

No. 763,516.

PATENTED JUNE 28, 1904.

H. SIMPSON.

APPARATUS FOR DEMONSTRATING THE EFFICIENCY OF LIGHTNING RODS.

APPLICATION FILED FEB. 29, 1904.

NO MODEL.

Fig. 1.

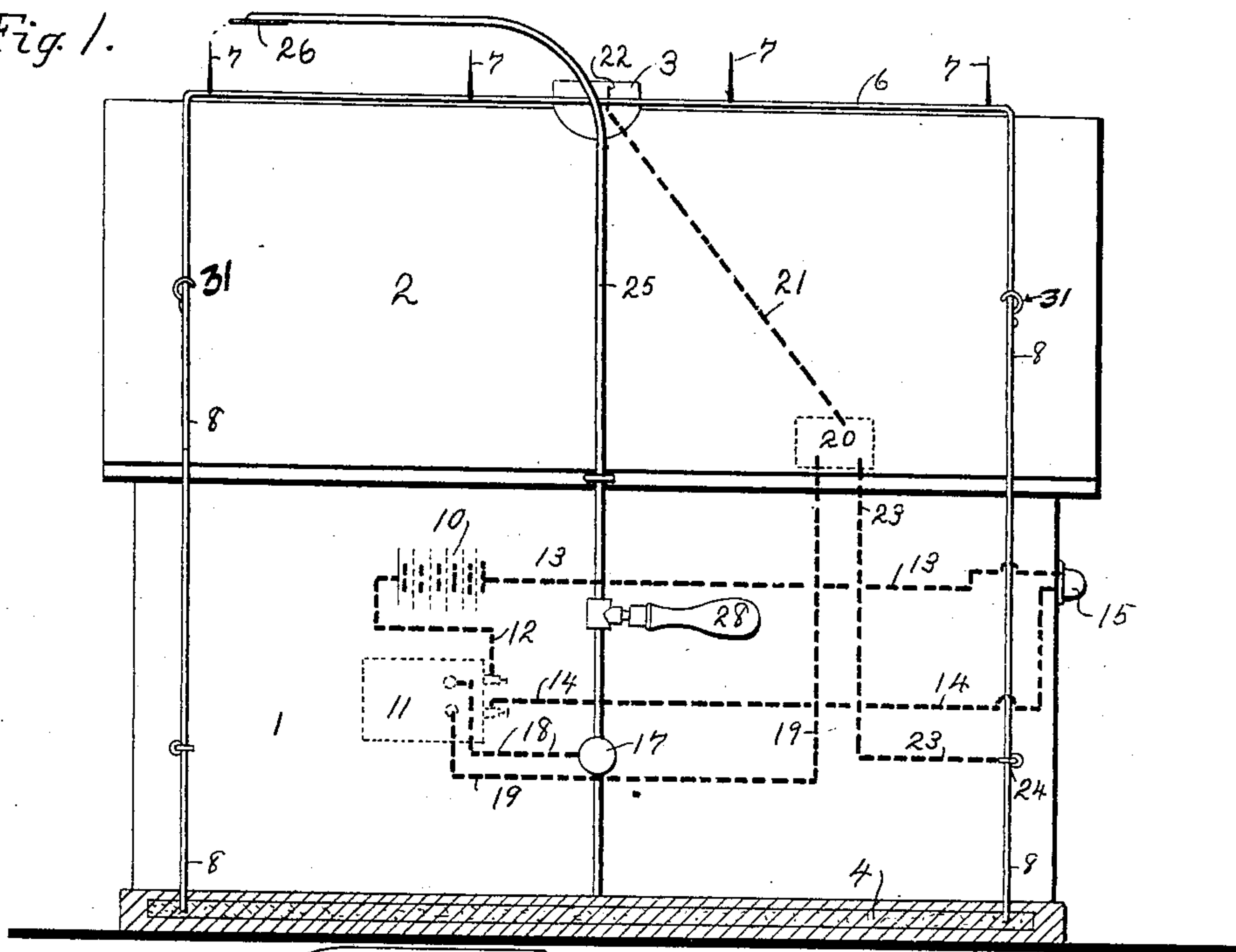
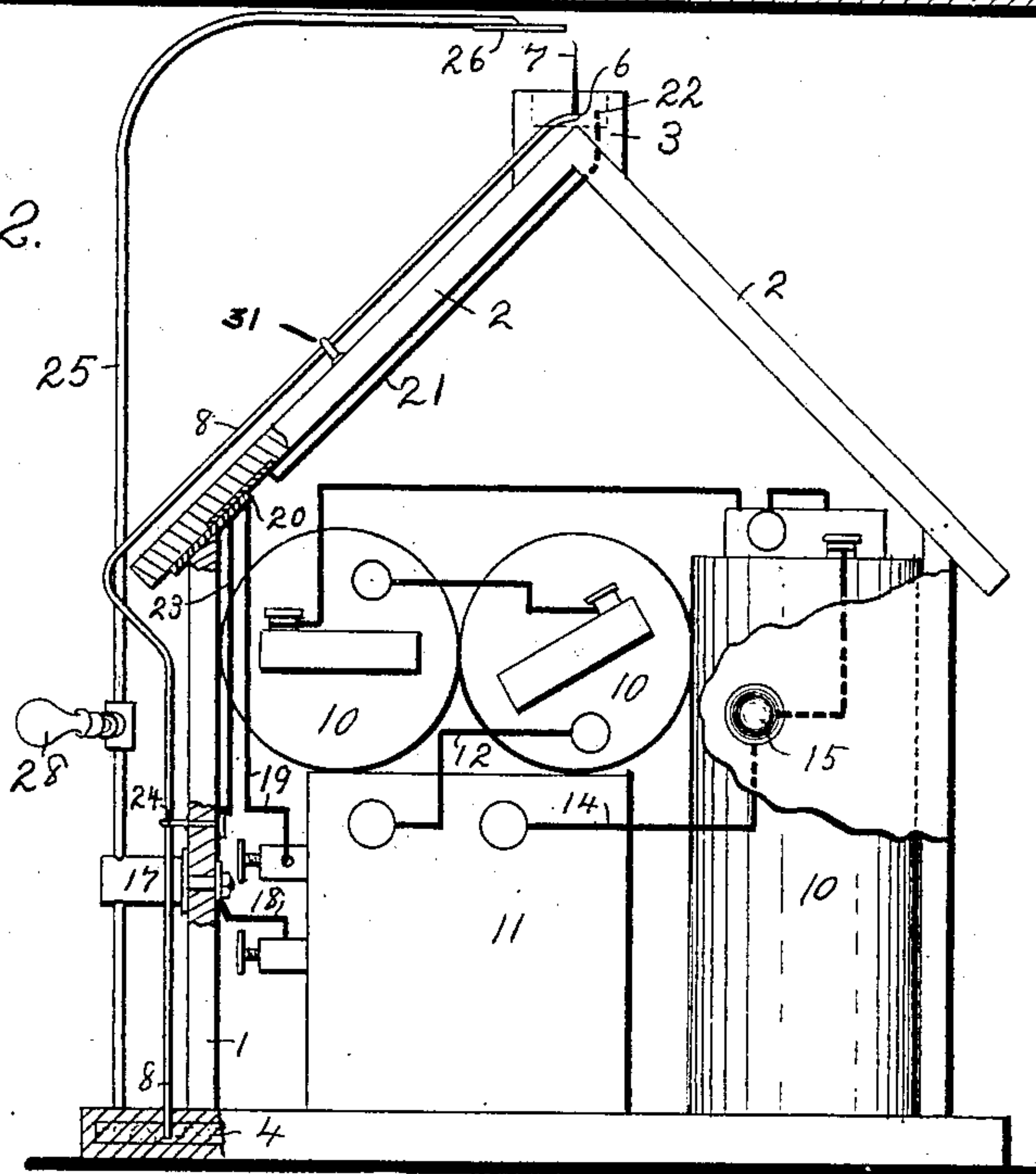


Fig. 2.



WITNESSES:

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APPARATUS FOR DEMONSTRATING THE EFFICIENCY OF LIGHTNING-RODS.

SPECIFICATION forming part of Letters Patent No. 763,516, dated June 28, 1904.

Application filed February 29, 1904. Serial No. 195,750. (No model.)

To all whom it may concern:

Be it known that I, HARVEY SIMPSON, a citizen of the United States, residing at Burlington, county of Racine, and State of Wisconsin, have invented new and useful Improvements in Apparatus for Demonstrating the Efficiency of Lightning-Rods, of which the following is a specification.

My invention relates to improvements in apparatus for demonstrating the efficiency of lightning-rods.

The object of my invention is to provide a compact portable apparatus by means of which the operation and efficiency of a lightning-rod may be demonstrated in a manner to be easily understood by inexperienced persons; also, to provide means for demonstrating the efficiency of copper in a full-circuit rod with a perfect ground connection.

In the following description reference is had to the accompanying drawings, in which—

Figure 1 is a side view of a model building with my invention. Fig. 2 is a side view with a portion of the end wall partially removed.

Like parts are identified by the same reference characters in both views.

My invention is applied to a portable model of a building, of which 1 is a side wall, 2 the roof, and 3 the chimney. The base of the building is provided with a chamber 4, filled with earth. The building is equipped with a lightning-rod having a portion 6 extending along the roof at the ridge and provided with a series of upwardly-projecting points 7.

End portions 8 of the rod extend downwardly from each end of the portion 6 along the roof and one side of the building to the ground in chamber 4. Within the building I have provided a series of batteries 10, connected in open circuit with a spark-coil 11 by means of a conducting-wire 12 and wires 13 and 14, which are adapted to be connected by means of a push-button 15, which is pushed inwardly in the usual manner when it is desired to make such connection to close the circuit of the batteries through the coil 11. The secondary of the coil has one of its poles connected with a post 17 by a conducting-wire 18. The other pole is connected by wire 19 with a metallic plate 20 within the building.

This plate 20 is connected by one wire 21 with a terminal at 22 in the chimney 3 and by another wire 23 with a post 24 in contact with one end 8 of the lightning-rod. A demonstrating-rod 25 extends upwardly through the post 17 and is provided at its upper end with a terminal plate 26. This rod is adapted to be swung to bring the terminal plate into proximity with any one of the points 7.

28 is a handle which facilitates swinging the rod 25, the upper portion of the rod being elbowed, as shown, whereby the plate 26 may be swung from side to side by turning rod 25 in a post 17.

In operation the circuit of the batteries is first closed through the spark-coil by pressing the push-button 15 inwardly, whereupon the points 7 will constitute one terminal of the secondary of the spark-coil and the plate 26 will constitute the other terminal thereof. When the rod 25 is swung to bring the plate 26 into proximity with any one of the points 7, a spark will pass from one to the other, and with a strong current an electric arc can be established, which will furnish a minutary reproduction of a flash of lightning. It will be observed that the lightning-rod is connected to the building at the roof by means of hooks 31, which may be turned to release the rod. The rod may therefore be removed from the building, whereupon the plate 26 will, if brought into proximity with the chimney, deliver its charge to the chimney, and as the terminal 22 is less conductive than the terminal 7 and is also farther from the plate 26 the presence of the lightning-rod when in position will protect the chimney.

The chimney is adapted to receive a supply of cotton or other absorbent material which may be inserted above the terminal 22 in the chimney, which cotton, if saturated with oil, will ignite when the lightning-rod is removed from the building and a charge delivered to the chimney from the plate 26.

While I have described my invention as involving the use of the plate 26, it will be understood that this may, if desired, be dispensed with and the charge delivered from the end of the wire 25 or from any other form of terminal.

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

1. The combination of a portable model
5 building; an electrical conducting-rod mounted on said building and provided with upwardly-projecting points; a source of electrical-current supply having one pole connected with said rod; a movable device, constitut-
10 ing a terminal of opposite polarity for said current-supply and adjustable into and out of proximity to said points.

2. The combination of a model building equipped with a rod having upwardly-pro-
15 jecting points, a source of electrical-current supply in said building and demonstrating-rod exterior to the building constituting one terminal of said current-supply connections constituting said points as another terminal
20 for said current-supply and means for bringing said terminals into and out of proximity.

3. The combination of a model building, equipped with a conducting-rod having up-
25 wardly-projecting points, a demonstrating-rod, having one end adapted to be adjusted into and out of proximity to said points, an electric battery located in said building, a spark-

coil in normally open circuit with said battery, a push-button for closing said circuit, said spark-coil having one pole connected with
30 the demonstrating-rod and another pole connected with a conducting-rod.

4. The combination of a model building, equipped with a conducting-rod having up-
wardly-projecting points, a demonstrating-
35 rod, having one end adapted to be adjusted into and out of proximity to said points, an electric battery located in said building, a spark-coil in normally open circuit with said battery, a push-button for closing said circuit,
40 said spark-coil having one pole connected with the demonstrating-rod and another pole connected with a conducting-rod, said building being provided with a model chimney and a
45 metallic terminal located therein and connected with said last-mentioned pole of the spark-coil.

In testimony whereof I affix my signature in the presence of two witnesses.

HARVEY SIMPSON.

Witnesses:

JAS. B. ERWIN,

LEVERETT C. WHEELER.