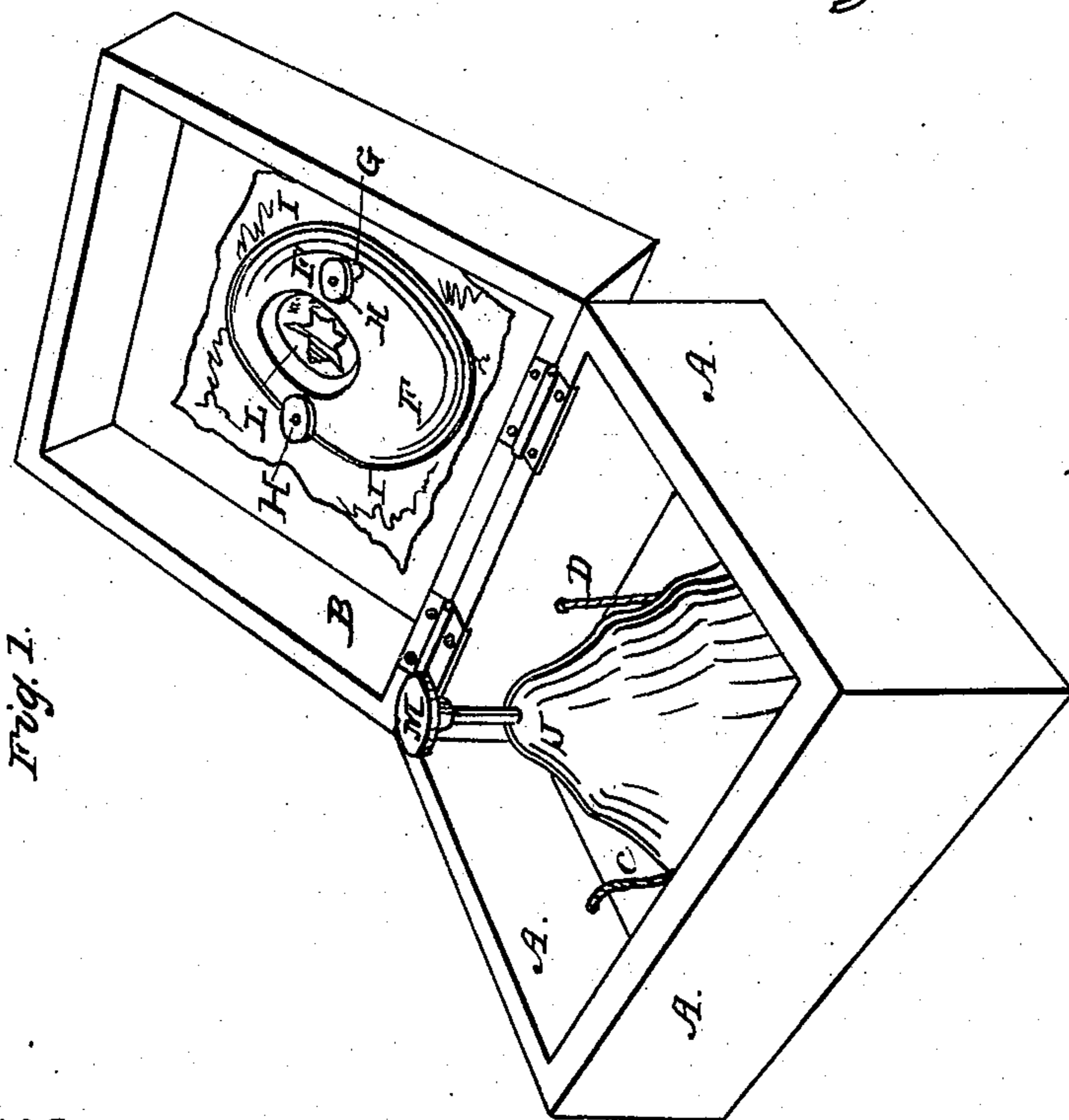
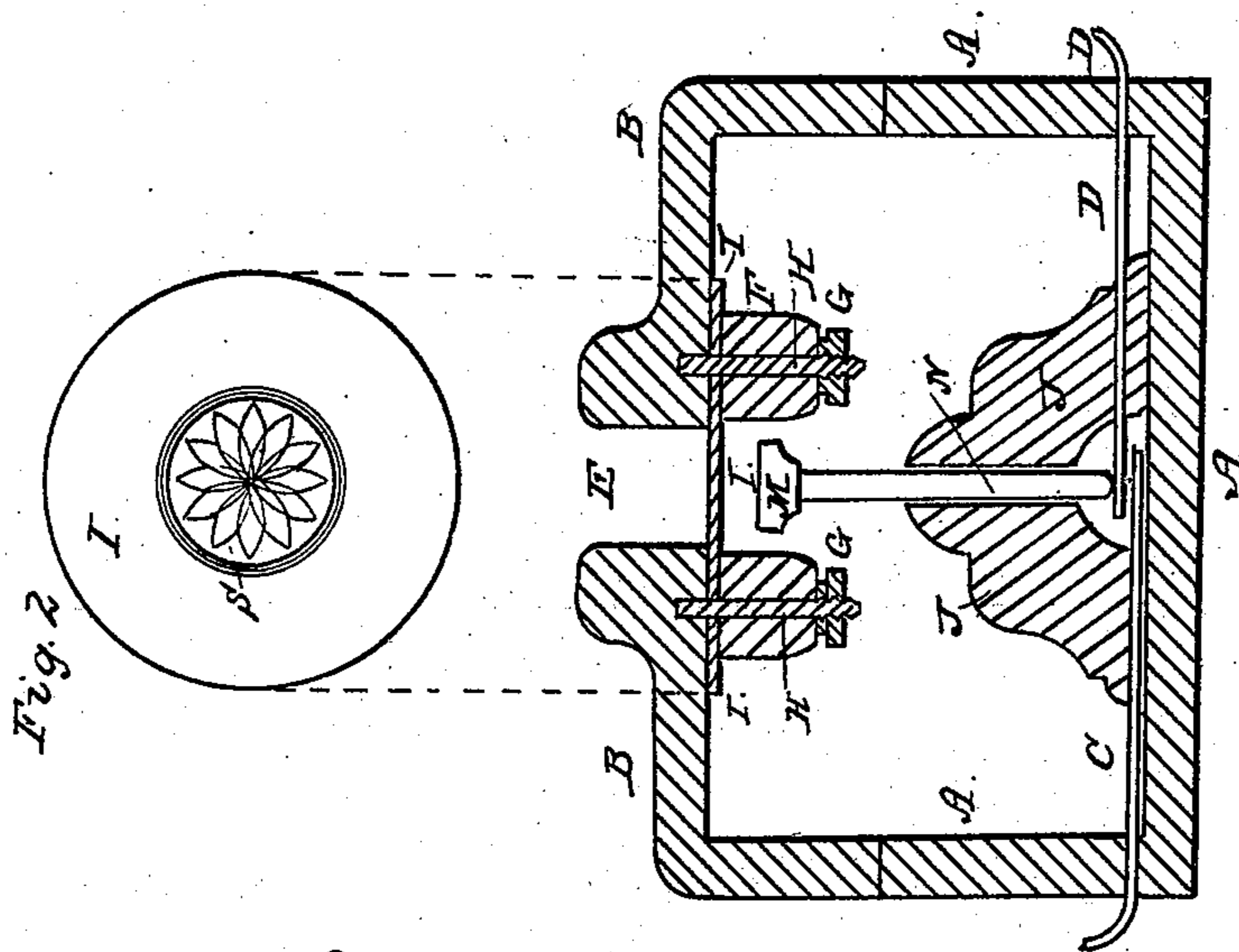


C. E. CARPENTER.  
Electric Circuit-Closer.

No. 46,542.

Patented Feb. 28, 1865.



Witnesses  
Peter D. Grene  
Joseph Kelly

Inventor  
C. E. Carpenter

# UNITED STATES PATENT OFFICE.

CHARLES E. CARPENTER, OF PROVIDENCE, RHODE ISLAND.

## IMPROVEMENT IN SIGNAL-BOXES FOR FIRE-ALARMS.

Specification forming part of Letters Patent No. 46,542, dated February 28, 1865.

*To all whom it may concern:*

Be it known that I, CHARLES E. CARPENTER, of Providence, in the county of Providence and State of Rhode Island, have invented an Improvement in Electro-Magnetic Signal-Boxes; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters and figures marked thereon.

My improvement relates to the case or box within which the key-knob or lever is placed that is used for making or breaking an electric circuit, being intended for use in the electric fire-alarm system and for other similar purposes.

The boxes heretofore made have usually been provided with a cover or door that remains locked except when a signal is required to be transmitted. The door or cover is then opened by means of a key, which is kept in the shop or room where the box is permanently placed. As the key may be required at any moment for the purpose of unlocking the box, it is commonly placed in a position that is readily accessible. This is known to many parties, and cases often occur in which unauthorized persons unlock the box and raise a false alarm of fire. After these alarms are given the boxes are all found closed and locked, and it is impossible to determine from which box the alarm proceeded, the difficulty being increased by the fact that a large number of boxes are used in the city, town, or district. As a part of the regular routine of business of the fire department it is also desirable that the source of each alarm-signal be positively known.

By the use of my improved signal-box the station or exact locality from which the alarm proceeds is at once known without any possibility of error.

Figure I is a perspective view of the instrument. Fig. II is a vertical section through the center of the box.

The box is represented at A, and the cover or door at B. The line-wires C and D pass through the box. Their ends or mechanism

connected with them are covered by a suitable case, J, and a hole through its center allows the thumb-piece M N to pass downward and close or break the circuit.

At the top of the box there is an aperture, E, about an inch in diameter, extending to the inside of the box, and across its mouth, at this point, a sheet of paper, I, is placed. This is retained in position by the circular washer or collar F, through the center of which there is a hole directly below the aperture E. This collar is held in contact with the paper by means of the screws H and nuts G.

When a signal is to be made the finger is thrust into the hole E and through the paper I. It then rests upon the button or knob M, which is depressed to close or break the circuit. As before mentioned, the box remains locked and no access to the signal knob or key can be had, except by breaking the paper which forms a diaphragm across the aperture E.

The key of the box is kept at the central station and is used only by an authorized attendant, who, after an alarm of fire has been given, opens the box and places a new piece of paper across the orifice.

To afford additional security a peculiar kind of paper may be used upon which is an engraving or fancy design, as at S, Fig. II, or the paper may have a private mark upon it, or a water-mark that can only be made by the manufacturer of the paper.

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

A signal-box provided with an aperture to admit the finger, and having a diaphragm of paper or other suitable material extended across the inner mouth of the aperture, the position of the diaphragm being such that the signal knob or lever cannot be moved without breaking the paper.

CHAS. E. CARPENTER. [L. S.]

In presence of—

PETER D. GREENE,  
JOSEPH KELLY.