

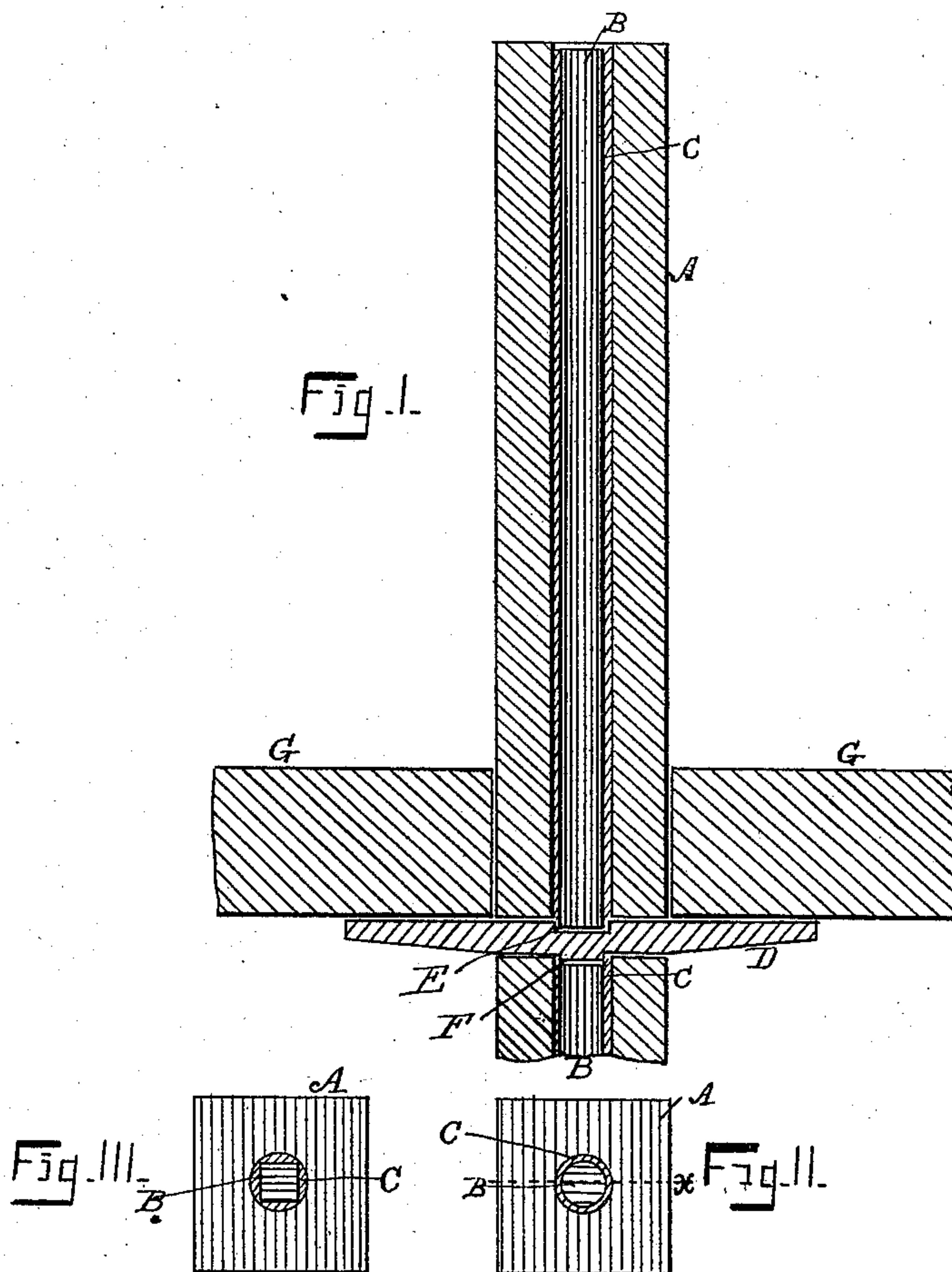
(No Model.)

W. H. DRAKE.

COMPOUND FIRE PROOF BEAM.

No. 412,485.

Patented Oct. 8, 1889.



Witnesses:
Thomas W. Gaining
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UNITED STATES PATENT OFFICE.

WILLIAM H. DRAKE, OF CHICAGO, ILLINOIS.

COMPOUND FIRE-PROOF BEAM.

SPECIFICATION forming part of Letters Patent No. 412,485, dated October 8, 1889.

Application filed June 1, 1889. Serial No. 312,893. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. DRAKE, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Compound Fire-Proof Columns, of which the following is a specification, reference being had to the accompanying drawings, illustrating the invention, in which—

Figure I is a vertical central section of the wooden portion of the column, an elevation of the iron portion, and a section of the filling around the iron and within the wood on line α , Fig. I, showing, also, a section of the girder-support between stories; Fig. II, a top view of a complete column. Fig. III represents the same construction as shown at Fig. II, except the metal central support is square in cross-section instead of round.

The purpose of this invention is to provide a column to be used in the construction of buildings which shall have the combined advantages of wood and iron with a minimum amount of iron, and at the same time secure the iron in the wood so that the strain shall be equal on the two materials, and with such columns to provide means for connecting them below the floors of buildings, so that any shrinkage of the floors shall not cause any settlement of those portions of the building supported, as hereinafter specified and shown.

A represents the exterior of the column, which is of suitable wood, and it is bored out vertically through its central portion, and in the bore is inserted a post B, of iron, leaving a space one-half inch or more in cross-section on all radii between the wood and iron to be filled with plaster-of-paris and salt C. This is done as follows: The plaster-of-paris is speedily mixed with water made about as salt as meat-brine, and the column being vertical the thin mixture is poured in around the iron till the space is filled. In doing this the surplus brine will rise above the plaster and the latter will remain hard.

I do not confine myself to plaster-of-paris and salt as a filling, as other cements will serve the purpose; but I regard plaster-of-paris and salt to be the best, because salt will preserve the wood and it prevents the heat in case of a fire from reaching the iron.

In connecting stories with these columns I prefer to employ girder-irons D, which are provided with sockets E, Fig. I, to engage the lower ends of the iron portions B, which project below the wood for this purpose and are provided on the middle portions of their under sides with downward projections F to reach the top ends of the iron in the columns below, which ends stop as much short of the tops of the wood portions as the iron portions project below the lower ends of said wood portions. This prevents the columns from getting vertically out of line.

In the drawings the column is shown of a size to support great weight; but columns for different structures will be made in accordance with the well-known tables for attaining strength. Among the advantages attained by this construction are simplicity, cheapness, and utility over any column of which I have knowledge.

G G are the girders.

I claim as new and desire to secure by Letters Patent—

A column consisting of the hollow wood portion and a metal post cemented within the same and the post extending below the wood portion, in combination with a girder-iron provided with a socket to engage the lower end of the iron post, and the girder-iron provided centrally on its under side with a projection to engage the top end of a lower metal post which is below the top end of the wooden portion, as and for the purpose specified.

WILLIAM H. DRAKE.

Witnesses:

G. L. CHAPIN,
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