



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)

OTHER PUBLICATIONS

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

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Primary Examiner — Rhea Shields

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

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

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

(57) **CLAIM**

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

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

1.5 : Left

Apr. 5, 2016 (JP) 2016-007596

1.6 : Right

(Continued)

1.7 : Top perspective view

1.8 : Bottom perspective view

1.9 : Cross-sectional

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

3.1 : Front

3.2 : Back

(52) **U.S. Cl.**

USPC **D13/179**

3.3 : Top

3.4 : Bottom

(58) **Field of Classification Search**

USPC D13/179; 438/122

3.5 : Left

3.6 : Right

(Continued)

3.7 : Top perspective view

3.8 : Bottom perspective view

3.9 : Cross-sectional

(56) **References Cited**

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D275,749 S * 10/1984 McCarthy D13/179

4.1 : Front

4.2 : Back

4.3 : Top

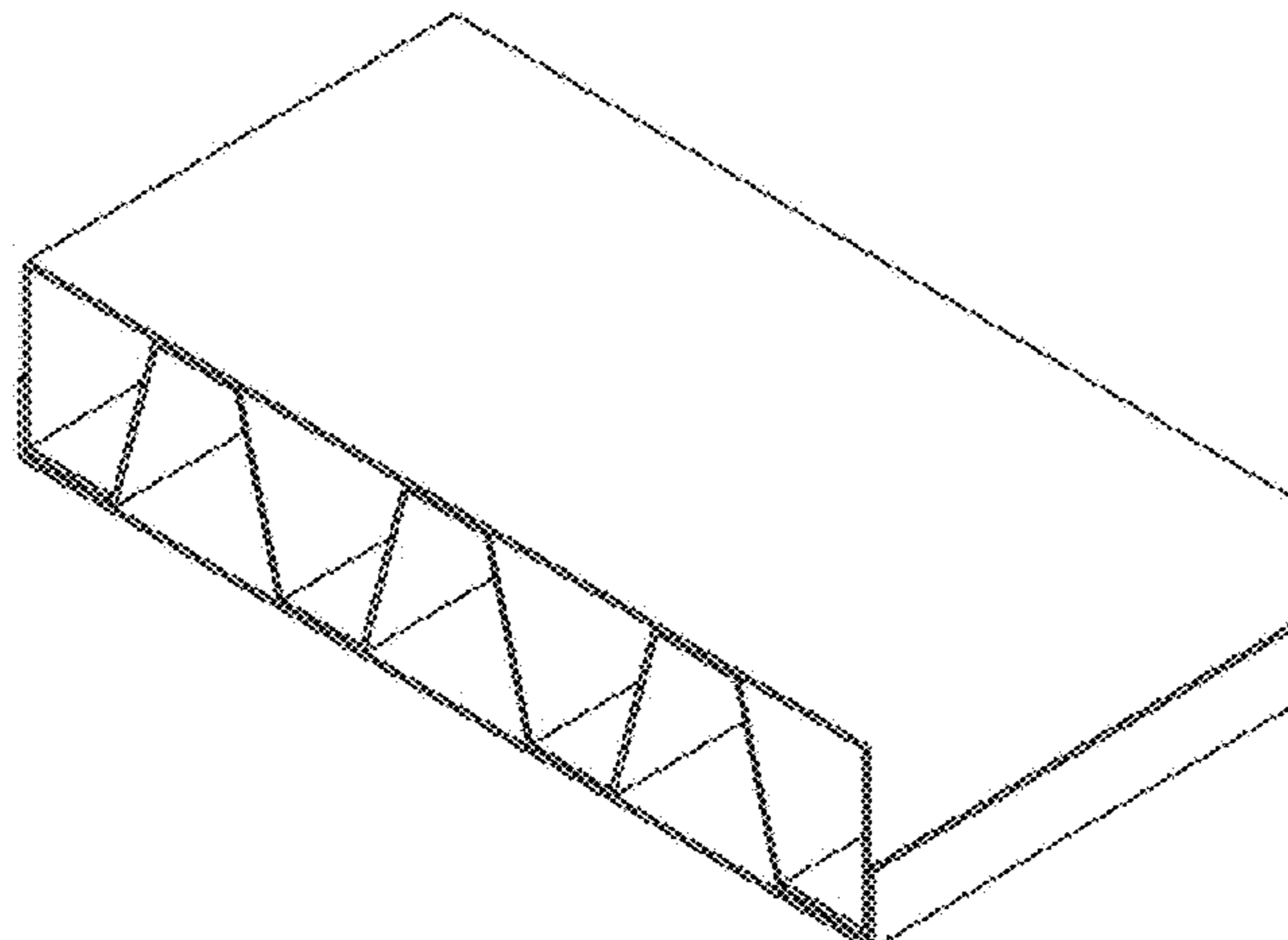
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4.4 : Bottom

4.5 : Left

(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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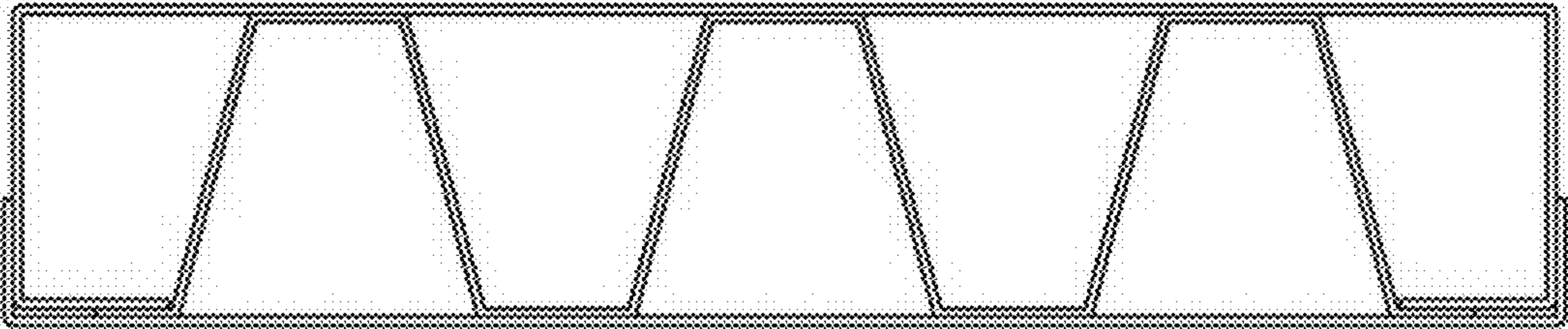
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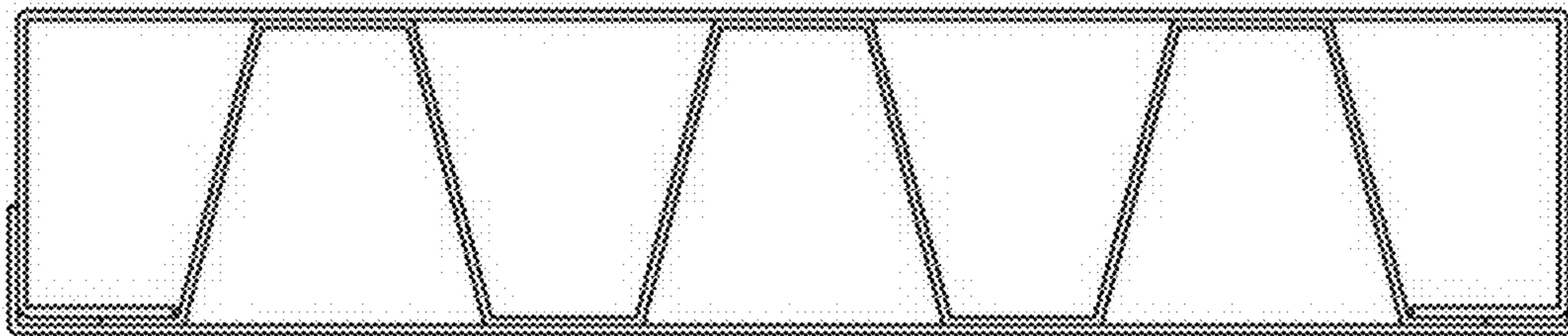
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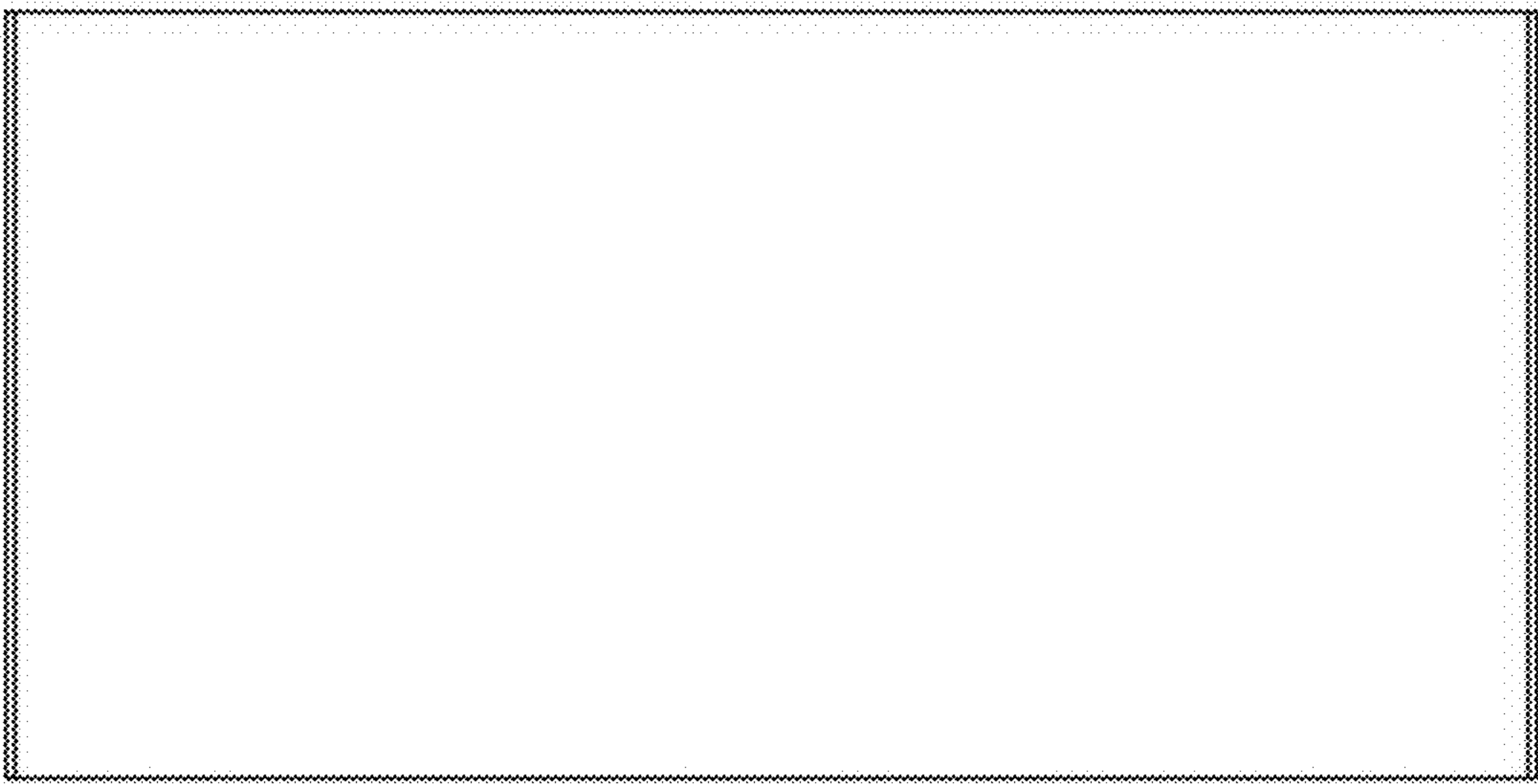
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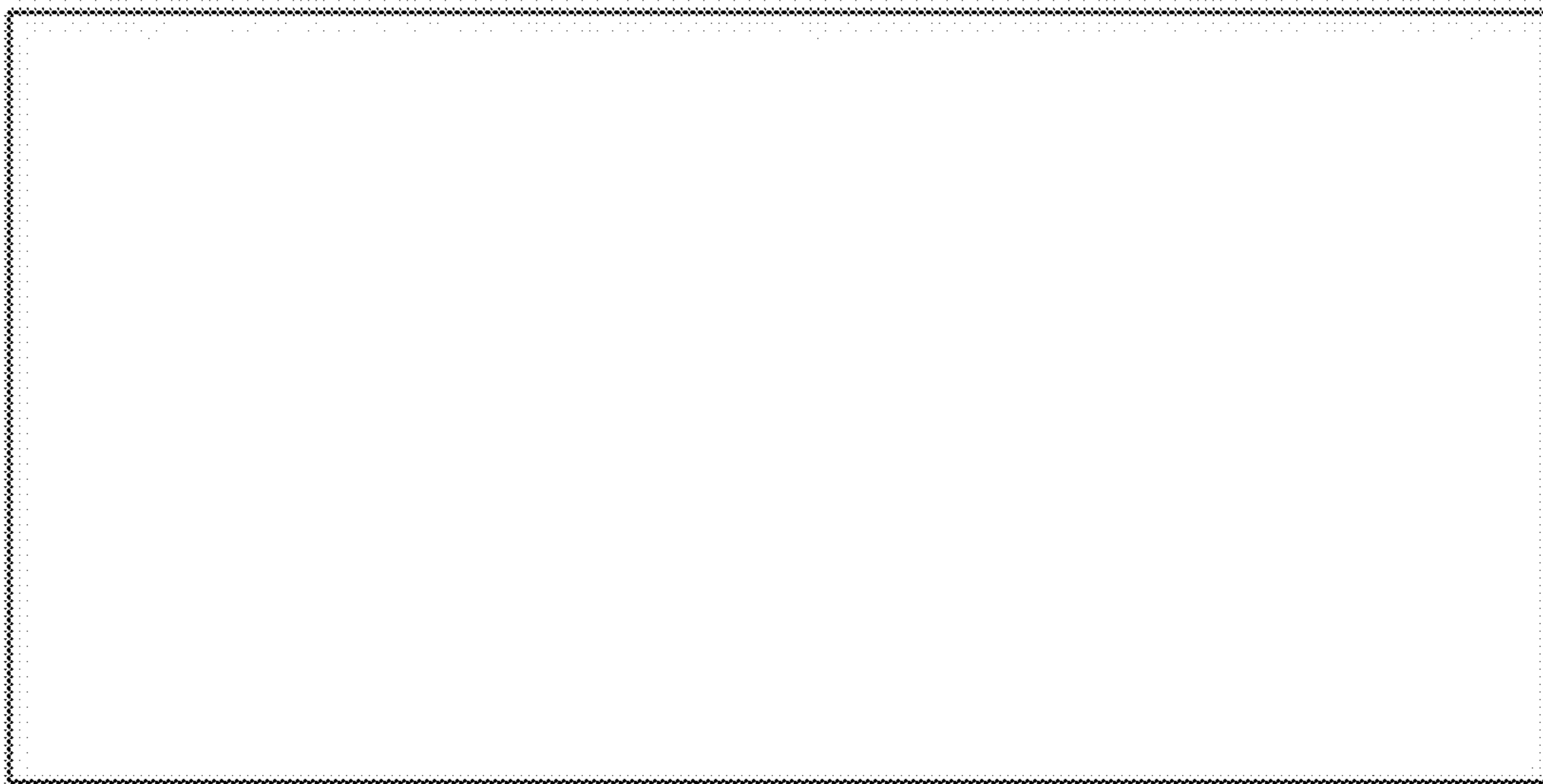
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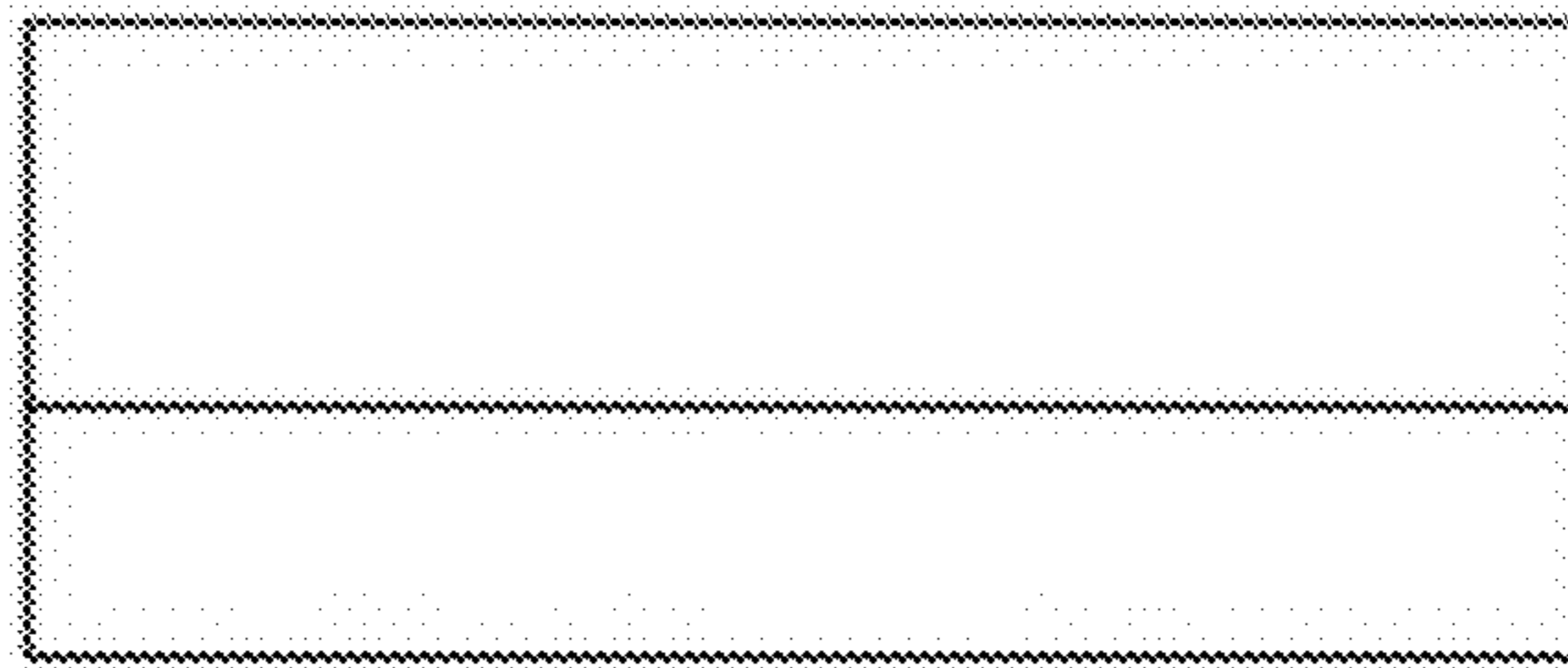
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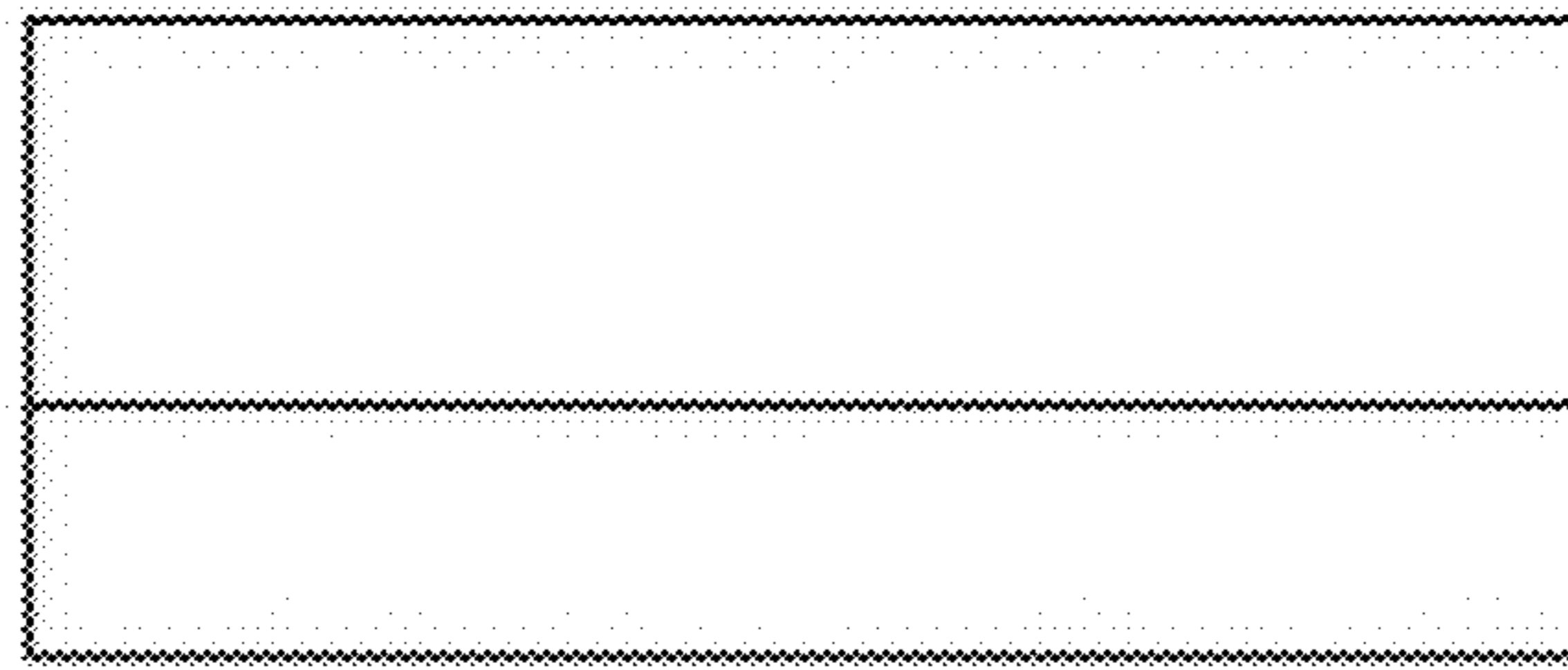
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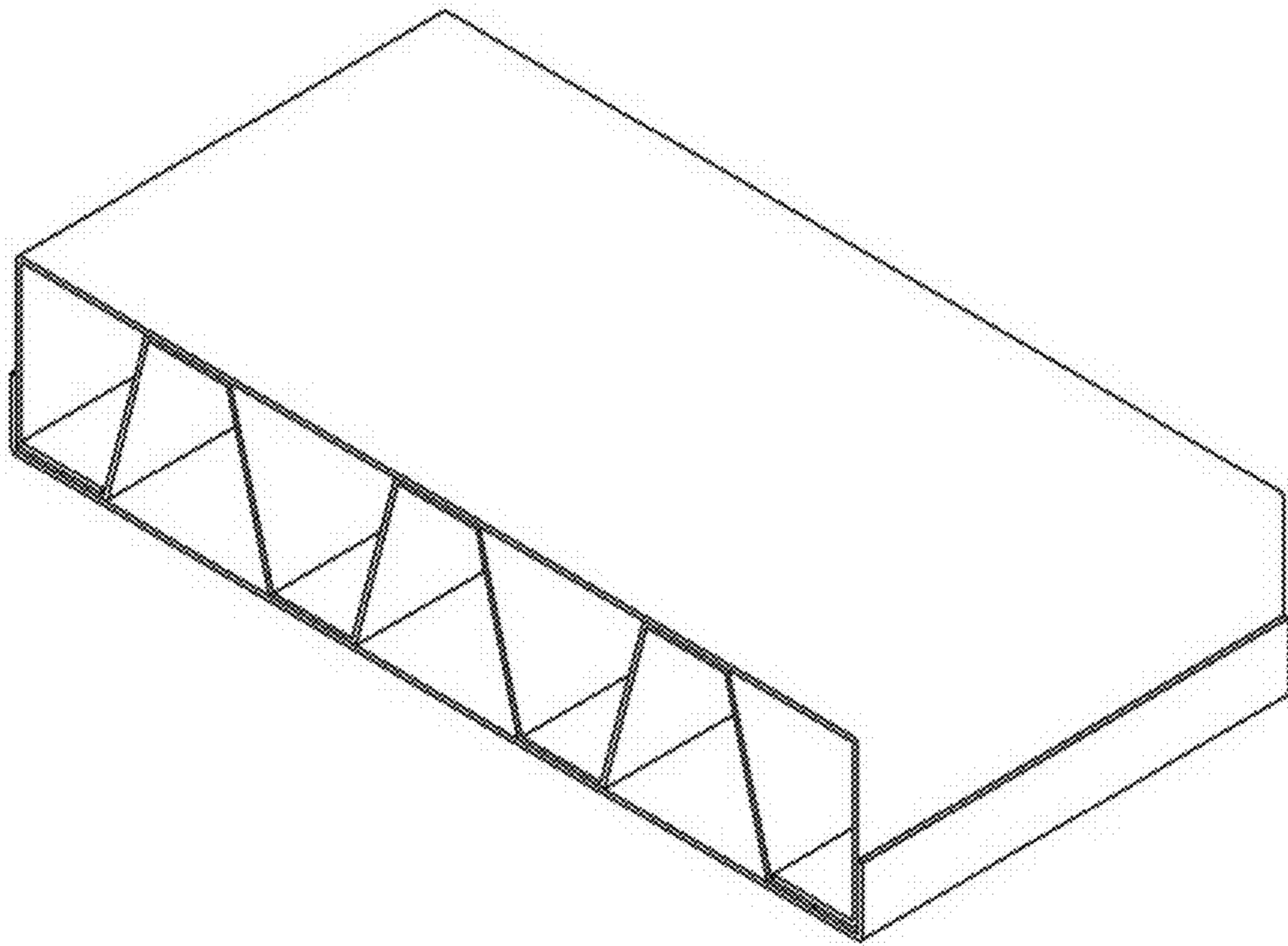
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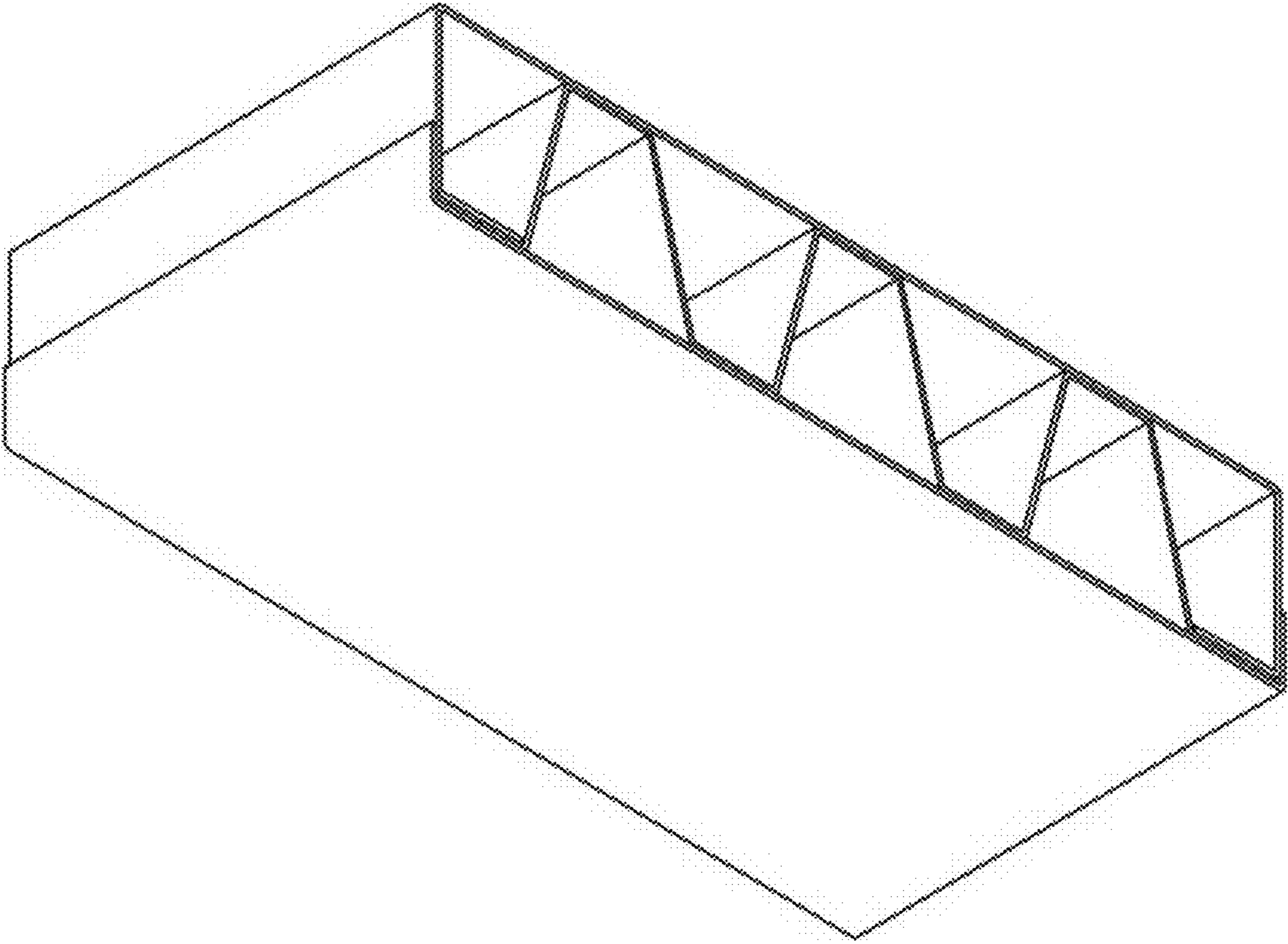
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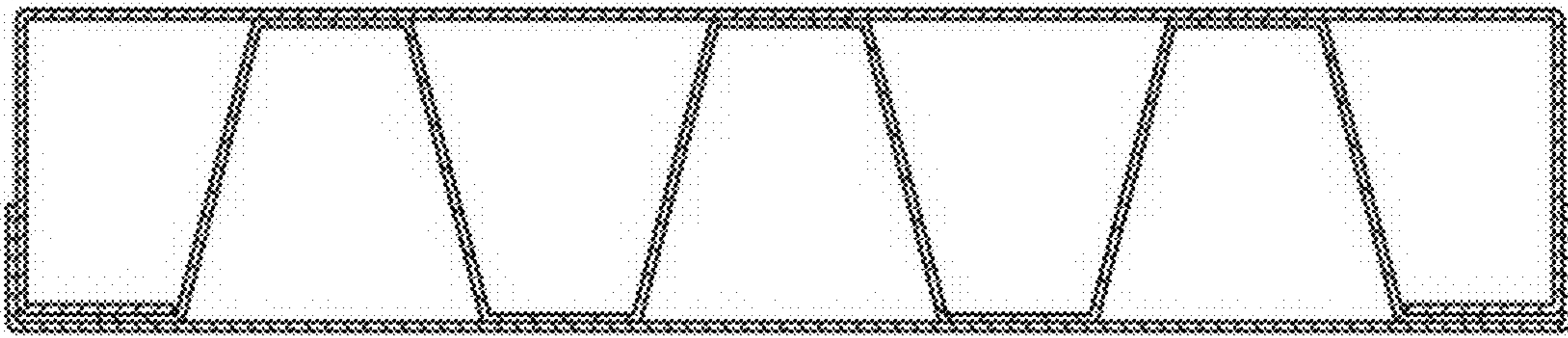
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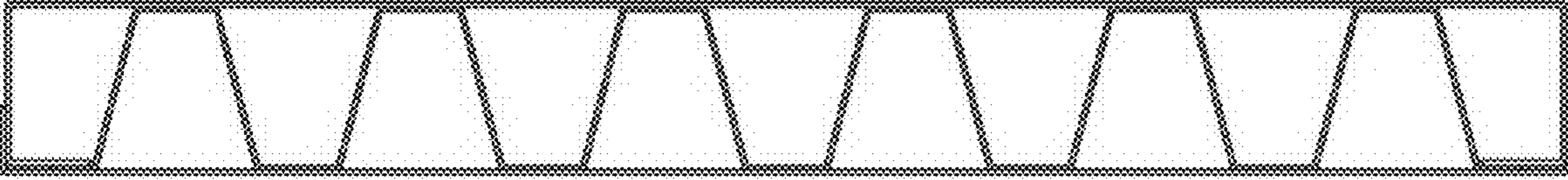
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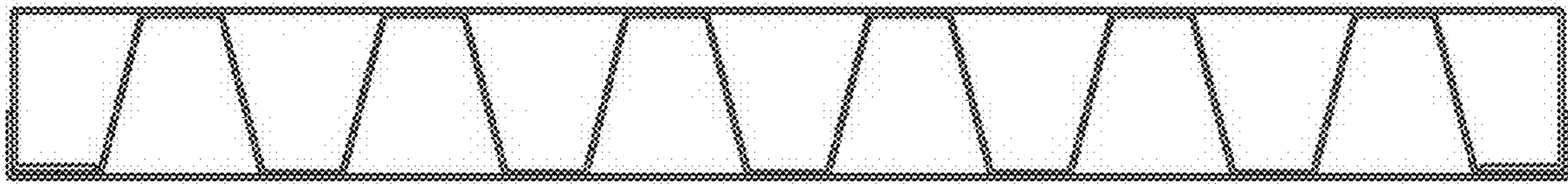
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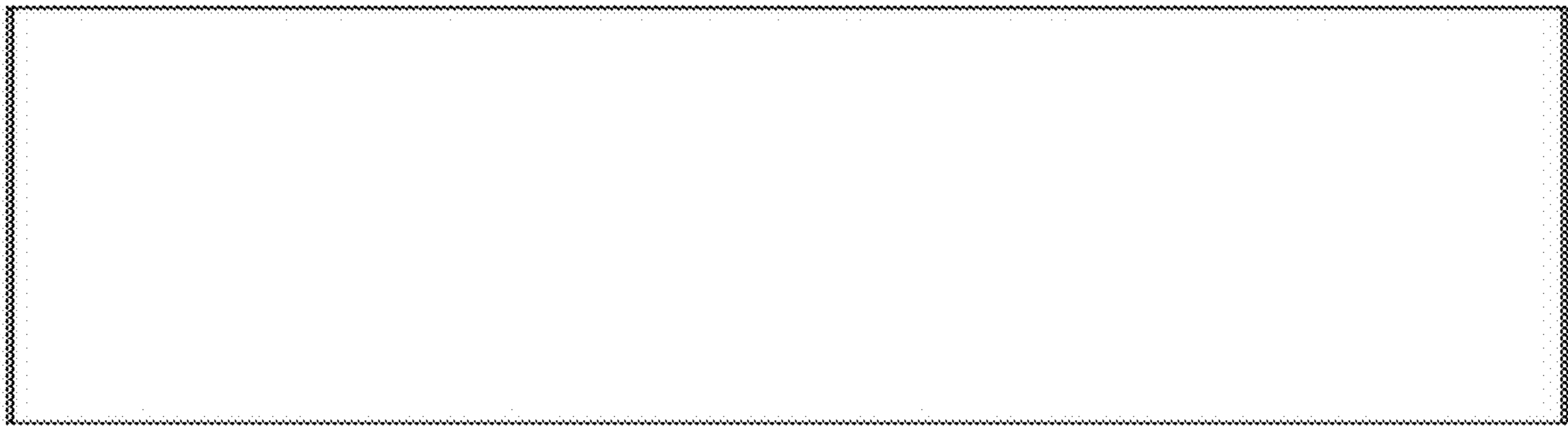
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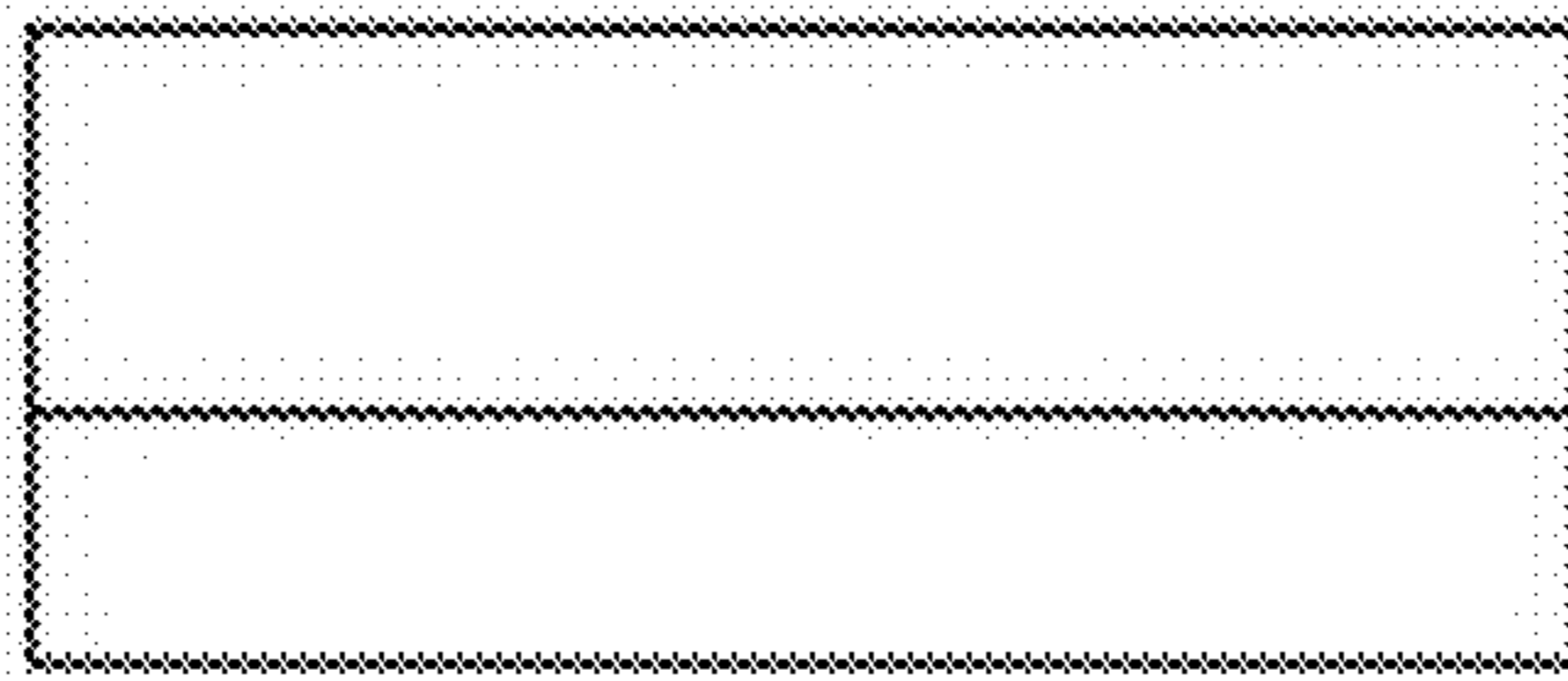
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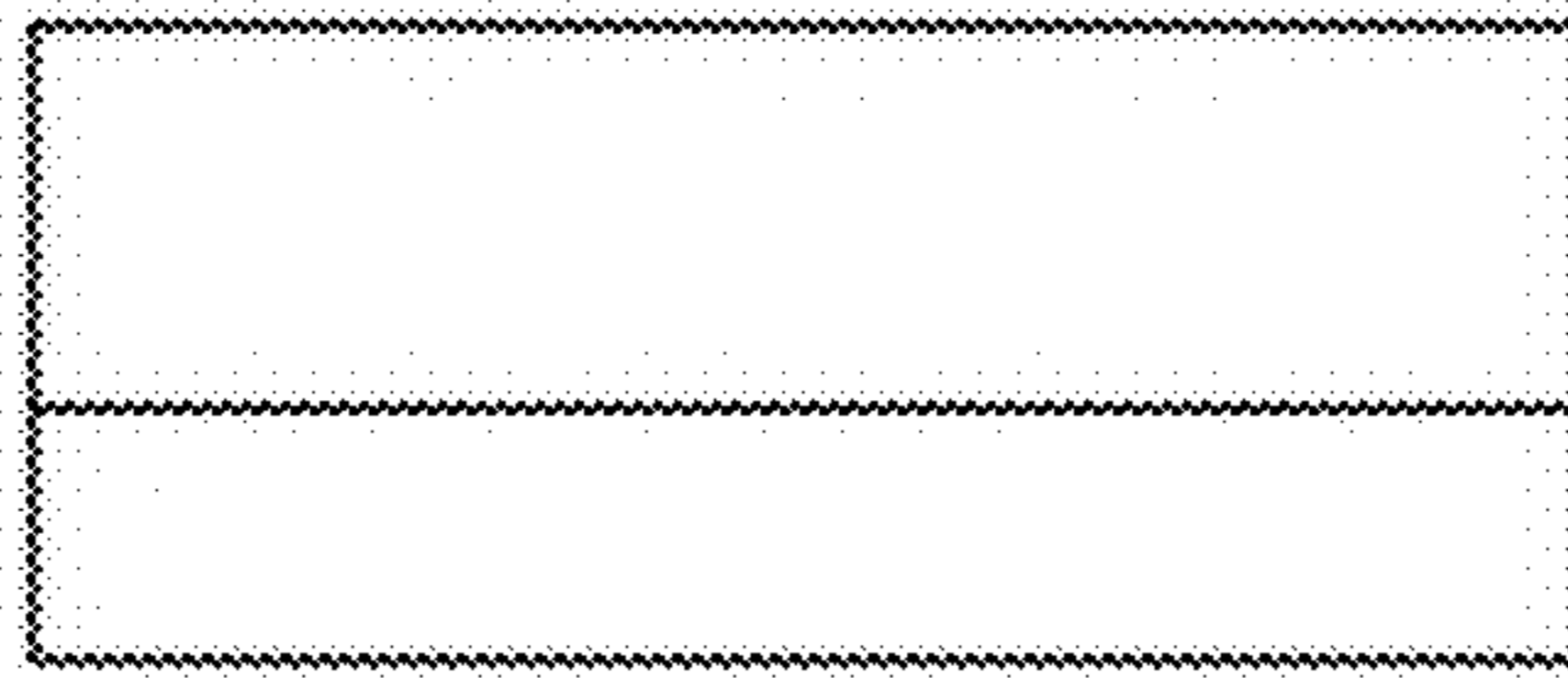
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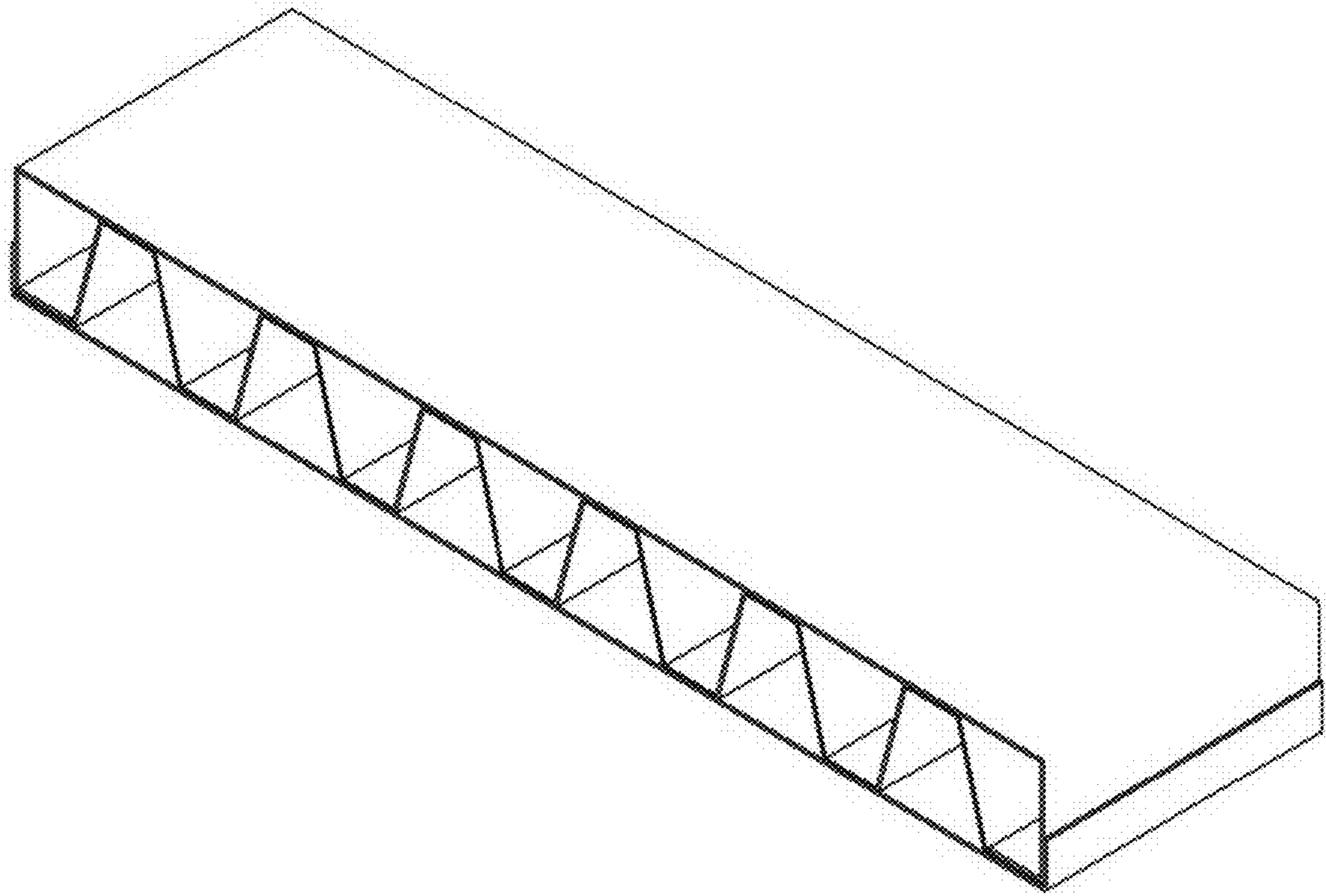
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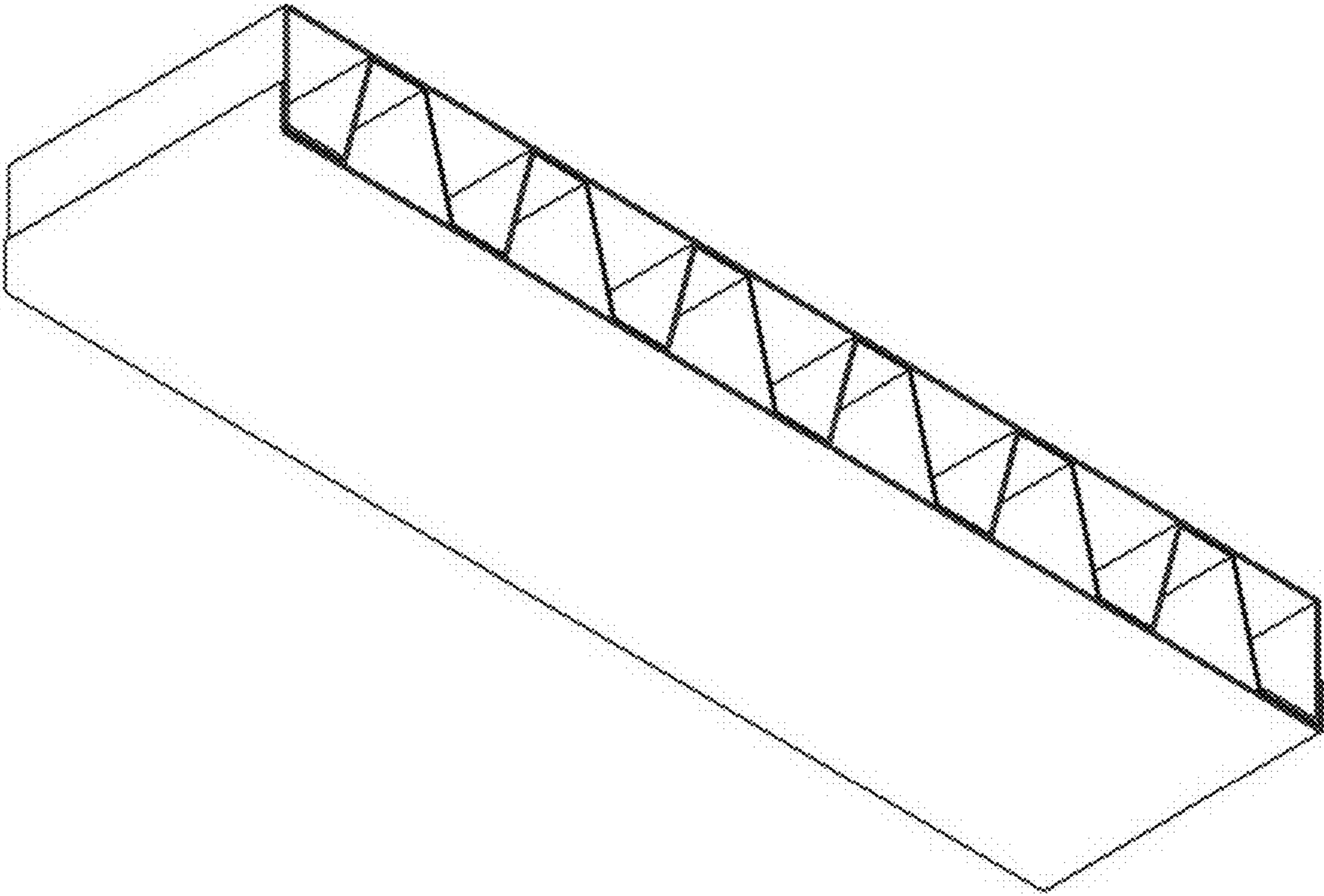
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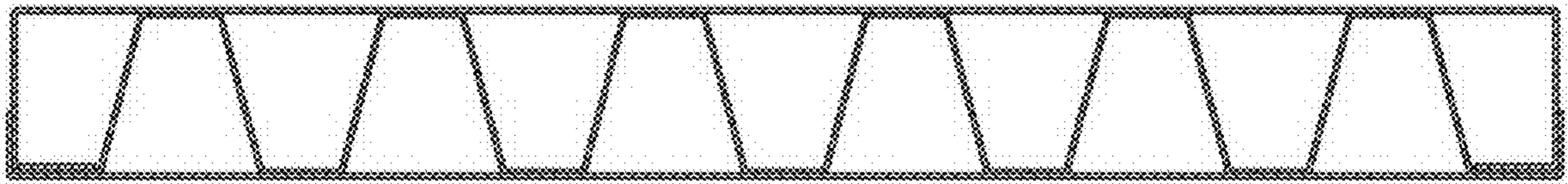
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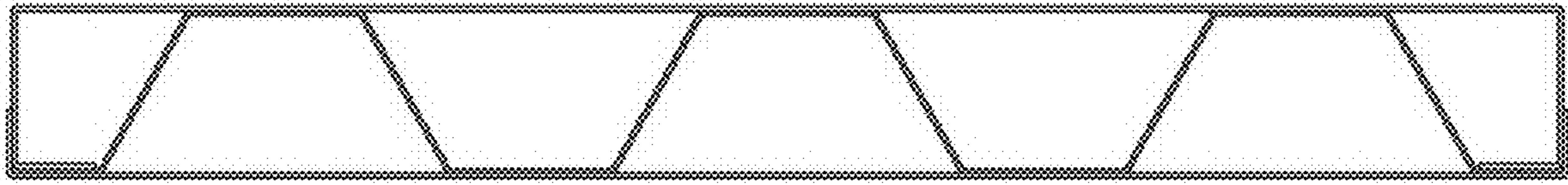
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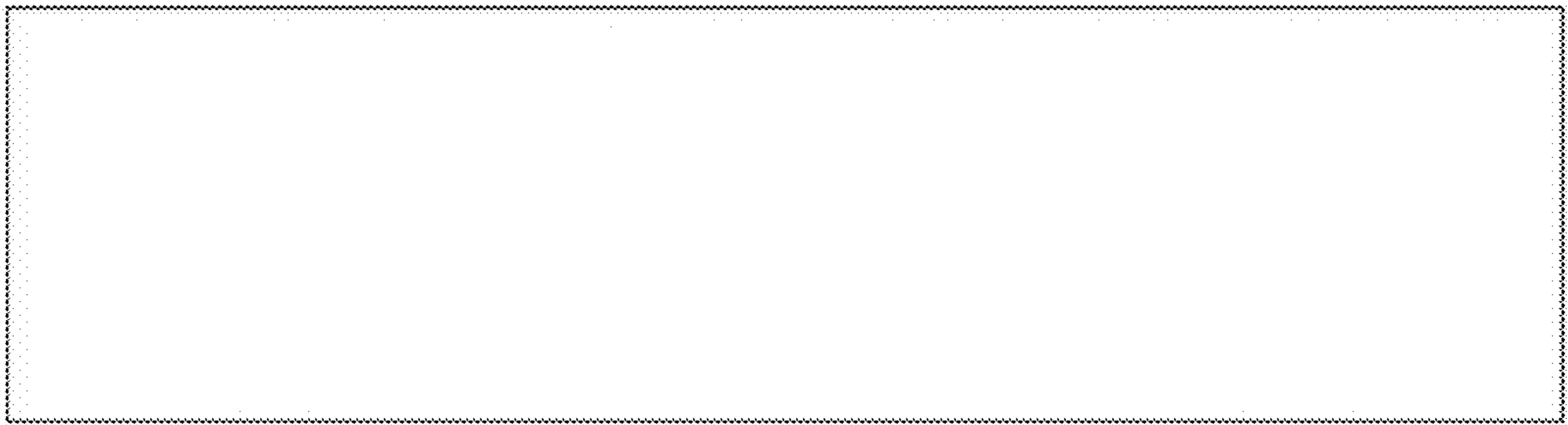
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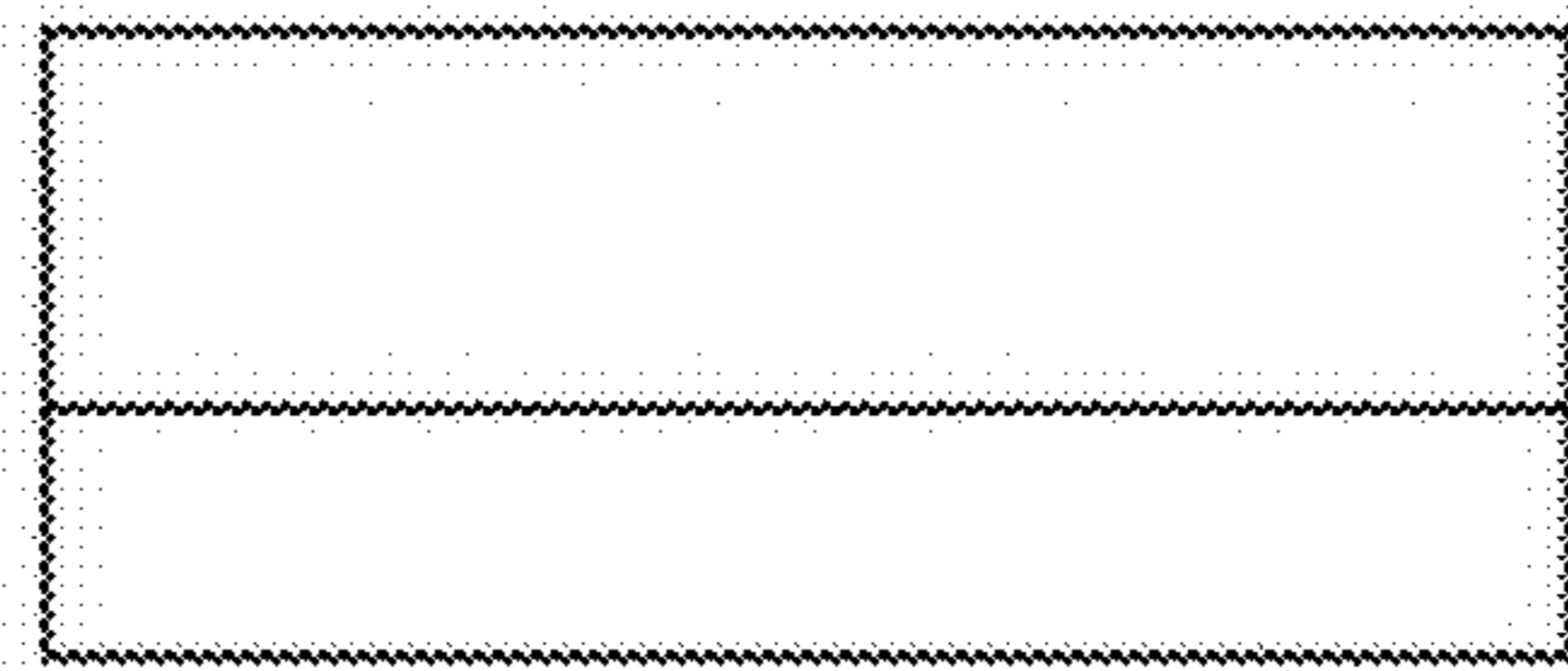
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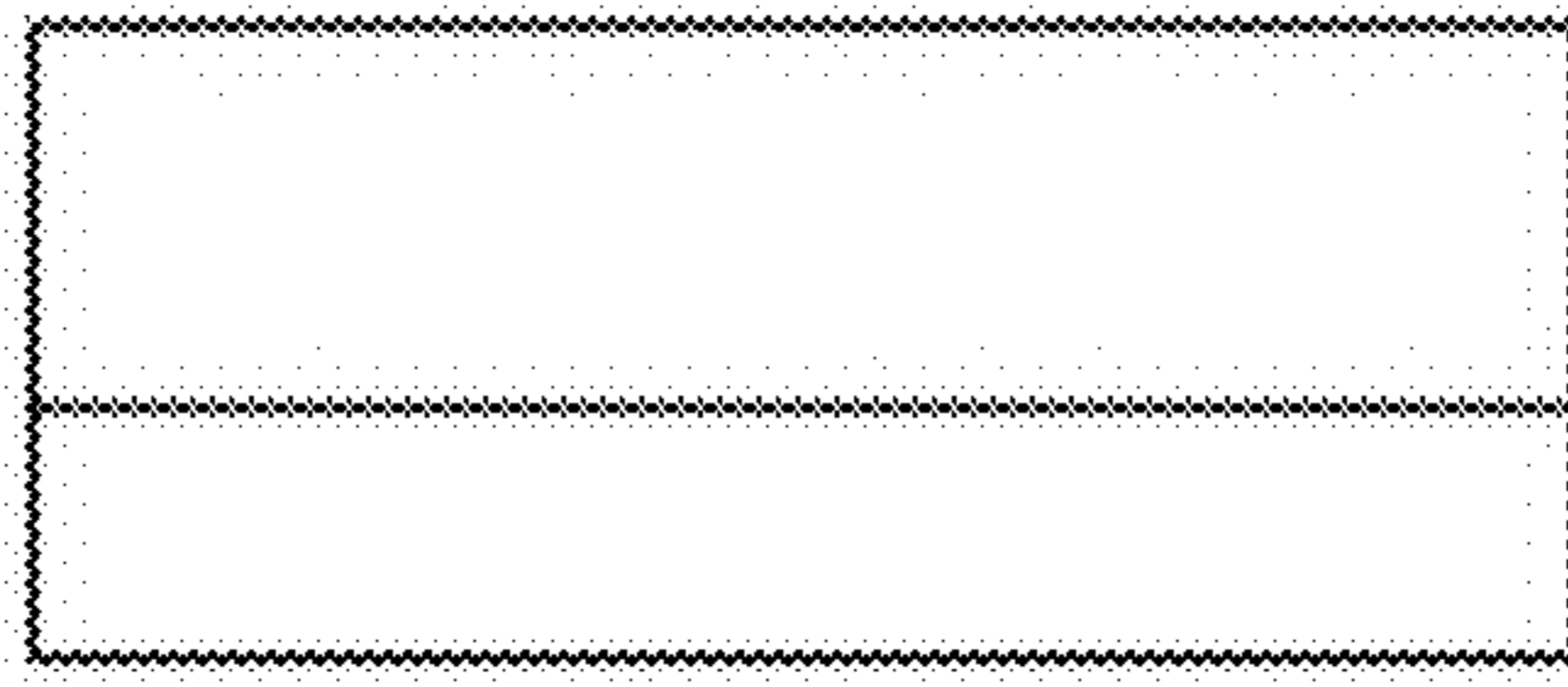
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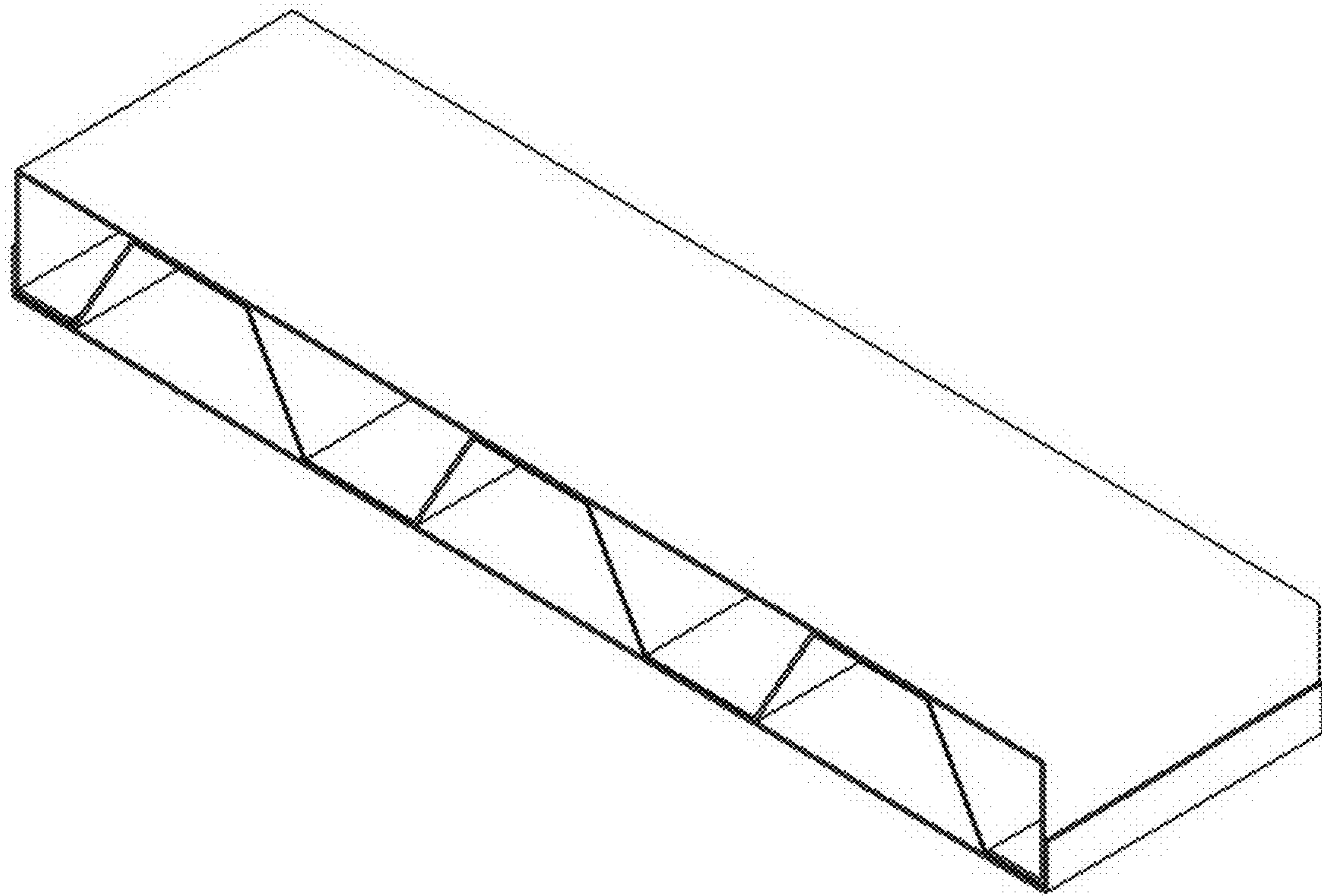
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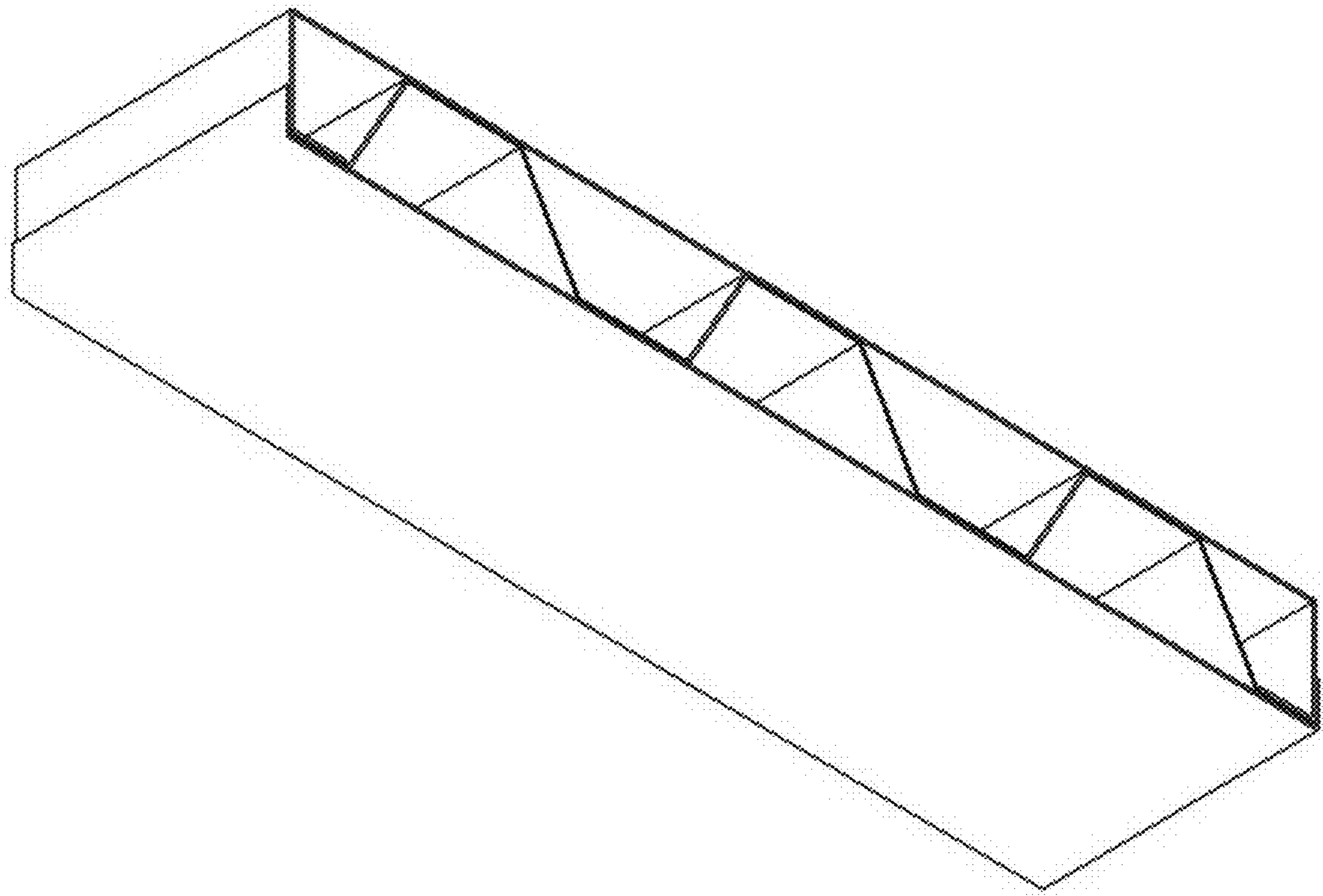
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4.7



4.8



4.9

