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(12) **United States Design Patent** (10) **Patent No.:** **US D831,592 S**  
**Nishio et al.** (45) **Date of Patent:** **\*\* Oct. 23, 2018**

(54) **OPTICAL SEMICONDUCTOR ELEMENT**

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(57) **CLAIM**

The ornamental design for an optical semiconductor element, as shown and described.

(\*\*) Term: **15 Years**

**DESCRIPTION**

(21) Appl. No.: **35/502,667**

(22) Filed: **Sep. 21, 2016**

(80) **Hague Agreement Data**

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Int. Reg. Date: **Sep. 21, 2016**

Int. Reg. Pub. Date: **Mar. 24, 2017**

(30) **Foreign Application Priority Data**

Mar. 24, 2016 (JP) ..... 2016-006371

(51) **LOC (11) Cl.** ..... **13-03**

(52) **U.S. Cl.**  
USPC ..... **D13/180**

(58) **Field of Classification Search**  
USPC ..... D13/180, 134; D14/371; D9/737;  
D26/122, 120, 141, 118, 1  
(Continued)

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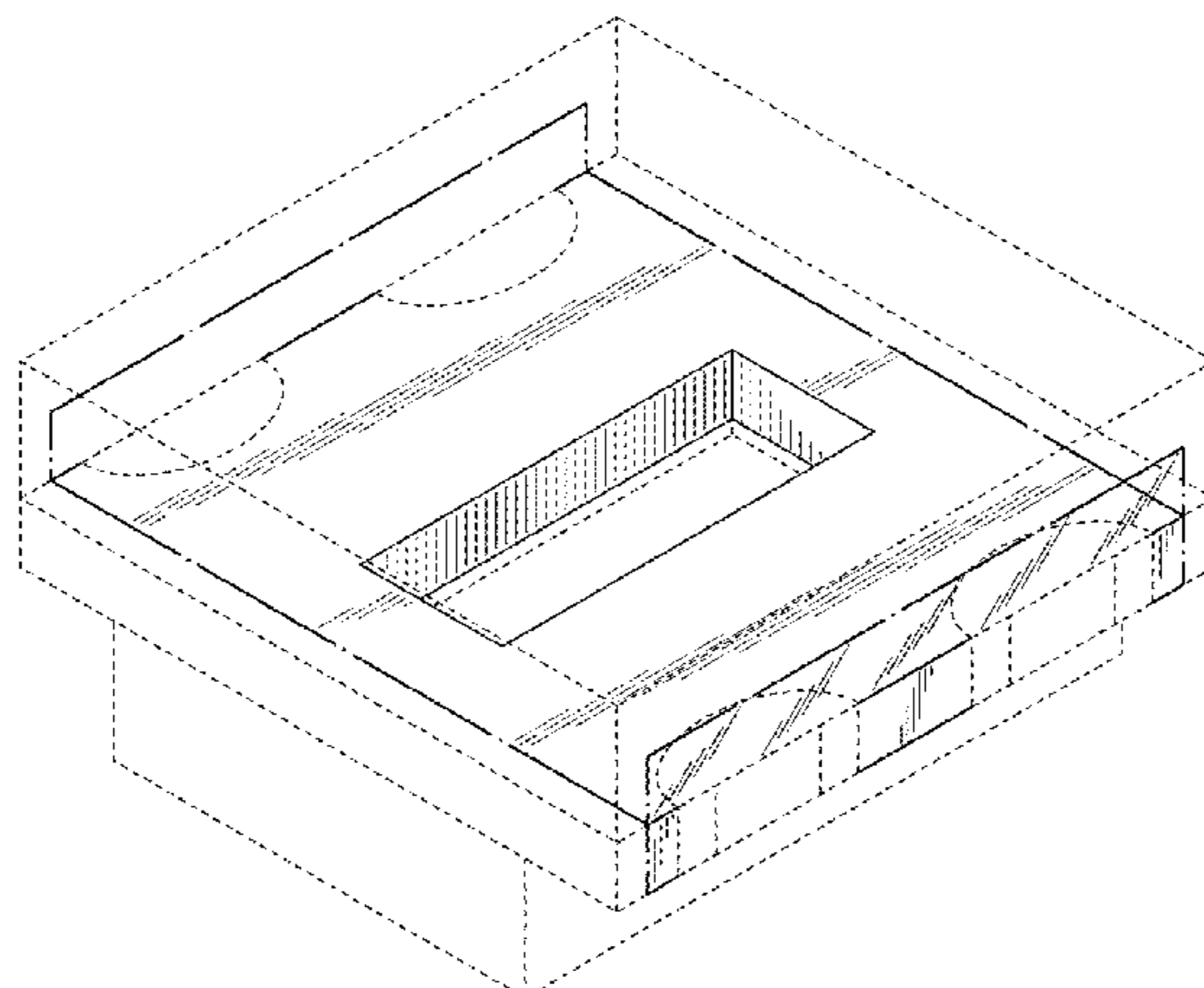
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- 1. Optical semiconductor element
- 1.1 : Top perspective view
- 1.2 : Bottom perspective view
- 1.3 : Front
- 1.4 : Back
- 1.5 : Top
- 1.6 : Bottom
- 1.7 : Left
- 1.8 : Right
- 1.9 : Sectional view
- 1.10 : Reference view showing the state in use

This article has a board part, a transparent sealing resin part and a light-shield sealing resin part; the board part has a rectangular entrance window in the center; the transparent sealing resin part covers an upper surface of the board part; the light-shield sealing resin part encapsulating a semiconductor light receiving element is positioned underneath the board part; the bottom center of the transparent sealing resin part is protruded and engaged with the rectangular entrance window of the board part; the article can be mounted onto a mount board; the parts shown as solid lines are parts for which design registration is sought; the lines consisting of alternating long and short dashes in the drawings only indicate lines dividing our inventive design claimed herein from other parts which are not claimed; the parts for which design registration is sought are lower parts of the side surfaces of the transparent sealing resin part including the protruding part, and the board part including the rectangular entrance window part; the transparent sealing resin part of

(Continued)



the article is transparent; reproduction 1.9 is a cross-sectional view through the upper semicircular electrode parts of reproduction 1.5.

In the reproductions, the dash-dot-dash broken lines are for the purpose of illustrating the boundaries of the claimed design. The evenly spaced broken lines are for the purpose of illustrating environment only and form no part of the claimed design.

**1 Claim, 10 Drawing Sheets**

(58) **Field of Classification Search**

CPC ..... H01L 33/62; H01L 33/486  
See application file for complete search history.

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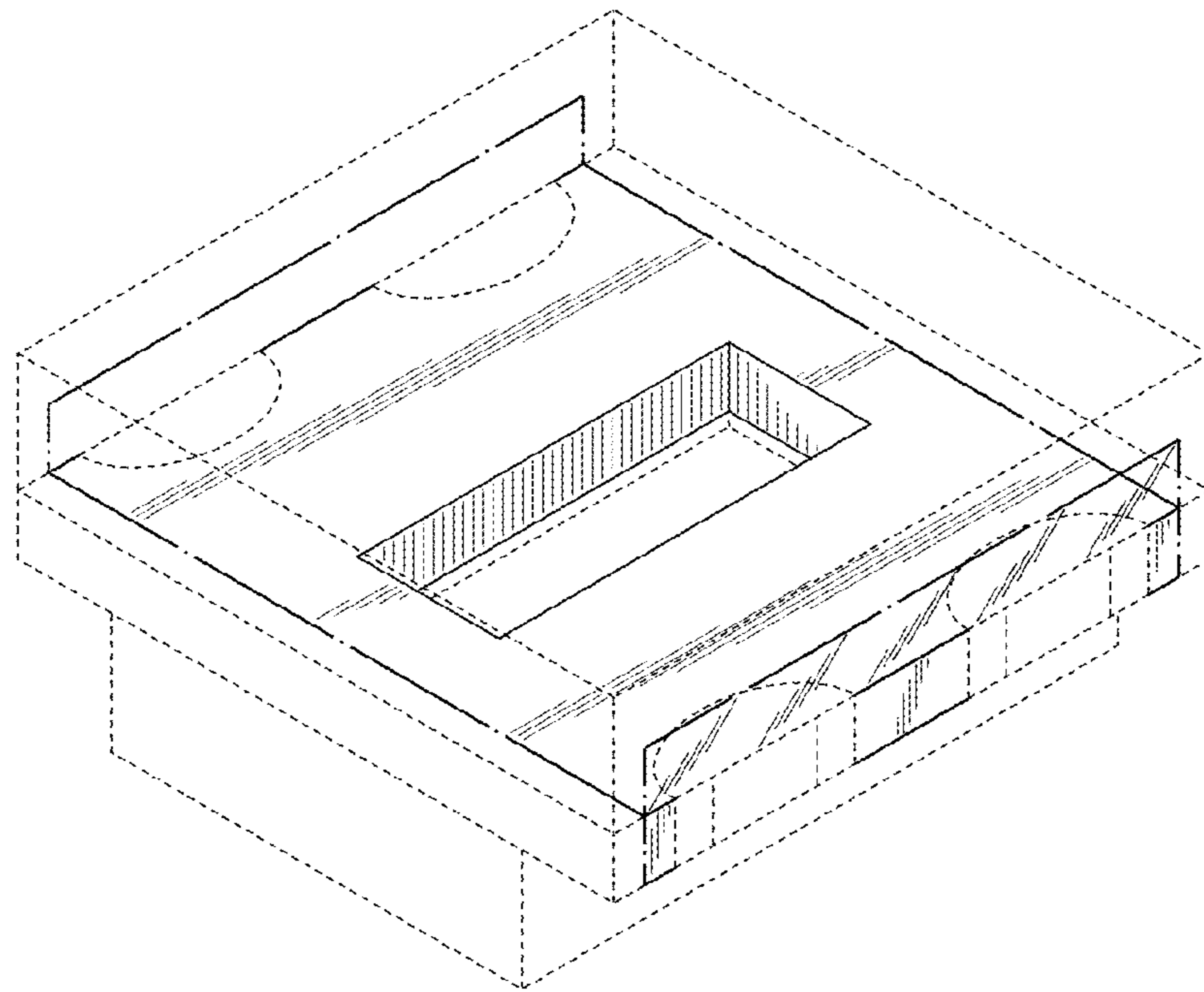
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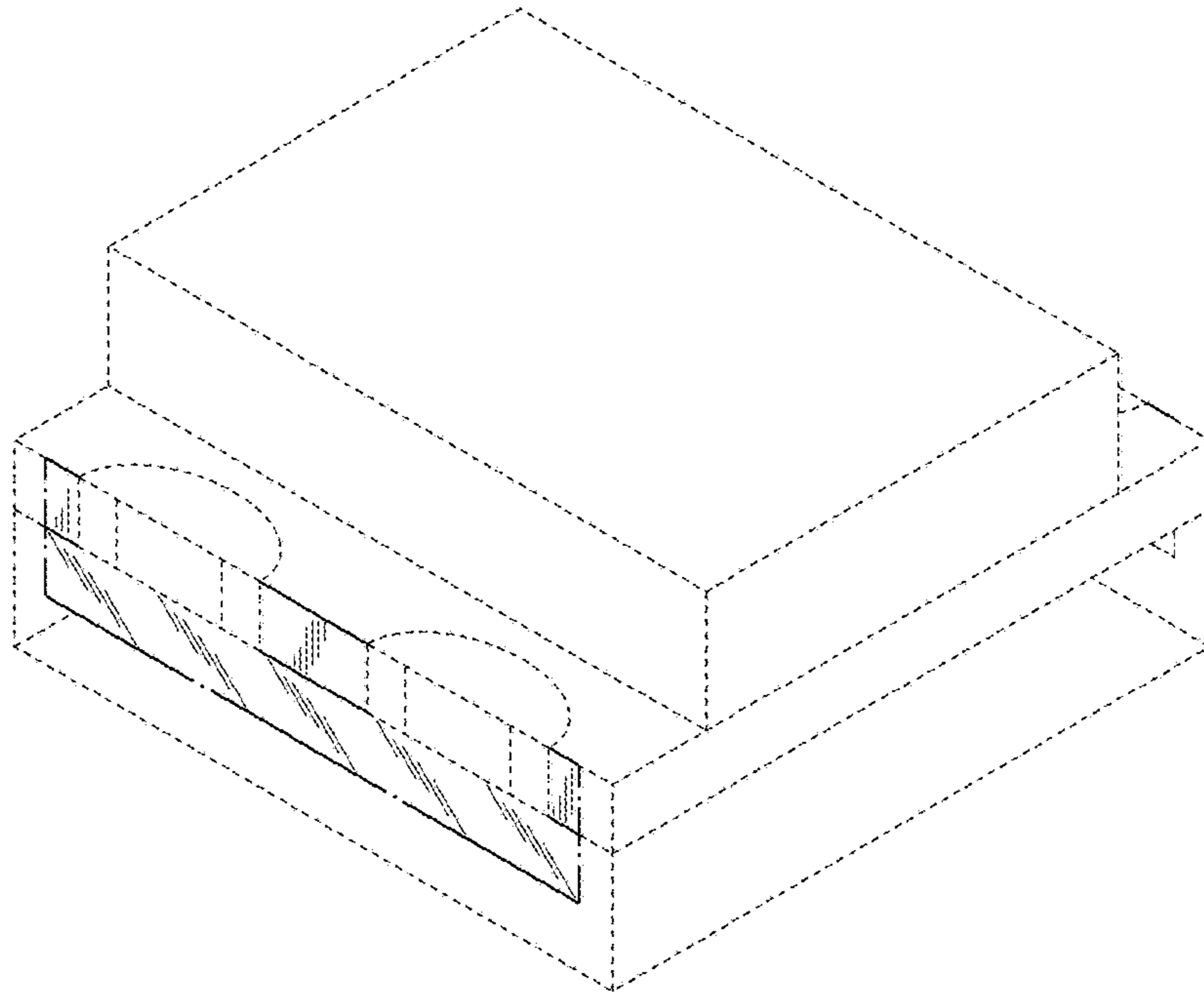
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1.1



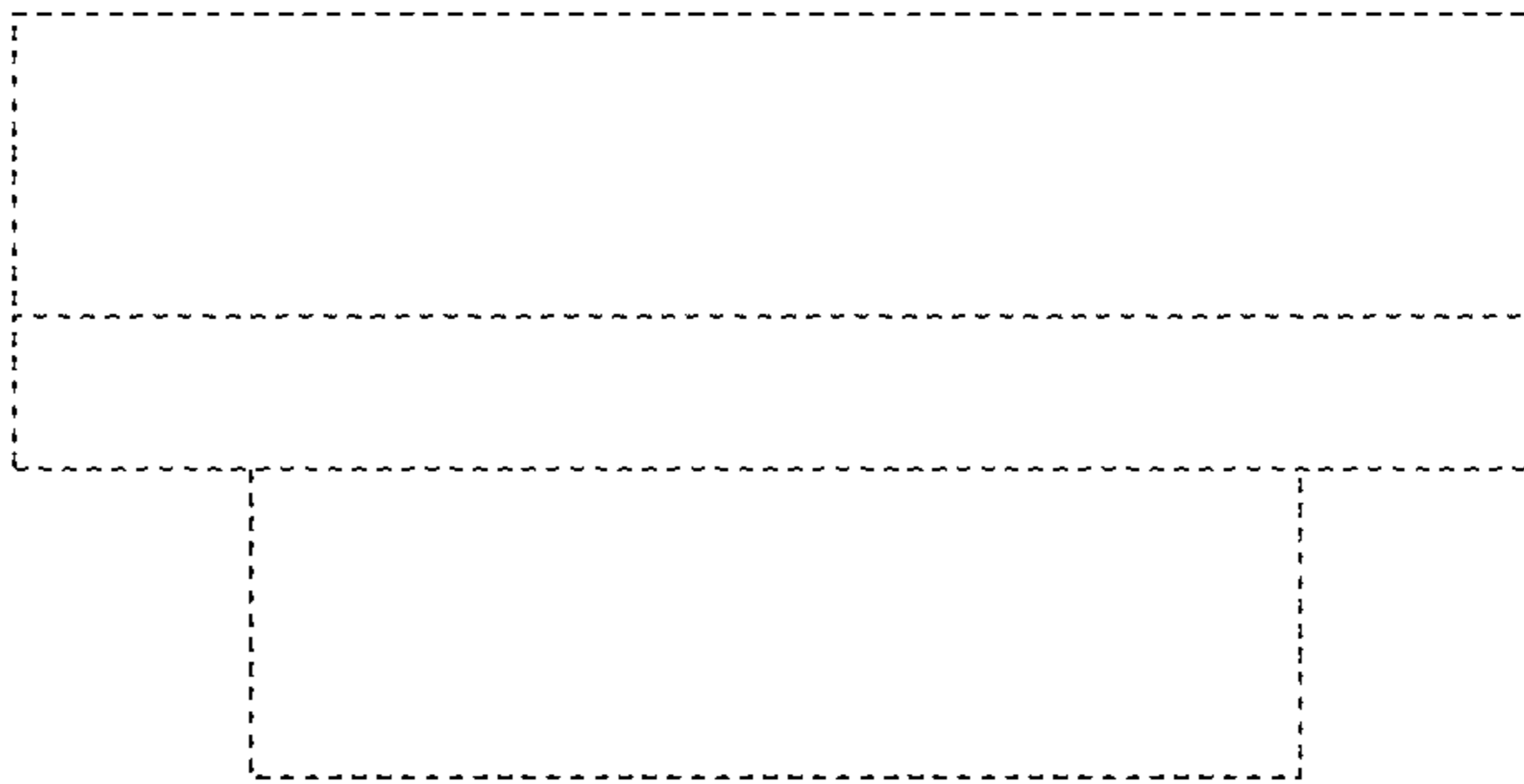
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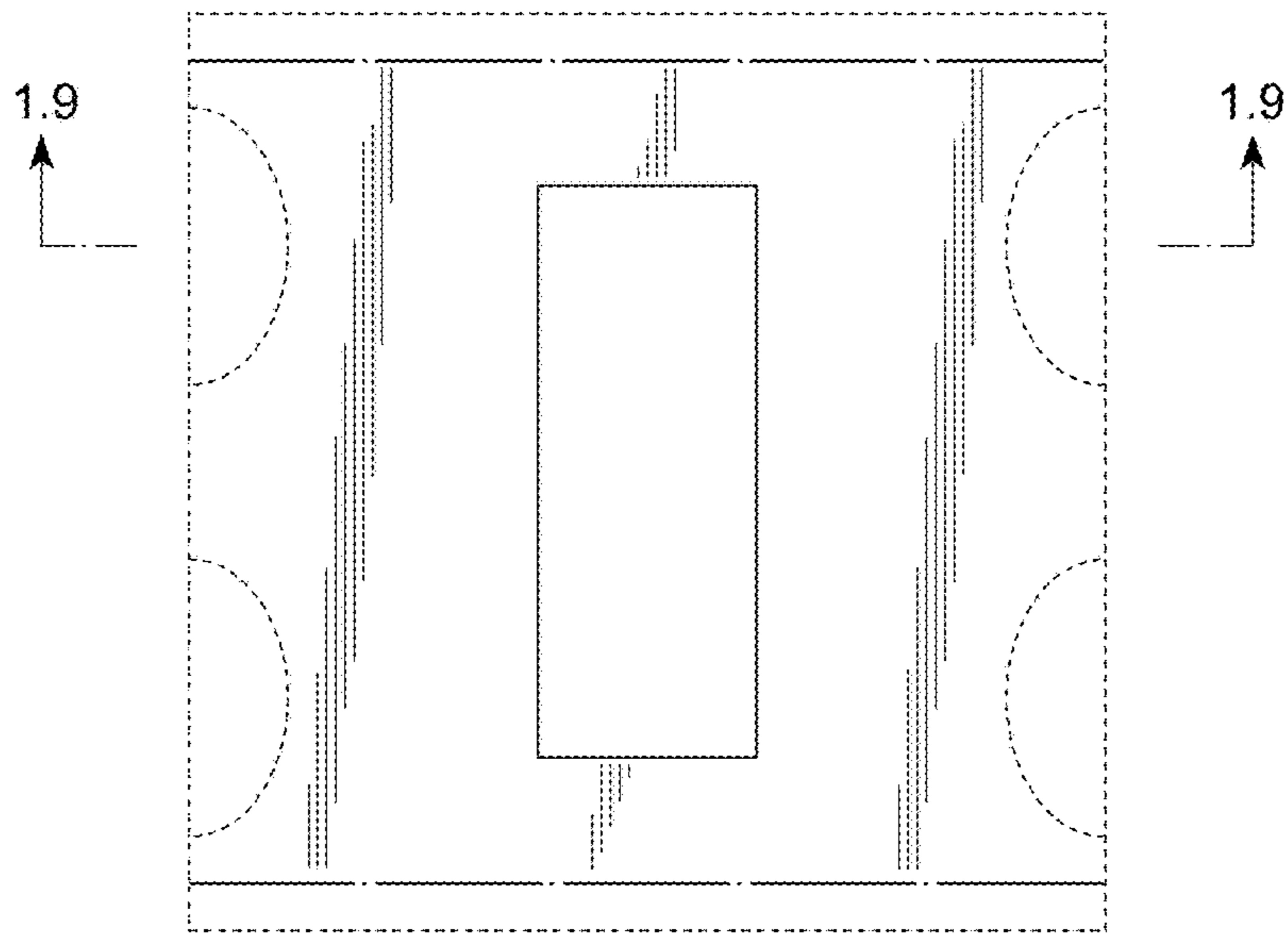
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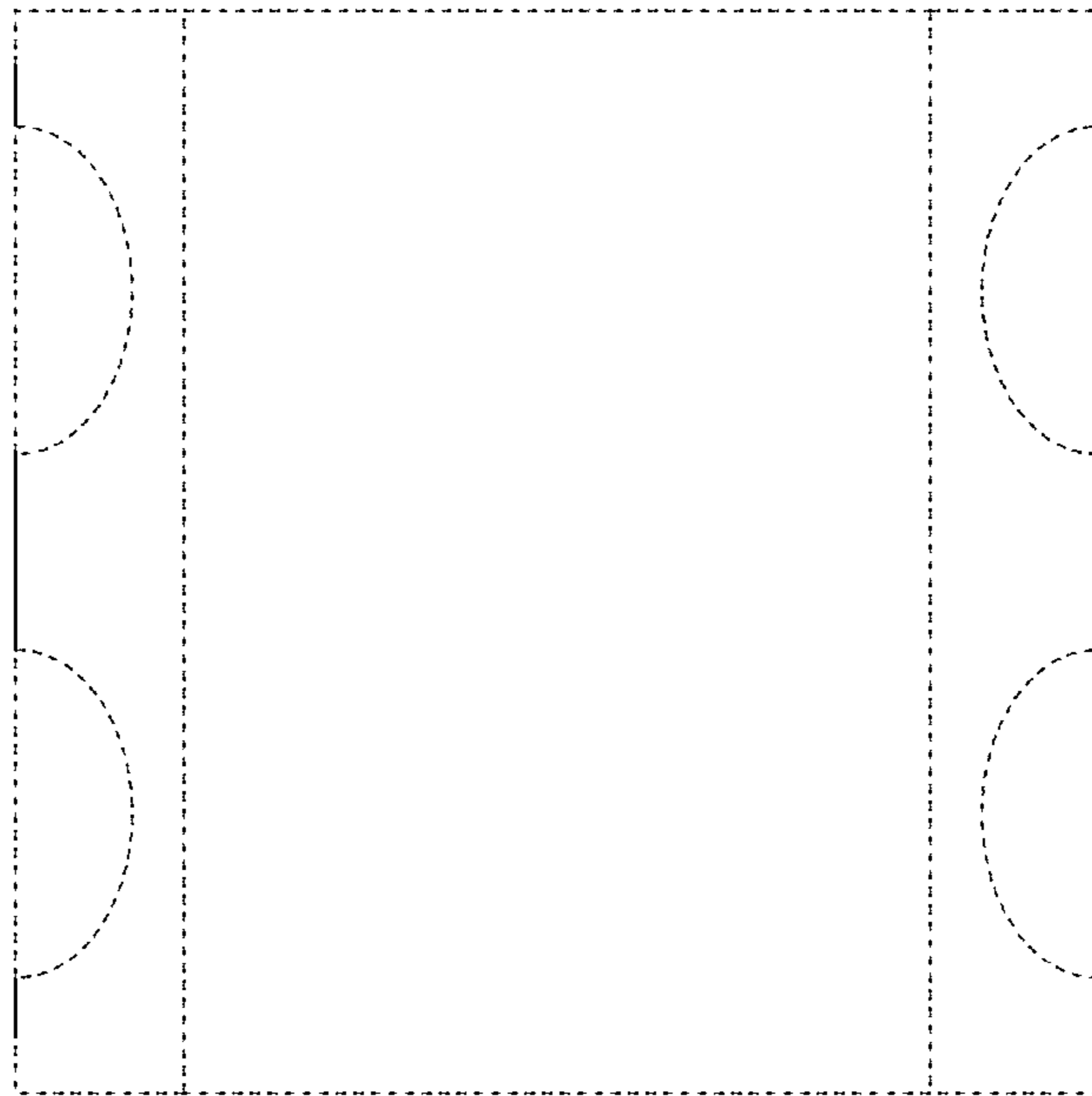
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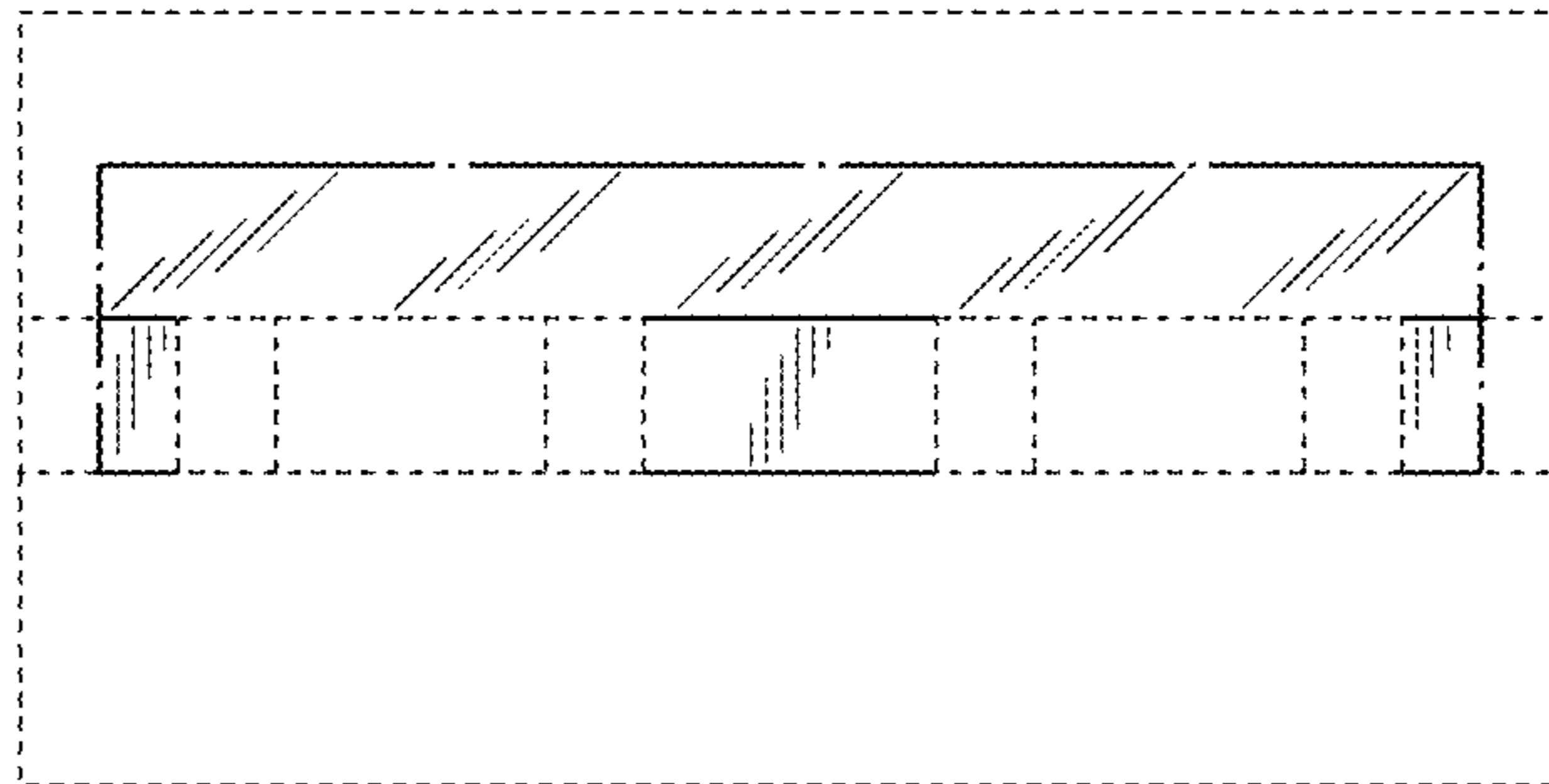


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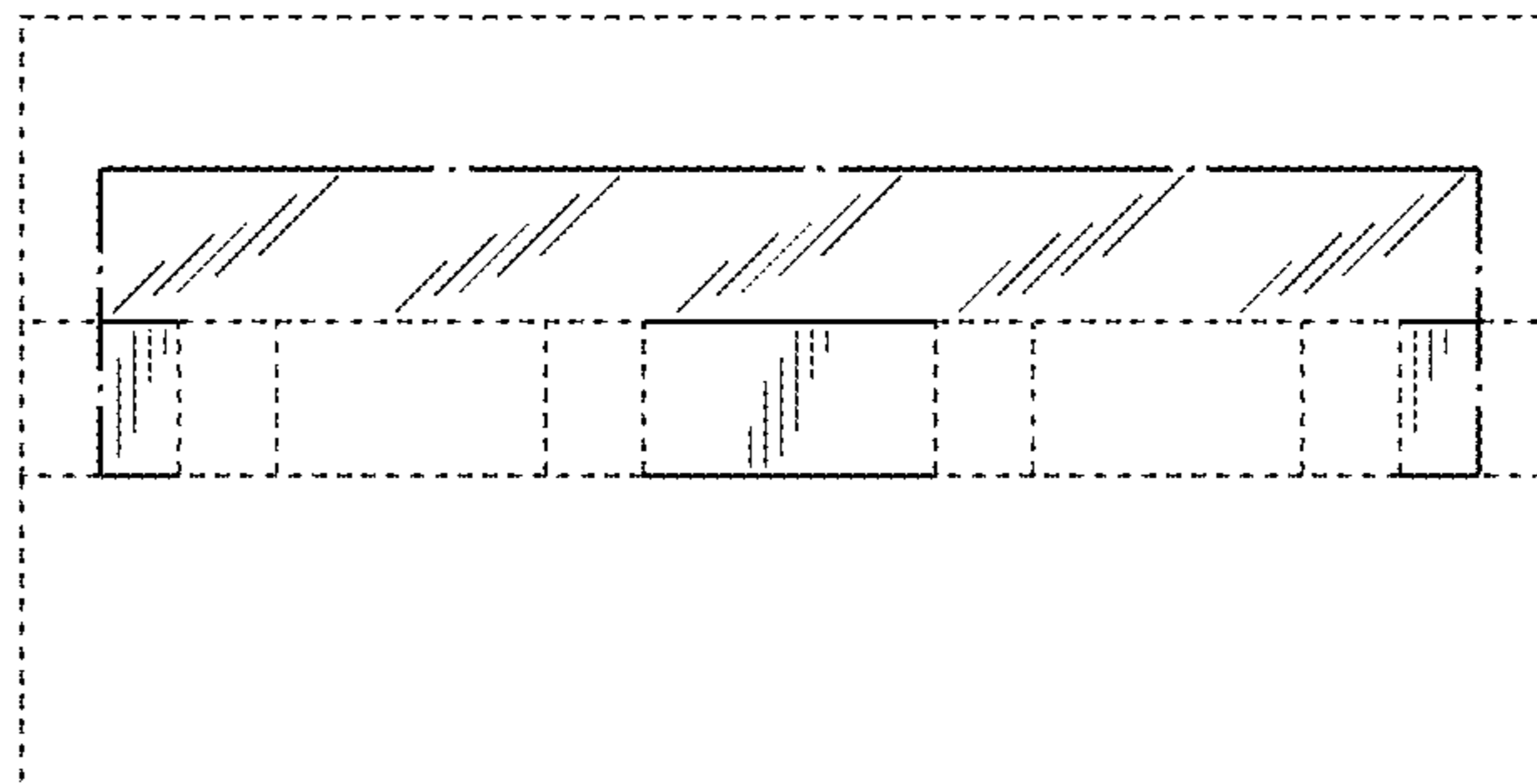




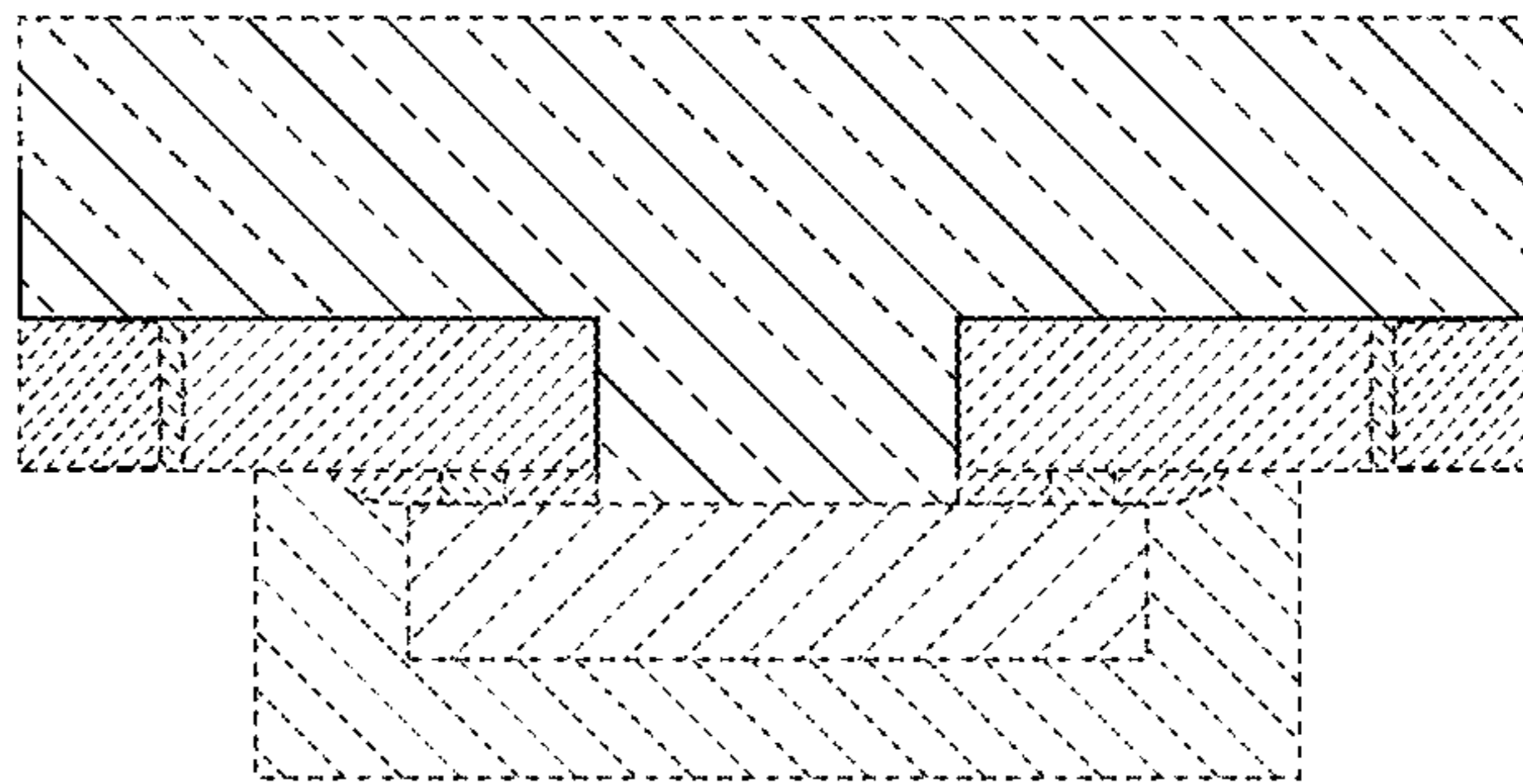
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1.10

