

C. C. ROWELL & W. DUNCAN.

Improvement in Electrical Safe Protectors.

No. 125,693.

Patented April 16, 1872.

Fig 1.

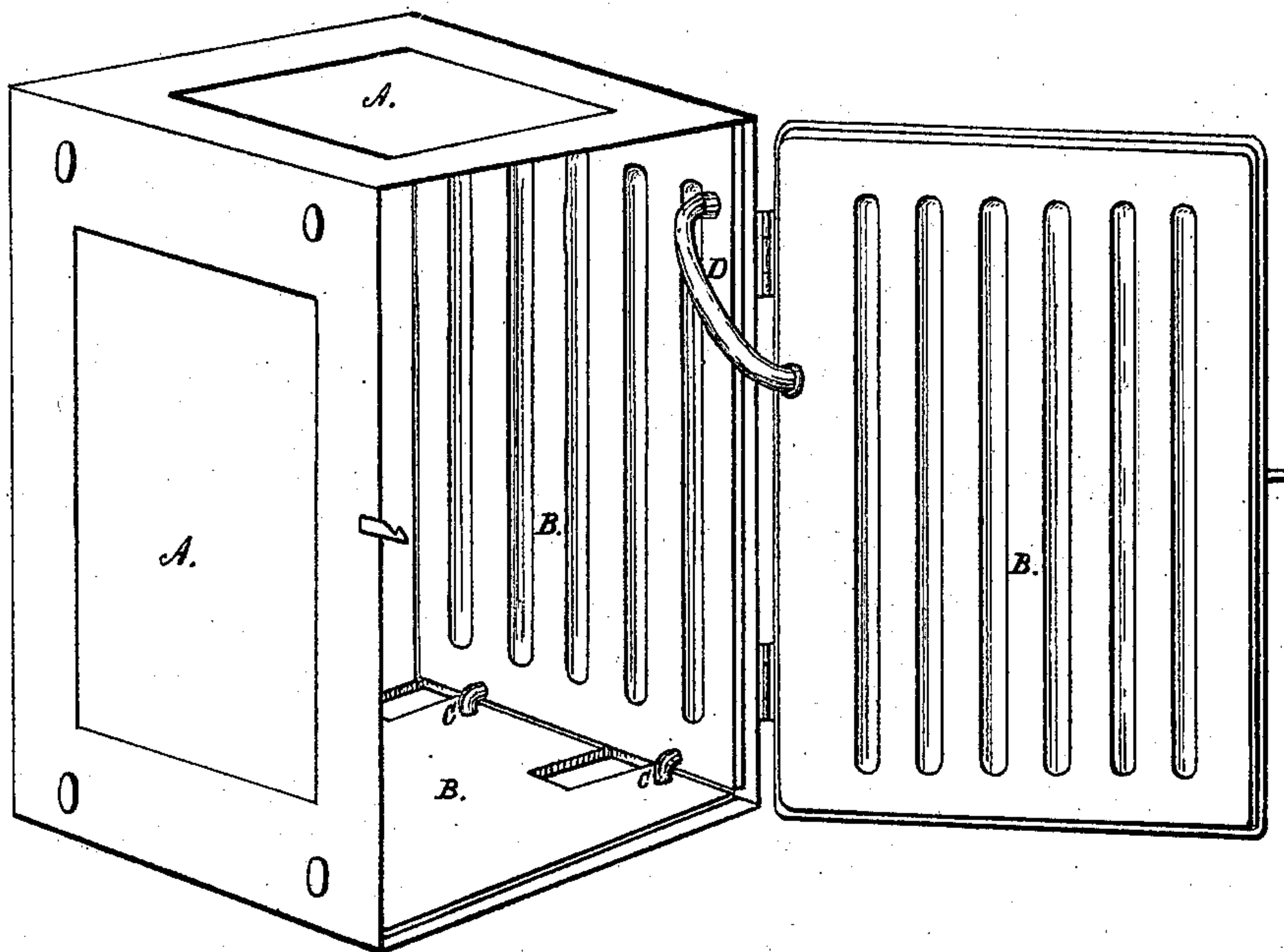
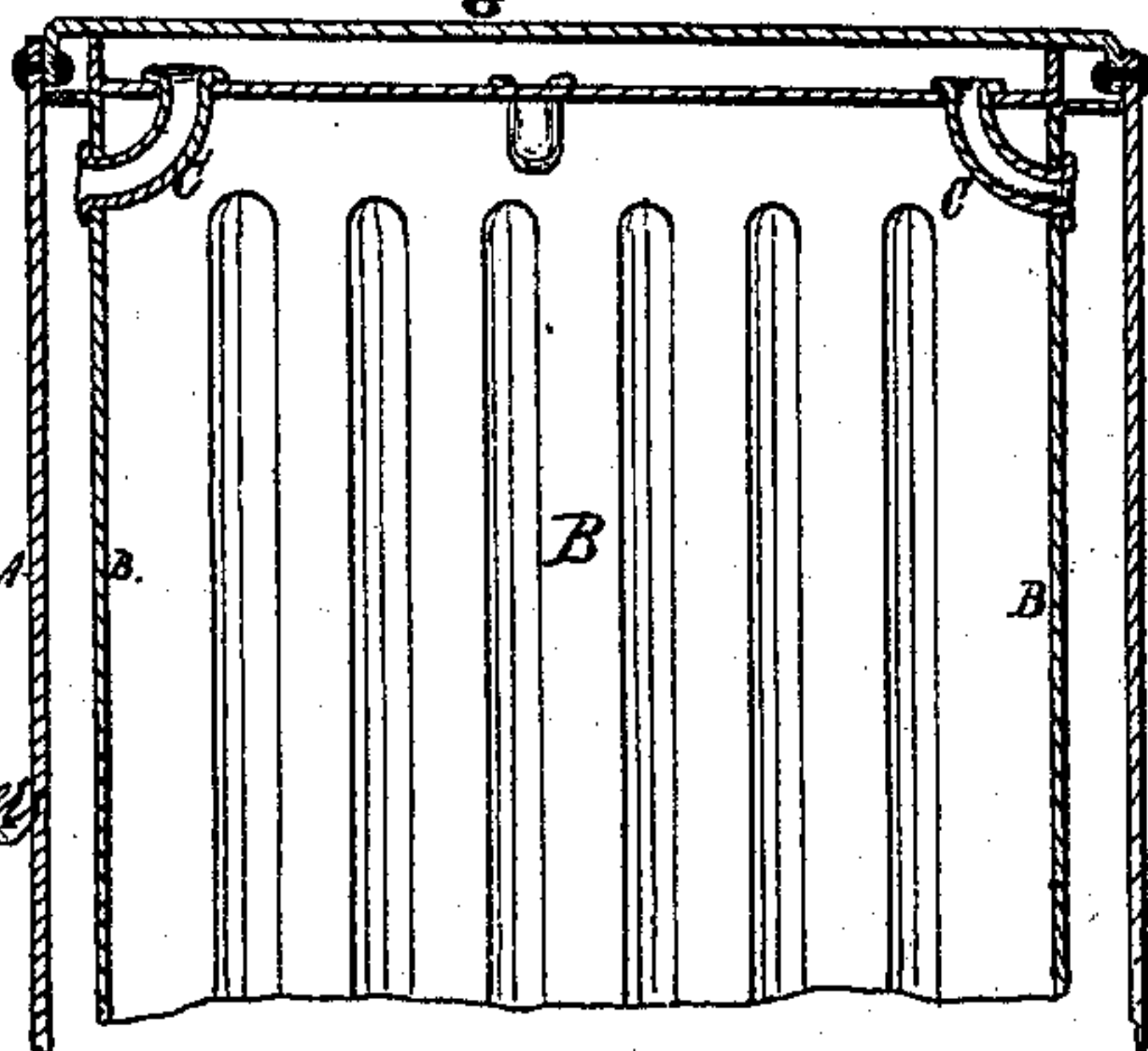


Fig 2.



Fig 3.



Witnesses.

*Edward G. Lyden*  
*Robert H. Manning*

Inventors.

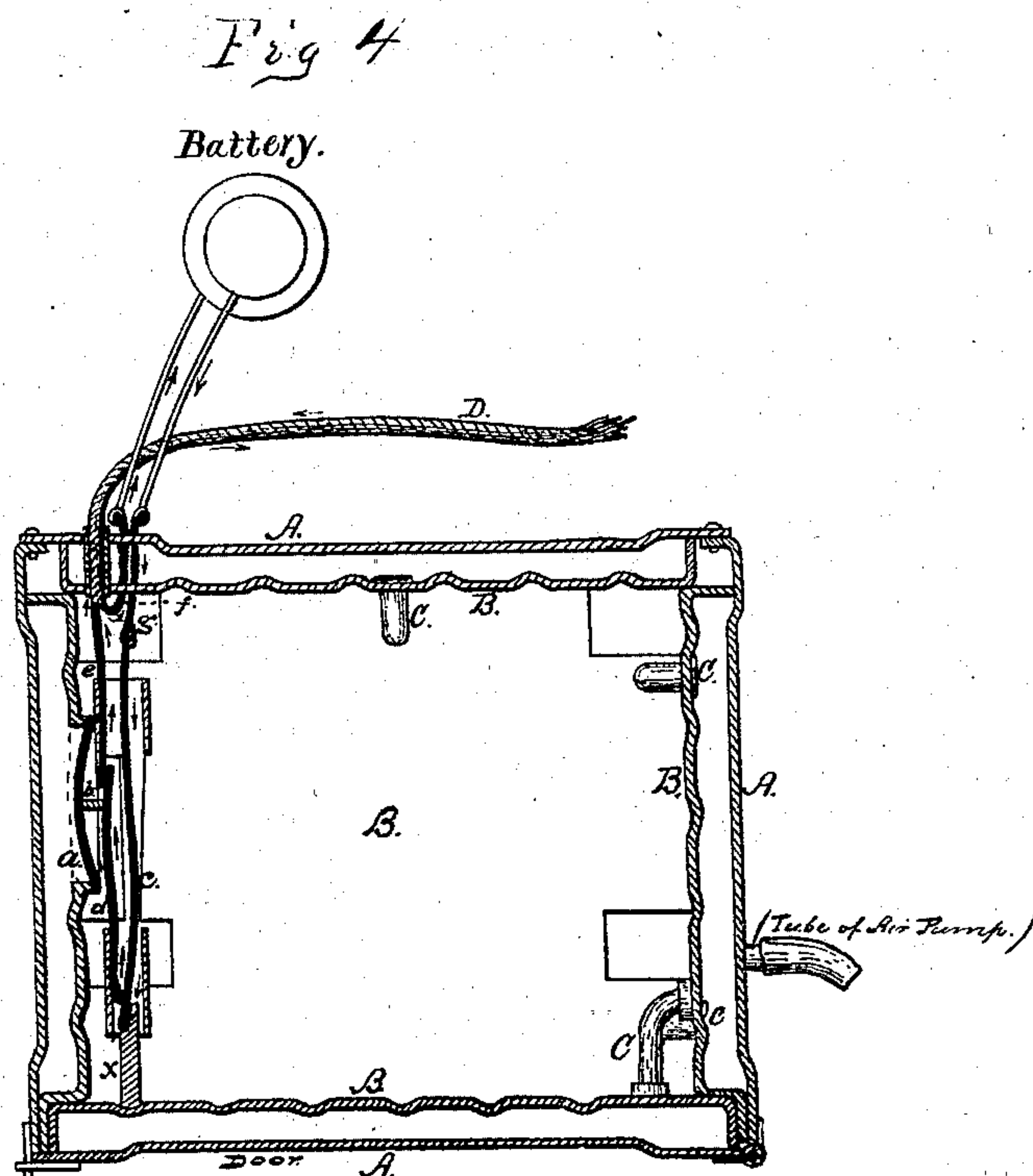
*Calvin C. Rowell*  
*William Duncan*  
*By A. R. D. Original*

C. C. ROWELL & W. DUNCAN.

## Improvement in Electrical Safe Protectors.

No. 125,693.

Patented April 16, 1872.



**WITNESSES.**

Edward G. Osburn

J. P. Crawford

Inventor.

Robert C. Powell and

*Wm Duncan by Wm Alf*

La Mairie



# UNITED STATES PATENT OFFICE.

CALVIN C. ROWELL AND WILLIAM DUNCAN, OF LEBANON, NEW HAMPSHIRE.

## IMPROVEMENT IN ELECTRICAL SAFE-PROTECTORS.

Specification forming part of Letters Patent No. 125,693, dated April 16, 1872.

Specification describing certain Improvements in Protecting Safes from burglarious operations, invented by C. C. ROWELL and WM. DUNCAN, both of Lebanon, in the county of Grafton and State of New Hampshire.

### *Nature and Objects of the Invention.*

Our invention relates to the method of protecting safes from the operations of burglars, for which we have received Letters Patent, dated August 1, 1871; and it consists in a novel manner of constructing the safe-inclosing closet, which has for its object to greatly facilitate the inclosing of safes and reduce the cost of construction and transportation.

Figure 1 of the drawing is a perspective view of our improved safe-inclosing closet. Fig. 2 is a horizontal section through one of the plates. Fig. 3 is a vertical section through the top and two of the sides. Fig. 4 is a horizontal section through the closet, showing the method of combining the closet with suitable mechanism for operating the alarm.

### *General Description.*

The closet or covering for the safe, as represented in the drawing, is composed of the series of plates A B, fastened together in such manner that an air-tight space is formed between the sides of the closet and the top and bottom plates when the parts are properly riveted or fastened to each other. In the sectional views, Figs. 2, 3, and 4, the manner of connecting the top and sides and the position of the plates A B is plainly shown. The tubes C C communicate with the spaces between each series of plates and serve to connect them with each other. The space formed between the plates of the door is connected with the space between the sides by the flexible tube D, which permits the door to be opened and closed. The plates A B are corrugated when from their size it is necessary to give them additional strength, and they are joined together in sections, as shown, so that they may be placed around the safe and the closet built up of them to surround the safe, the sides being readily fastened together and the several spaces connected with each other by the tubes.

This closet described above is used in connection with an electric apparatus and an

alarm in the manner fully recited in the Letters Patent No. 117,713, issued to us on the 1st of August, 1871. The mechanism connected with it is partly illustrated by the sectional view, Fig. 4. The two wires *f g* connected with the wires from an electric-battery pass through one of the walls of the safe-inclosing closet and project inside the closet. The wire *f* is united to the end of the cable D which leads from the closet to the alarm apparatus (not shown in the drawing) placed at any required distance from the closet, and the wire *g* is connected with the plate *e*, through which and the plate *d* in contact with it the current passes. The circuit from the battery through these wires and the cable is completed by the plate *e*, connected with the end of the cable within the closet and touching the plate *d*. The current from the battery thus passes continuously through the cable and its alarm apparatus and the wires and plates within the closet, as indicated by the arrows; and the alarm is so arranged that it will not sound as long as the current is continued; but, in order that this flow of electricity may be interrupted and the alarm set in motion when any attempt is made to cut through the walls of the closet surrounding the safe, or to force the door open, the following devices are arranged in connection with the air-spaces between the plates A B to produce the desired effect: One of the inner walls B of the closet has an aperture into which an air-tight flexible disk is inserted which will expand or collapse as pressure of the air on either side is increased or removed, and the circuit-closing plate *d* has a pin, *b*, projecting from it in contact with the face of the flexible disk *a*. Suitable means are provided for attaching an air-pump to the closet, and when the air is removed by it from the spaces between the walls the disk *a* will be expanded by the pressure of the air within the closet itself and will assume the position shown in Fig. 4. This will allow the plate *d* to come in contact with the plate or wire *e* from the cable D, and the circuit will be complete; but, if any one of the outer plates of this closet surrounding the safe to be protected are punctured to allow the air to rush into the vacuum between the plates the disk *a* will collapse and press against the pin *b* with sufficient force to separate the ends of the two



plates *d e*, and thus break the circuit and sound the alarm. The lower ends of the circuit-closing plates *c d* are held in contact with each other by the block *x*, secured to the door, so that when the door is improperly opened the block will be withdrawn, the ends of the plates will fly apart, and the circuit will be broken.

It will thus be evident that when the safe is placed within the closet and the door closed no attempt to cut through the closet or force open its door to reach the safe can be made without interrupting its circuit from the battery and setting in motion the alarm apparatus.

Having thus fully described our invention, we claim—

The inclosure for a safe composed of sectional plates, provided with air-spaces and connected together by tubes so as to give free air circulation, and combined with an electric circuit and an alarm apparatus, all constructed and operated substantially in the manner and for the purpose described and specified.

C. C. ROWELL.

Witnesses:

WILLIAM DUNCAN.

A. H. CRAGIN,

C. A. DURGIN.