

US00D827589S

(12) **United States Design Patent** (10) **Patent No.:** **US D827,589 S**  
**Bando et al.** (45) **Date of Patent:** **\*\* Sep. 4, 2018**

(54) **HEAT SINK**

FOREIGN PATENT DOCUMENTS

(71) Applicant: **SUMITOMO SEIKA CHEMICALS CO., LTD.**, Hyogo (JP)

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(72) Inventors: **Seiji Bando**, Hyogo (JP); **Hirotake Moriyama**, Hyogo (JP)

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(73) Assignee: **SUMITOMO SEIKA CHEMICALS CO., LTD.**, Hyogo (JP)

Communication dated Mar. 17, 2017, dispatched from the Intellectual Property Office of Taiwan in counterpart application No. 105305943.

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

*Primary Examiner* — Rhea Shields

(21) Appl. No.: **35/502,712**

(74) *Attorney, Agent, or Firm* — Sughrue Mion, PLLC

(22) Filed: **Sep. 30, 2016**

(57) **CLAIM**

The ornamental design for a heat sink, as shown and described.

(80) **Hague Agreement Data**

**DESCRIPTION**

Int. Filing Date: **Sep. 30, 2016**

1., 3.-4. Heat sink

Int. Reg. No.: **DM/093472**

1.1 : Front

Int. Reg. Date: **Sep. 30, 2016**

1.2 : Back

Int. Reg. Pub. Date: **Mar. 31, 2017**

1.3 : Top

1.4 : Bottom

(30) **Foreign Application Priority Data**

Apr. 5, 2016 (JP) ..... 2016-007595

Apr. 5, 2016 (JP) ..... 2016-007596

(Continued)

1.5 : Left

1.6 : Right

1.7 : Top perspective view

1.8 : Bottom perspective view

1.9 : Cross-sectional

3.1 : Front

3.2 : Back

3.3 : Top

3.4 : Bottom

3.5 : Left

3.6 : Right

3.7 : Top perspective view

3.8 : Bottom perspective view

3.9 : Cross-sectional

4.1 : Front

4.2 : Back

4.3 : Top

4.4 : Bottom

4.5 : Left

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

(52) **U.S. Cl.**  
USPC ..... **D13/179**

(58) **Field of Classification Search**  
USPC ..... D13/179; 438/122

(Continued)

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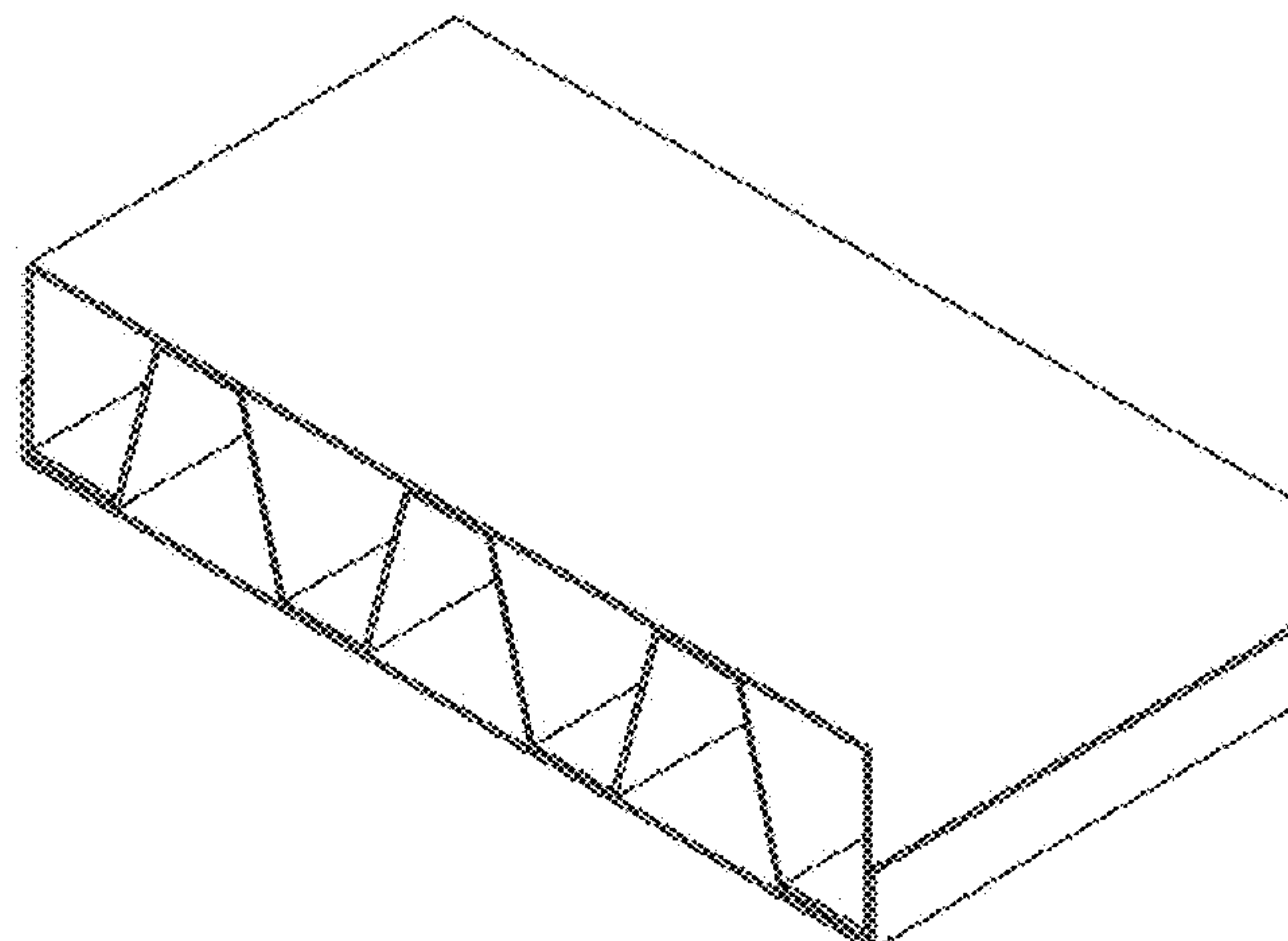
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(Continued)

(Continued)



- 4.6 : Right
- 4.7 : Top perspective view
- 4.8 : Bottom perspective view
- 4.9 : Cross-sectional

The articles are heat sink for heat release and cooling of electric and electronic equipment, such as television integrated circuits and lighting apparatus; reproduction No. 1.9 is a cross-sectional view sectioned vertically at the center of the right view No. 1.6; reproduction No. 3.9 is a cross-sectional view sectioned vertically at the center of the right view No. 3.6; reproduction No. 4.9 is a cross-sectional view sectioned vertically at the center of the right view No. 4.6.

**1 Claim, 27 Drawing Sheets**

(30) **Foreign Application Priority Data**

- Apr. 5, 2016 (JP) ..... 2016-007597
- Apr. 5, 2016 (JP) ..... 2016-007602

(58) **Field of Classification Search**

- CPC ..... H01L 23/4006
- See application file for complete search history.

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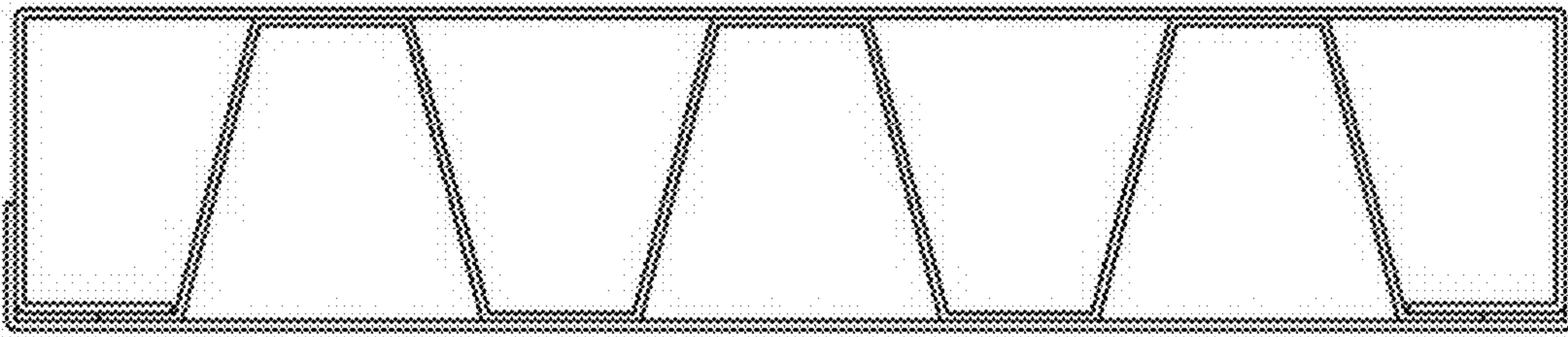
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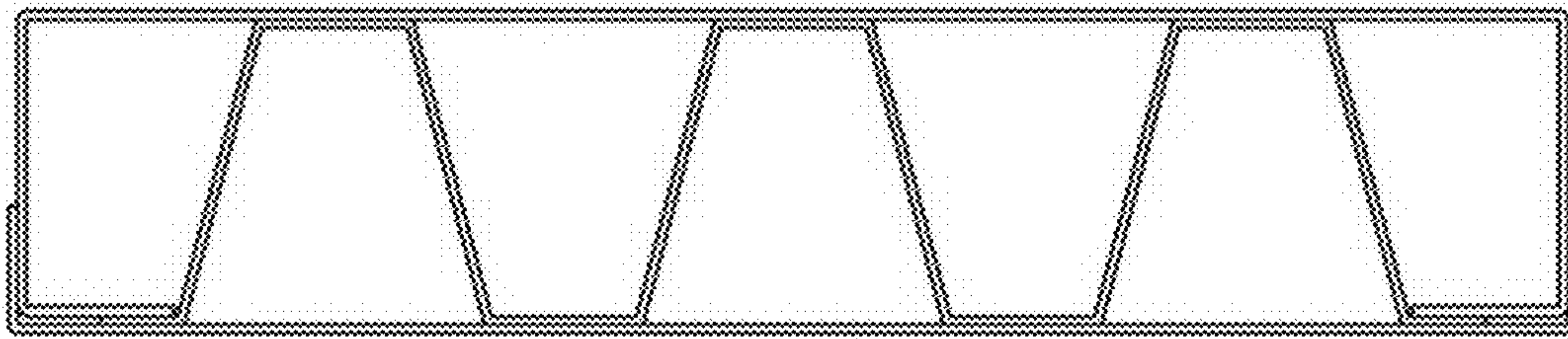
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D793,400	S *	8/2017	Lin	.....	D13/179
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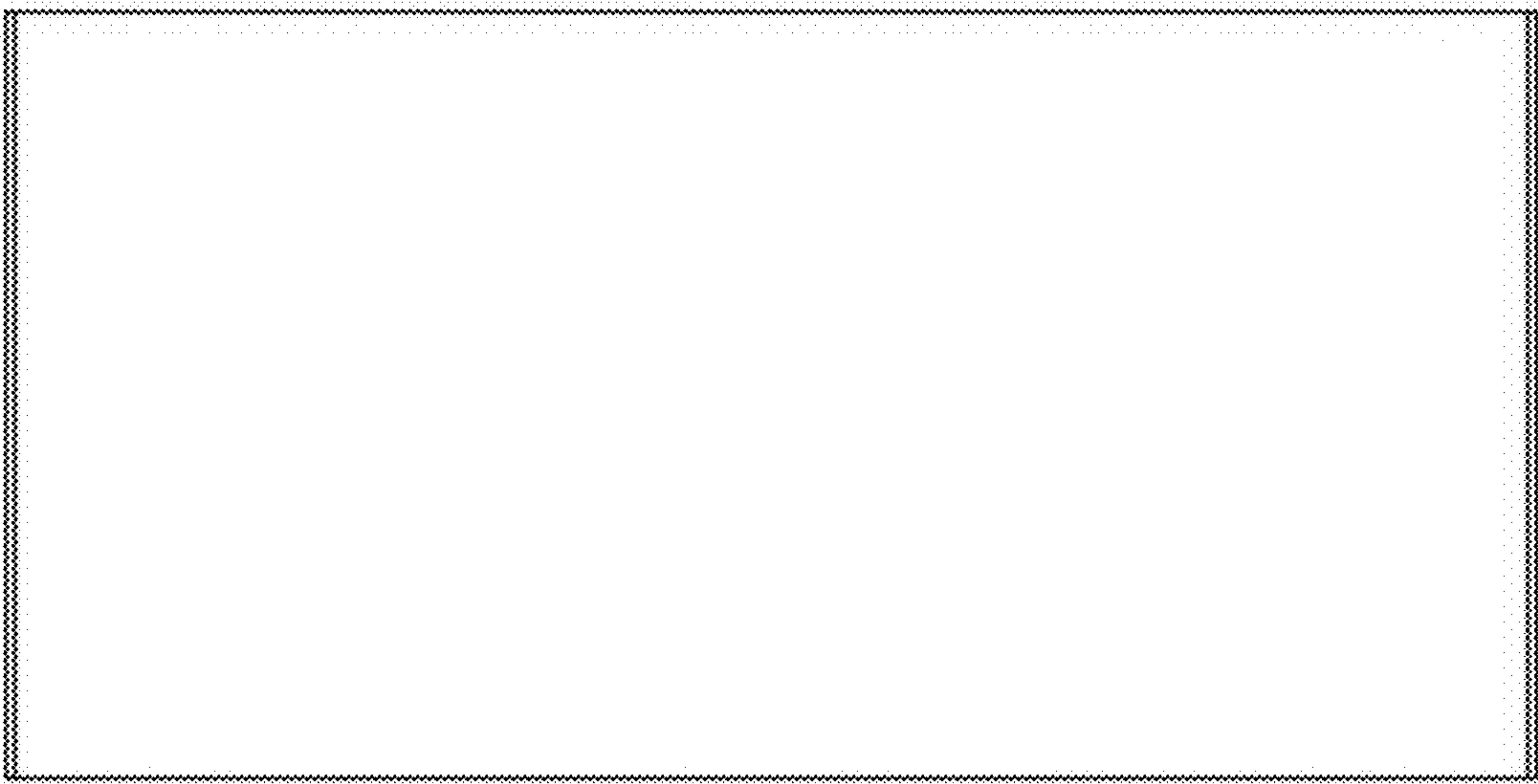
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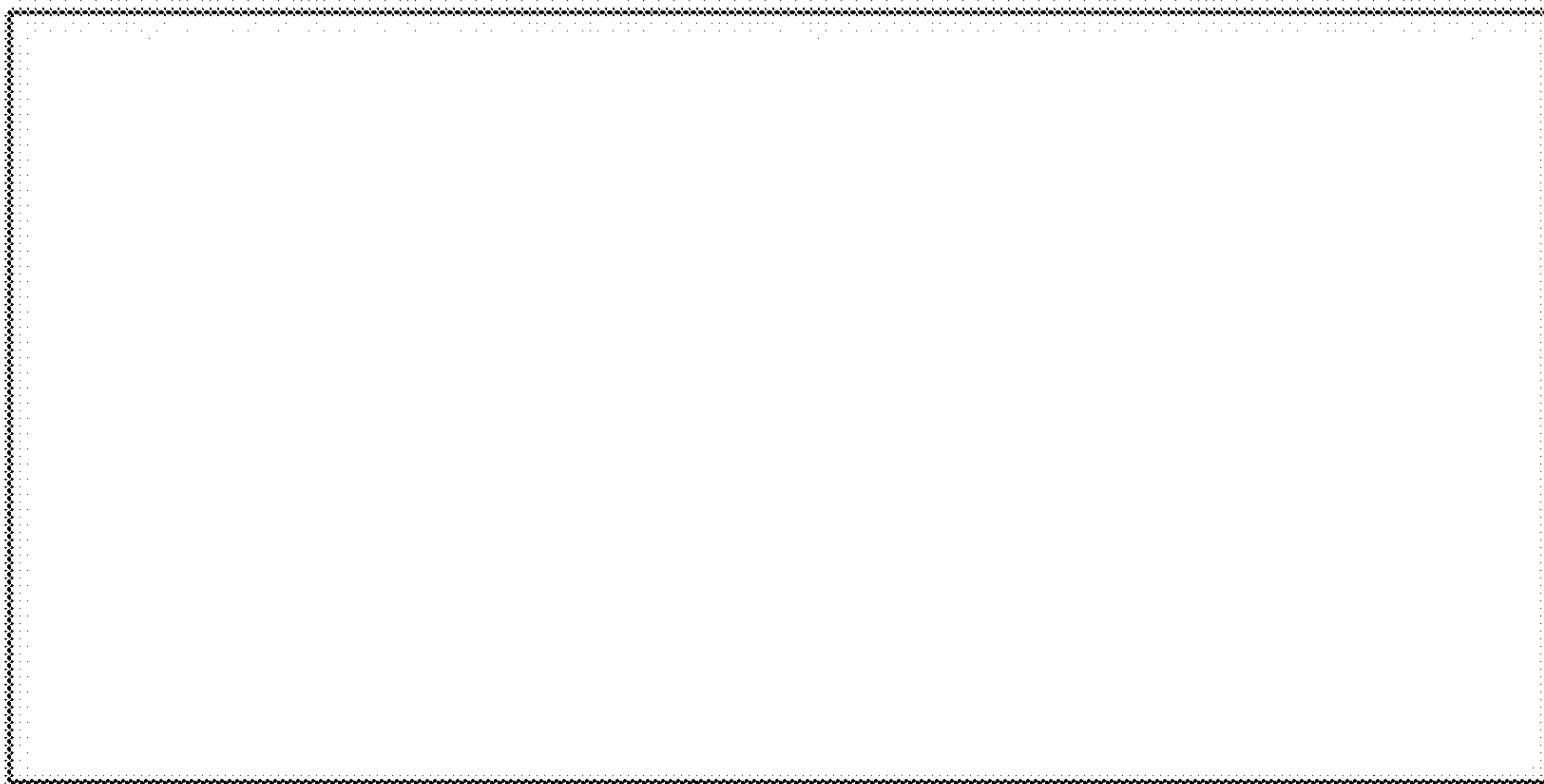
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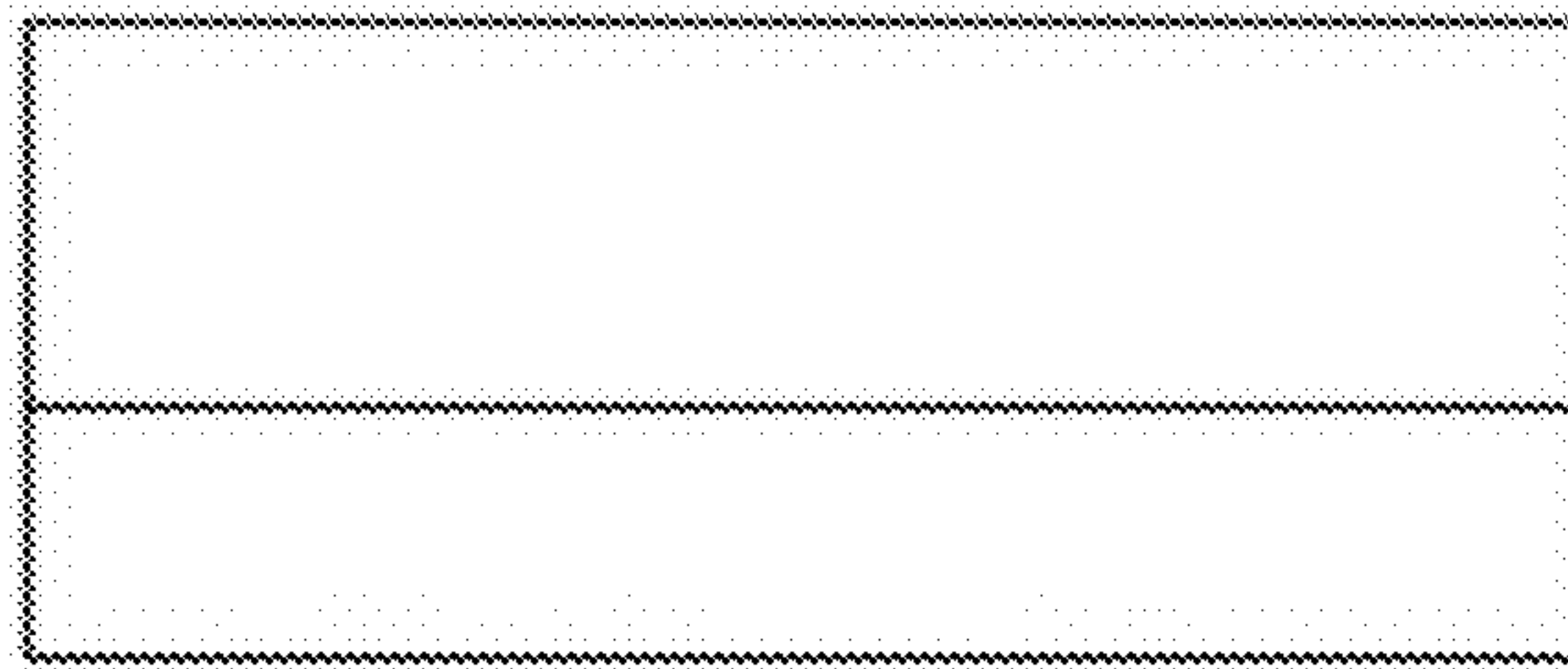
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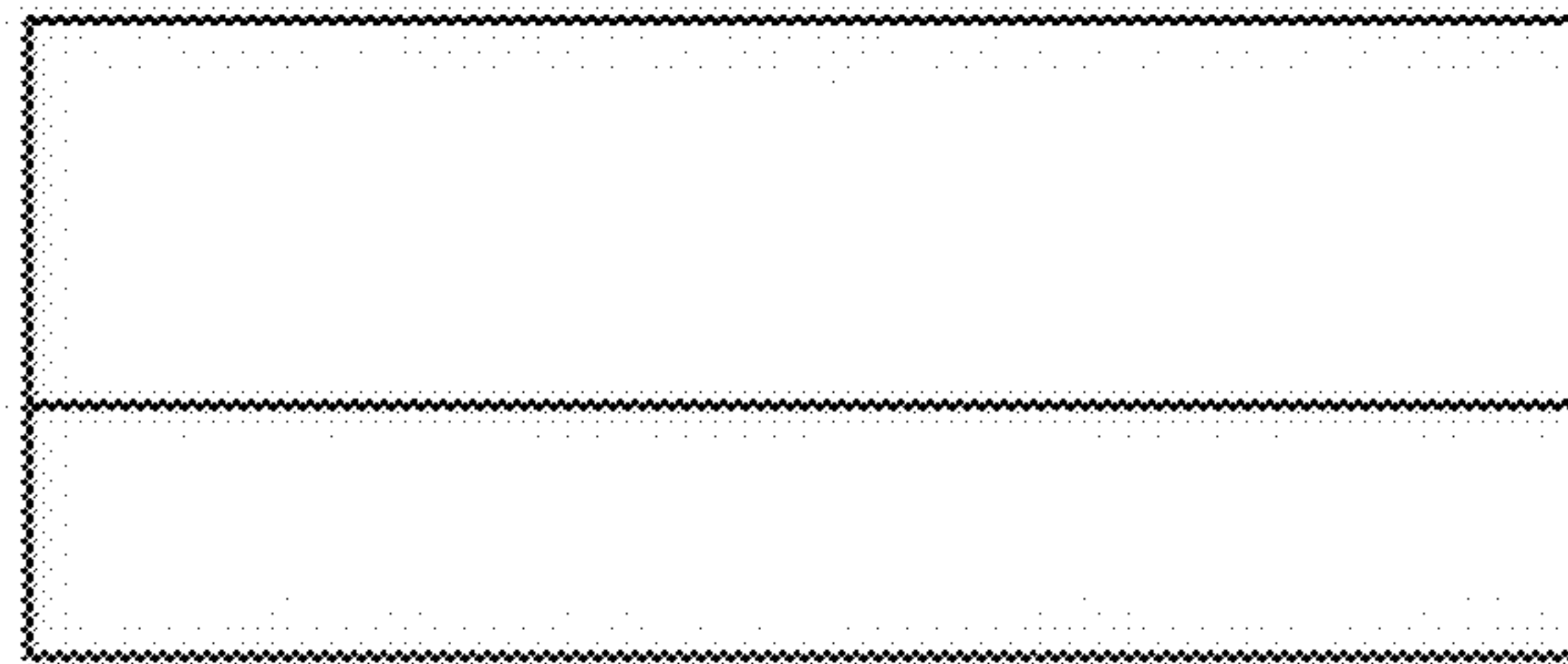


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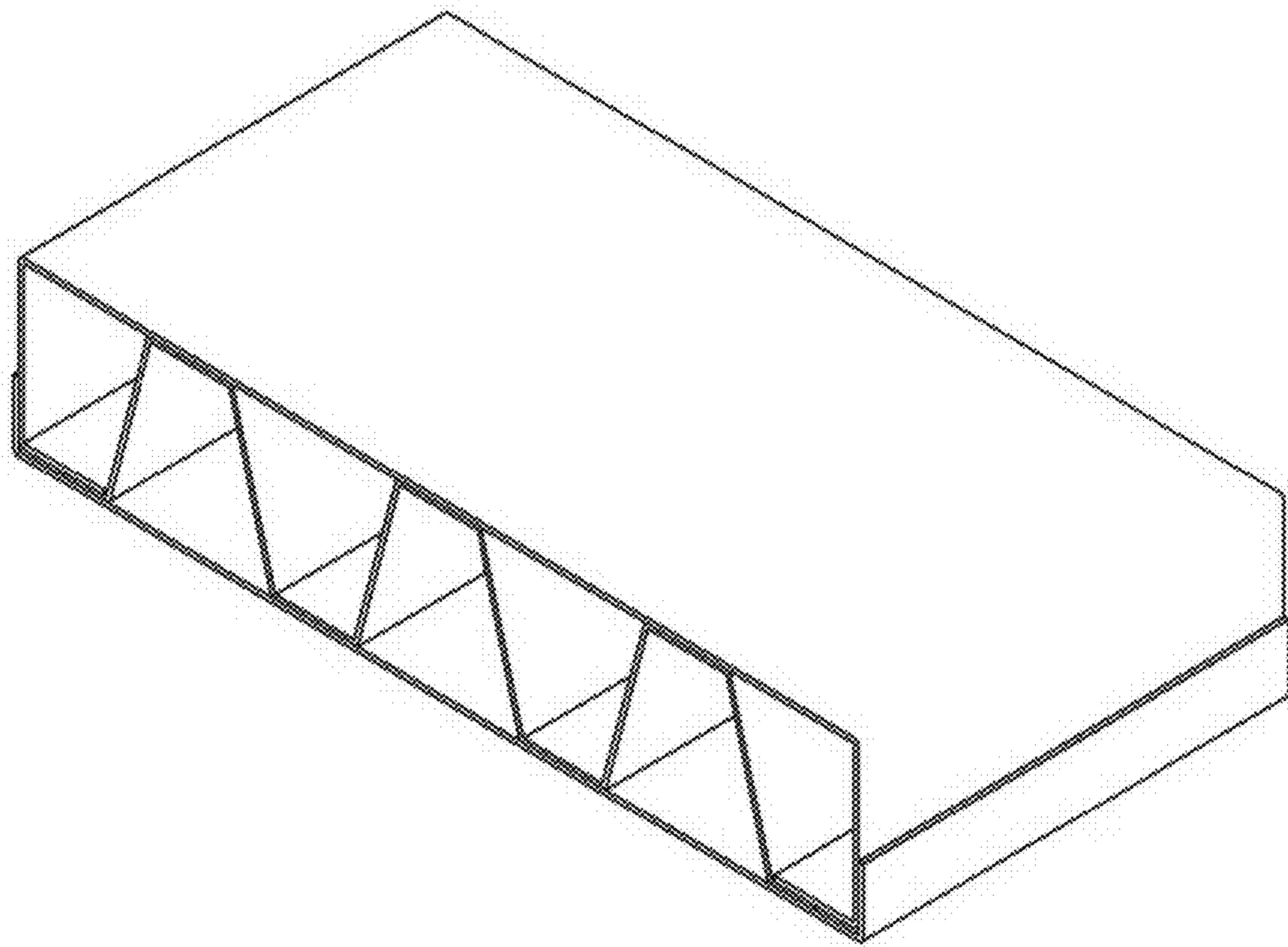


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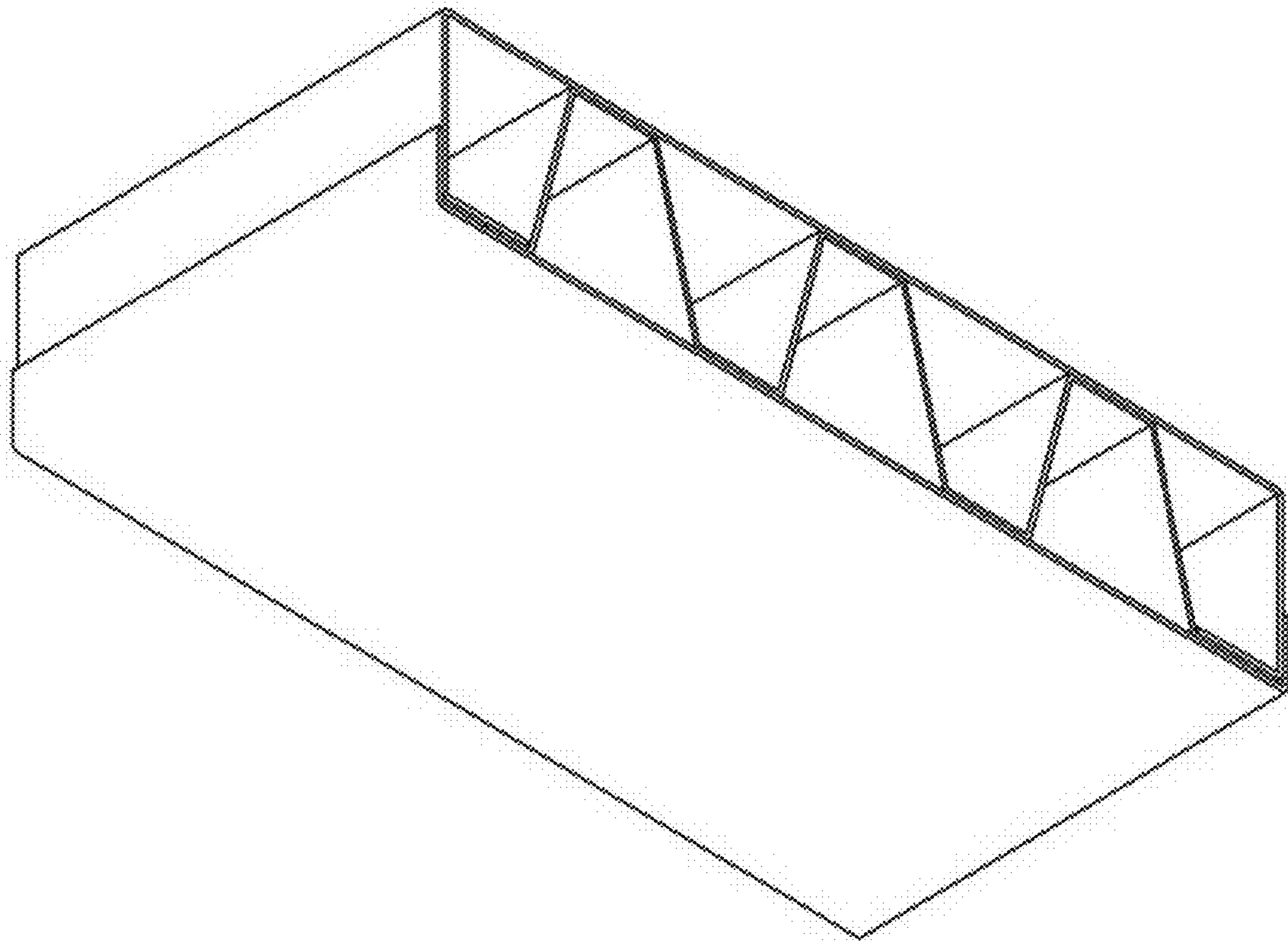




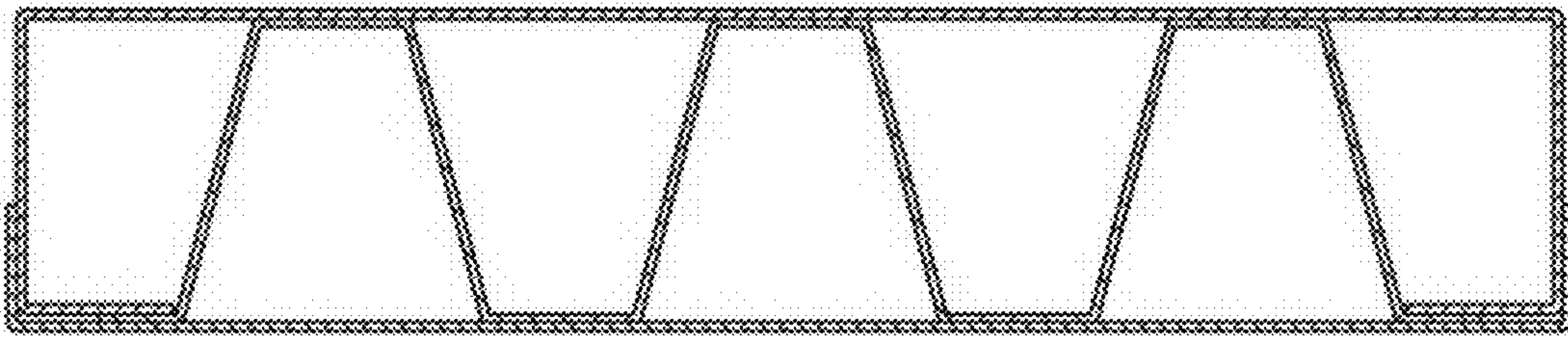
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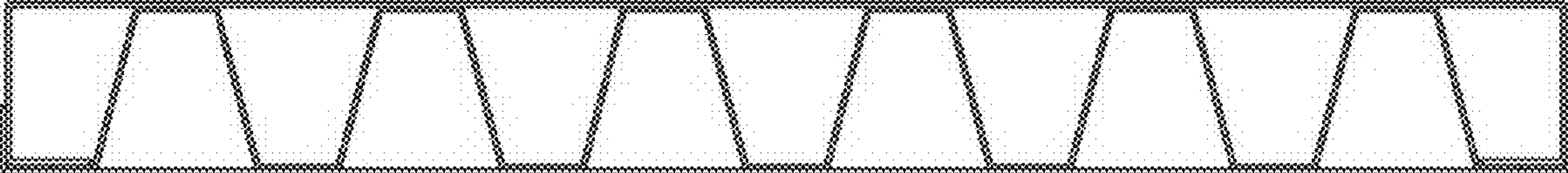
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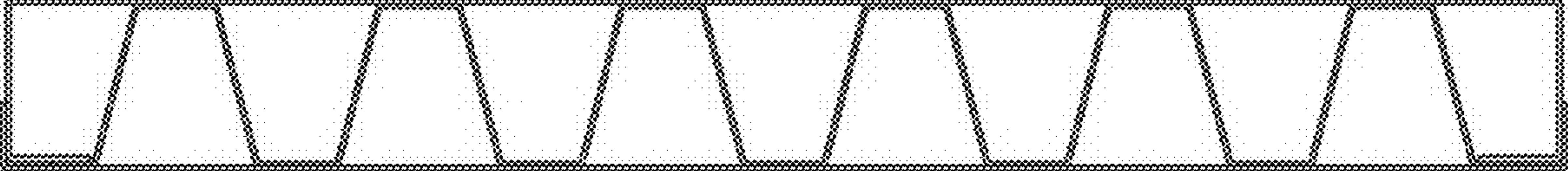
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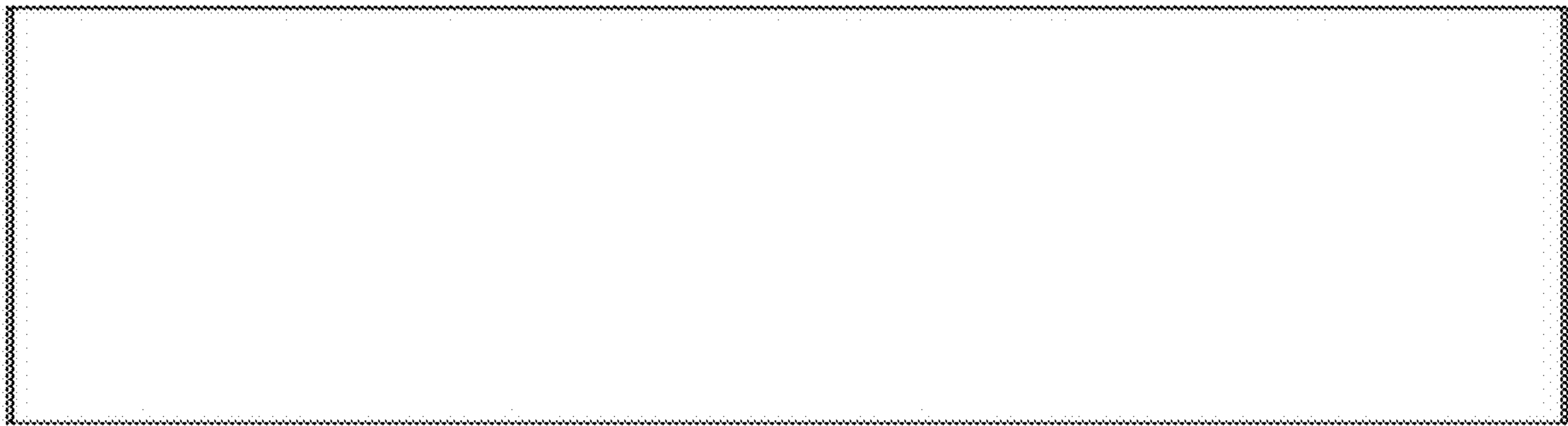
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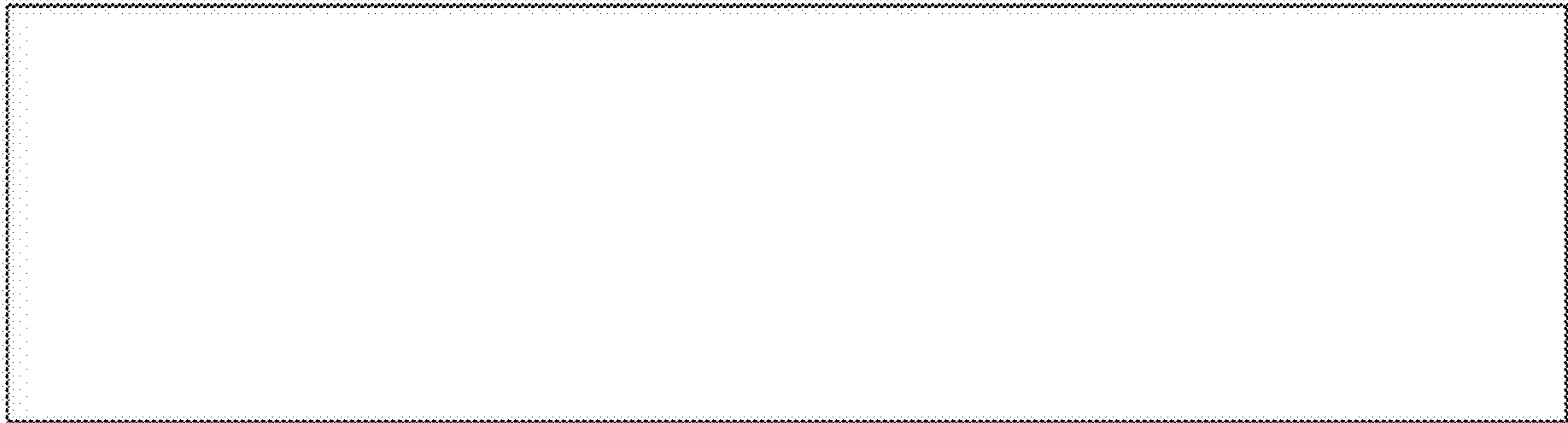
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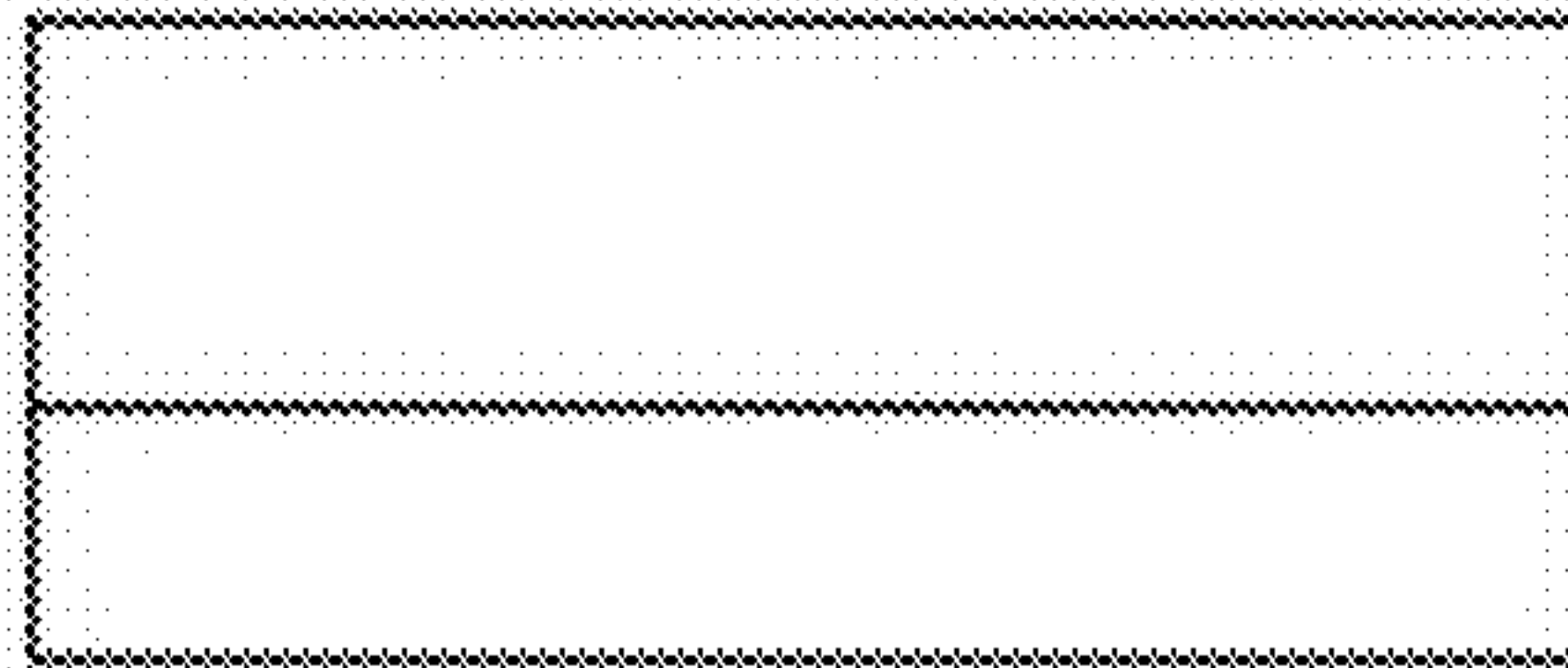


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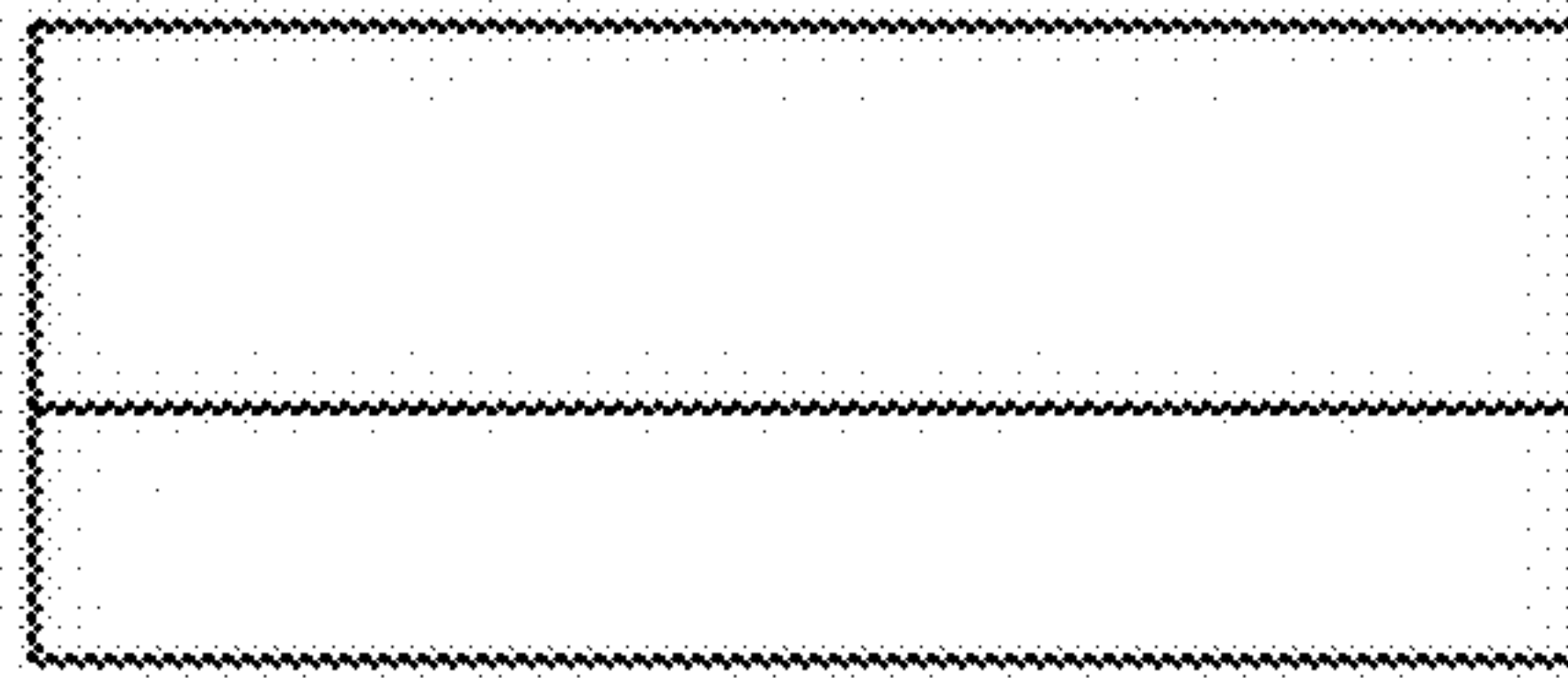




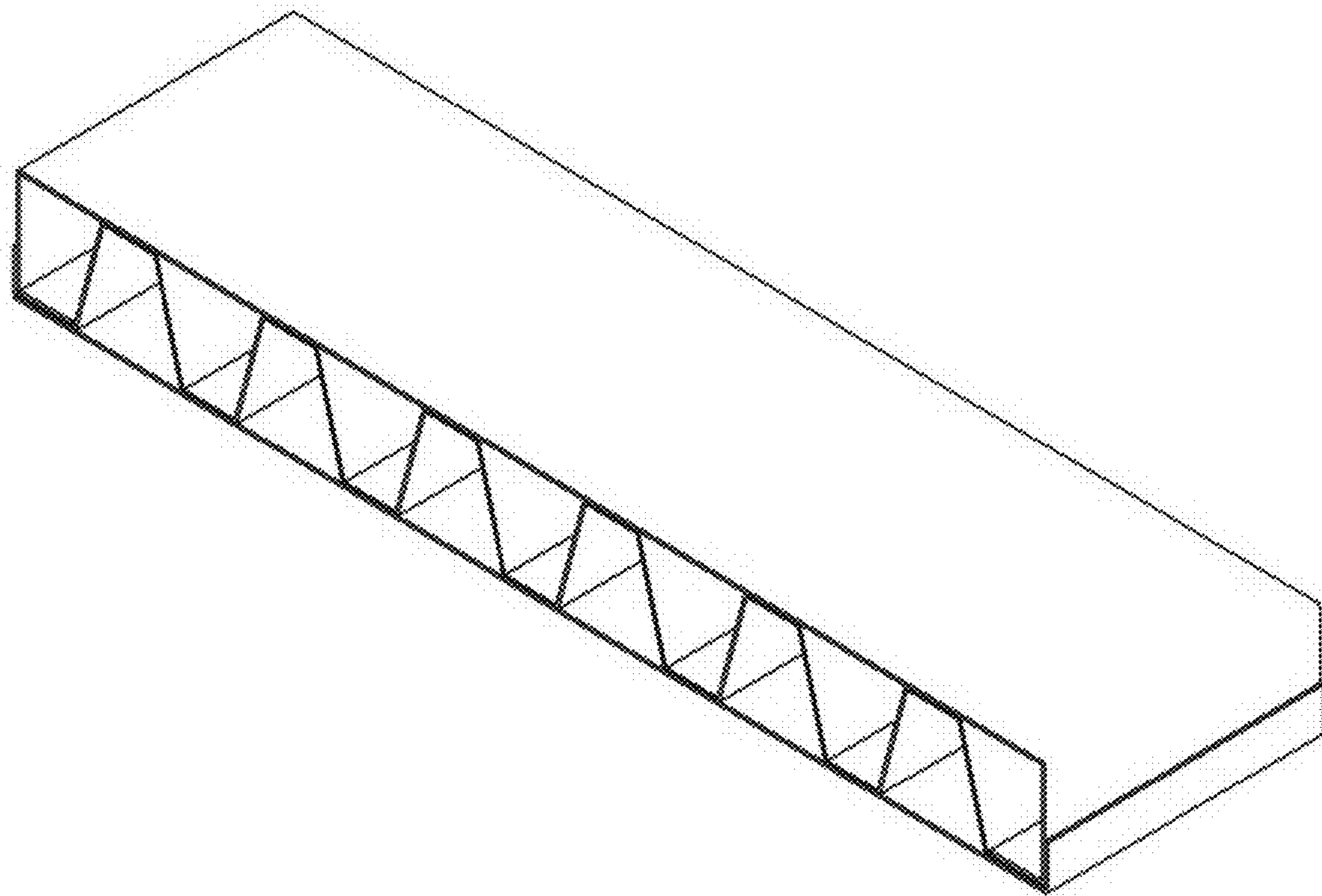
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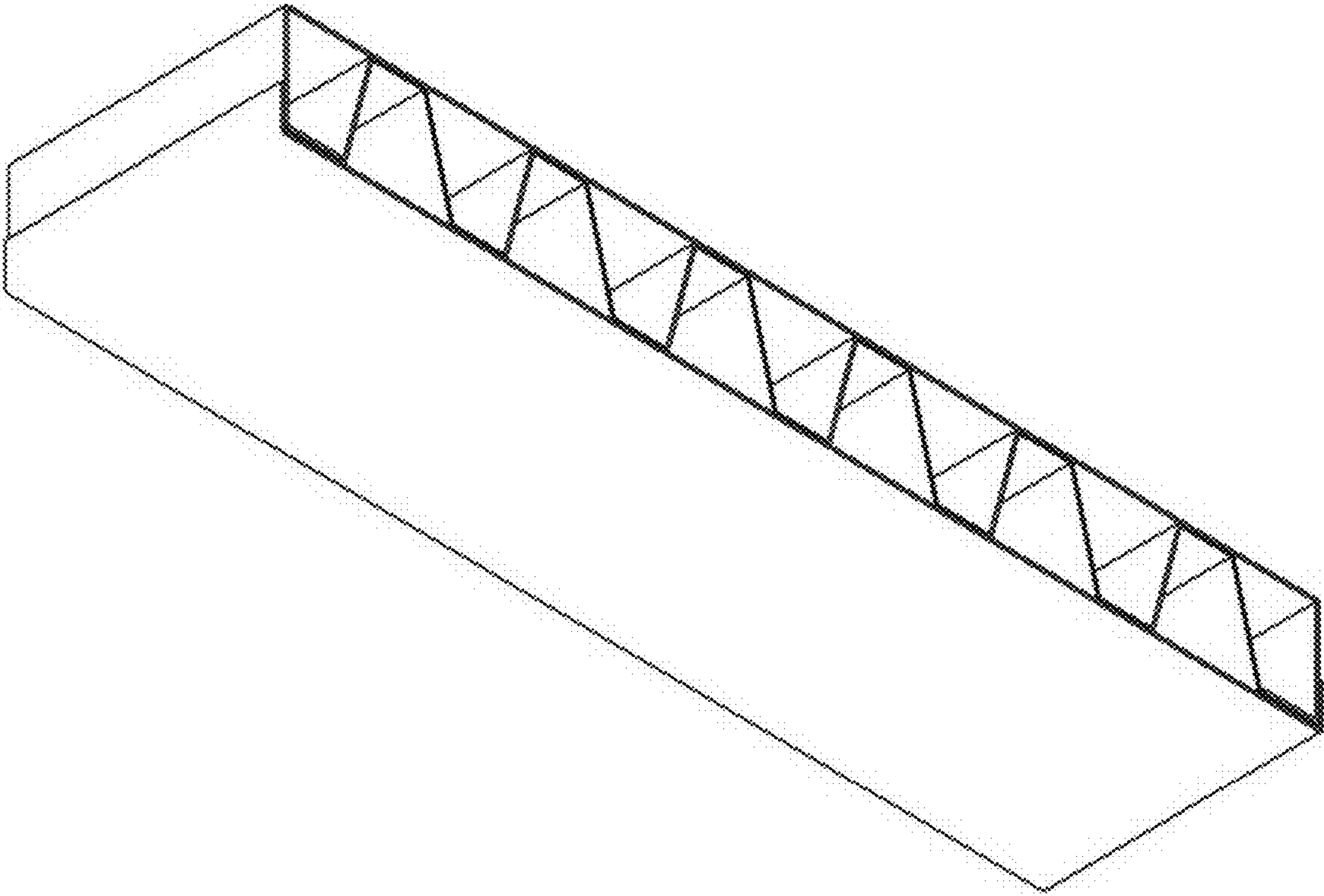
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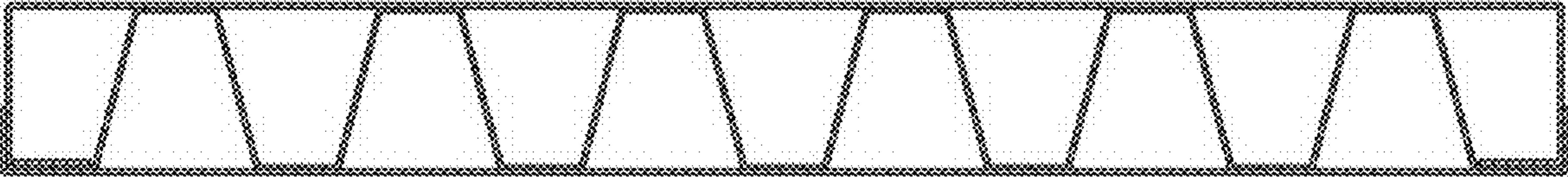
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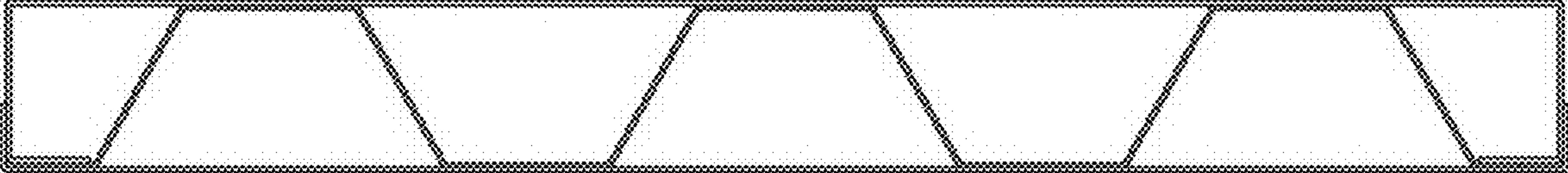
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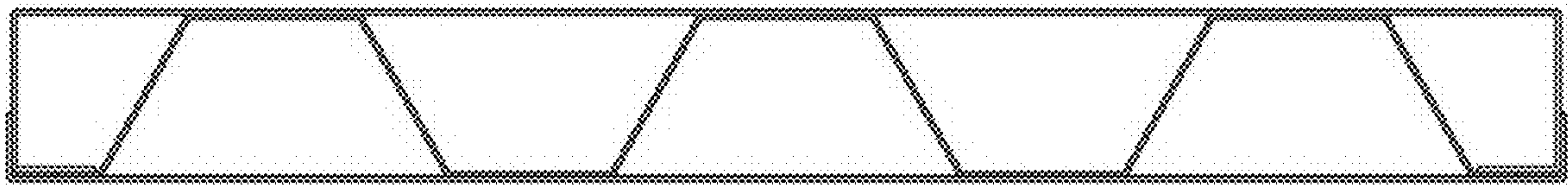
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4.1



4.2

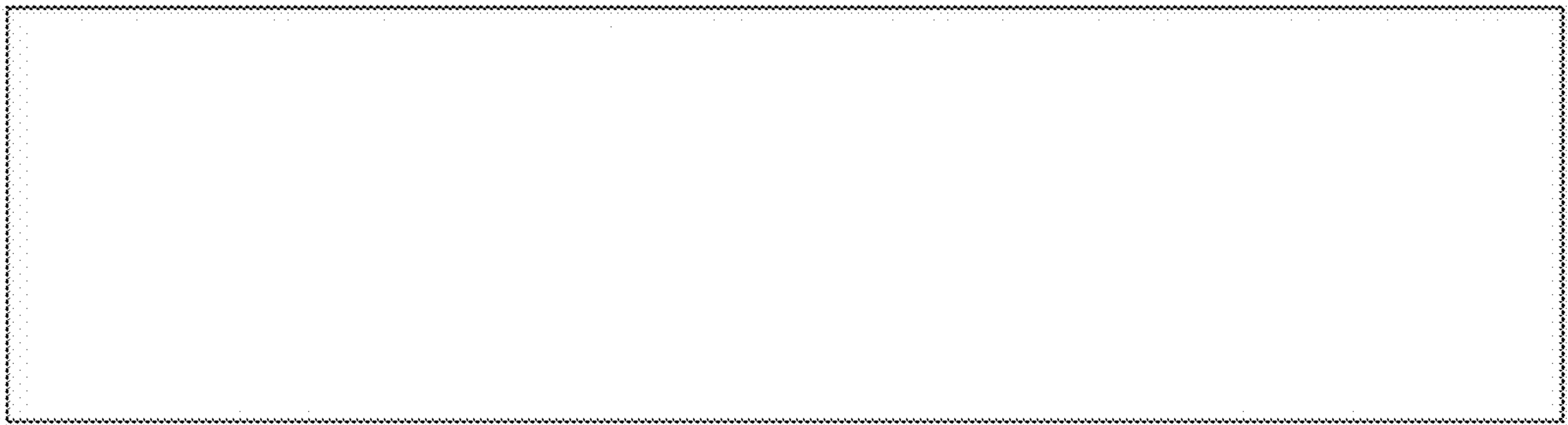




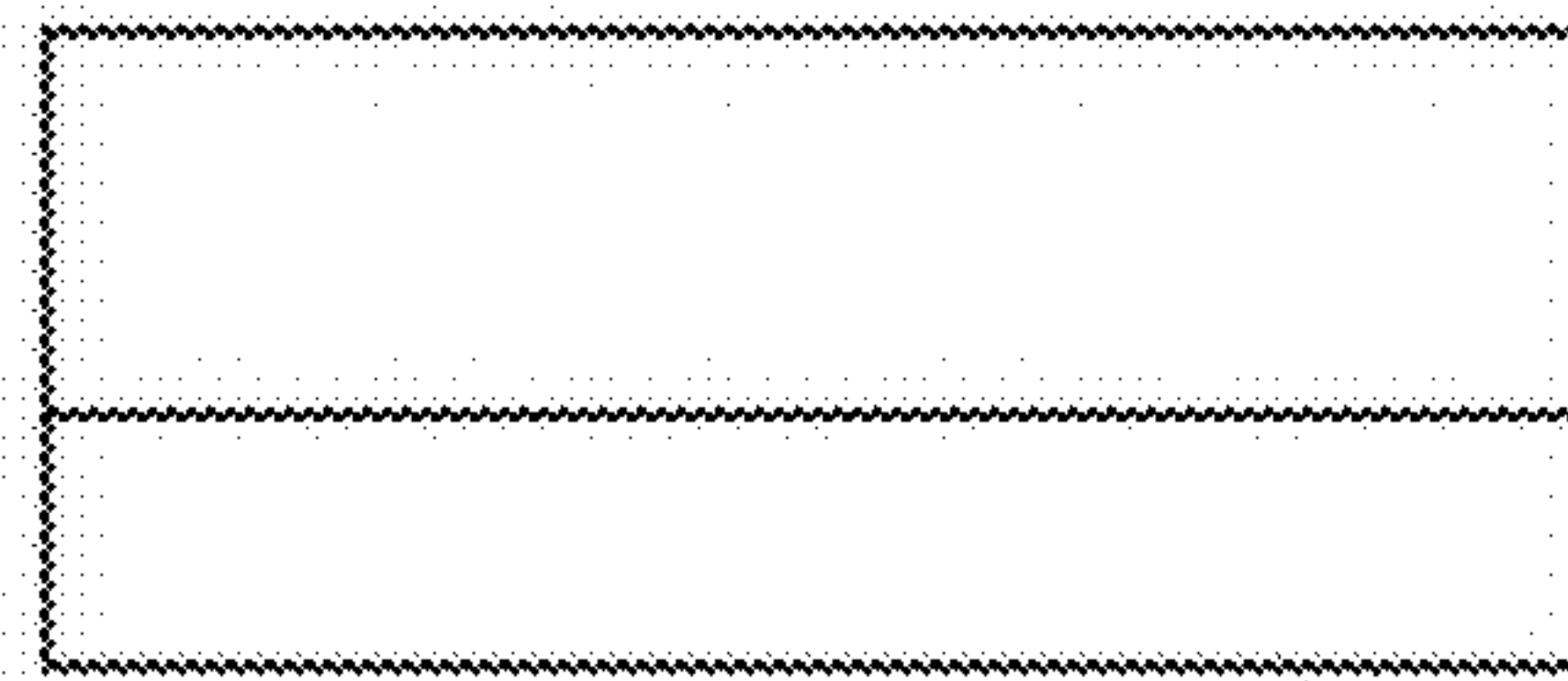
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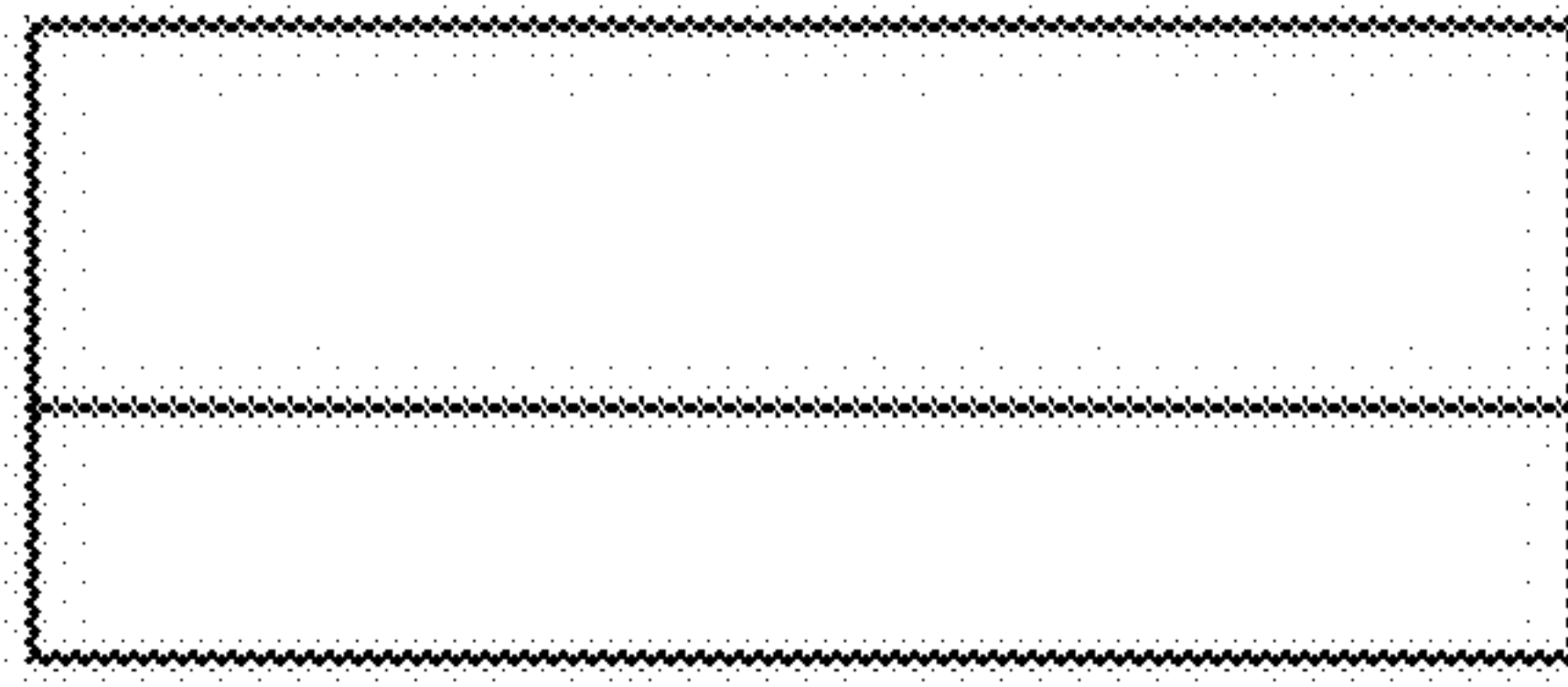
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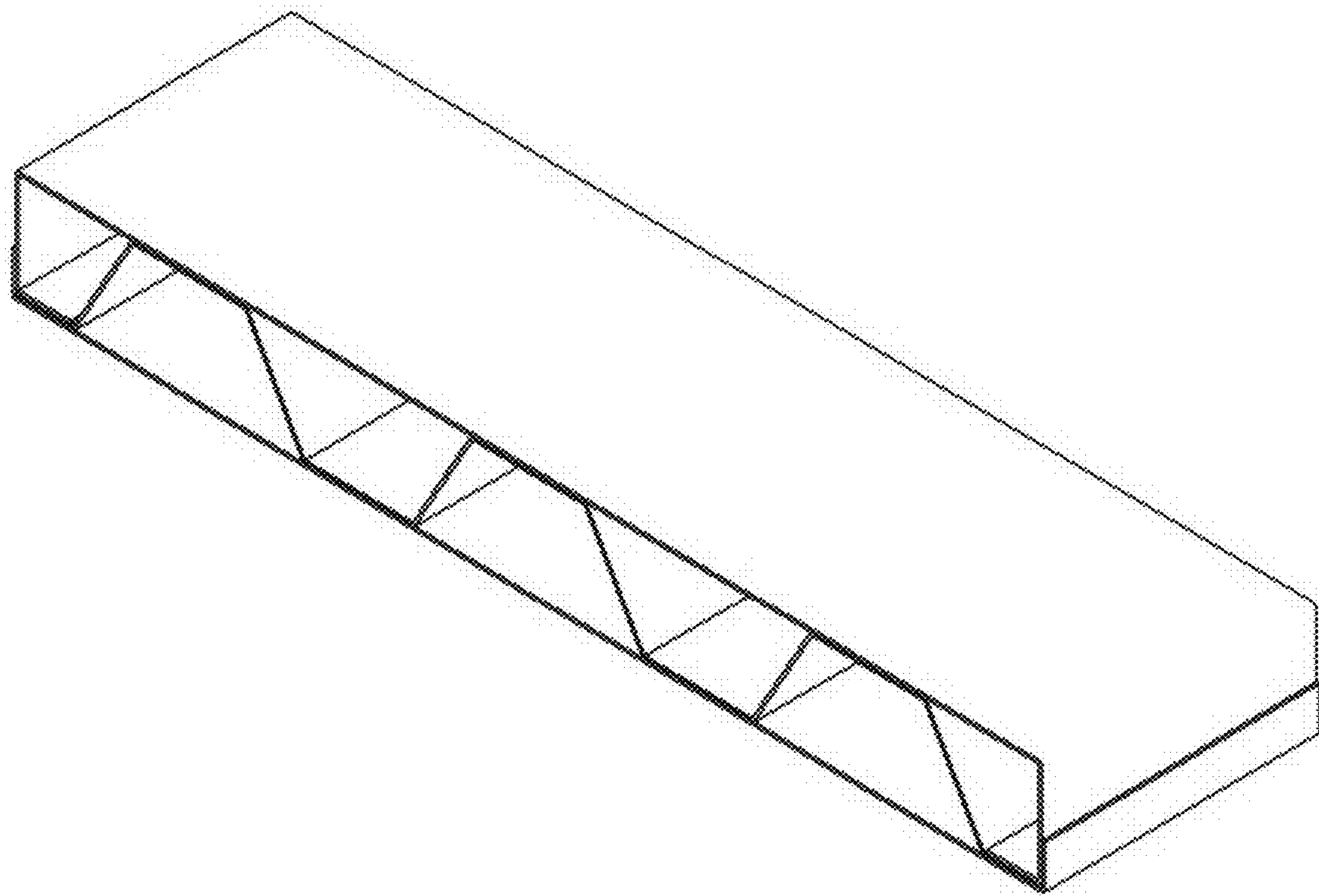
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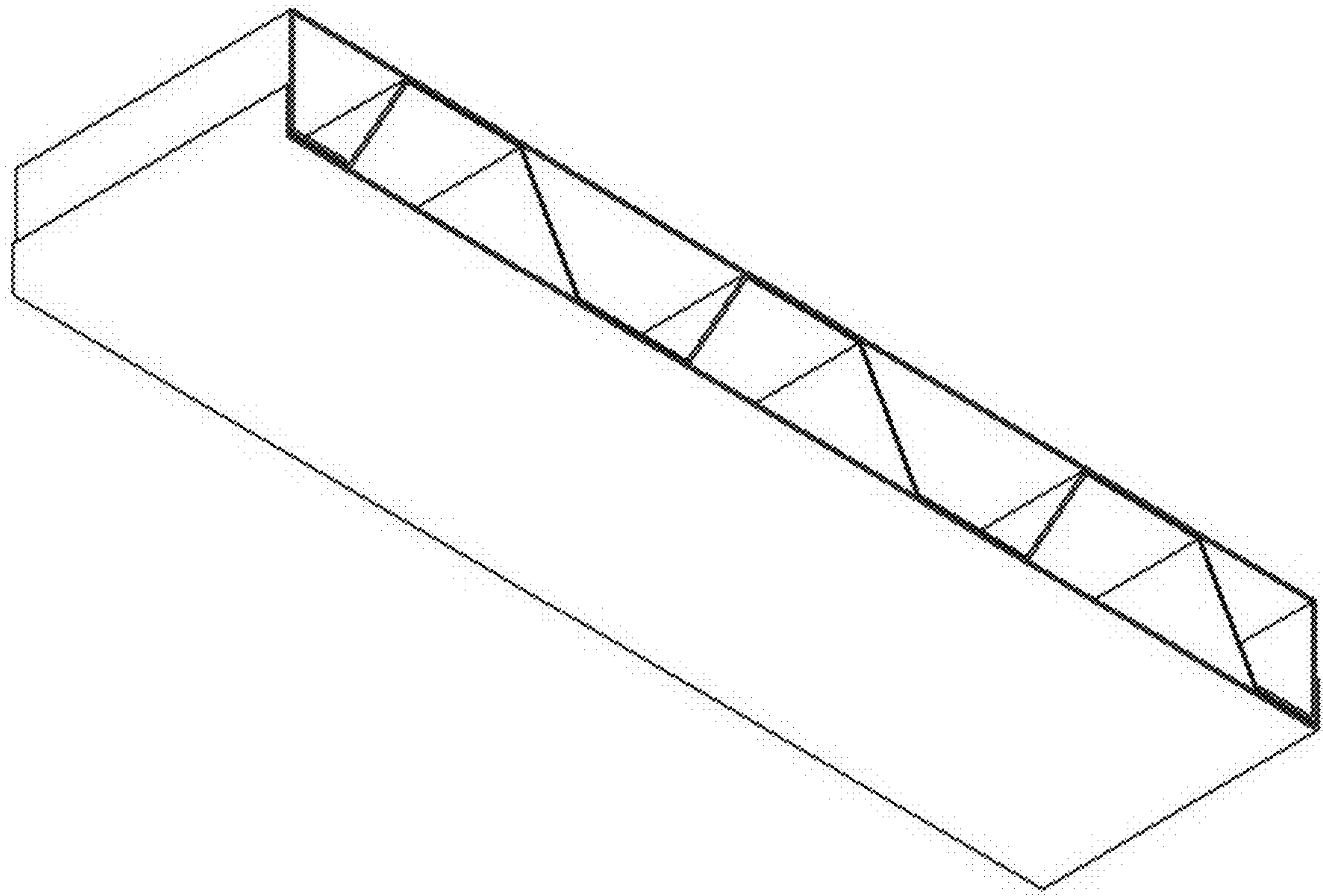
**4.6**



4.7



4.8



4.9

