

(No Model.)

2 Sheets—Sheet 1.

V. N. McGEE & M. W. MANSFIELD.

CROSSING FROG FOR RAILROAD TRACKS.

No. 528,786.

Patented Nov. 6, 1894

Fig. 1.

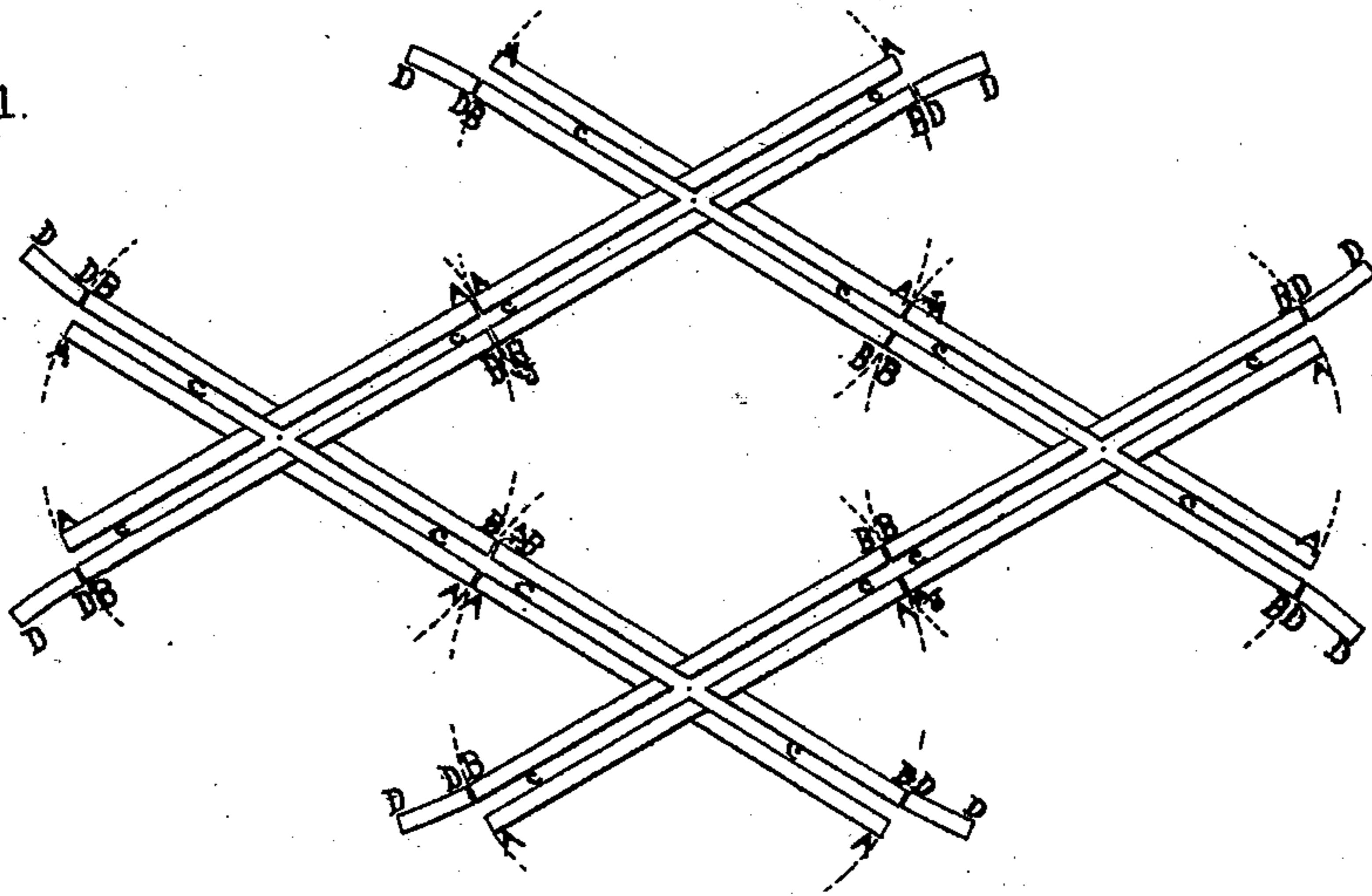


Fig. 2.

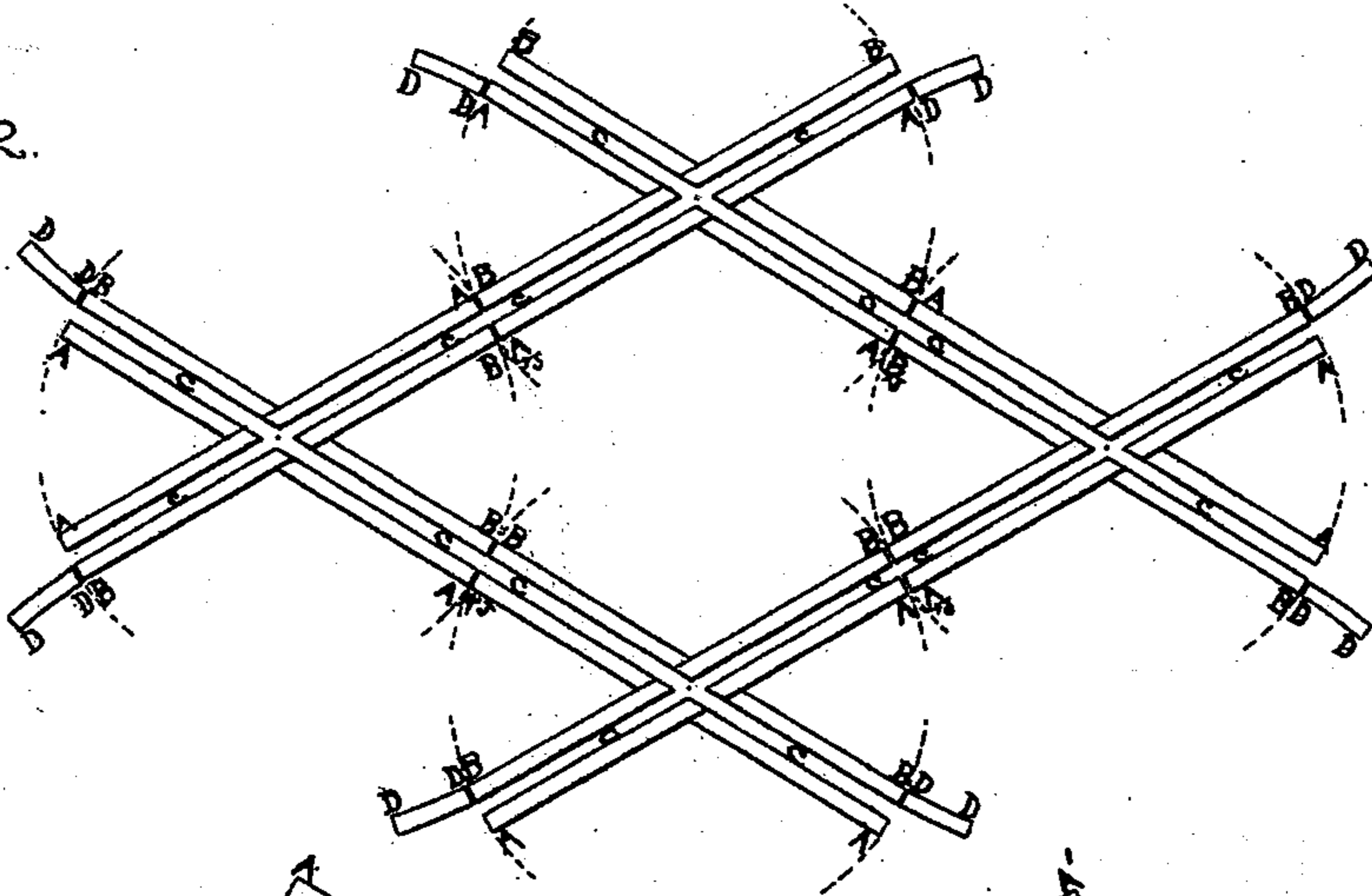
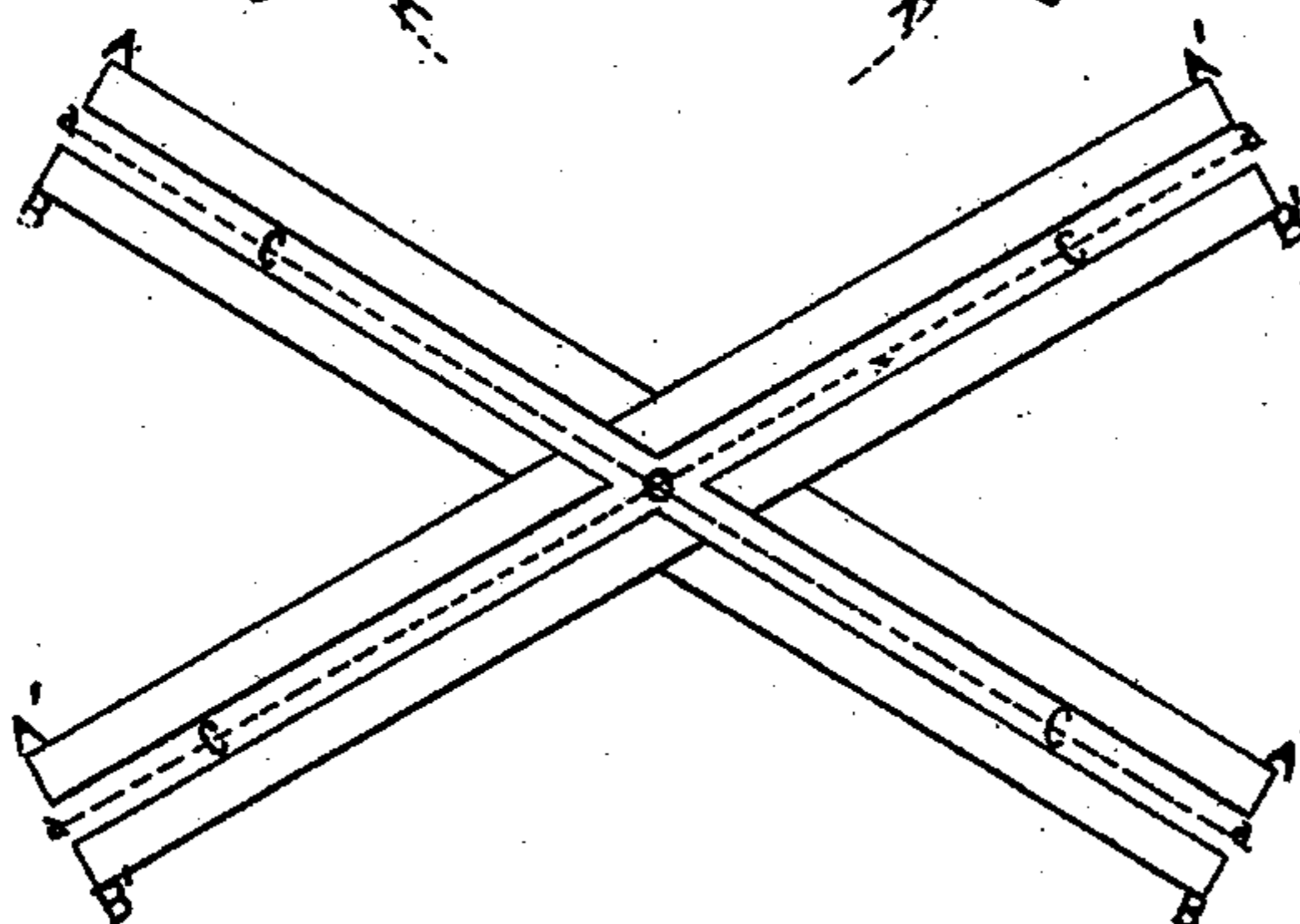


Fig. 3.



WITNESSES:

E. C. Buskirk  
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(No Model.)

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Fig 4-

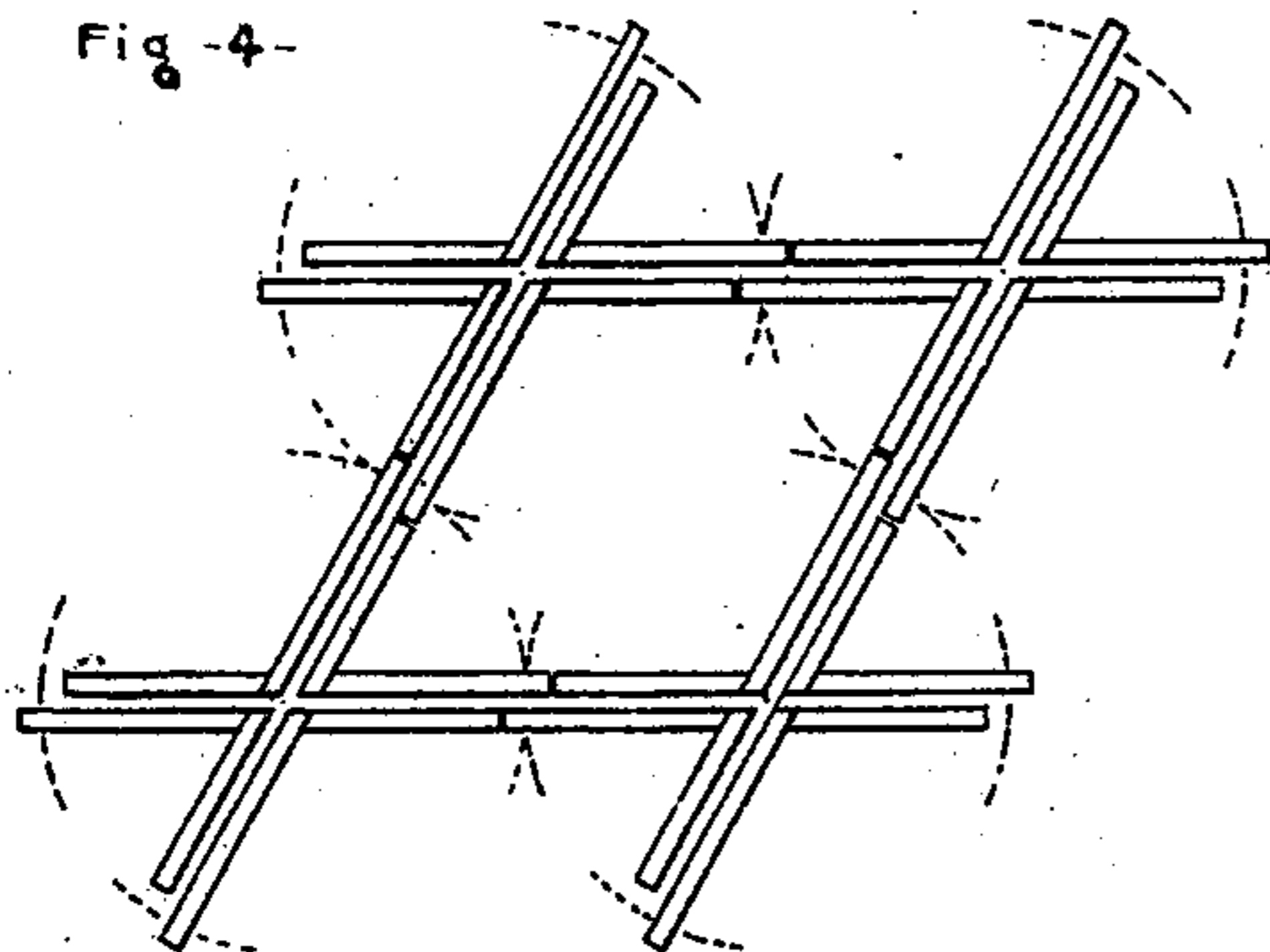


Fig 5-

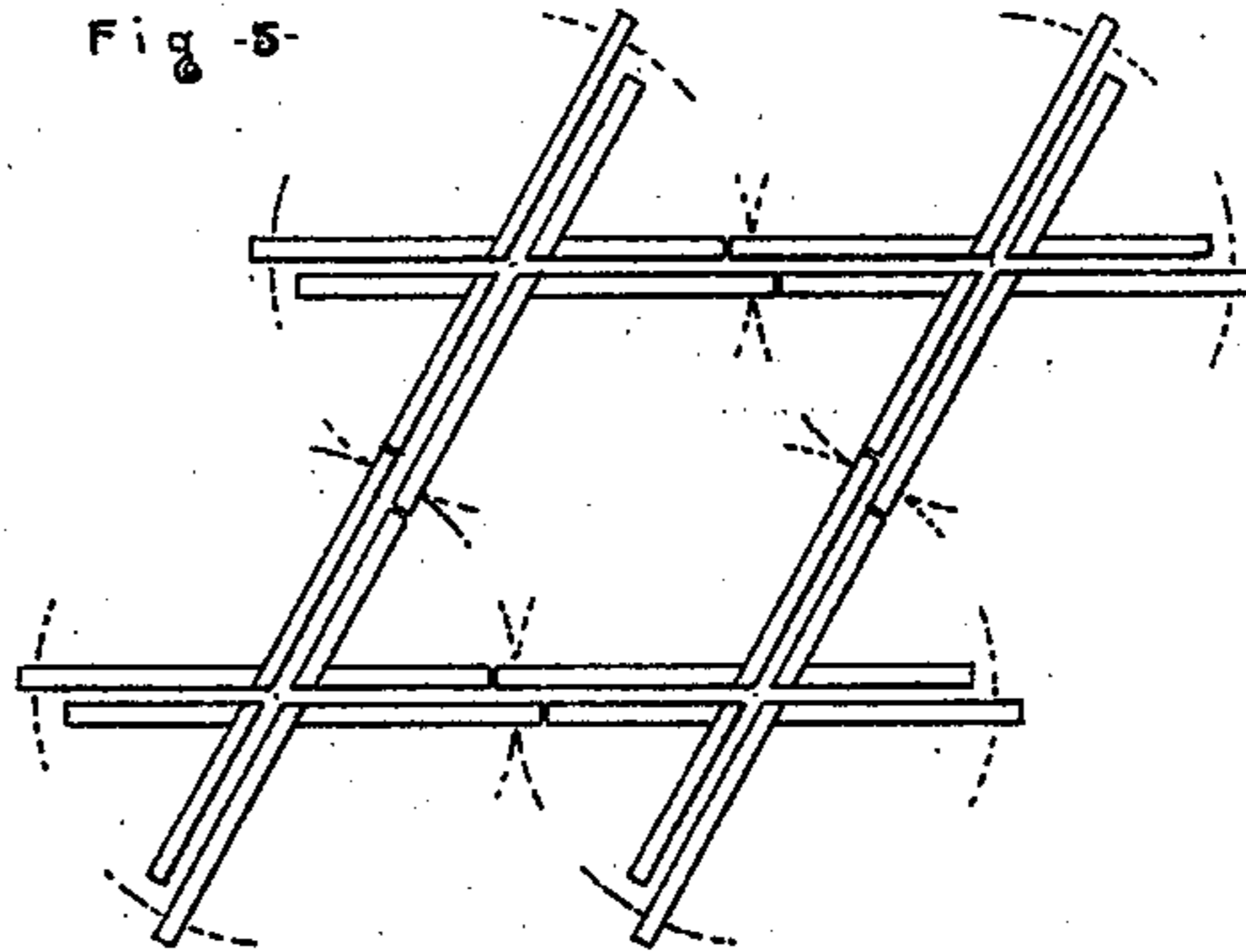


Fig 6

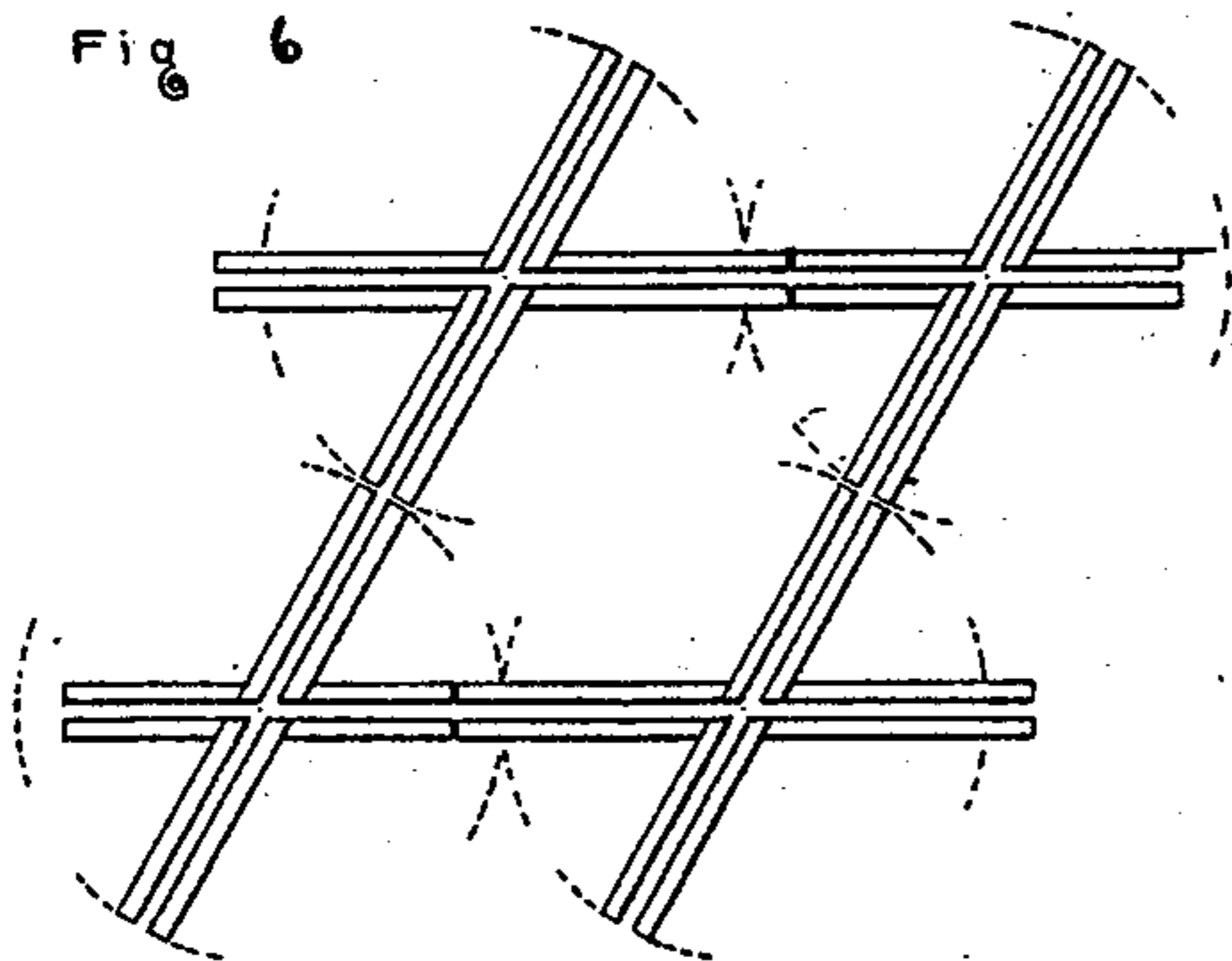
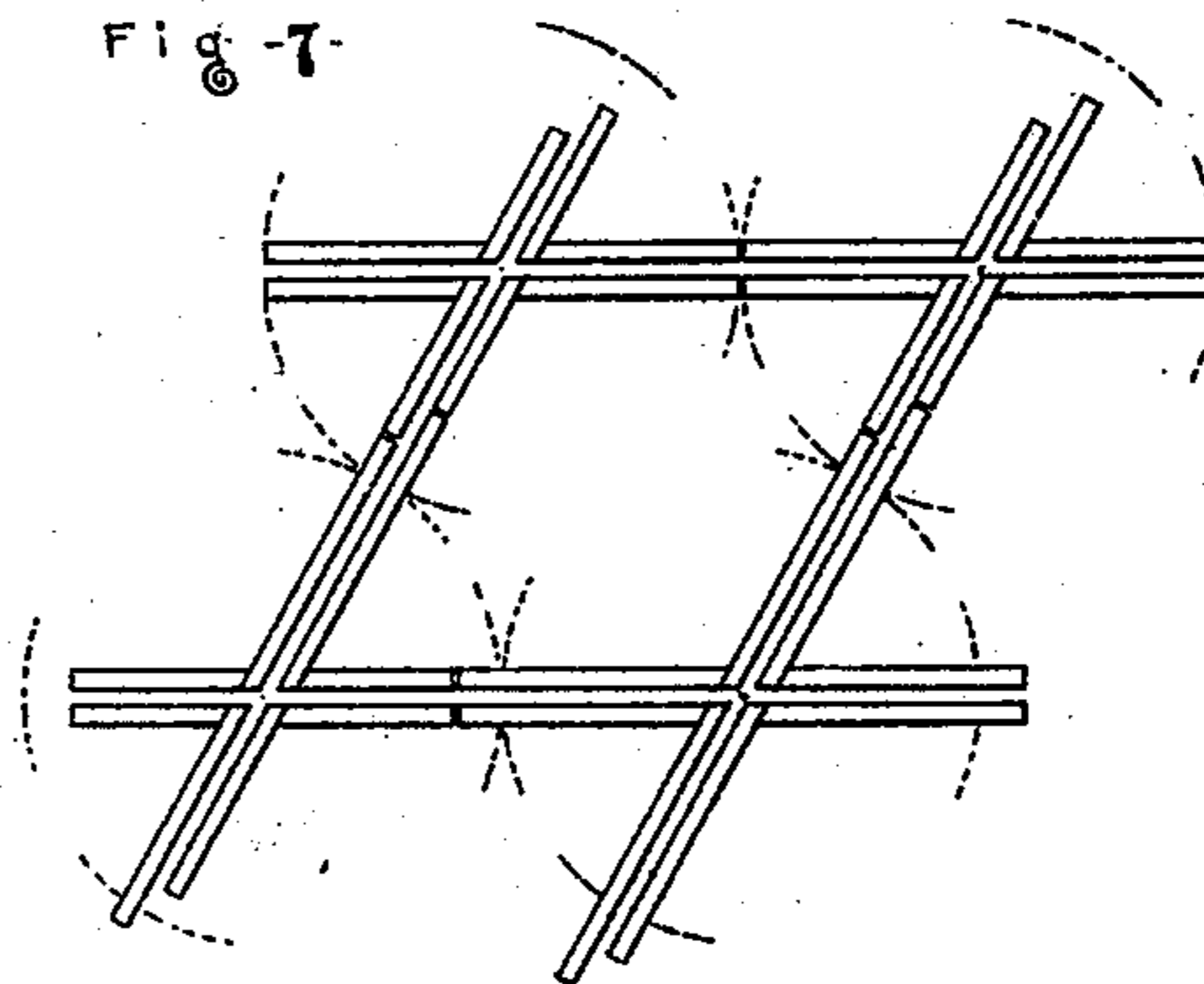


Fig 7-



WITNESSES:

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*W. E. Buskirk*

INVENTORS:

*V. N. McGee*

*M. W. Mansfield*

# UNITED STATES PATENT OFFICE.

VAN N. MCGEE AND MARTIN W. MANSFIELD, OF INDIANAPOLIS, INDIANA.

## CROSSING-FROG FOR RAILROAD-TRACKS.

SPECIFICATION forming part of Letters Patent No. 528,786, dated November 6, 1894.

Application filed September 24, 1894. Serial No. 523,947. (No model.)

*To all whom it may concern:*

Be it known that we, VAN N. MCGEE and MARTIN W. MANSFIELD, citizens of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented an Improvement in Crossing-Frogs for Railway-Tracks, of which the following is a specification.

Our invention relates to improvements in railway crossing frogs in which the frogs composing the crossing are reversible and one or more of the frogs, when turned, in the plane of the frog, end for end, admit of the use of the guard rail or guard rails as a main rail or main rails or vice versa.

In the crossing frogs of railways there are the main rails on which run the treads of the car wheels. Near these rails on the inside of the crossing are guard rails usually bound or fastened to the main rails, leaving a space between the main and guard rails commonly called the throat of the frog through which the flanges of car wheels are free to move.

The main rails of crossing frogs become worn and sometimes are broken, necessitating the replacement of one or more of the frogs composing the crossing. It is therefore very desirable to be able to dispense with devices for railway crossings that will not admit of the reversal of a frog, nor admit of the use of the guard rail as a main rail or the use of a main rail as a guard rail. In our invention this object is accomplished by constructing the frog in reference to the axis of the frog and about which axis the frog is reversible. This axis is a line formed by the intersection of two imaginary planes in the throats of the frog, one of which is midway between the main rail and guard rail of one railroad track and the other plane midway between the main rail and guard rail of the other or crossing railroad track, and both of which planes are perpendicular to the plane of the frog or a plane which is parallel to the top surface of the frog rails. Each crossing frog of the crossing therefore is constructed so that the distance, from a common point in the axis of the frog as above described, to either extreme of any frog rail along either track must equal

half the distance between extremes of similarly situated frog rails along same track, and the total length of main rail of any frog shall equal the total length of guard rail of the same frog along the track considered. Each frog of the crossing therefore would be reversible, end for end, and admit of the main rails being used as guard rails or guard rails being used as main rails and also admit of the interchangeability of two or more of the frogs composing the crossing.

Figure 1, of the drawings represents a railway crossing embodying this invention. Fig. 2, represents the same with one of the frogs reversed or turned end for end, which shows the main rail in position to be used as a guard rail and the guard rail in position to be used as a main rail. Fig. 3 represents one of the frogs of a crossing on which are shown the lines, which are the traces of the planes, midway between the main rails and guard rails and their intersection at a point in the axis of the frog.

In Fig. 1, A A A A in shaded lines represent the main rails, B B B B the guard rails and C C C C the throats of the crossing frogs of two railway tracks. D D represent wing pieces which may be bolted or fastened to the guard rails B B B B at the outer extremities of the crossing. J J J J represent joints between the frogs of the crossing.

In Fig. 2 one of the frogs is represented as reversed, end for end, showing the main track rail A A in position for use as a guard rail and the guard rail B B in position for use as a main rail.

In Fig. 3  $a$   $a$  and  $a'$   $a'$  represent respectively the lines midway between the main rail A A and the guard rail B B and between the main rail A' A' and guard rail B' B', and O represents the point of intersection of the lines which is also the projection and represents the axis of the frog upon the plane of the frog and about which the frog may be reversed or turned in the plane of the frog through an arc of one hundred and eighty degrees, thereby making available the guard rails B B and B' B' for use as main rails and main rails A A and A' A' for use as guard rails.

Figs. 4, 5, 6, and 7 represent some of the modifications of the frogs shown in Fig. 1.

5 Figs. 4 and 5 represent frogs which are reversible and interchangeable one with another.

10 Fig. 4 represents the frogs which are reversible when the main rail is shortened at one end and lengthened at the other end, while the corresponding guard rail has its ends respectively lengthened and shortened the same distances. If this distance of lengthening and shortening the rails be made common to the ends of each rail of each frog composing the crossing so that when constructed  
15 the frogs are alike, they will be interchangeable one with another.

Fig. 5 represents the frogs symmetrically constructed in respect to lines which bisect the angle of the frog or crossing and when so

constructed are likewise reversible and interchangeable. 20

Figs. 6 and 7 represent frogs which are reversible but may not be interchangeable.

We claim as our invention—

25 The herein described crossing frog, having main rails and guard rails constructed of rails adapted to serve as the bearing rail and properly secured together and of length from their points of intersection so proportioned that said frogs can, without change in themselves, 30 be reversed in position or interchanged with each other, as set forth.

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MARTIN W. MANSFIELD.

Witnesses:

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