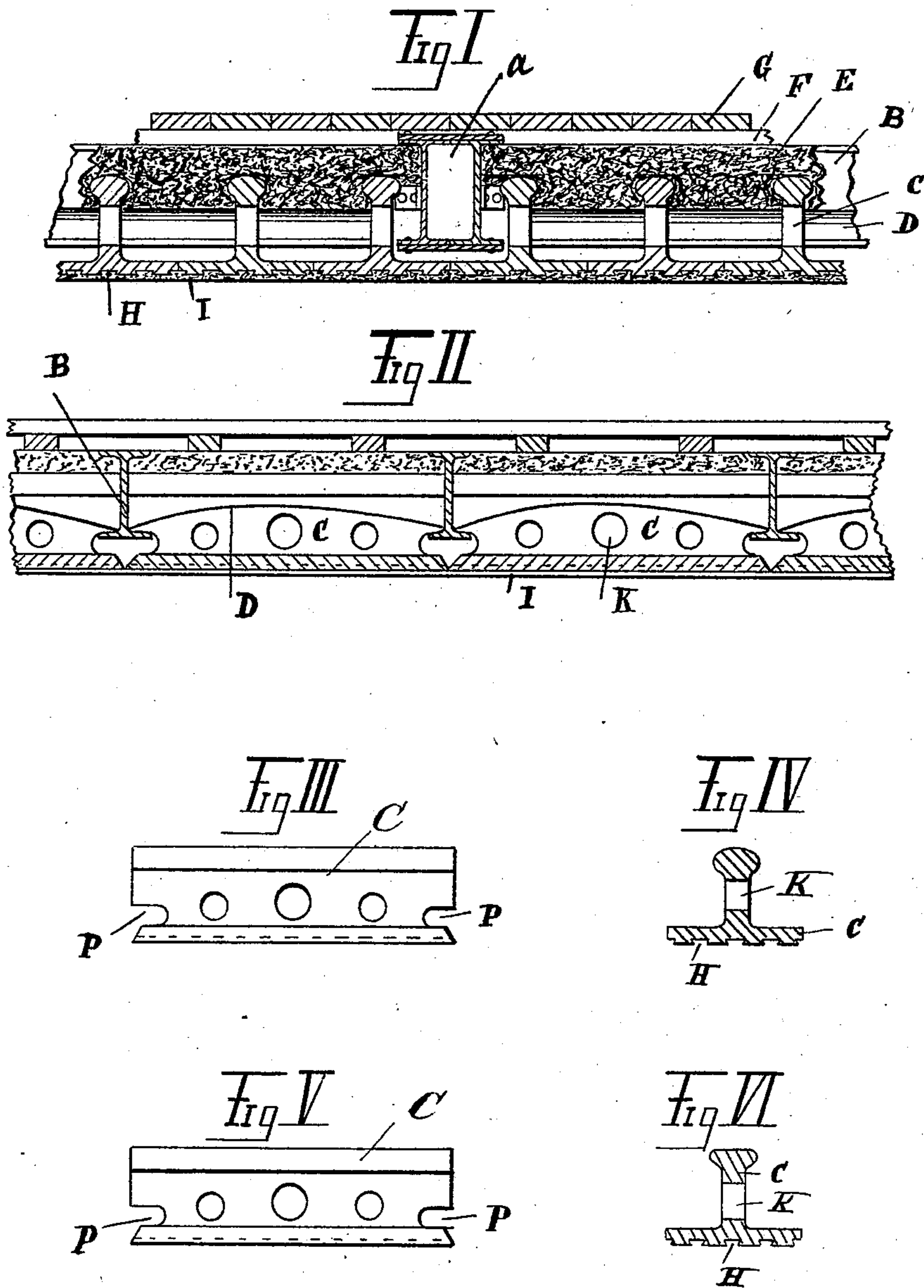


(No Model.)

R. ASTLEY.  
CONSTRUCTION OF FIREPROOF FLOORS.

No. 527,647.

Patented Oct. 16, 1894.



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# UNITED STATES PATENT OFFICE.

ROBERT ASTLEY, OF LONDON, ENGLAND.

## CONSTRUCTION OF FIREPROOF FLOORS.

SPECIFICATION forming part of Letters Patent No. 527,647, dated October 16, 1894.

Application filed September 5, 1893. Serial No. 484,873. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT ASTLEY, a subject of the Queen of Great Britain, residing at 34 Ely Place, in the city of London, England, have invented certain new and useful Improvements in the Construction of Fireproof Floors, of which the following is a specification.

The object of this invention is to construct fireproof floors in such a manner as to provide efficient protection in case of fire to the joists and girders supporting them, which joists and girders being made of iron or steel are very apt to give way by bending when heated to any great extent.

Now according to this invention I provide a number of joists of iron or other suitable metal about two feet apart and between the joists are placed specially made fireclay lintels. These lintels are constructed with a bottom flange grooved to receive the ceiling plaster and a vertical central web having a roll on the top thereof. These lintels are placed with their widest flanges horizontal to form a flat ceiling. Between the lintels are placed curved strips of corrugated iron the ends of which rest on the joists. On the corrugated iron strips is placed a layer of concrete flush with or covering the top of the joists and thus forming an arch springing from joist to joist without the aid of temporary centering. Slots are cut in both ends of the lintels to allow the flange of the same to pass under the bottom flange of joists and girder and protect the same from fire.

In order that my said invention may be fully understood I will proceed to explain the same with reference to the accompanying drawings, in which—

Figure I represents a longitudinal section of a fireproof floor constructed according to this invention. Fig. II is a cross section of same. Figs. III and V are side views of lintel. Figs. IV and VI are sections of the same.

The same letters denote the same parts in all the figures.

A is the main girder; B, the joists; C, the lintels; D, corrugated iron placed on the joists; E, concrete resting on the corrugated iron D; F, flooring joists; G, wood flooring boards; H, grooves in lintels to receive ceiling plaster I; K, apertures in lintels for ventilation, an aperture in flange of same communicating with the room below if desired.

The lintels C which are made of fireclay or other material are provided with slots P at each end as shown at Figs. III and V to allow the flange of the same to pass under the joists B, and main girder A, and protect them from fire. The slots P are sufficiently deep to allow of the lintels being canted over so as to enable the flanges to be passed one under the other, and as the said lintels have only one upright web, they may be turned or slued to enable them to be placed in position after the joists are fixed.

When all the lintels except the last one in each bay have been placed on the joists the flanges of each of the last four or five are placed one under the other and the lintels being pushed up close leaves room for the last one to be placed in position on the joists and the other four or five are afterward separated and placed in their proper positions.

To provide ventilation between the ceiling and the under sides of the concrete arches, apertures K are formed in the web of the lintels C. Air bricks may be provided in one or more outer walls, to admit fresh air.

The vitiated air from between the ceiling and the concrete may be removed by means of flues in the walls.

By forming apertures in the flanges in two or more of the lintels the room or rooms below may be ventilated by means of flues, which are connected directly to the air chambers in the floor.

The object of placing the corrugated metal on the lower flanges of the joists B is to get the concrete well under the roll of the lintels so that in case a lintel breaks from any cause it will still be held up by the concrete.

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

In the construction of fireproof floors the combination of the lintels C of fireclay or terra-cotta resting on metal joists B with strips of corrugated iron D resting on the lower flanges of the said joists between the lintels and concrete over the corrugated iron all substantially as described and shown by the accompanying drawings.

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