

(No Model.)

A. WISWALL.

PORTABLE CIRCUIT CLOSER FOR ELECTRIC ALARMS.

No. 286,100.

Patented Oct. 2, 1883.

Fig. 1.

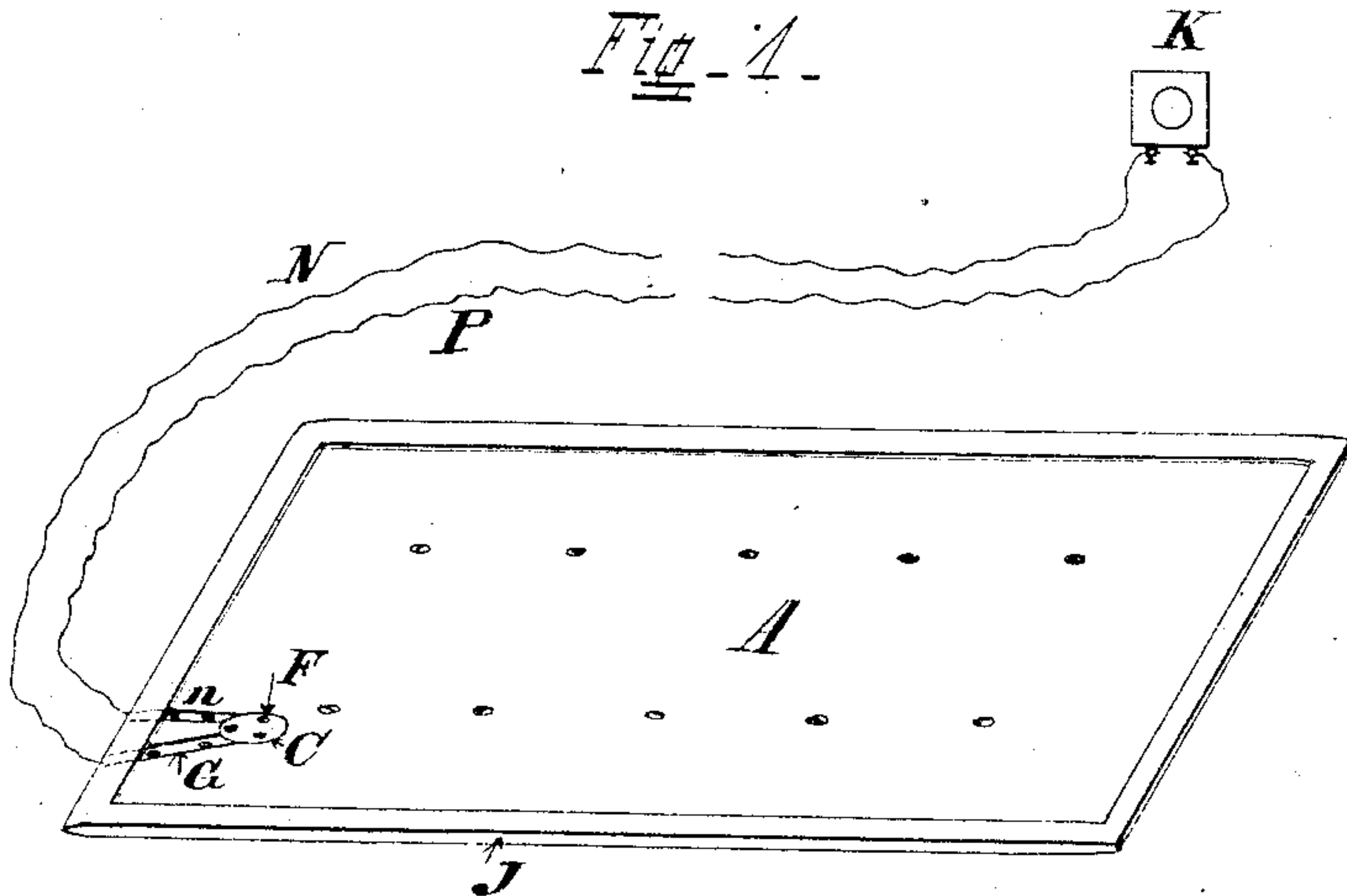


Fig. 2.

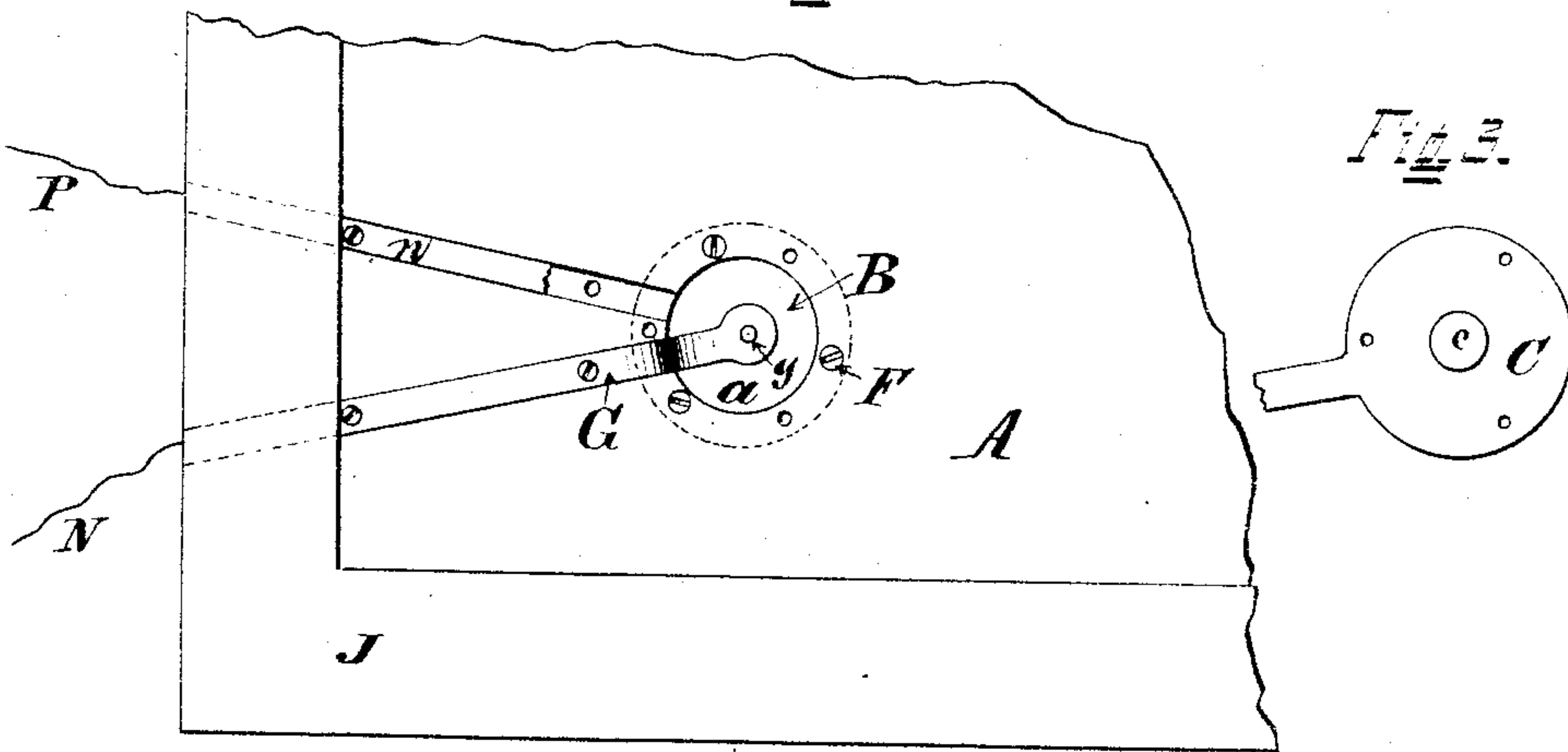


Fig. 4.

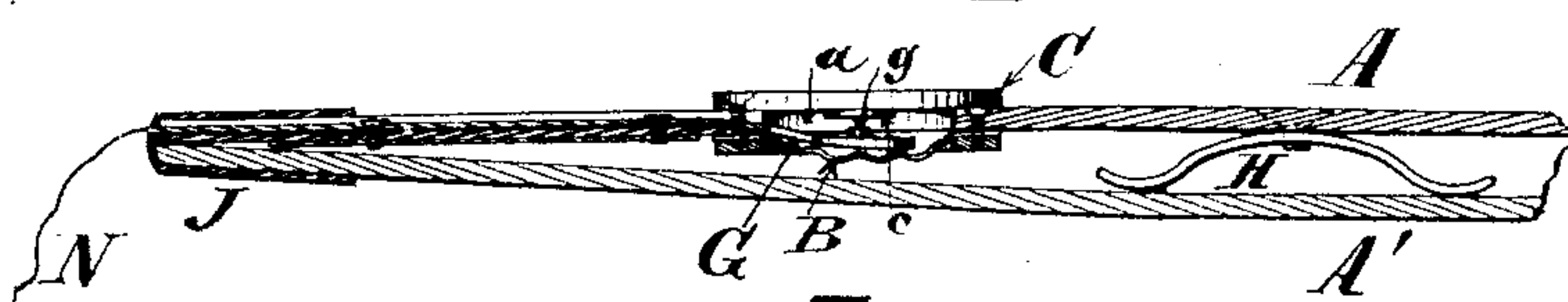
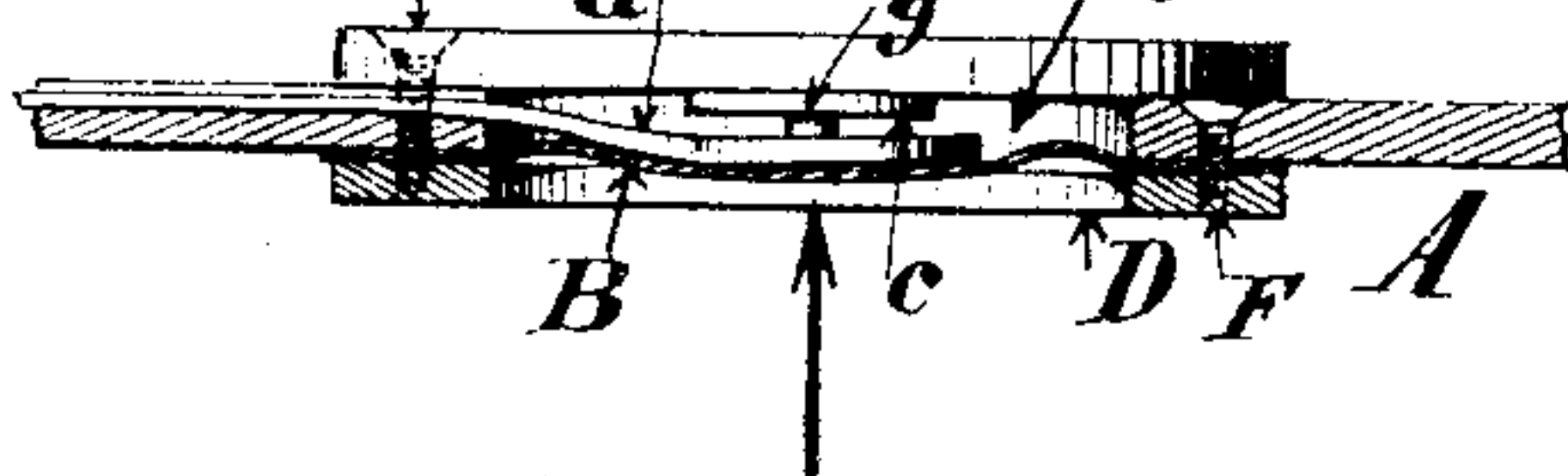


Fig. 5.



Attest
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UNITED STATES PATENT OFFICE.

ALVAH WISWALL, OF CINCINNATI, OHIO, ASSIGNOR OF ONE-HALF TO
MATTHEW BRITTON, OF SAME PLACE.

PORTABLE CIRCUIT-CLOSER FOR ELECTRIC ALARMS.

SPECIFICATION forming part of Letters Patent No. 286,100, dated October 2, 1883.

Application filed August 13, 1883. (No model.)

To all whom it may concern:

Be it known that I, ALVAH WISWALL, of Cincinnati, Hamilton county, Ohio, have invented a new and useful Improvement in Portable Circuit-Closers for Electric Alarms, of which the following is a specification.

My invention relates to a mat composed of a pair of impervious and moderately-rigid sheets or boards, (preferably of hard-calendered tar-board,) whose edges are united by an impervious binding, (preferably of sheet-rubber.) These two component sheets or boards are held aloof at their middle portions by one or more springs, and one of them has (preferably near its margin) an opening that is covered by an impervious and flexible diaphragm, whose pressure outward (due to compression of the air imprisoned within the mat) causes the outward deflection of a spring, which constitutes the terminal of one of the electric-alarm wires, so as to bring said terminal in contact with the opposing terminal, and by so doing complete the circuit and sound the alarm.

In the accompanying drawings, Figure 1 is a general view of a portable circuit-closer embodying my invention. Fig. 2 is a top view of a portion of the apparatus as it appears after removal of the disk terminal. Fig. 3 is an under side view of the disk terminal. Fig. 4 is a vertical section of the apparatus in its normal or inactive condition. Fig. 5 is a similar section, showing the parts in the positions they assume for sounding an alarm.

A A' represent two similar sheets or boards of any suitable impervious and moderately rigid and elastic material, such as highly-calendered tar-board. One of these sheets or boards has (preferably near one of its edges) an orifice, *a*, which is covered on its inner side by a diaphragm, B, of any impervious and highly-flexible material, such as thin rubber cloth, oil-silk, or bladder. This diaphragm is fastened in the following manner: C is a disk or cap, of brass or other suitable metal, of somewhat greater diameter than the orifice *a*. D is an annulus, of brass, of diameter corresponding to that of the disk C. All of these

four members A B C D are similarly perforated for screws F, which, being passed through the disk, the board, and the rubber diaphragm in the order named, are screwed firmly into the orifices of the annulus D, so as to enable the diaphragm to close the orifice *a* against the passage of air.

G is a steel spring so embedded in and screwed fast to the board A as to underlie but be normally out of contact with the disk C. The two pieces C and G constitute the terminals of the respective outgoing and returning wires P and N of any suitable electric alarm, K, their portions which traverse the board being preferably flattened and embedded in its substance, as shown at *n*. Platinum points *e* and *g* on the opposing surfaces of the terminals C and G prevent destruction of their substance by "sparking." Springs H, attached to one of the boards A and pressing against the other board, serve to hold their middle portions aloof from one another. The boards A A' are hermetically fastened together at their edges by means of firmly-glued rubber binding J. A person stepping upon or walking over a rug or carpet beneath which such mat is concealed compresses the imprisoned air and causes the diaphragm B to bulge outward with sufficient force to press the spring G against the disk C, so as to close the circuit, and by so doing to sound the alarm.

I claim as new and of my invention—

1. A portable circuit-closer for electric alarms, consisting of a hollow mat composed of two impervious boards, A A', closed hermetically at their edges by binding J, and held aloof at their middle portions by one or more springs, H, one of said boards having an orifice, *a*, which is covered internally by a flexible and air-tight diaphragm, B, in normal contact with a spring, G, that constitutes one of the electric-alarm terminals and is in near proximity with a disk, C, that constitutes the other electric-alarm terminal, substantially as set forth.

2. In a portable pneumatic circuit-closer for electric alarms, the described combination of flexible and impervious diaphragm B, cover-

ing an orifice, *a*, in the inclosing-case A A',
the external metallic disk, C, (constituting one
of the electric-alarm terminals,) the underly-
ing spring G, normally isolated from said disk
5 and in contact with said diaphragm, and con-
stituting the other electric-alarm terminal, and
the fastening devices D F, substantially as and
for the purposes set forth.

In testimony of which invention I hereunto
set my hand.

ALVAH WISWALL.

Attest:

GEO. H. KNIGHT,
W. SCOTT HOLMES.