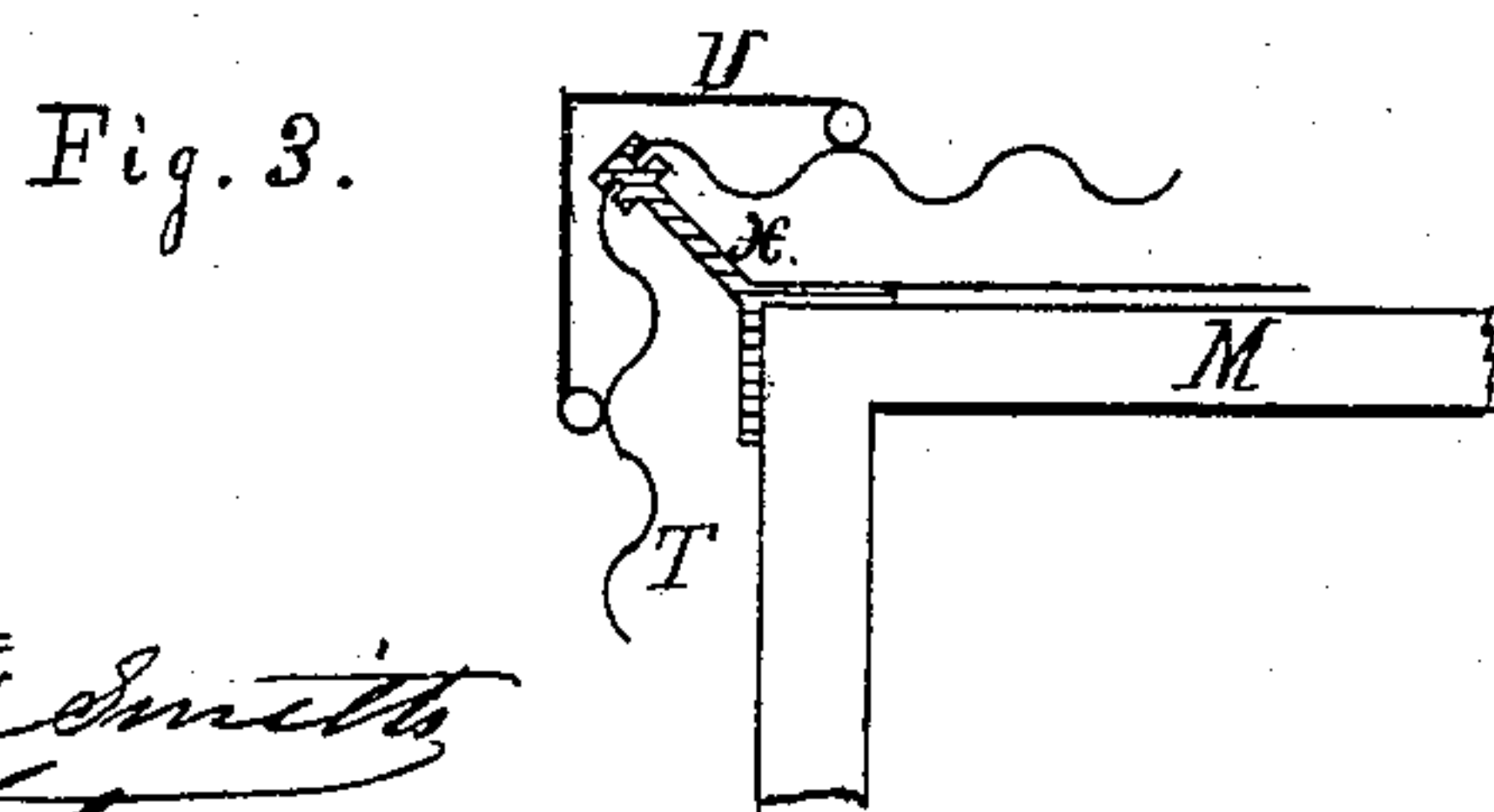
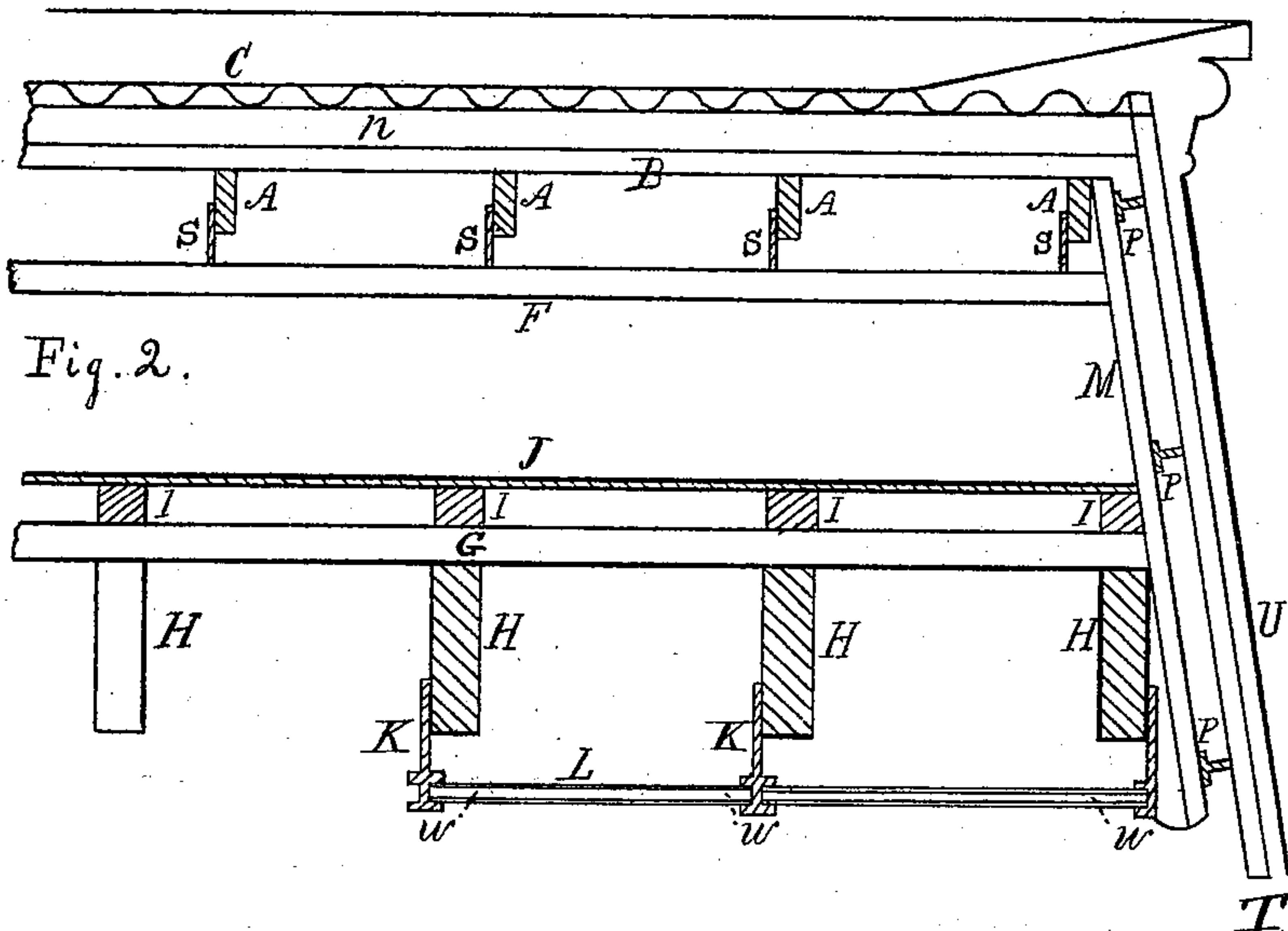
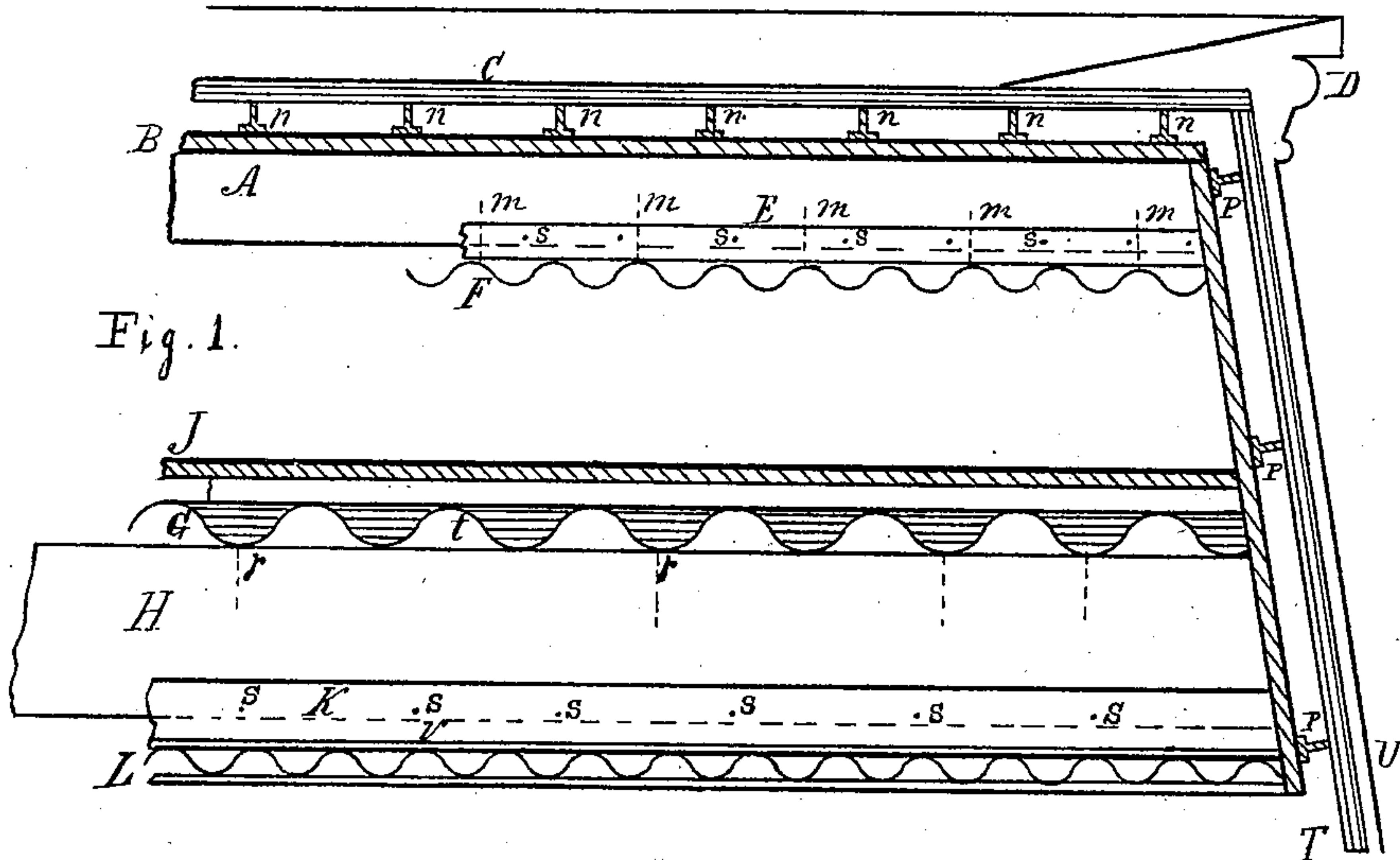


J. GILBERT.
Fire-Proof Buildings.

No. 148,443.

Patented March 10, 1874.



Witnesses
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UNITED STATES PATENT OFFICE.

JOSEPH GILBERT, OF EVANSTON, ILLINOIS.

IMPROVEMENT IN FIRE-PROOF BUILDINGS.

Specification forming part of Letters Patent No. 148,443, dated March 10, 1874; application filed February 2, 1874.

To all whom it may concern:

Be it known that I, JOSEPH GILBERT, of Evanston, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Fire-Proof Buildings, of which the following is a specification:

The object of the present invention is to substitute cheaper means for building what are known as fire-proof edifices than are at present employed. Its nature consists in suspending, from joists or rafters, a metallic ceiling, which is suitably insulated from the wood-work by T-irons, or irons of other suitable form; in laying upon joists, previous to laying the floor, a suitable metal covering, which is corrugated, or otherwise formed, to give it strength, so as to receive a coating of cement or other fire-proof substance preparatory to laying the floor-strips; and in covering Mansard and other roofs with suitably-formed metal plates, insulated from the rafters or roofing materials by T-plates, or other suitable irons, as the whole is hereinafter fully described and shown.

In the drawings, Figures 1 and 2 represent two broken sections of a Mansard roof, taken transversely to each other; and Fig. 3, a horizontal section of one corner of the Mansard roof, showing how the metal plates are held to the wood-work.

The three methods usually employed for making ceilings fire-proof are as follows: First, solid arches of stone or brick are sprung over the required space, and leveled up on top for tile; second, iron joists are used, and filled between with brick arches; third, iron joists are used and arranged to support corrugated iron arches, on the top of which brick is laid or grout is put. These several methods, however, are too expensive to be generally used, and, in some buildings, are impracticable; hence wood is used.

I make my ceiling and floor as follows: H, Figs. 1 and 2, represent the ordinary wooden joists of a building, to which are rigidly fastened T-irons K, running lengthwise of the joists. In the grooves W, in the lower ends of these irons, are placed corrugated sheet-metal plates L, extending over the entire ceiling, and overlapping each other at the joints, so as to form a neat and perfect finish. Above and on top of the joists is fastened a corrugated sheathing G, which serves the purpose of a floor when the building is being erected.

The upper corrugations of sheathing G are filled with any suitable fire-proof substance, such as mortar, after which floor-strips I are laid thereon to hold flooring J in place, in the usual manner. F represents a corrugated ceiling in every respect fully the same as that shown at L, except that it is nailed to the rafter A, instead of being held in T-irons, as in Fig. 2. The plate F is insulated from the rafter by a strip of iron, E, nailed to the rafter, as shown in Fig. 1. This construction I consider an equivalent for the ceiling L. The principal roof C is supported above the roof-boards B by means of T-irons n, and is corrugated the same as the ceiling, and is placed so far above the roof-boards that the latter cannot take fire unless the corrugated plates are first destroyed. T represents the plates of corrugated iron, which cover the Mansard portion of the roof.

The means for fastening the plates consist of any suitable number of T-irons, P, which are fastened to the roof-boards M by nails or other means, such as screws or bolts, the outer ends of the T-irons being fastened to the roofing T by screws or straps of iron, as most convenient. The corners of the Mansard roof T are held in place by T-irons X, Fig. 3, and, to form a suitable corner-finish, a pilaster, U, which may be ornamental or plain, is fastened to the plates T.

The corrugated plates may be also used for covering partitions or other parts of building, and prove equally valuable as against fire.

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

1. A covering for Mansard and other roofs, consisting of the corrugated plates C T, insulated from the roof-boards by means of T-irons n P, when employed in the construction of buildings, as and for the purpose set forth.

2. The corrugated iron ceiling L, combined with T-irons K and joists H, substantially as and for the purpose set forth.

3. A floor consisting of the corrugated plates G, fastened to the joists H, filled with plaster or grout above, and covered with flooring J, laid on strips I, substantially as described and shown.

JOSEPH GILBERT.

Witnesses:

G. L. CHAPIN,
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