

J. M. DILLE.  
ELECTROMAGNETIC BURGLAR ALARM.

No. 109,723.

Patented Nov. 29, 1870.

Fig. 1.

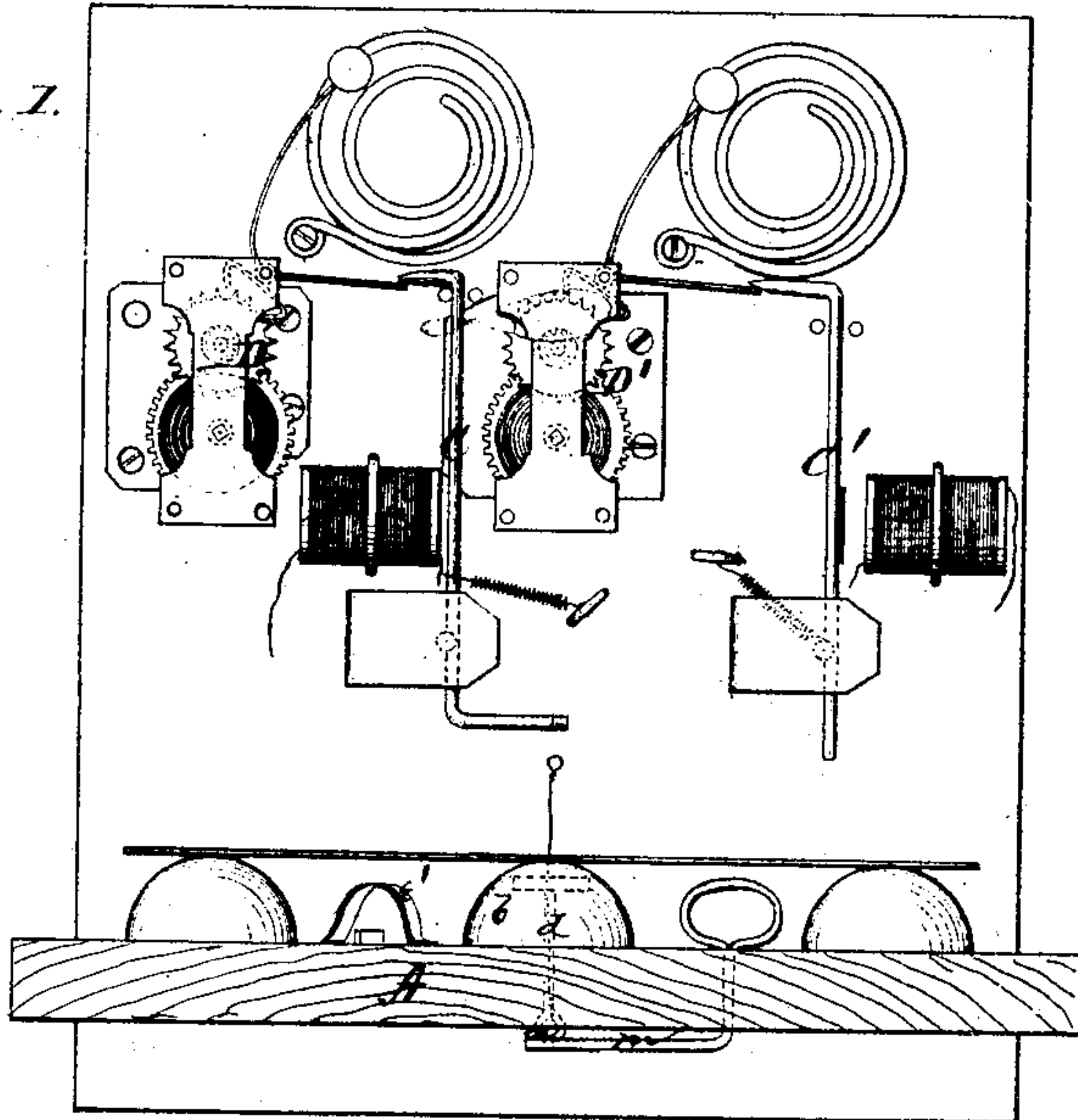
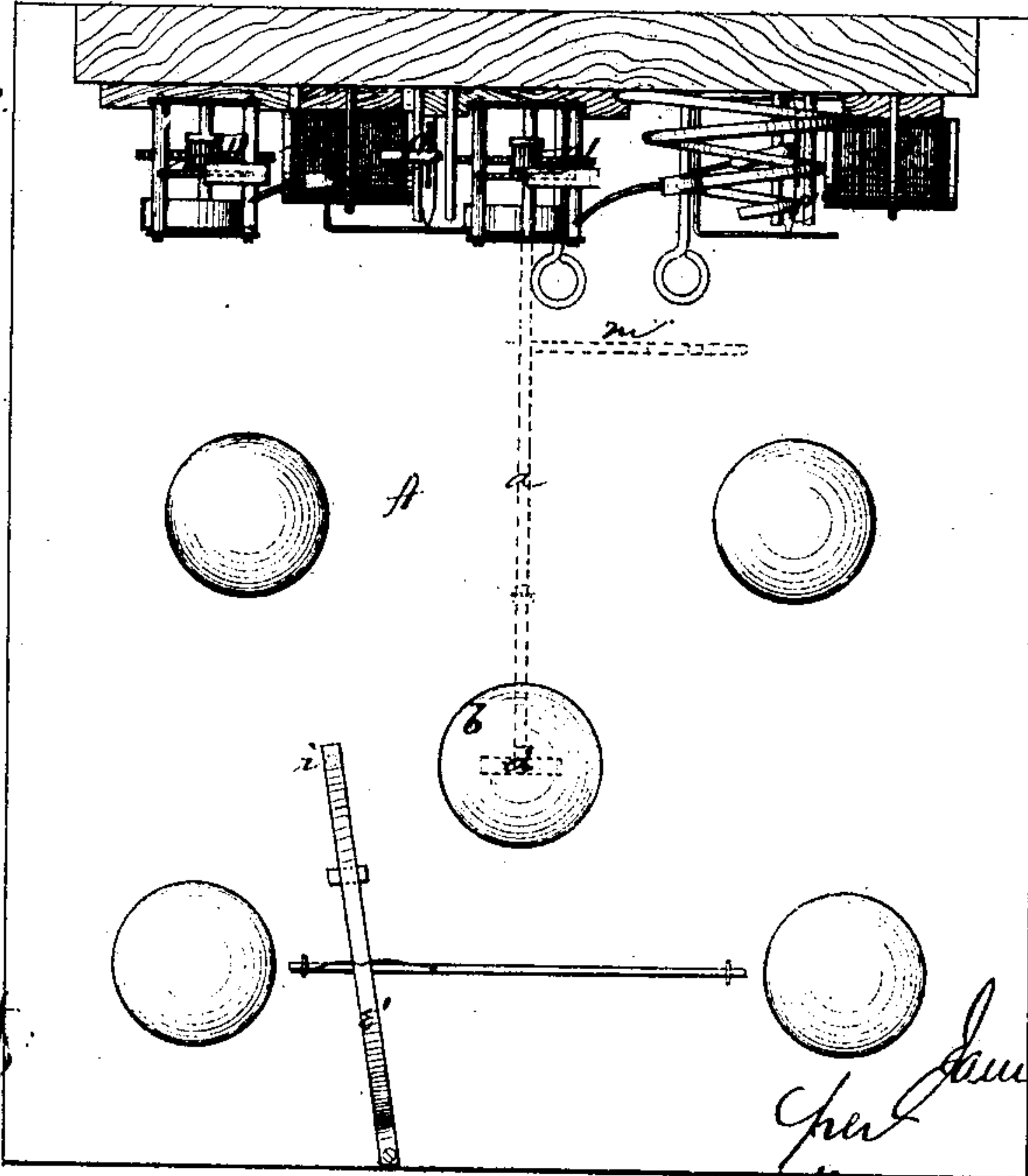


Fig. 2.



Witnesses:  
A. L. Cuent  
A. H. Hatman.

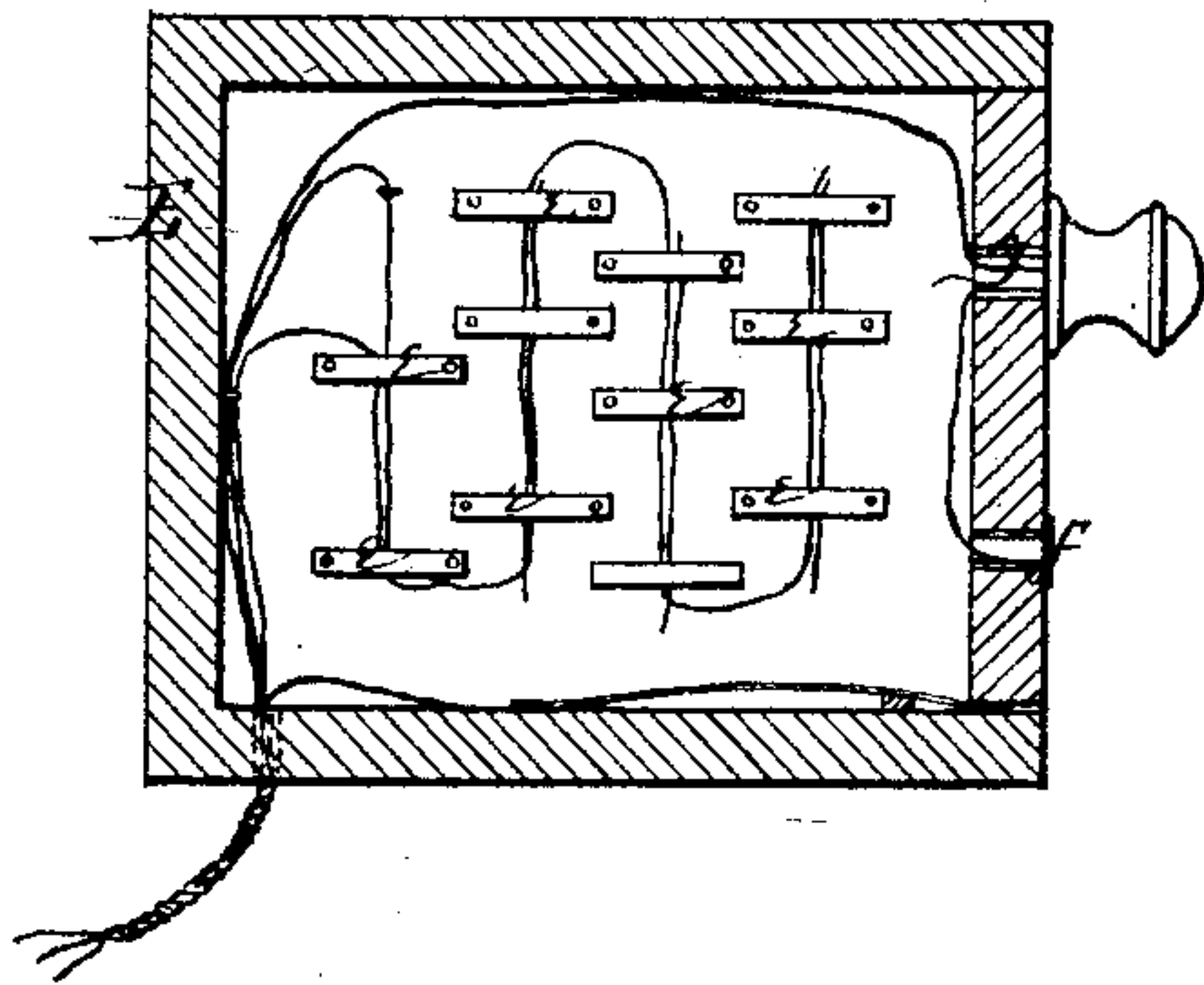
Inventor:  
James M. Dille  
per Alexander M. May  
Att'y

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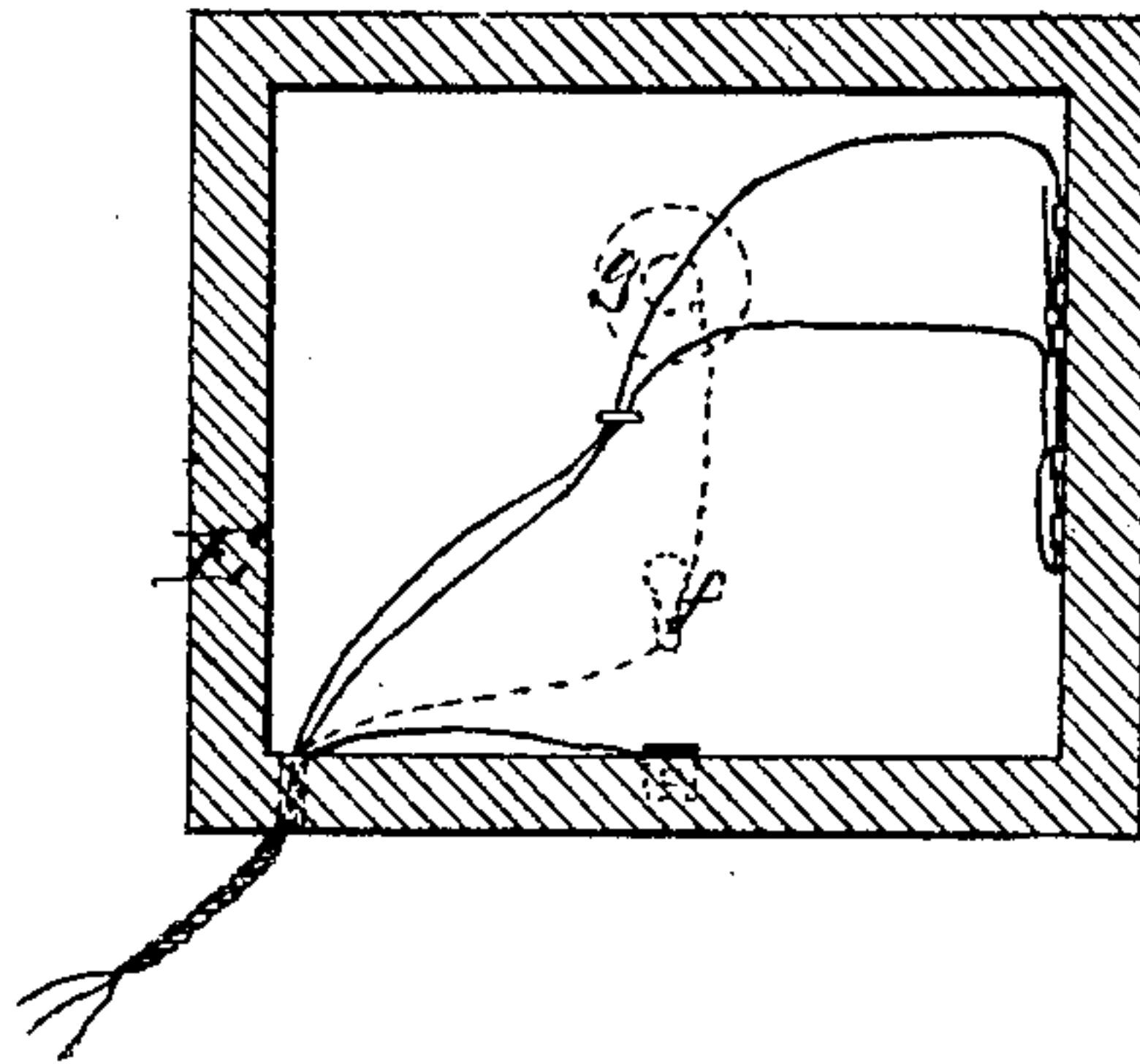
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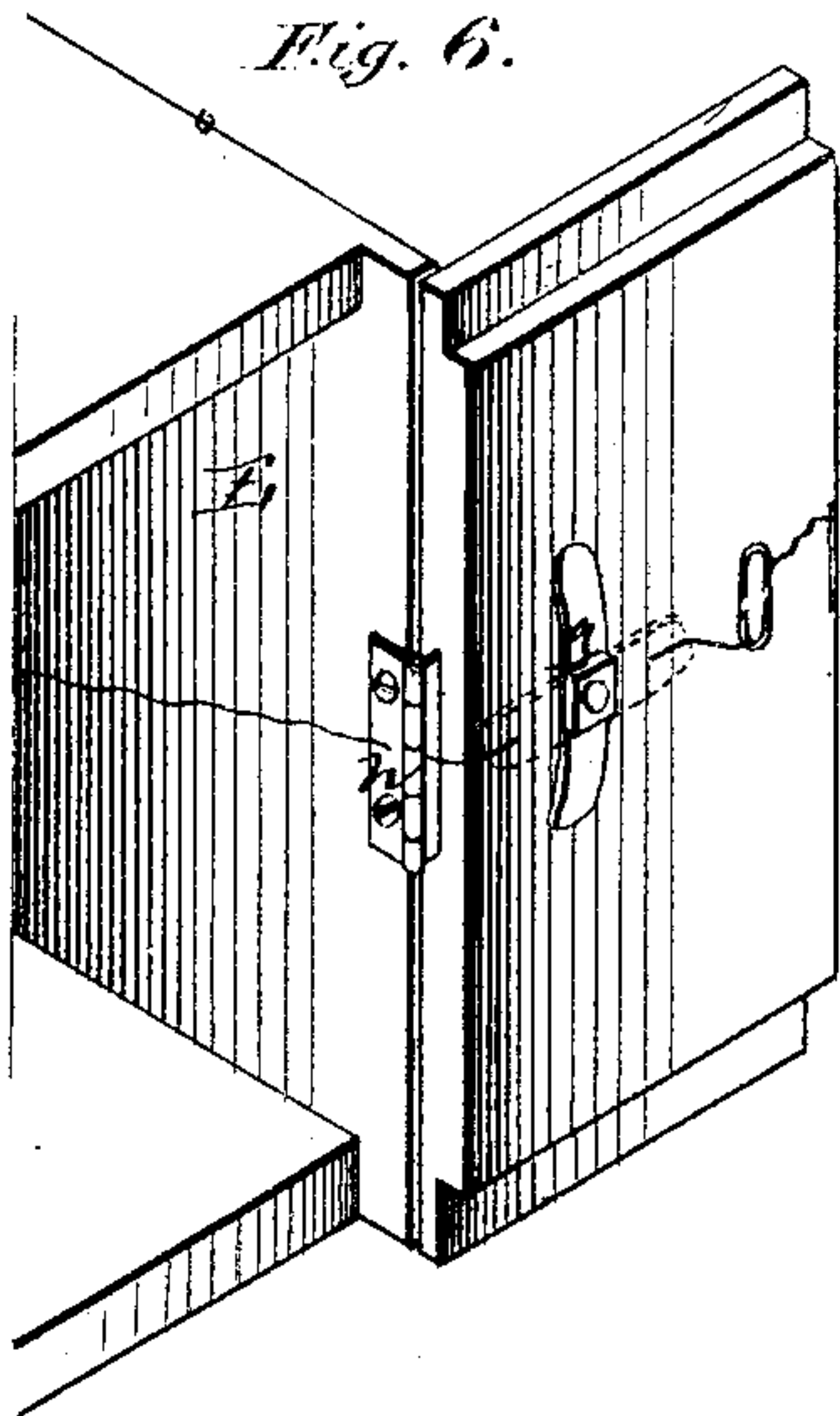
*Fig. 3.*



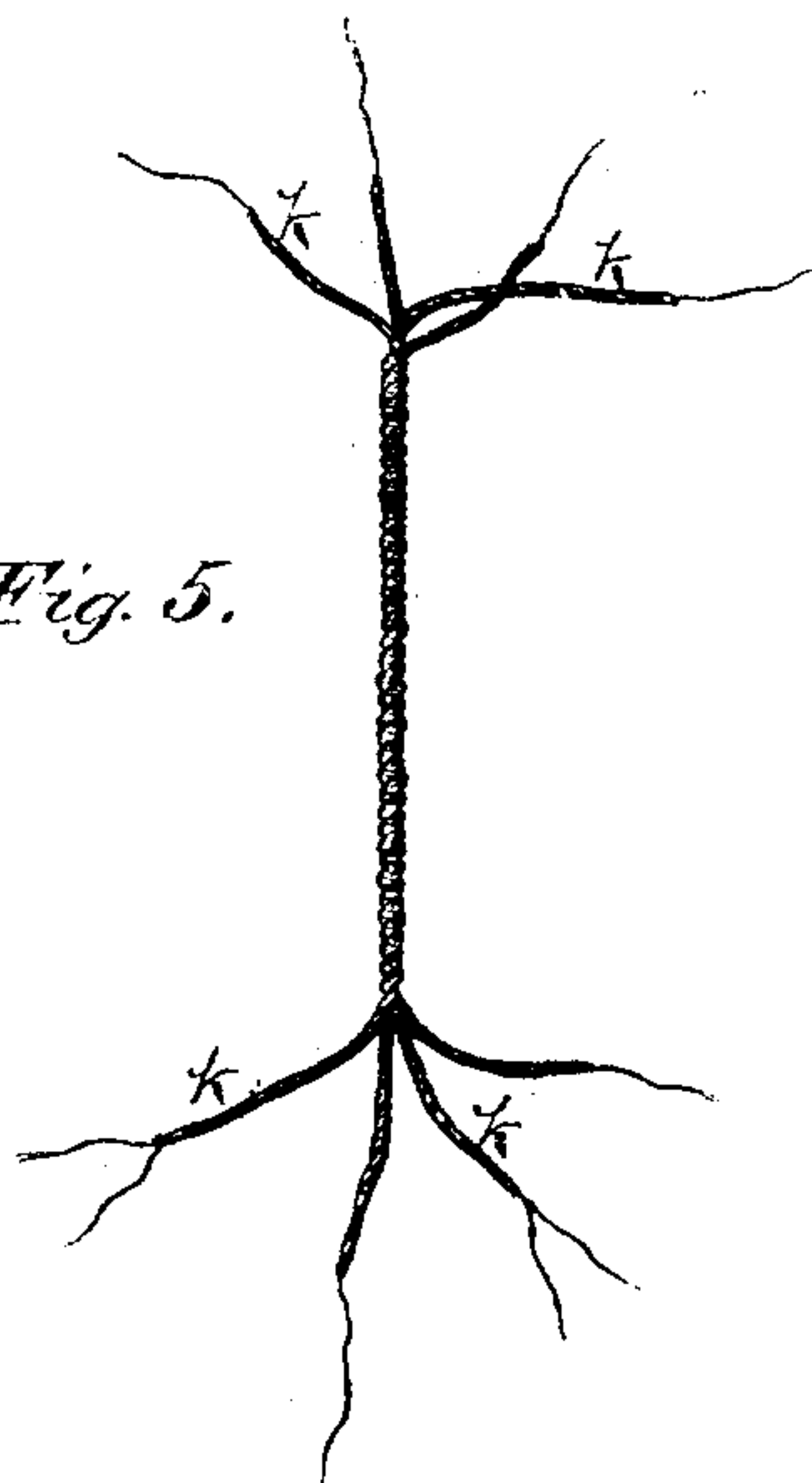
*Fig. 4.*



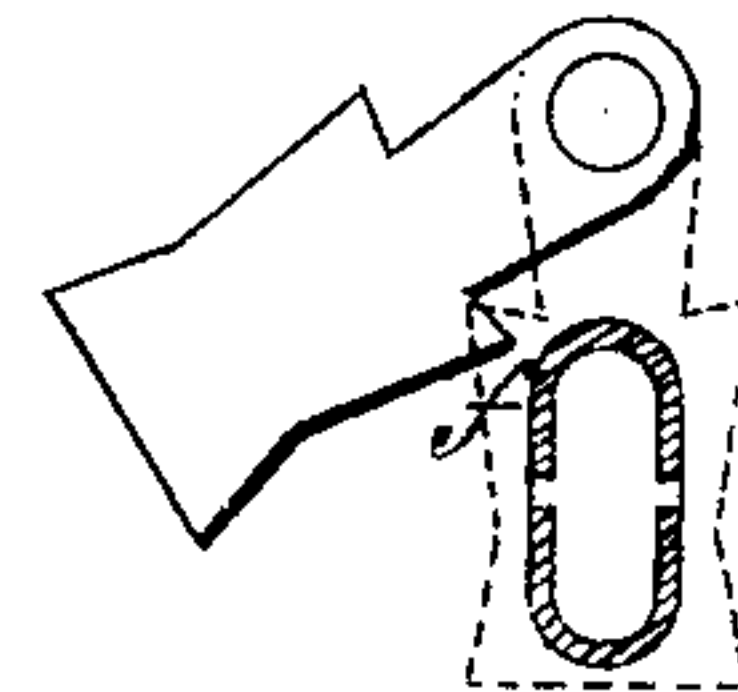
*Fig. 6.*



*Fig. 5.*



*Fig. 7.*



Witnesses  
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per  
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# United States Patent Office.

JAMES MADISON DILLE, OF COOPERTOWN, PENNSYLVANIA.

Letters Patent No. 109,723, dated November 29, 1870.

## IMPROVEMENT IN ELECTRO-MAGNETIC BURGLAR-ALARMS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JAMES MADISON DILLE, M. D., of Coopertown, in the county of Venango and in the State of Pennsylvania, have invented certain new and useful Improvements in Burglar-Signal; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon making a part of this specification.

The nature of my invention consists in the construction and arrangement of an "electro-automatic burglar-signal," as will be hereinafter fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a side elevation, and

Figure 2 is a plan view of the floor and of the alarm, which latter may be placed in any desired place.

Figures 3, 4, 6, and 7 are sections of a bank-vault, or any room, showing the connections with the wires leading to the alarm.

Figure 5 is a section of the wires.

A represents the floor, under which is a lever, *a*, to ring a bell by mechanical means without any electrical current. This I design for use when the alarm is to be given in the same building where it is placed.

This is operated, as will be seen, by stepping on the carpet or door-mat, under which is the gum-spring *b*, and the post *d* within said spring acting upon the lever *a*. This is to give the alarm to the house or room in which it is placed at the same time that the electro-magnetic apparatus conveys the intelligence to police headquarters, to another building or room in the same building, or any other desired point. The two are designed to go together in that way.

B and B' are electro-magnets.

B is operated by a constant current, which holds the arm of the lever C attached to its armature in such position as to prevent the clock-work D from ringing the bell.

Whenever the current that controls this electro-magnet is broken, the clock-work D will ring the bell.

The electro-magnet B' controls the clock-work D'.

When a current of electricity passes about this electro-magnet it attracts its armature to it, and throws the arm of its lever C' into such a position as to permit the clock-work D' to ring its bell.

E represents the building, bank, or bank-vault to be protected.

Inside of this building are springs *e e* under the carpet, which, when stepped upon, will make a connection, so that a current of electricity will pass about the magnet B' and ring the bell.

*e'*, in figs. 1 and 2, represents one of these springs enlarged, and shows plainly how the connection may be made by stepping upon them.

In addition, in this spring, fig. 2, is an arrangement for making the connection, as shown, and also for breaking another current by raising the point of the spring off from a copper point or wire, *i*.

There are break-pieces in the building, as shown in figs. 6 and 7, in the key-guard *f*, door-knob *g*, and door-jamb *h*, so that when the knob is turned or the door or key-guard opened, the current which controls the electro-magnet B will be broken and the clock-work D ring its bell.

The wires leading from the battery to the alarms are connected into one cable in the following manner:

The cable is composed of four copper wires, *k k*, each of which is first insulated by a coating of hot resin or its equivalent; then braided or twisted while the coating or resin or its equivalent, is warm; after which it is to receive a coat of collodium, gutta-percha, or its equivalent; thus having, when finished, an elastic coat over a brittle one.

The object of constructing the wires into this kind of a cable is—

First, braided or twisted so the burglars cannot separate the wires, so as to tell which of the wires is charged with electricity.

Second, the object of the coating of this kind, is that, when persons attempting to separate the wires by scraping off the flexible coating, the brittle coating will fall off and allow the wires to come in direct contact, so that, if one wire is charged, they all will be so, more or less, which will sound a signal, as heretofore described.

If the cable be either cut or a battery attached, the alarm will be given in both cases.

*m* represents a key, to prevent the lever *a* from operating during the day.

During the day, in the electro-magnetic apparatus, the batteries are to be disconnected from the electro-magnets.

Having thus fully described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. An electro-magnetic burglar-signal, constructed substantially as herein described, with two electro-magnets operating separate clock-works, one when the current is broken and the other when a connection is made, as herein set forth.

2. The springs *e e* or *e'*, constructed and arranged

as described, to form a connection, and also to break a current, substantially as and for the purposes herein set forth.

3. In combination with the electro-magnetic burglar-signal, as herein described, the spring *b*, post *d*, lever *a*, and key *m*, substantially as and for the purposes herein set forth.

4. A wire cable for conducting electricity, composed of two or more single wires, each covered with hot resin or its equivalent, forming a brittle coating,

and twisted or braided together while said coating is still warm, and the whole then covered with an elastic or flexible coating, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing, I have hereunto set my hand this 17th day of June, 1870.

JAMES MADISON DILLE.

Witnesses:

GEORGE WASHINGTON DILLE,  
WILLIAM THOMAS STEVENSON,