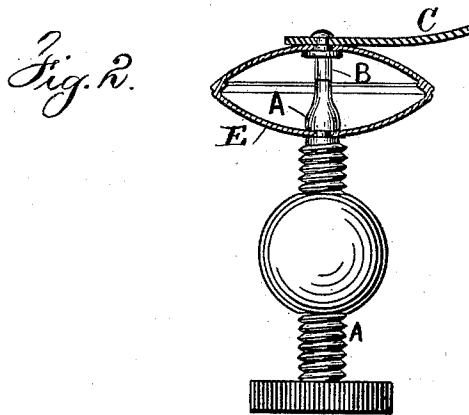
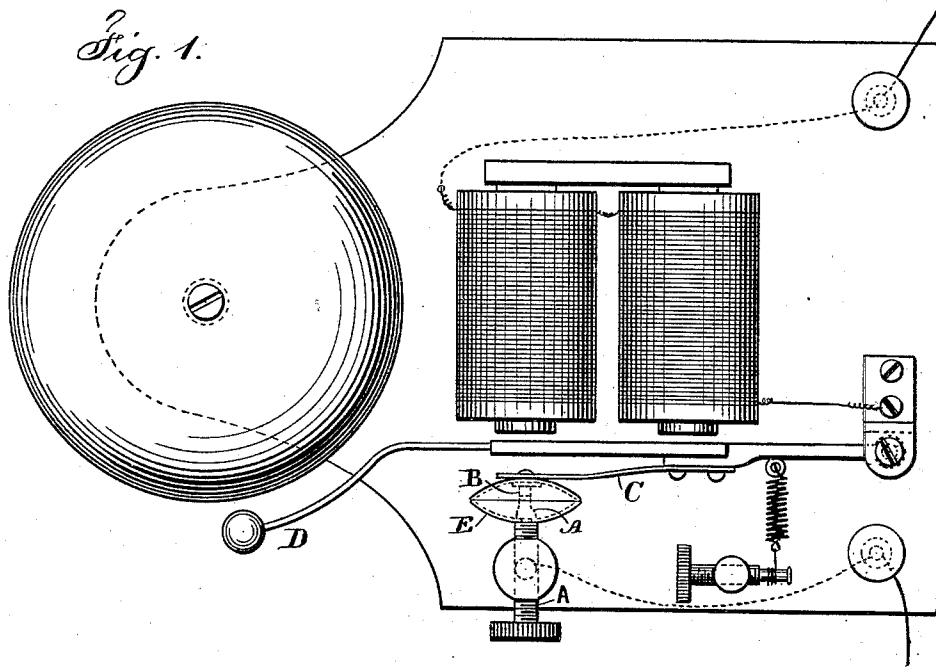


(No Model.)

R. VARLEY, Jr.
ELECTRIC CONTACT PROTECTOR.

No. 449,302.

Patented Mar. 31, 1891.



Witnesses

Chas. H. Smith
J. Stair

Inventor

Richard Varley Jr.
per Lemuel W. Ferrell
gltg

UNITED STATES PATENT OFFICE.

RICHARD VARLEY, JR., OF ENGLEWOOD, NEW JERSEY.

ELECTRIC-CONTACT PROTECTOR.

SPECIFICATION forming part of Letters Patent No. 449,302, dated March 31, 1891.

Application filed November 28, 1890. Serial No. 372,842. (No model.)

To all whom it may concern:

Be it known that I, RICHARD VARLEY, Jr., of Englewood, in the county of Bergen and State of New Jersey, have invented an Electric-Contact Protector, of which the following is a specification.

In call-bells that are operated electrically great difficulty has heretofore been experienced in consequence of particles of dust or other foreign substances getting in between the normally-separated contact points or surfaces, and the risk of the alarm becoming inoperative is augmented by the fact that considerable periods of time often elapse between one use and the next of the alarm or call.

My present invention is for effectually excluding dust and any foreign substance from normally-separated electric contact points or surfaces in electric call-bells, so that such surfaces are maintained in a clean and fully-operative condition for an indefinite period, and the risk of oxidation is very largely removed, because the atmosphere is so fully excluded that any fresh supply of oxygen will be cut off and the spark will not injure the metallic surfaces.

In the drawings, Figure 1 is a plan view of an electric call-bell fitted with my improvement, and Fig. 2 is a sectional elevation of the electrodes and protector in larger size.

Two contacts or electrodes A and B are represented, the contact A being in the form of a screw with a platina plug, and the contact B being upon a spring C, attached to the armature of the hammer D.

The protector E is elastic and of insulating material that extends from one contact to the other, forming an inclosure for such contacts. It is advantageous to make use of thin soft india-rubber.

The protector is made of two small disks of rubber with a central opening in each disk and the disks united together around the edges and vulcanized, and one disk is around the button-head of the contact B, and the other disk is around the end of the screw A, and its inner edge within an annular groove, so that the screw can be rotated in adjusting the contact or back-stop; but the atmosphere will be substantially excluded and no dust or foreign matter can come between the normally-separated contact-surfaces. Hence they will always be in operative condition; and it is not necessary to inclose the bell or magnet in a case, as has sometimes been done to aid in keeping the alarm or similar electric device in working order. The protector can be similarly made for the contacts of a telegraph-key, the contact pins or studs having by preference heads with annular channels or necks for the edges of the elastic protector.

In consequence of using flat disks of rubber united around their edges the protector occupies but little space and does not present any perceptible resistance to the movement of the electrode. Hence the instruments and adjustments do not require to be changed for receiving the dust-protector.

I claim as my invention—

An electric-contact protector formed of two disks of flexible material connected together around their edges and having central openings for the electrodes.

Signed by me this 20th day of November, 1890.

RICHARD VARLEY, JR.

Witnesses:

GEO. T. PINCKNEY,
WILLIAM G. MOTT.