W. H. DRAKE & P. B. WIGHT.

FIRE-PROOF COLUMNS.

No. 191,662. Patented June 5, 1877.

Fig. 2.

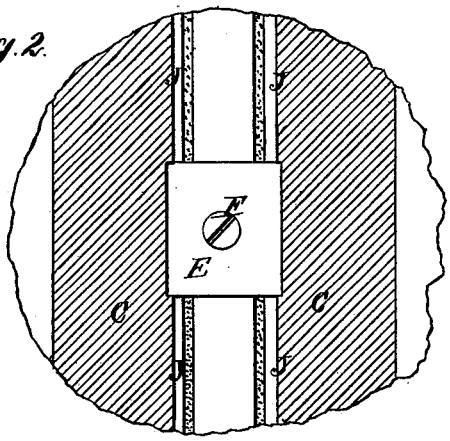
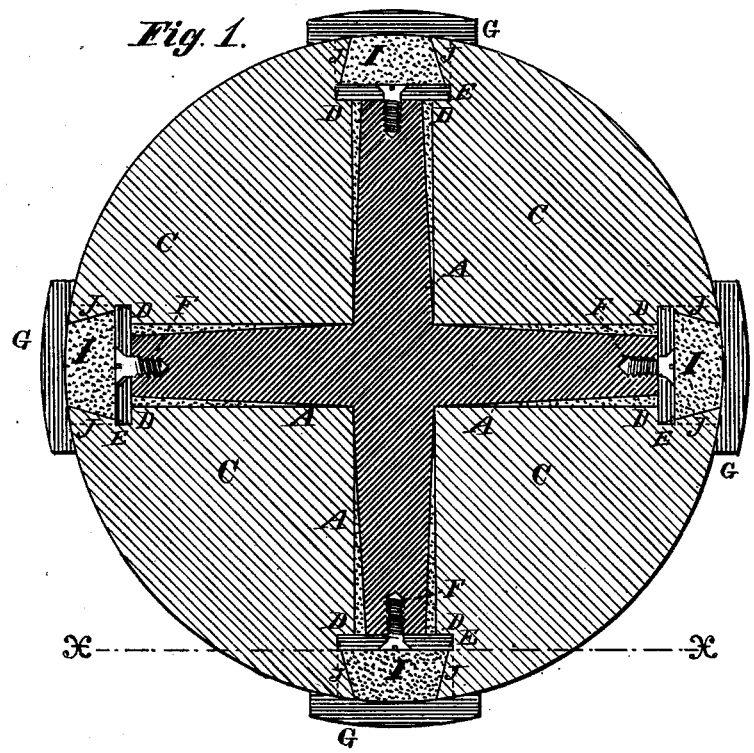


Fig. 1.



Witnesses.

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UNITED STATES PATENT OFFICE.

WILLIAM H. DRAKE AND PETER B. WIGHT, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN FIRE-PROOF COLUMNS.

Specification forming part of Letters Patent No. **191,662**, dated June 5, 1877; application filed May 10, 1877.

To all whom it may concern:

Be it known that we, WILLIAM H. DRAKE and PETER B. WIGHT, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Fire-Proof Columns, of which the following is a specification:

The object of the present invention is to improve the column patented to us, William H. Drake and Peter B. Wight, on September 8, 1874, and numbered 154,852; and the nature of the invention consists in gores fastened to the webs of an iron core by means of buttons which are secured to the webs by screws or other suitable means. The buttons are sunk beneath the surface of the gores and bear against shoulders formed a little distance below the surface of the gores, and the buttons so sunk are covered with concrete or suitable fire-proof substance, so that the iron is fully protected from the effect of fire; and further, in the sides of the countersunk parts being formed to slope inward as they approach the surface of the gores, whereby the concrete is held firmly in place. By means of this construction the outside of the column may be disintegrated to considerable depth without permitting fire to come in contact with the iron. We also substitute wood for iron battens for covering the concrete in the countersunk interstices between the cores, as hereinafter fully described and shown.

In the drawings, Figure 1 is a horizontal section of a column constructed on our improved plan; Fig. 2, a vertical section on line *x x*, Fig. 1.

A A A A represent a cruciform iron core or web, which forms the support for the weight to be sustained. The core may, however, be constructed with three or more flanges, as the size of a column may require. The outer edges of the flanges are somewhat thinner than at the place of connection, but they may have a uniform thickness. The gores are shown at C C C C, and are made of concrete or other suitable fire-proof material. D represents shoulders formed on the gores, that buttons E may be placed on them to hold the gores to the web or core. The buttons are held against the webs by screws F tapped into their edges at suitable intervals to secure strength.

In practice, the gores may be molded the entire length of the iron core, or they may be molded in sections. In the latter case one button may be used to secure one corner of each of four sections.

The gores in the drawings are shown with inner angles at right angles, leaving spaces wedge shaped between them, to be filled by pouring in thin concrete. The countersunk spaces are to be filled with suitable concrete of any well-known kind to resist fire.

G represents wood battens, which serve no purpose except to hold the concrete I in place until dry.

The present device can be applied to iron columns now in use by attaching vertical ribs of iron to them by screws or tapping in studs, and then proceeding to fill in the gores in the same manner as though the said gores are described as applied to the iron webs, the buttons being also countersunk to the iron ribs or studs.

We claim as new—

1. The buttons, countersunk below the surface of the concrete gores C, and having bearing on shoulders D, as and for the purpose set forth.

2. The inclined sided recesses J in a composition column for supporting the concrete I, as specified.

WILLIAM H. DRAKE.
PETER B. WIGHT.

Witnesses:
G. L. CHAPIN,
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