

No. 679,430.

Patented July 30, 1901.

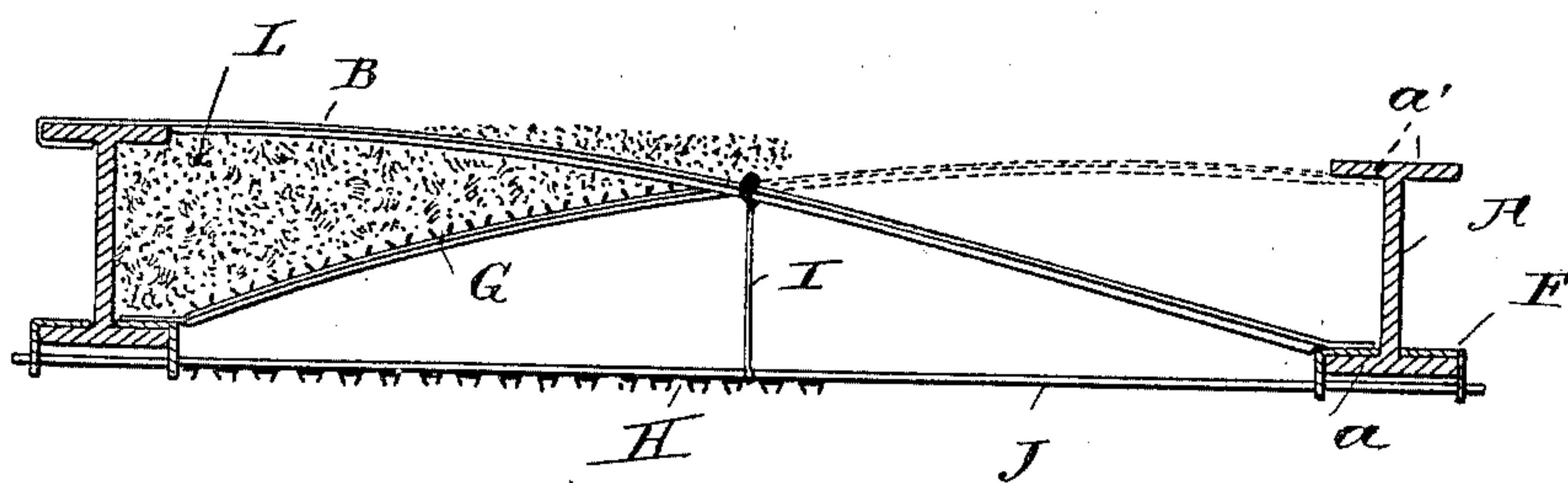
**J. SCHRATWIESER.**  
**FLOOR AND CEILING CONSTRUCTION.**

(Application filed Mar. 29, 1900.)

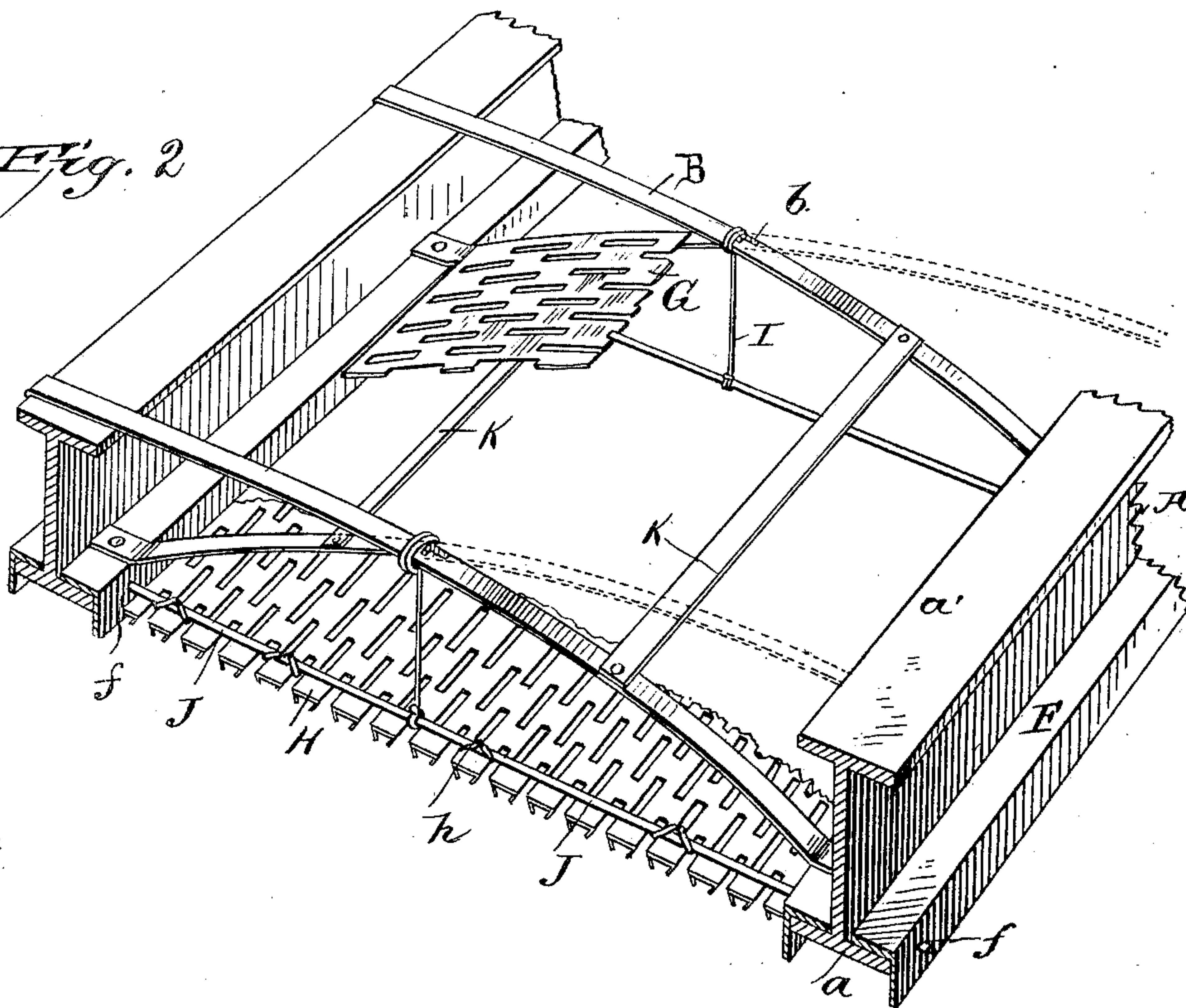
(No Model.)

2 Sheets—Sheet 1.

*Fig. 1.*



*Fig. 2.*



Witnesses;  
C. W. Benjamin  
M. H. Whitman.

Inventor,  
Jacob Schratwieser  
By Stephen J. Cox  
Att'y

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2 Sheets—Sheet 2.

Fig. 3.

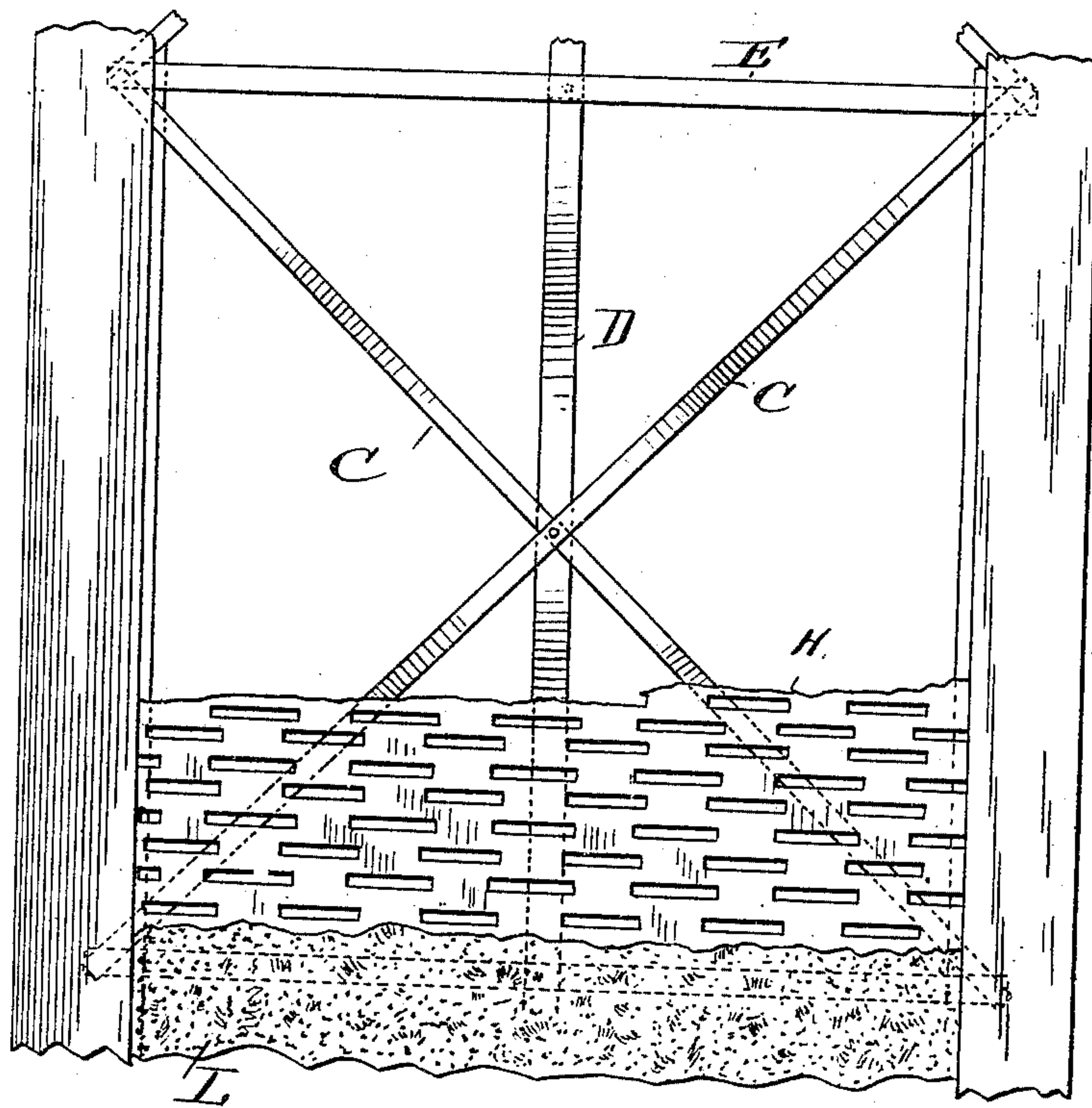
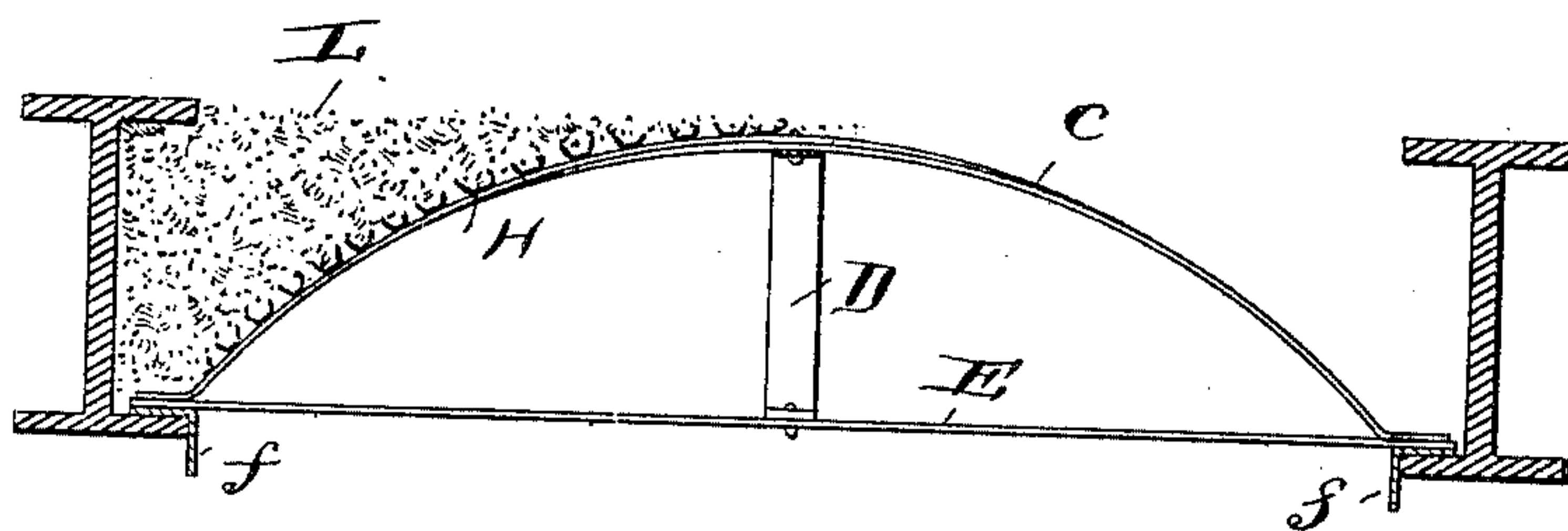


Fig. 4.

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# UNITED STATES PATENT OFFICE.

JACOB SCHRATWIESER, OF BROOKLYN, NEW YORK.

## FLOOR AND CEILING CONSTRUCTION.

SPECIFICATION forming part of Letters Patent No. 679,430, dated July 30, 1901.

Application filed March 29, 1900. Serial No. 10,680. (No model.)

*To all whom it may concern:*

Be it known that I, JACOB SCHRATWIESER, a citizen of the United States, residing in Brooklyn, city of New York, in the State of New York, have invented certain new and useful Improvements in the Construction of Floors and Ceilings, of which the following is a specification.

My invention relates particularly to that class of construction, known as "fireproof," in which the joists, intermediate supports, and lathing are composed of iron or steel and in which a filling of concrete or like substance is used uniting the same into one solid mass and forming the solid arches upon which the floor is laid and from which the ceiling is "hung."

Its object is, among others, to provide a light, strong, and durable construction of this character.

In the accompanying drawings, Figure 1 is a vertical cross-section of a construction showing my invention with portions cut away. Fig. 2 is a perspective view of the same. Fig. 3 is a vertical cross-section of a modification. Fig. 4 is a plan of the same.

In the said drawings, A represents the joists or I-beams, along the lower flange of which run angle-irons F, to which are secured at intervals the lower ends of the cross-strips or angles B. These cross-strips extend from the lower part of one beam to the upper part of the opposite one and are preferably bent or bowed to a greater or less extent. They are arranged in pairs, secured together intermediate the beams by means of a mortise b in one of them, and the upper end of one may be secured by abutting against the shoulder, (as shown at a' in Fig. 1,) while the other is secured by turning its end over the opposite side of the upper cross-piece or double flange. The cross-strips are supplemented by other strips K, secured upon the lower portions thereof and running parallel with the I-beams, and upon this framework metallic lath G is spread for the purpose of supporting the concrete L. One flange of the angle or L iron F projects downwardly below the base of the beam and is provided with perforations f, through which run rods J, extending across from beam to beam. These rods are supported in the middle by hangers I, which are secured at their upper ends to the

cross-strips B, preferably at the point where they are joined, and by having their ends wound about the said strips they also increase the strength of the joint. The metal lath H is laced or otherwise secured to the rods J, and upon the under side of this lath the plaster ceiling may be spread.

In the modified construction the cross-strips C run diagonally across from beam to beam, having both ends secured on the lower flange thereof, and are supplemented by a strip D, running parallel with the beams and secured to the horizontal strip E, and all three of the strips are secured together at the point of intersection.

What I claim as new is—

1. In the construction of floors and ceilings herein shown and described, the combination with the beams or joists of cross-pieces secured to the lower flange of one beam, extending across and secured to the upper flange of the opposite beam and perforated sheet metal upon the said cross-pieces adapted to receive the concrete for forming the arch.

2. In the construction of floors and ceilings herein shown and described, the combination with the joists or beams of bent cross-pieces extending in convex lines from the flange of one beam to that of another, provided with perforated metal sheets and longitudinal cross-pieces for supporting the concrete forming the arch.

3. In the construction of floors and ceilings herein shown and described, the combination with the joists or beams of bent cross-pieces extending in convex lines from the flange of one beam to that of another, provided with perforated metal sheets and longitudinal cross-pieces for supporting the concrete forming the arch, and angle-irons extending along the lower flange of the beams having one flange resting thereon and another extending downwardly below the same, said downwardly-extended portion being provided with perforations through which rods are passed having metal lath secured thereto.

Signed at the city of New York, county and State of New York, this 15th day of March, 1900.

JACOB SCHRATWIESER.

Witnesses:

J. SIEBECKER,  
M. K. WHITMAN.