

(No Model.)

W. M. GOODRIDGE.  
THERMAL CUT-OUT.

No. 504,344.

Patented Sept. 5, 1893.

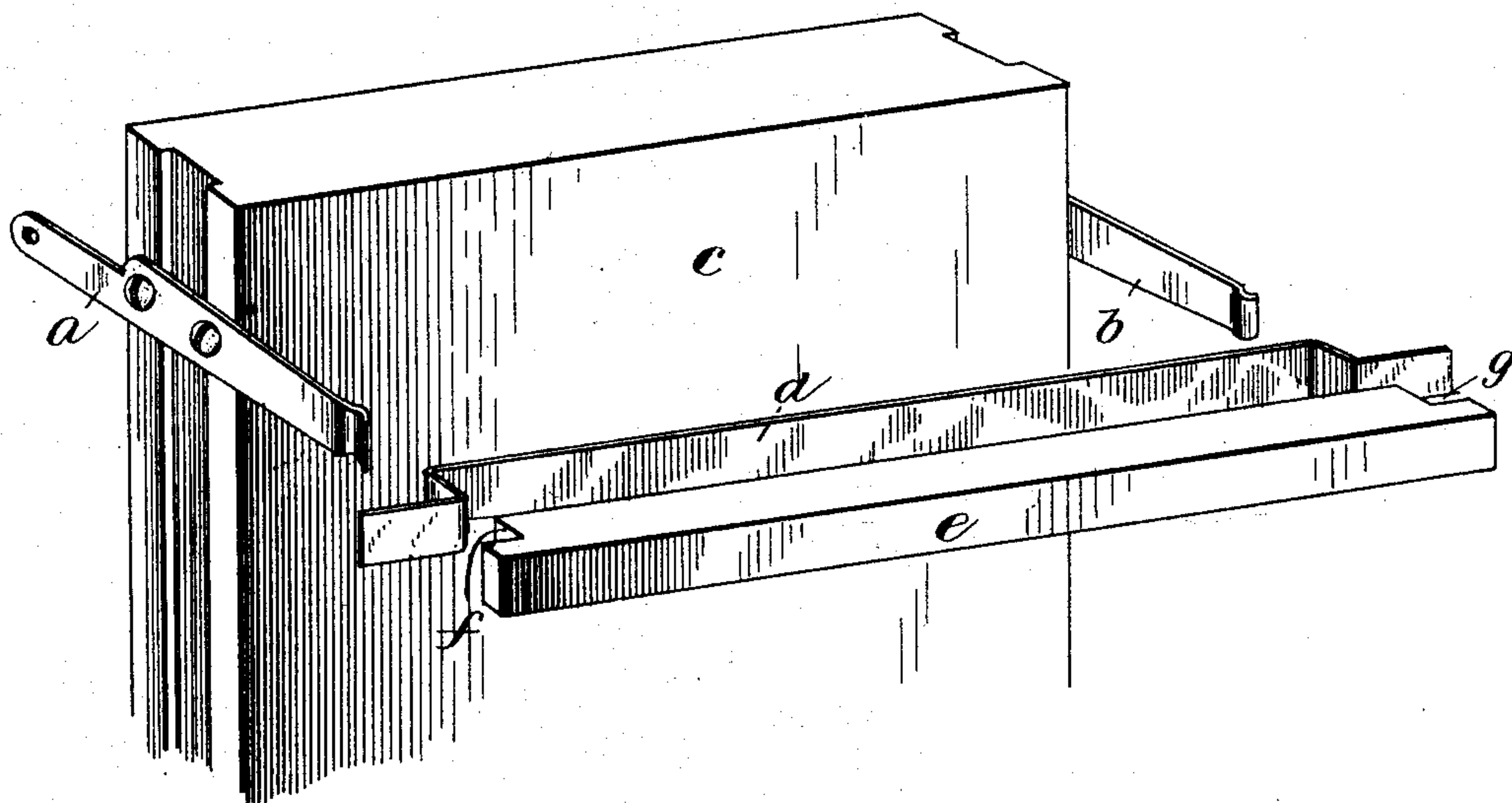


Fig. 1.

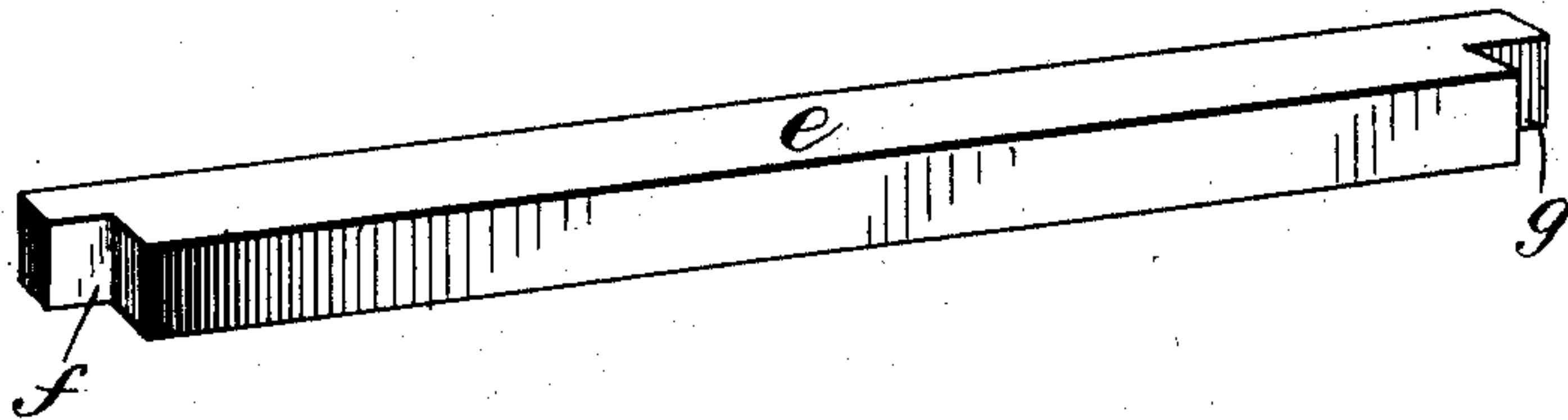


Fig. 2.

Witnesses:  
Sam B. Dover.  
Wm M. Giller.

Inventor:  
William M. Goodridge,  
by George P. Barton,  
Attorney.

# UNITED STATES PATENT OFFICE.

WILLIAM M. GOODRIDGE, OF HIGHLAND PARK, ASSIGNOR TO THE WESTERN  
ELECTRIC COMPANY, OF CHICAGO, ILLINOIS.

## THERMAL CUT-OUT.

SPECIFICATION forming part of Letters Patent No. 504,344, dated September 5, 1893.

Application filed November 19, 1887. Serial No. 255,604. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM M. GOODRIDGE, a citizen of the United States, residing at Highland Park, in the county of Lake and State of Illinois, have invented a certain new and useful Improvement in Strong-Current Protectors, (Case No. 5,) of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to lightning arresters or strong current protectors. Heretofore tapes of conducting paper supported upon a wooden base have been largely used in telephone exchange circuits to protect the instruments from strong currents, as lightning, and electric light currents. No satisfactory method of supporting the paper had been devised prior to my invention herein, which would permit of the renewal of the paper, instantaneously and without the trouble and inconvenience of manipulating adjusting screws.

My invention consists of two springs included in an electric circuit and preferably placed parallel, in combination with a stick or support, notched so as to be held by the springs, when placed between them, and a tape or strip of gilded paper or other conducting fabric supported upon the stick and held in place by the pressure of the springs.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view illustrative of my invention. Fig. 2 is a perspective view of the stick which forms the support for the paper.

The springs *a*, *b*, it will be seen, are of the form now largely used in spring jack switches. The line *in* may be conveniently attached to the rear end of one spring and the line out to the rear end of the other spring. The standard *c* may be of wood and long enough to support say one hundred pairs of springs.

The conducting tape *d* may consist of gilt paper or of other suitable fusible fabric. This strip of paper is placed over the rear side of stick or block *e* and the block is then forced between the springs. The tape is thus pressed against the notch *f*, by spring *a*, and against notch *g* by spring *b*. The paper may be readily removed by simply pulling the block *e* away from the springs.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination with parallel springs, of the notched block and a strip of conducting material held against the block by the pressure of the springs, as described.

2. The combination with springs included in an electric circuit of a strip of conducting material in contact with said springs and held by the tension of said springs, against a block or support inserted between the springs, as described.

In witness whereof I hereunto subscribe my name this 16th day of June, A. D. 1887.

WILLIAM M. GOODRIDGE.

Witnesses:

GEORGE P. BARTON,  
WM. M. GILLER.

Correction in Letters Patent No. 504,344.

It is hereby certified that in Letters Patent No. 504,344, granted September 5, 1893, upon the application of William M. Goodridge, of Highland Park, Illinois, for an improvement in "Thermal Out-Outs," the date of filing the application was erroneously printed "November 19, 1837," whereas said date should have been printed *November 19, 1887*, and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 19th day of September, A. D. 1893.

[SEAL.]

JNO. M. REYNOLDS,  
*Assistant Secretary of the Interior.*

Countersigned:

S. T. FISHER,

*Acting Commissioner of Patents.*