No. 637,943. Patented Nov. 28, 1899.

C. PÖTSCH.

CONSTRUCTION OF CEILINGS AND FLOORS.

(Application filed Jan. 30, 1899.)

(No Model.)

Fig. 1.

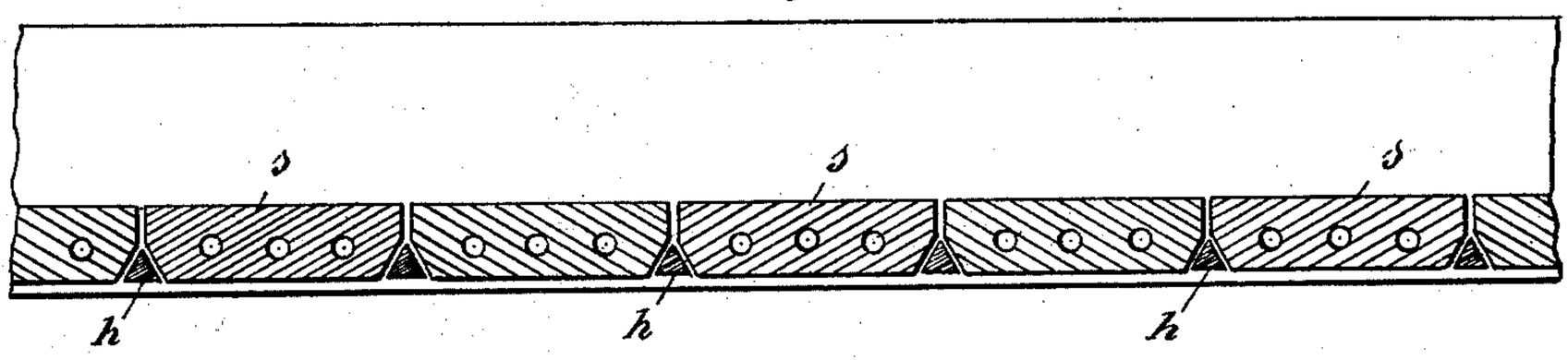


Fig. 2.

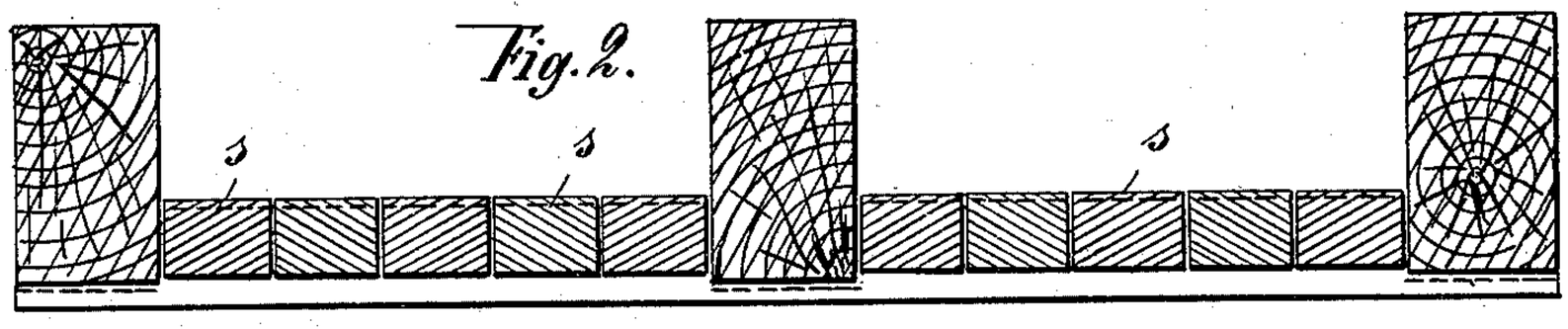


Fig. 3.

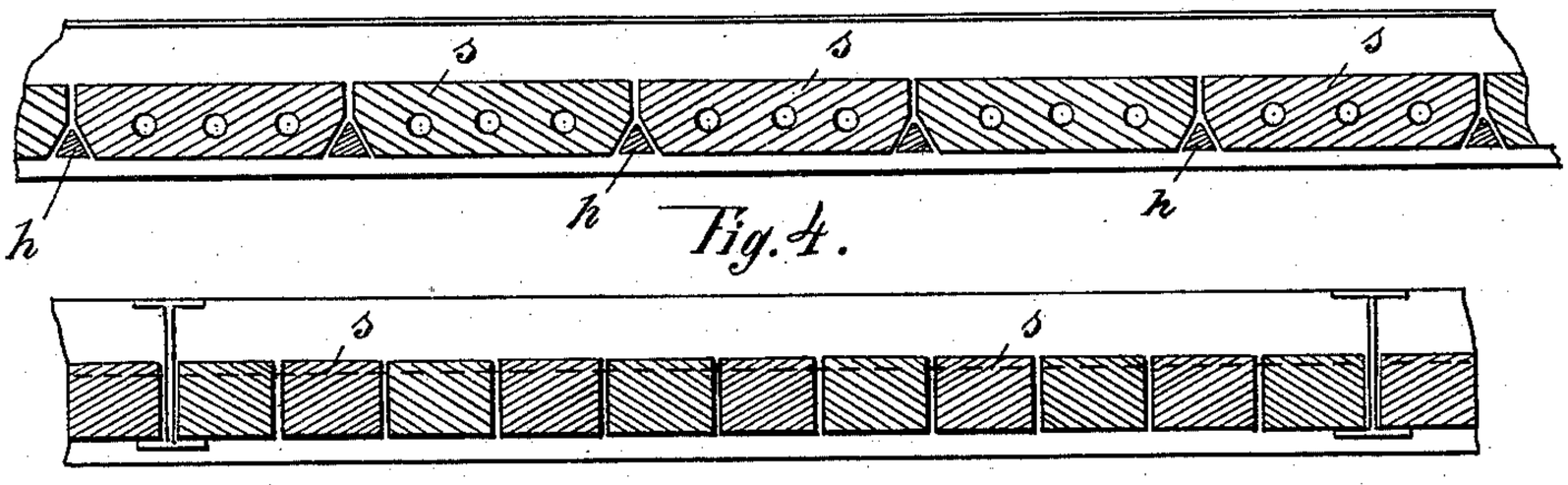


Fig. 4.

Fig. 5.

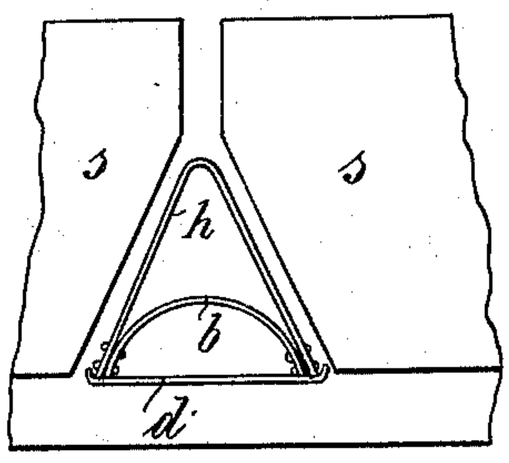


Fig. 6.

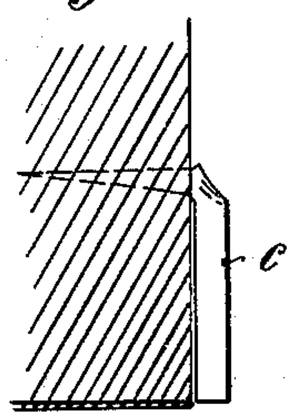


Fig. 7.

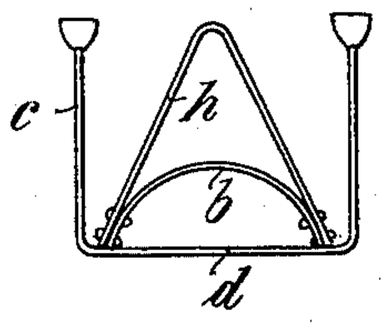


Fig. 8.

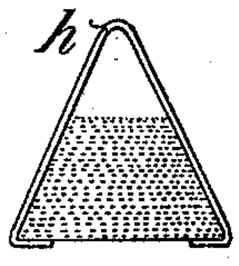
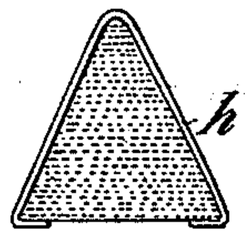


Fig. 9.



Witnesses
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UNITED STATES PATENT OFFICE.

CARL PÖTSCH, OF MINDEN, GERMANY.

CONSTRUCTION OF CEILINGS AND FLOORS.

SPECIFICATION forming part of Letters Patent No. 637,943, dated November 28, 1899.

Application filed January 30, 1899. Serial No. 703,951. (No model.)

To all whom it may concern:

Be it known that I, CARL PÖTSCH, architect, of Minden, Westphalia, in the Empire of Germany, have invented certain Improvements in the Construction of Ceilings and Floors, of which the following is a specification.

The subject of the present invention is a massive fireproof ceiling, serving at the same time as flooring and differing from all previous constructions as regards durability, simplicity, and cheapness.

A special feature of the present ceiling consists in the ease with which it can be constructed in any kind of building, even in old edifices, and in its suitability for manufactories and the like by reason of its being a good non-conductor of sound and of its great bearing strength.

In the accompanying drawings, Figure 1 shows a longitudinal section, and Fig. 2 a cross-section, of a construction according to the present invention where timber girders are made use of. Fig. 3 shows a longitudinal section, and Fig. 4 a cross-section, of a like construction where I-iron girders are employed. Fig. 5 is a detail view to a larger scale, showing one of the hollow girders in position. Figs. 6 and 7 are edge and face views, respectively, to the same scale, of a hook for application in the case of timber girders. Figs. 8 and 9 show modifications of the invention drawn to the same scale, to be hereinafter referred to.

The ceiling, as shown on the drawings, consists, essentially, of so-called "hollow girders" *h*, having the form of angle-iron, the two webs of which are connected together interiorly by band-iron *b*, Fig. 5, which serves to stiffen them. The open base of the hollow girder is covered by wire-gauze *d*, which has the purpose of receiving the plastering of the ceiling. The ends of the hollow girders rest upon longitudinal timber girders or I-iron girders or masonry and support between them the bricks *s*, forming the ceiling and flooring. The lower edges of each brick are cut away in form corresponding to the hollow girder.

When longitudinal I-iron girders are used to support the ends of the transverse hollow girders, the latter rest upon the lower flange as support, Figs. 3 and 4. Where, however, timber girders are employed, a double-pronged iron support *c*, Figs. 6 and 7, is driven into the timber and serves to receive and carry the hollow-girder ends.

The distance apart of any two adjacent hollow girders must be calculated according to the size of the bricks used, the moment of inertia, and consequently the distance between the supporting-girders, having, of course, also to be taken into account.

Without any woodwork or centering being required the bricks are simply set between the hollow girders and filled in. The troublesome work of centering and removal is thus completely obviated and much time therefore saved.

The bricks or stones may be of any suitable material, such as plaster, cement, clay, or the like. The structure is in any case perfectly reliable both as regards bearing strength and fireproof character.

Figs. 8 and 9 show modifications of the invention in which instead of iron strips *b* being used the hollow girder is either partly, Fig. 8, or wholly, Fig. 9, filled with cement, plaster, or the like. Such filling forms an entire substitute for the strips *b* and even raises the moment of resistance of the girder.

I claim—

A massive fireproof ceiling and flooring constructed of a series of iron girders *h* of angular form, stiffened interiorly as described and covered with wire-gauze *d* at their open base, resting with their ends on timber or iron girders or masonry, arranged at suitable distances apart and bricks or stones of cement, plaster, clay, slag-stone or the like, of form corresponding to that of the angle-iron girders and supported thereby, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

CARL PÖTSCH.

Witnesses:

KIRKE LATHROP,

LEONORE KASCH.