assumes its resting position. The described construction represents a safely working relay which is easily adjustable, as the distance between armature and core may be altered through adjusting the screws *g*.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent in U. S. A.:

1. A relay for telephone plants comprising an electro-magnet, an iron yoke fastened on the said electro-magnet, a bent armature, a plurality of contact springs having pins adapted to be influenced by the said armature, pointed screws on the said yoke adapted to coact with notches in the said armature, and forming adjustable means on which the said armature can rock on a line substantially in the level of the places on the said armature engaged by the said pins.

2. A relay for telephone plants compris-

ing an electro-magnet, an iron yoke fastened
on the said electro-magnet, a bent armature,
a plurality of contact springs having pins
adapted to be influenced by the said arma-
5 ture, a glass plate fixed on the said arma-
ture adapted to engage the said pins and
means on the said yoke on which the said
armature can rock on a line substantially in

the level of the points on the said glass plate
engaged by the said pins. 10

In testimony whereof I have affixed my
signature in presence of two witnesses.

MORTEN BALTHAZAR RICHTER.

Witnesses:

FANNY PETERSEN,
GRETHE DAM.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."