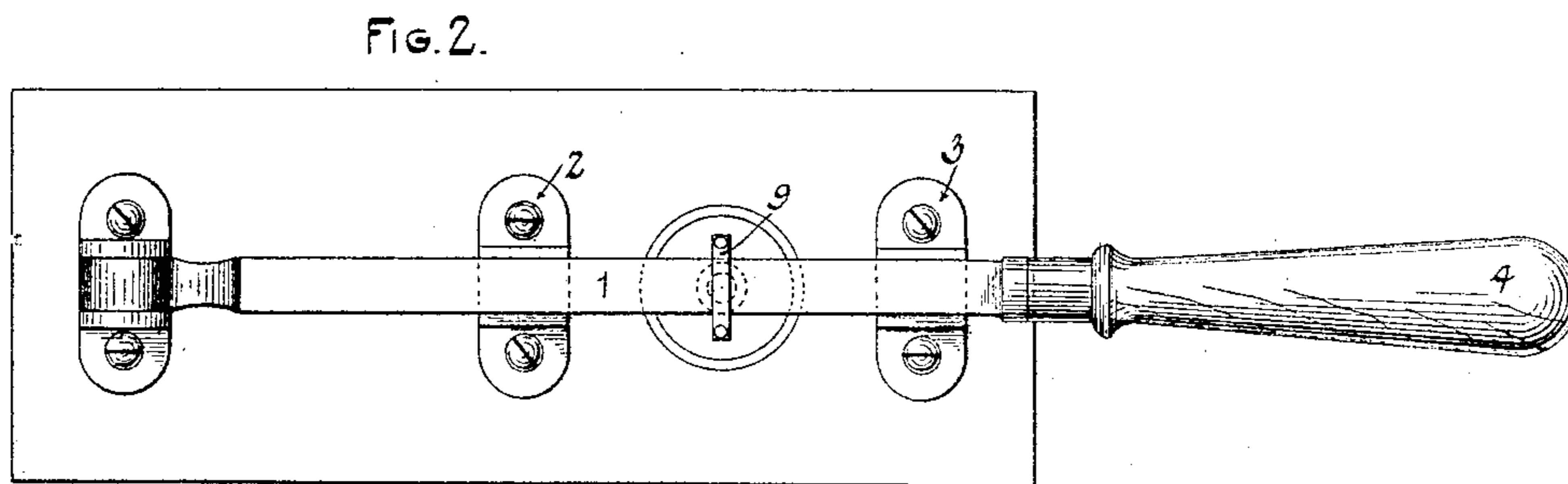
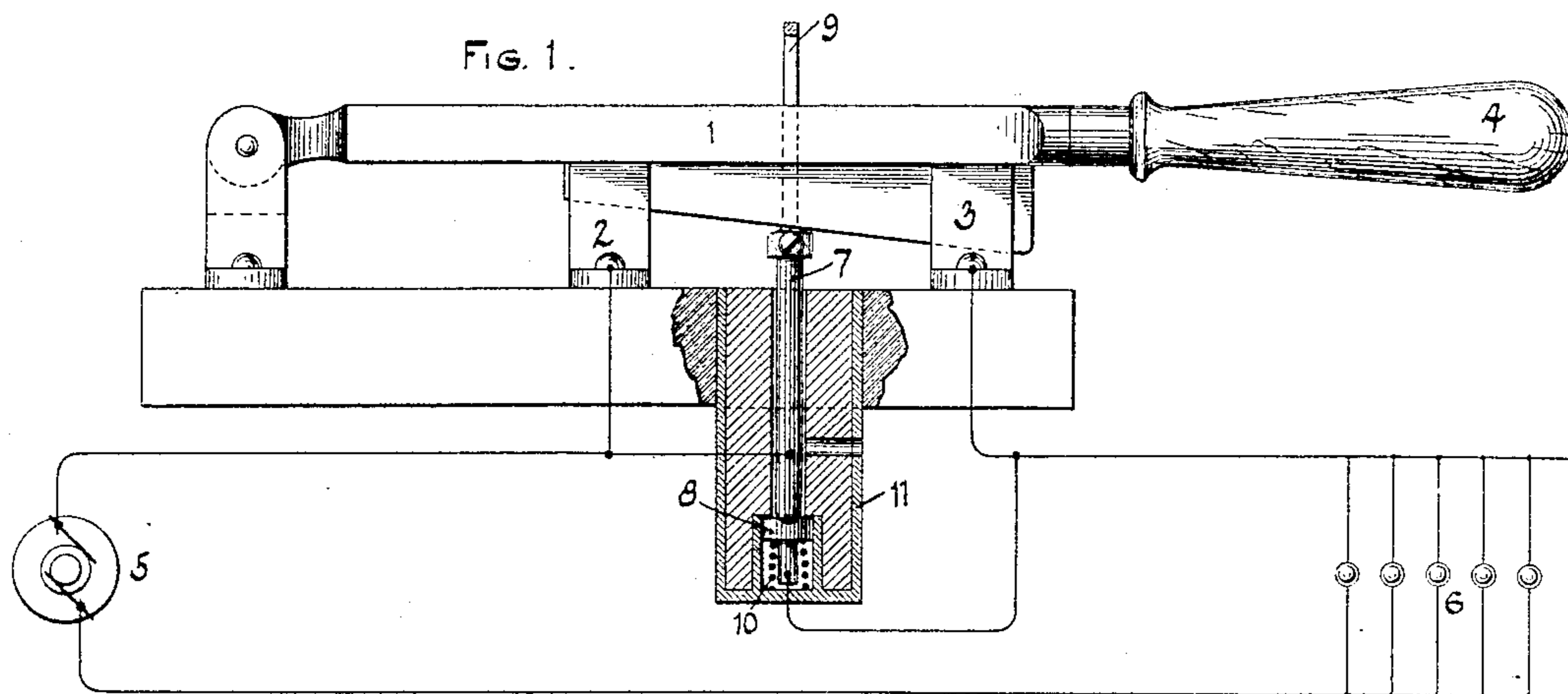


(No Model.)

C. F. SCOTT & H. P. DAVIS.  
NON ARCING SWITCH.

No. 532,594.

Patented Jan. 15, 1895.



WITNESSES:  
*George Brown Jr.*  
*W. C. Finner*

*Chas. F. Scott and Harry P. Davis* INVENTORS.  
BY *Terry and Mackay* ATTORNEYS.

# UNITED STATES PATENT OFFICE.

CHARLES F. SCOTT AND HARRY P. DAVIS, OF PITTSBURG, PENNSYLVANIA,  
ASSIGNORS TO THE WESTINGHOUSE ELECTRIC AND MANUFACTURING  
COMPANY, OF SAME PLACE.

## NON-ARCING SWITCH.

SPECIFICATION forming part of Letters Patent No. 532,594, dated January 15, 1895.

Application filed March 29, 1894. Serial No. 505,577. (No model.)

*To all whom it may concern:*

Be it known that we, CHARLES F. SCOTT and HARRY P. DAVIS, citizens of the United States, residing at Pittsburg, in the county of Allegheny, State of Pennsylvania, have invented a new and useful Improvement in Non-Arcing Switches, (Case No. 583,) of which the following is a specification.

The object of our invention is the production of a form of switch or circuit interrupting device which may be used with safety in the rupture of high tension circuits, and particularly with alternating currents, which tend to create dangerous and persistent arcs at the point of interruption.

Our invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a side elevation of one form of our invention, showing the shunt device in section, and Fig. 2 is a plan view of the same.

At 1 is shown the lever of a single pole switch, of the type wherein two contacts, 2 and 3, are spanned by means of a conducting lever, operated by a handle 4, or by any desired means.

At 5 is shown a generator which feeds the translating devices 6 by means of a circuit which is closed by means of the spanning lever 1.

In shunt with the main contacts 2 and 3, is a pair of supplemental contacts 7 and 8, made, for instance, of carbon, and capable of separation by any desired means, as for instance by means of a cam movement, or other device operated by the movement of the main operating bar 1. In the form illustrated a cross bar 9 is supported in a position to span the path of movement of the main operating bar, as shown, and to be therefore struck by the bar when it is thrown upward. In order to insure a good contact between the members of the supplemental or shunt switch, one of the contacts is supported and held to contact with the other by means of a spring, as 10.

The supplemental contacts are inclosed within a case 11, which may be fastened to the base of the switch proper as shown, and wherein is provided a restricted chamber

having a vent or outlet 12, through which any arc which forms between the supplemental contacts on separation thereof may be blown out by the outrush of the heated air produced by the arc itself.

Since the contacts 7 and 8 are not designed to remain in the main circuit except for a moment, they need not be of very great dimensions, nor of expensive workmanship.

The operation of our switch is as follows: When the main switch arm is thrown upward, the movement of the lever 1 causes separation of the contacts 2 and 3. This causes a momentary shunt through the contacts 7 and 8, and by diverting the current prevents it from forming an arc across the contacts which have been so separated. Immediately after the separation of these contacts on the main lever, the cross bar is struck, and the carbon or other supplemental contact 7 is raised out of contact with the part 8. The whole force of the current is then expended in the formation of an arc across these two supplemental contacts, but this arc is immediately ruptured by the explosive action of the violently heated air caused by the arc itself, and finally a complete rupture of the circuit is accomplished without the formation of a permanent arc.

Our invention involves merely the addition of a small auxiliary device to an ordinary switch, and this auxiliary device is composed of inexpensive parts which are easily replaced.

We do not desire to be understood as limiting ourselves to the exact details of construction shown, since the same may be varied to a considerable extent within the range of mechanical skill without departing from the spirit and scope of the invention.

What we do claim is—

1. A main switch, and a pair of separable contacts in shunt therewith, in combination with a restricted chamber wherein one or more of said contacts is adapted to move, and a vent communicating with the interior of said chamber, substantially as described.

2. A main switch, a pair of contacts in shunt therewith, and a connection between one of

said contacts and the main switch, whereby  
the latter may be made to move the former;  
in combination with a restricted chamber  
within which said movable shunt contact may  
5 move, and a vent hole through the side of  
said chamber, substantially as described.

In testimony whereof we have hereunto sub-

scribed our names this 26th day of March, A.  
D. 1894.

CHAS. F. SCOTT.  
HARRY P. DAVIS.

Witnesses:

JAMES W. SMITH,  
HAROLD S. MACKAYE.