No. 668,319.

Patented Feb. 19, 1901.

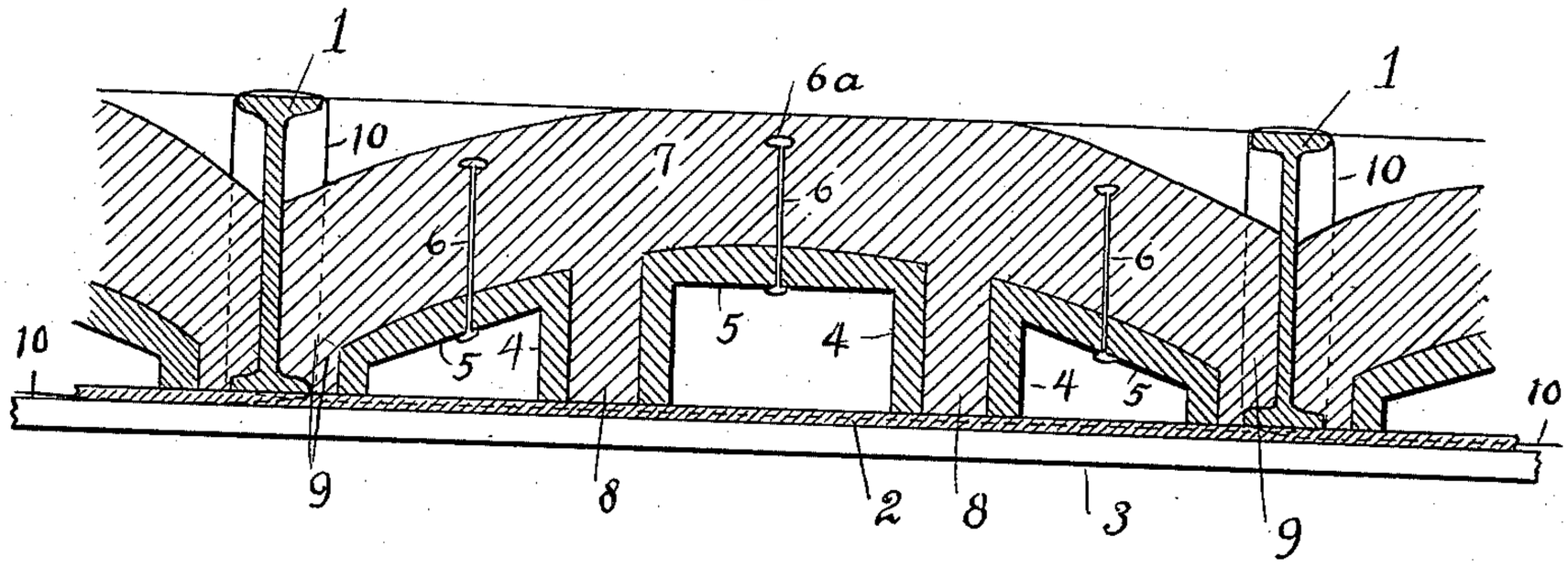
G. RIVELLI & G. YENNACO.

FIREPROOF CEILING.

(Application filed Mar. 1, 1900.)

(No Model.)

Fig. 1



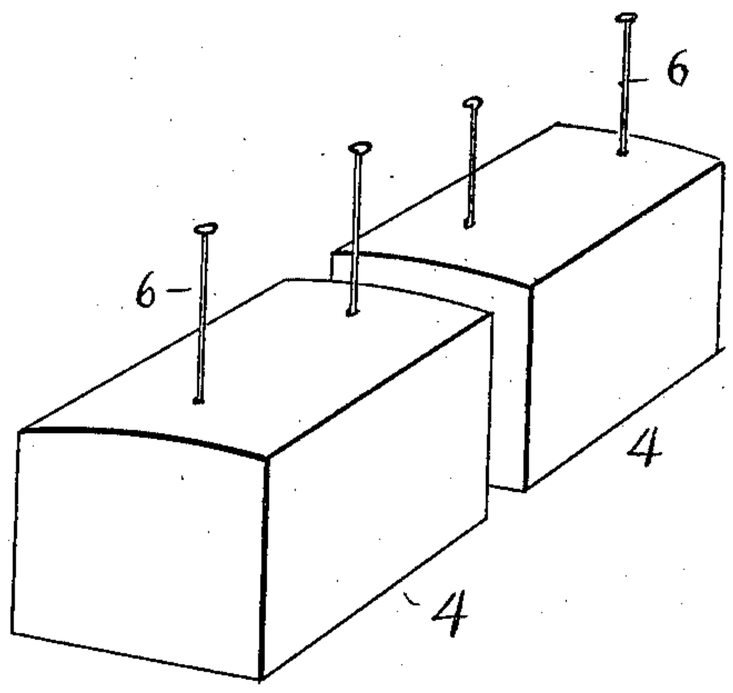


Fig. 2

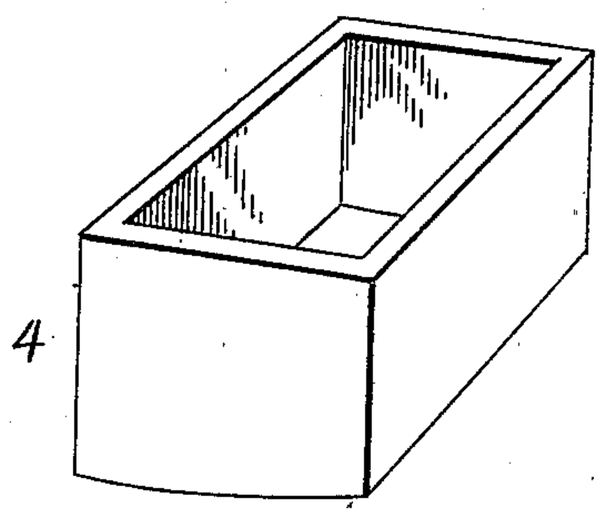


Fig. 3

Witnesses;

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UNITED STATES PATENT OFFICE.

GAETANO RIVELLI AND GIOVANNI YENNACO, OF BOSTON, MASSACHUSETTS, ASSIGNORS TO CAROLINE E. VENEZIA, OF SAME PLACE.

FIREPROOF CEILING.

SPECIFICATION forming part of Letters Patent No. 668,319, dated February 19, 1901.

Application filed March 1, 1900. Serial No. 7,037. (No model.)

To all whom it may concern:

Be it known that we, GAETANO RIVELLI, a subject of the King of Italy, and GIOVANNI YENNACO, a citizen of the United States, both residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Fireproof Ceilings, of which the following is a specification.

This invention relates to an improved construction for the formation of fireproof ceilings, and appertains especially to means whereby to make the same cheaply, expeditiously, and at the same time strong and durable.

Referring to the drawings forming part of this specification, Figure 1 is a sectional view of our complete ceiling. Fig. 2 is a perspective view of two of the hollow blocks which we use in its formation, and Fig. 3 is a perspective view of one of said blocks turned upside down.

Referring to Fig. 1, the numeral 1 indicates the iron I beams or girders used in the construction of the floor. 3 is a platform supported in any suitable temporary manner a short distance beneath the said girders. 2 is a layer of plaster spread upon said platform and allowed to partially harden. 4 indicates a series of plaster-of-paris hollow blocks or shells, each comprising a top, ends, and sides, but no bottom. Said blocks or shells are preferably made in three sizes or shapes in order when put in place to have their upper surfaces form a uniform curve, as shown in Fig. 1. The bottom of each block is made open both for the purpose of enabling it to be more easily cast and because a bottom is of no use and in addition adds to the weight of the ceiling unnecessarily. Each top 5 of said blocks is not only made a section of a cylinder, as described, but the under side thereof is made flat, thus giving an increased thickness to the central portion of such top and increasing its strength. Through perforations in said tops 5 one or more wires 6 rise upward, their ends being provided with buttons or heads 6^a to enable them to stay in place and not be pulled through said tops or the cement 7 above the blocks. The object of these wires is to aid in the support of said blocks, as will be hereinafter set forth.

In the use of this invention the platform 3 is first erected close beneath the girders, slightly less than half an inch therefrom, the upper surface of the platform being made as level, smooth, and fluid-tight as convenient. Wires 10, wrapped about the girders, stretch tightly from the under side of each girder to its neighbors. These wires may nearly or quite touch the platform, and the object thereof is to bind the plaster, which is afterward to be applied, more securely to the girders. A suitable layer of plaster is then laid upon the platform, being mixed quite liquid and flowed thereon. After this plaster has set, but before it is dry, the blocks or shells 4 are placed in the positions shown upon the plaster. A proper mixture of cement previously made ready is then shoveled upon the shells and between the same until it takes the general form shown in Fig. 1. The portions 8 of this cement 7 descend into close contact with the upper surface of the plaster 2, and the latter, being still moist, coalesces therewith. As shown in Fig. 2, the series of shells 4 are not placed in contact at their ends, but space is permitted there for the reception of the cement in order to more securely bind together the plaster and cement. After the cement has hardened the platform is removed and replaced in another apartment or at an incompleted part of the same ceiling.

As shown in Fig. 1, the cement rests at its ends upon the lower flanges of the girders 1 and forms practically an arch, with said flanges as abutments. The sections 8 of the cement serve not only to bind the plaster in place, but to hold the shells or blocks 4 in position; but to make sure of this the wires 6 are used as described, their heads firmly holding in the hardened cement.

What we claim as our invention, and for which we desire Letters Patent, is as follows, to wit:

1. In a fireproof ceiling, the plaster-of-paris shell having the curved upper surface, and the sides and ends, but no bottom, said curved upper surface or top being thickened centrally, substantially as set forth.

2. The combination of the girders, the plaster, the bottomless shells placed on said plaster and out of contact one with the other, the upper surfaces of said shells being adapted to form an arching curve, the wire supports, and the cement covering said shells and wires and filling the spaces between, substantially as set forth.

In testimony that we claim the foregoing invention we have hereunto set our hands this 8th day of February, 1900.

GAETANO RIVELLI.
GIOVANNI YENNACO.

Witnesses:
GUY H. HOLLIDAY,
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