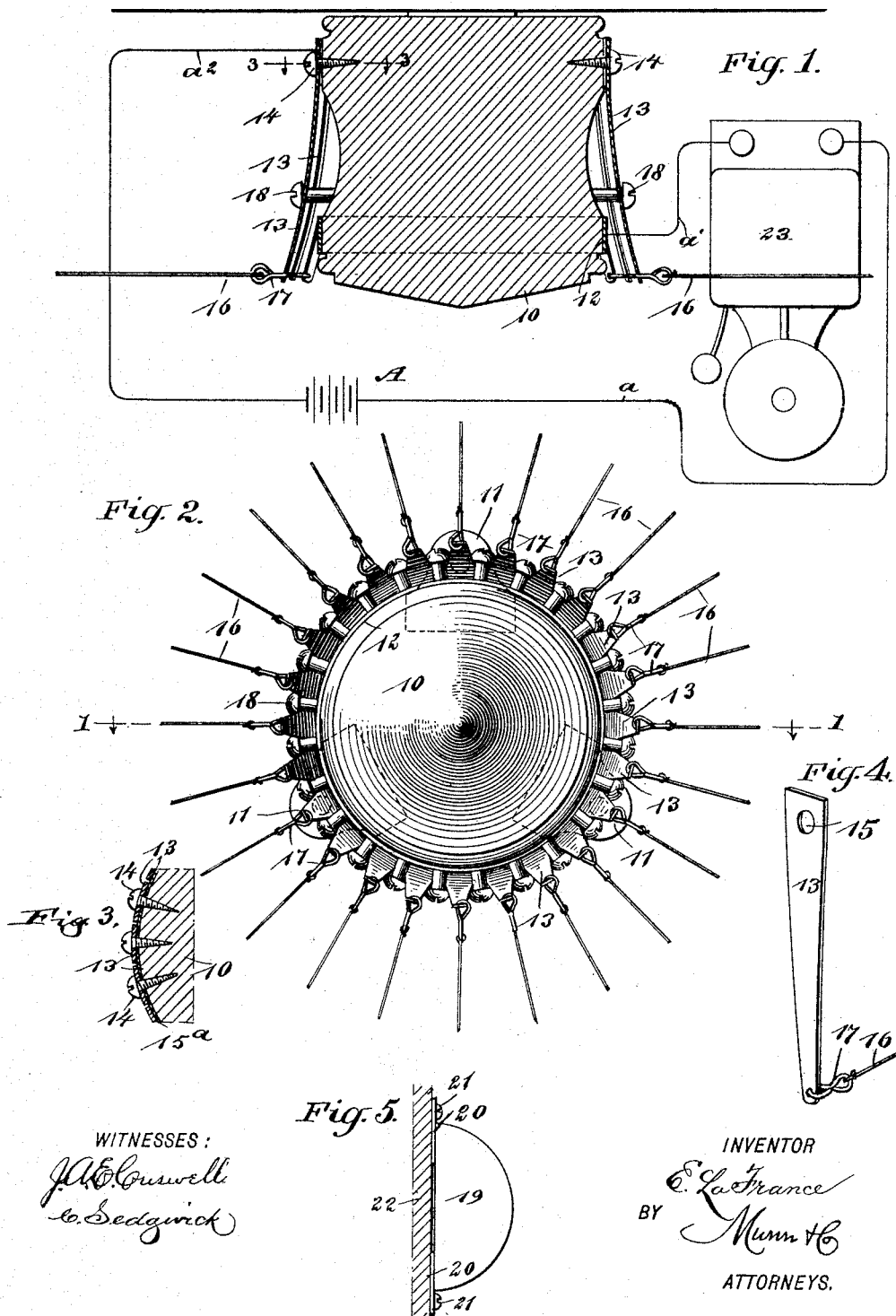


(No Model.)

E. LA FRANCE.
FIRE OR BURGLAR ALARM.

No. 489,312.

Patented Jan. 3, 1893.



UNITED STATES PATENT OFFICE.

ELZEAR LA FRANCE, OF WORCESTER, MASSACHUSETTS.

FIRE OR BURGLAR ALARM.

SPECIFICATION forming part of Letters Patent No. 489,312, dated January 3, 1893.

Application filed June 7, 1892. Serial No. 435,823. (No model.)

To all whom it may concern:

Be it known that I, ELZEAR LA FRANCE, of Worcester, in the county of Worcester and State of Massachusetts, have invented a new and Improved Fire or Burglar Alarm, of which the following is a full, clear, and exact description.

My invention relates to improvements in fire and burglar alarms; and the object of my invention is to produce a very simple and inexpensive apparatus which may be applied to a convenient part of a room, which will operate automatically in case of fire or the tripping of certain of its connections by a burglar to ring an electric bell and sound an alarm, and which may be connected, if desired, with a fire alarm box or with a messenger or police call.

To this end my invention consists in certain features of construction and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a central vertical section of the apparatus on the line 1—1 in Fig. 2, showing also its electrical connections in diagram; Fig. 2 is an inverted plan of the apparatus; Fig. 3 is a broken detail sectional view showing the connections between the circuit closing springs; Fig. 4 is a detail perspective view of one of the circuit-closing springs; and Fig. 5 is a detail plan view of a modified form of the apparatus.

The device is provided with a supporting block 10 which may be of any approved construction, and this block is provided with feet 11 which enable it to be secured to the ceiling of a room or to any other convenient support. Extending around the lower portion of the block is a metallic band or ring 12 which is adapted to form one terminal of an electric circuit and which is placed in the path of springs 13 which form the other terminal of the circuit, so that when the springs and band touch, the circuit will be closed and an alarm sounded as hereinafter described.

The springs 13 are arranged parallel with each other and placed circumferentially around the block 10, the springs being held

at their upper ends to the block by screws 14 which project through perforations 15 in the springs and inside the fixed ends of the springs is a metallic band 15^a which connects the several springs so that they may all be included in an electric circuit. The free ends of the springs project downward opposite the band 12, as already described, and to the free end of each spring is secured a string 16, the strings being connected to the springs as shown in the drawings by links 17, but they may be secured in any convenient way.

The strings 16 radiate from the block 10 and are held to extend across the ceiling and may extend down the sides of a room, the outer ends of the strings being secured to any convenient support. The strings 16 are made of combustible or fusible material, and are only strong enough to hold the springs 13 out of contact with the band 12, the tension of the springs being such as to throw them firmly against the band. It follows then that when the strings are tightened and made fast the springs will be held out of contact with the band, but in case one of the strings is broken off or is burned off, the spring to which it is attached will move into contact with the band 12 and thus close the electric circuit and ring an alarm, as described below.

The springs 13 are prevented from moving outward too far by screws 18 which are arranged between them and screwed into the block 10, the head of the screws serving to strike the springs and limit their outward movement. Any suitable stops may, however, be substituted for the screws. Where the block is to be attached to a side wall of the room or building, it is better to make it semi-cylindrical, as shown at 19 in Fig. 5, and provide it with lugs 20 which may be secured by screws 21 to the wall 22, and the block 19 may be provided with springs and other circuit-closing apparatus in the manner already described.

The electrical connections are shown in Fig. 1 and are as follows:—From the battery A leads a wire *a* which connects with an electric bell 23, and the bell also has a wire *a'* leading to the band 12. The band 15^a and springs 13, connect with the battery by a wire *a*² so that when one of the springs touches the band 12 the circuit is closed and is from the

battery A through the wire *a*, the bell 23, the wire *a'*, the band 12, the springs 13, the band 15^a, and the wire *a*², back to the battery.

It will be understood that the strings 16
5 may be connected with a fixed support as described, and if a fire occurs near one end of the strings it will burn off the string so as to close the circuit and sound an alarm. It will also be understood that the several strings
10 may be connected with the windows, doors, and other movable portions of a building, so that when said parts are moved, the strings will be either broken or loosened so as to permit the springs to close the circuit in the manner described.
15

It will be seen that the bell 23 may be arranged in any convenient place and that the wires leading from the battery and connected with the apparatus may also be connected
20 with a fire alarm box or a messenger or police call.

After the apparatus is in place it may be inclosed or covered by any suitable case, which will protect it from dust, holes being left in
25 the case for the passage of the wires 16.

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

1. A fire and burglar alarm, comprising a
30 supporting block having a band thereon which forms one terminal of an electric circuit which includes an electric alarm, a plurality of springs secured to the block and forming the

other circuit terminal, said springs being arranged to contact with the band, and outwardly extending strings secured to the free
35 ends of the springs and adapted to be attached to a support, substantially as described.

2. A fire and burglar alarm, comprising a
40 band secured to a support and forming one terminal of an electric circuit which includes an electric alarm, a plurality of springs forming the other circuit terminal and held to swing against the band, and outwardly
45 extending diverging strings secured to the free ends of the springs and adapted to connect with supports, substantially as described.

3. In a fire and burglar alarm, comprising a block adapted to be secured to a support, a
50 band extending around the block and forming one terminal of an electric circuit which includes an electric alarm, a series of circuit closing springs placed circumferentially upon the block and adapted to strike the band, the
55 springs forming the opposite terminal of the electric circuit, a plurality of diverging strings secured to the free ends of the springs and adapted to be attached to supports, and stops to limit the outward movements of the springs,
60 substantially as described.

ELZEAR LA FRANCE.

Witnesses:

MARGARET E. O'NEIL,
A. W. MACOMBER.