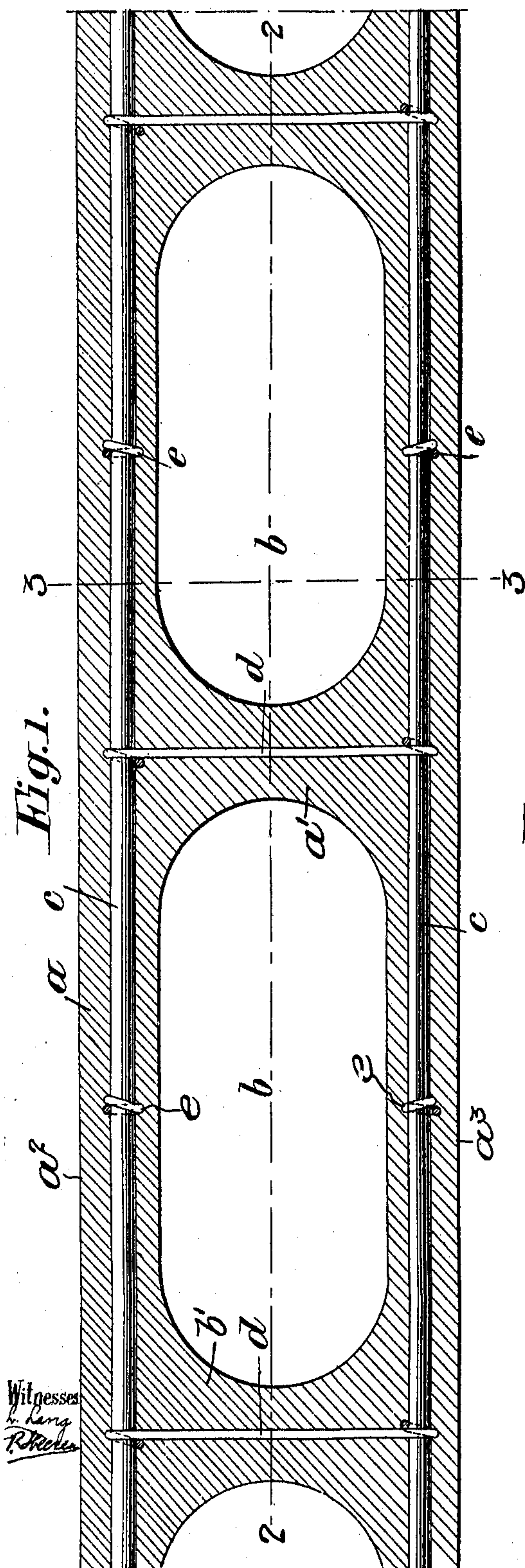


REINFORCED CONCRETE BEAM.  
APPLICATION FILED DEC. 30, 1908.

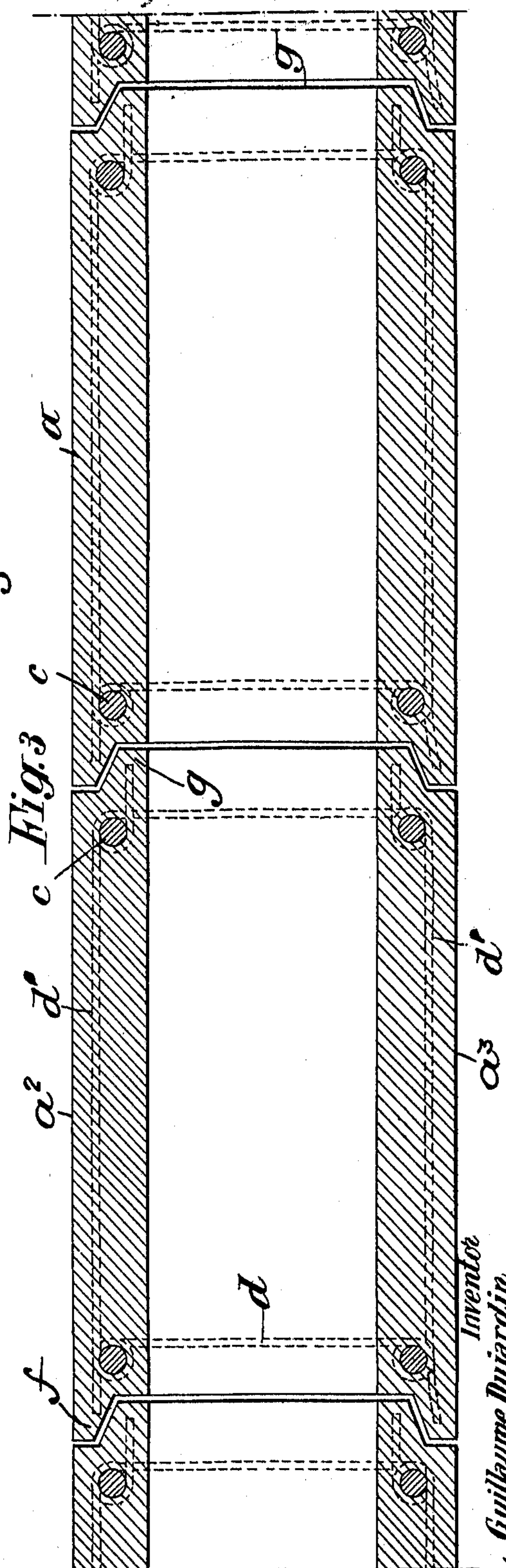
**Patented Mar. 29, 1910.**

**2 SHEETS--SHEET 1.**

953,024.



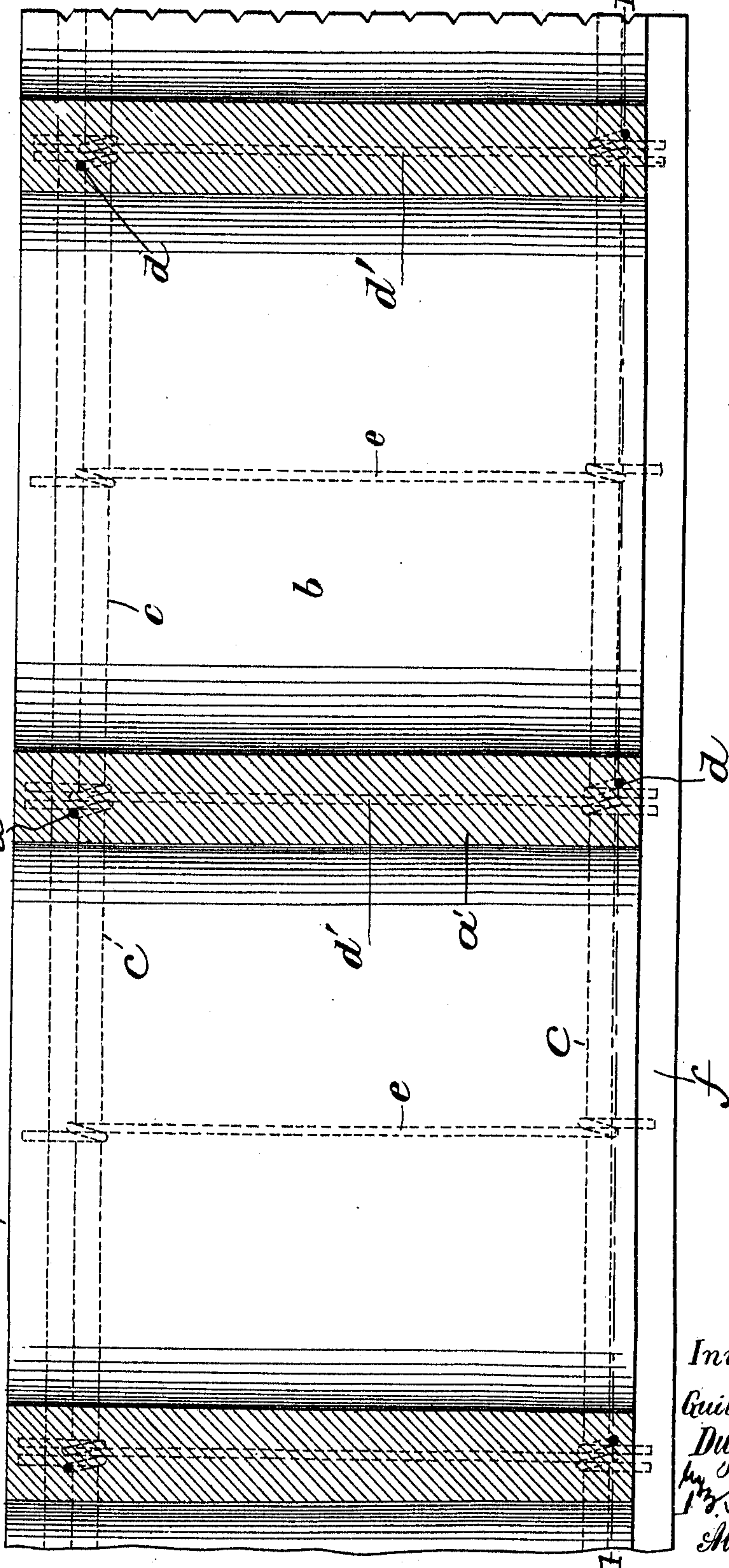
Witnesses  
L. Lang  
R. Becker



*Inventor*  
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Fig. 2.



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# UNITED STATES PATENT OFFICE.

GUILLAUME DUJARDIN, OF HUY, BELGIUM.

REINFORCED-CONCRETE BEAM.

953,024.

Specification of Letters Patent.

Patented Mar. 29, 1910.

Application filed December 30, 1908. Serial No. 470,018.

*To all whom it may concern:*

Be it known that I, GUILLAUME DUJARDIN, a subject of the King of Belgium, and resident of Huy, Belgium, have invented certain new and useful Improvements in Reinforced-Concrete Beams, of which the following is a specification.

This invention relates to an improved form of concrete construction and has to do more particularly with concrete beam constructions.

The invention has to do with that kind of concrete beams which are provided with transversely disposed openings divided by suitable partitioning members and a further object of the invention is to provide a new arrangement of reinforcing whereby the beam will be materially strengthened and rendered more efficient in use.

The invention will be more fully described in connection with the accompanying drawings and will be more particularly pointed out in and by the appended claims.

In the drawings, Figure 1 is a longitudinal sectional view on line 1—1 of Fig. 2. Fig. 2 is a sectional view on line 2—2 of Fig. 1. Fig 3 is a sectional view on line 3—3 of Fig. 1.

Like characters of reference designate similar parts throughout the different figures of the drawings.

As shown beams are provided as indicated at *a* and each beam is provided with a plurality of openings *b* transversely disposed with respect to the length thereof. The openings *b* are preferably elongated and extend completely through the beams from side to side and are divided by partitions *a'*. The division of openings *b*, in the manner described, forms strong upper and lower walls *a<sup>2</sup>* and *a<sup>3</sup>* which join the partition walls *a'* and by rounding the ends of the openings *b'* a very efficient arched juncture of the partitions with the upper and lower walls is provided.

According to my invention the beams are rectangular in cross section and are adapted to lie in parallel relation with each other to form a floor or roof structure. In order to provide a close juncture between the sides of the beams one side of each beam is provided with a longitudinal recess *f* and the other side with a complementally formed projection *g*. As shown in Fig. 3 the projection *g* of one beam is adapted to fit in the recess *f* of the next adjacent beam forming

a rabbeted joint and if desired the beams may be so disposed as to cause the openings *b* to register.

Reinforcing rods *c* are longitudinally embedded in each beam and are preferably disposed at each corner thereof, there being four rods for each beam. Between the partitions *a'* the rods *c* are connected by transversely disposed horizontal reinforcing wires *e* which are embedded in the upper and lower walls *a<sup>2</sup>* and *a<sup>3</sup>* and extend across the beams above and below the openings *b*. Vertically disposed reinforcing wires *d* are embedded in the partitions *a'* and are connected with the rods *c* at each side of the beam. In addition to the foregoing, horizontally disposed reinforcing wires *d'* are connected with the rods *c* and preferably the wires *d'* are disposed in the same plane as the wires *d*. The reinforcing wires *d*, *d'* and *e* may be simply wound about the rods *c* and their projecting ends may be utilized for reinforcing the members of the rabbeted joint as clearly shown in Fig. 3 wherein it will be seen that the ends of the wires project outwardly beyond the rods *c*.

It will be seen that the beam constructed in accordance with my invention is formed to afford a maximum sustaining efficiency irrespective of the reinforcement and that the improved reinforcement provided serves to strengthen and brace the means so that it will be able to stand whatever stress to which it may be ordinarily subjected.

I claim:—

1. The hereindescribed reinforced concrete beam construction comprising in combination, a plurality of beams each composed of concrete and each provided with a plurality of transversely disposed openings spaced apart from each other with vertically disposed transverse partitions between said openings, longitudinally disposed reinforcing members embedded in each beam adjacent the lateral corners thereof, vertically and horizontally disposed reinforcing wires embedded in each beam centrally of each partition and connecting said longitudinal members, transversely disposed horizontal reinforcing wires embedded in each beam above and below said openings and between said partitions and connected with said longitudinal members, each of said beams being longitudinally recessed on one of its sides and provided on its opposite side with a complementally formed lateral projection.



2. The hereindescribed reinforced concrete beam construction comprising in combination, a plurality of beams each composed of concrete and each provided with a plurality  
5 of transversely disposed openings spaced apart from each other with vertically disposed transverse partitions between said openings, longitudinally disposed reinforcing members embedded in each beam adjacent  
10 each lateral corner thereof, vertically and horizontally disposed reinforcing wires embedded in each beam centrally of said partitions and connected with said longitudinal members, and transversely disposed  
15 horizontal reinforcing wires embedded in each beam above and below said openings and between said partition and connected with said longitudinal members.

3. A reinforced concrete beam provided  
20 with a plurality of transversely disposed openings spaced apart from each other and vertically disposed transverse partitions between said openings, longitudinally disposed reinforcing members embedded in said  
25 beams, vertically and horizontally disposed reinforcing wires in said beams and con-

nected with said longitudinal members, and transversely disposed reinforcing wires embedded in said beams and connected with  
said longitudinal members between said ver- 30  
tically and horizontally disposed wires.

4. A concrete beam provided with a plurality of transversely disposed openings spaced apart from each other with vertically  
disposed transverse partitions between said 35  
openings, longitudinally disposed reinforcing members embedded in said beam, vertically and horizontally disposed reinforcing wires embedded in said partition and connected with said longitudinally disposed  
40 members, and transversely disposed reinforcing wires embedded in said beam above and below said openings and between said partition and connected with said longitudinal members. 45

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

GUILLAUME DUJARDIN.

Witnesses:

GREGORY PHELAN,  
JAMES M. G. FAY.