



US00D834161S

(12) **United States Design Patent** (10) **Patent No.:** **US D834,161 S**
Szolony et al. (45) **Date of Patent:** **** Nov. 20, 2018**

(54) **HEAT EXCHANGER**(71) Applicant: **TOMTON S.R.O.**, Novy Jicin, Zilina (CZ)(72) Inventors: **Tomas Szolony**, Zilina (CZ); **Ondrej Sikula**, Zábrdovice (CZ)(73) Assignee: **TOMTON s.r.o.**, Velké Albrechtice (CZ)(**) Term: **15 Years**(21) Appl. No.: **35/501,648**(22) Filed: **Jul. 22, 2016**(80) **Hague Agreement Data**Int. Filing Date: **Jul. 22, 2016**Int. Reg. No.: **DM/092580**Int. Reg. Date: **Jul. 22, 2016**Int. Reg. Pub. Date: **Sep. 30, 2016**(30) **Foreign Application Priority Data**

Feb. 8, 2016 (EM) 002976878-0001

Feb. 8, 2016 (EM) 002976878-0002
(Continued)(51) **LOC (11) Cl.** **23-03**(52) **U.S. Cl.**USPC **D23/330**(58) **Field of Classification Search**USPC D23/317, 314, 332, 333, 334, 335, 337,
D23/342, 351, 355, 378, 370, 381, 364,
D23/336, 341, 330

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(56) **References Cited**

U.S. PATENT DOCUMENTS

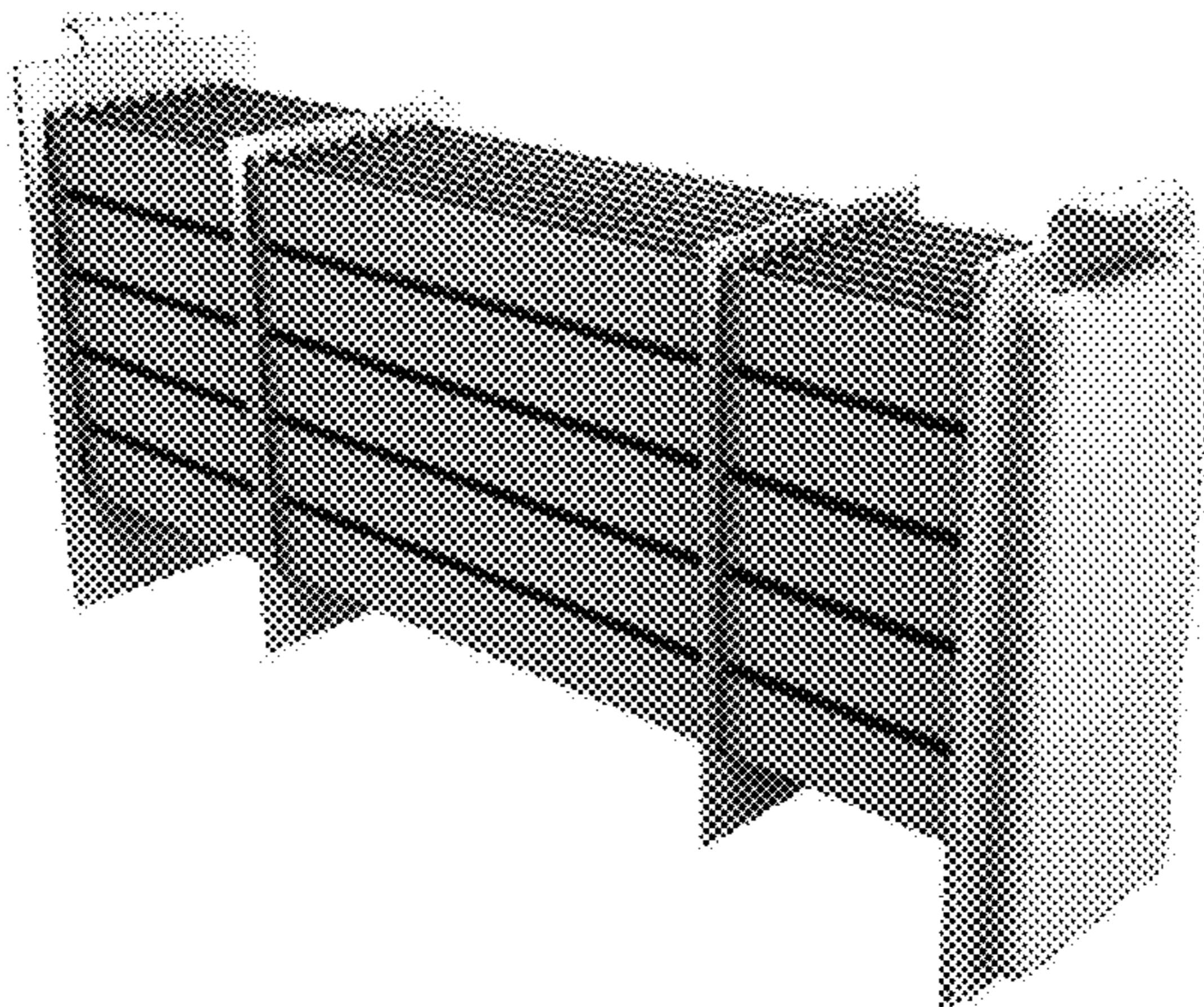
D359,344 S * 6/1995 De'Longhi D23/317
D397,193 S * 8/1998 Boyle D23/317

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Primary Examiner — Darlington Ly

(74) *Attorney, Agent, or Firm* — Grady K. Bergen; Griggs Bergen LLP(57) **CLAIM**

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

DESCRIPTION**2.1** is a top, front, and right side perspective view of a heat exchanger showing our new design;**2.2** is a top, front, and right side perspective view thereof, in which the right panel is removed and not shown;**2.3** is a right side perspective view thereof;**2.4** is a front perspective view thereof;**2.5** is a top perspective view thereof;**2.6** is an enlarged and partial top, front, and right side perspective view thereof; and**2.7** is a bottom, front, and right side perspective view thereof.**4.1** is a top, front, and right side perspective view of a heat exchanger showing our new design in accordance to a second embodiment;**4.2** is a right side perspective view thereof;**4.3** is a bottom, front, and right side perspective view thereof;**4.4** is an enlarged and partial top, front, and right side perspective view thereof;**4.5** is a top, front, and right side perspective view thereof, in which the right panel is removed and not shown; and**4.6** is a top perspective view thereof.**5.1** is a top, front, and right side perspective view of a heat exchanger showing our new design in accordance to a third embodiment;**5.2** is a right side perspective view thereof;**5.3** is a bottom, front, and right side perspective view thereof;**5.4** is an enlarged and partial top, front, and right side perspective view thereof;**5.5** is a top, front, and right side perspective view thereof, in which the right panel is removed and not shown; and**5.6** is a top perspective view thereof.**1 Claim, 10 Drawing Sheets**

(30) **Foreign Application Priority Data**

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Feb. 8, 2016 (EM) 002976878-0004
Feb. 8, 2016 (EM) 002976878-0005

(58) Field of Classification Search

CPC F24H 3/004; F24H 3/0411; F24H 3/0417;
F24H 3/00; F28D 1/0333

See application file for complete search history.

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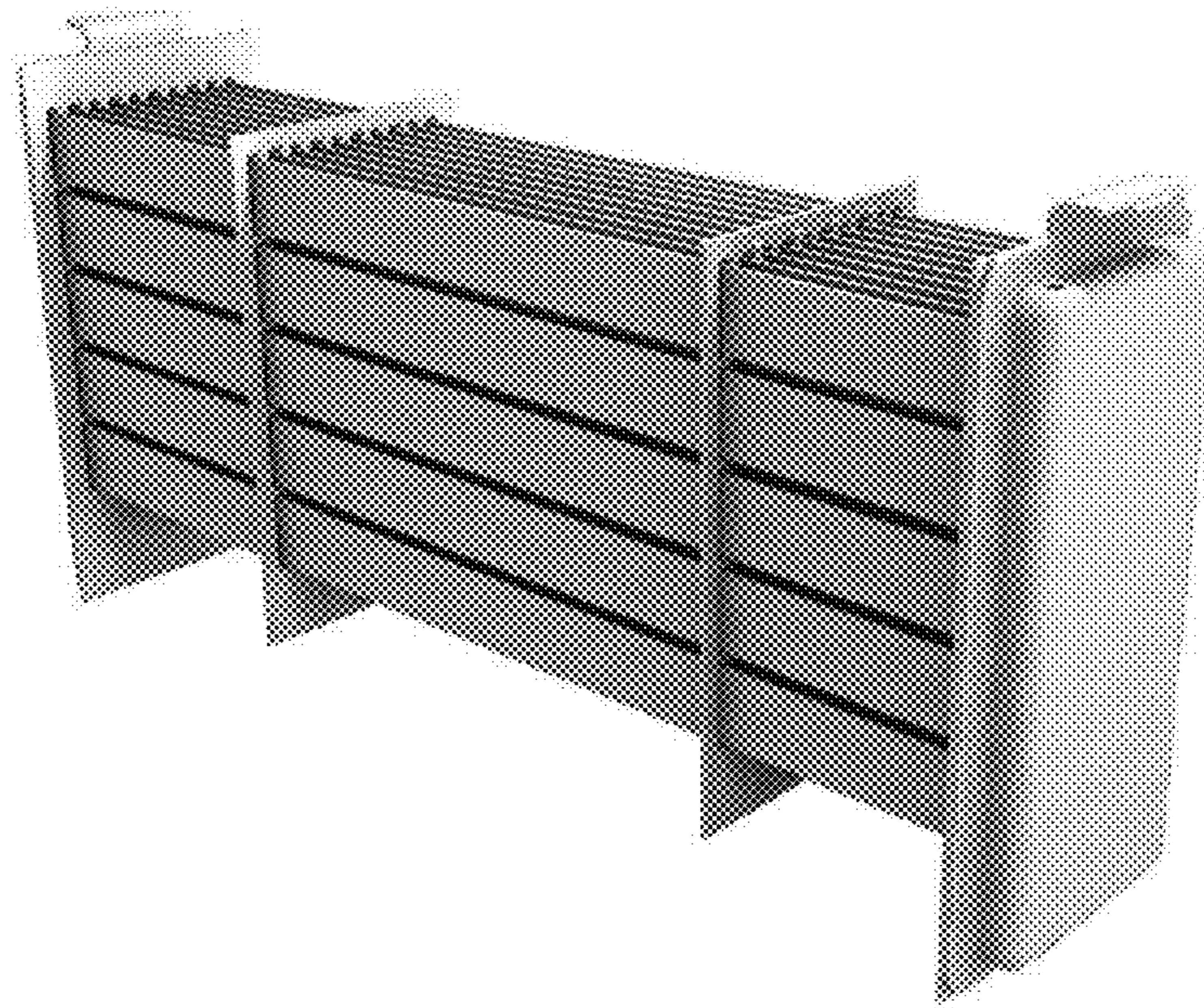
References Cited

U.S. PATENT DOCUMENTS

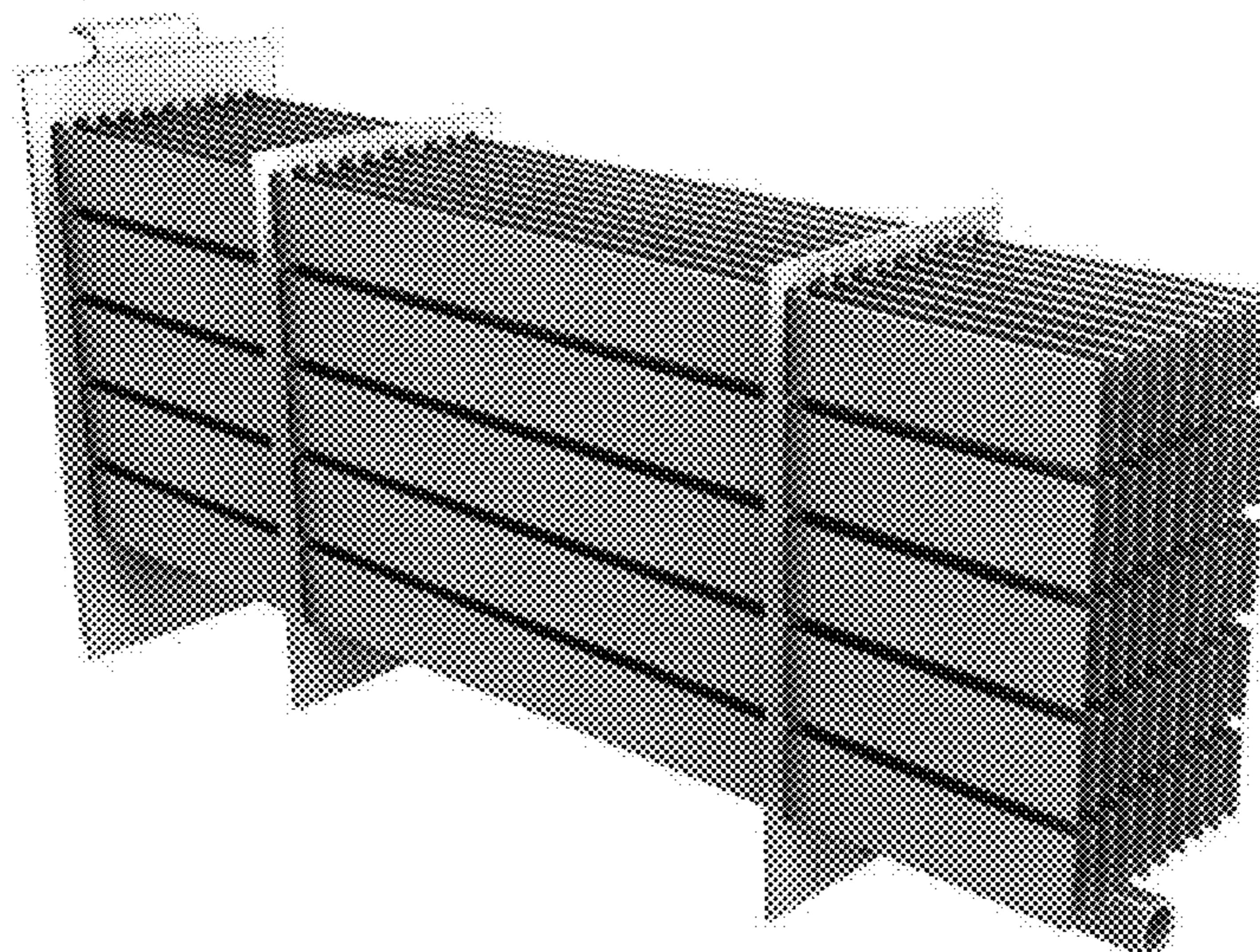
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|-----------|----|---|---------|------------------|-------------|
| D423,090 | S | * | 4/2000 | Barbosa | D23/330 |
| 6,443,223 | B2 | * | 9/2002 | Ichiyanagi | F28D 1/0341 |
| | | | | | 165/153 |
| 7,311,138 | B2 | * | 12/2007 | Kazari | F28D 1/0333 |
| | | | | | 165/153 |
| D624,166 | S | * | 9/2010 | Zanolin | D23/330 |
| 8,184,962 | B2 | * | 5/2012 | Zanolin | F24D 19/06 |
| | | | | | 392/373 |
| D684,245 | S | * | 6/2013 | Dong | D23/330 |

* cited by examiner

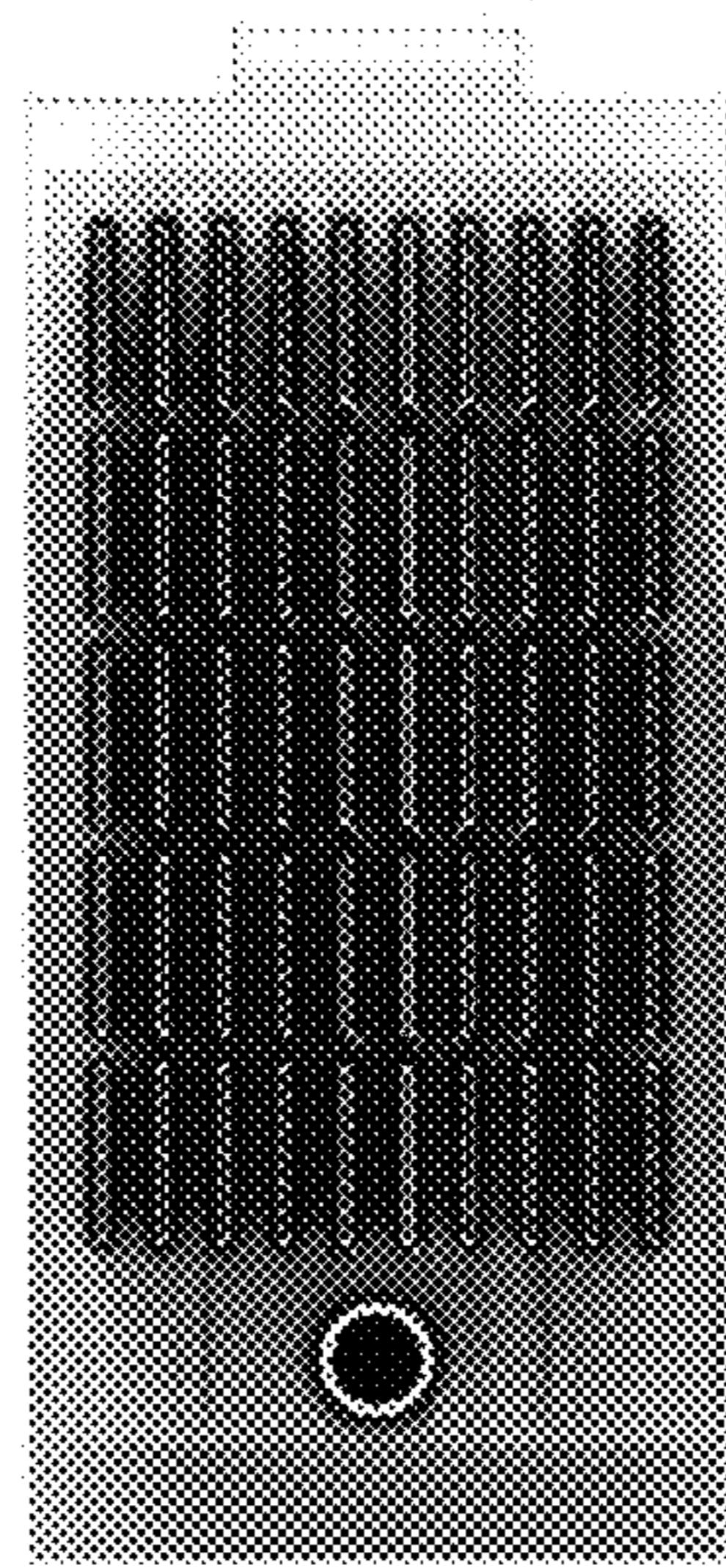
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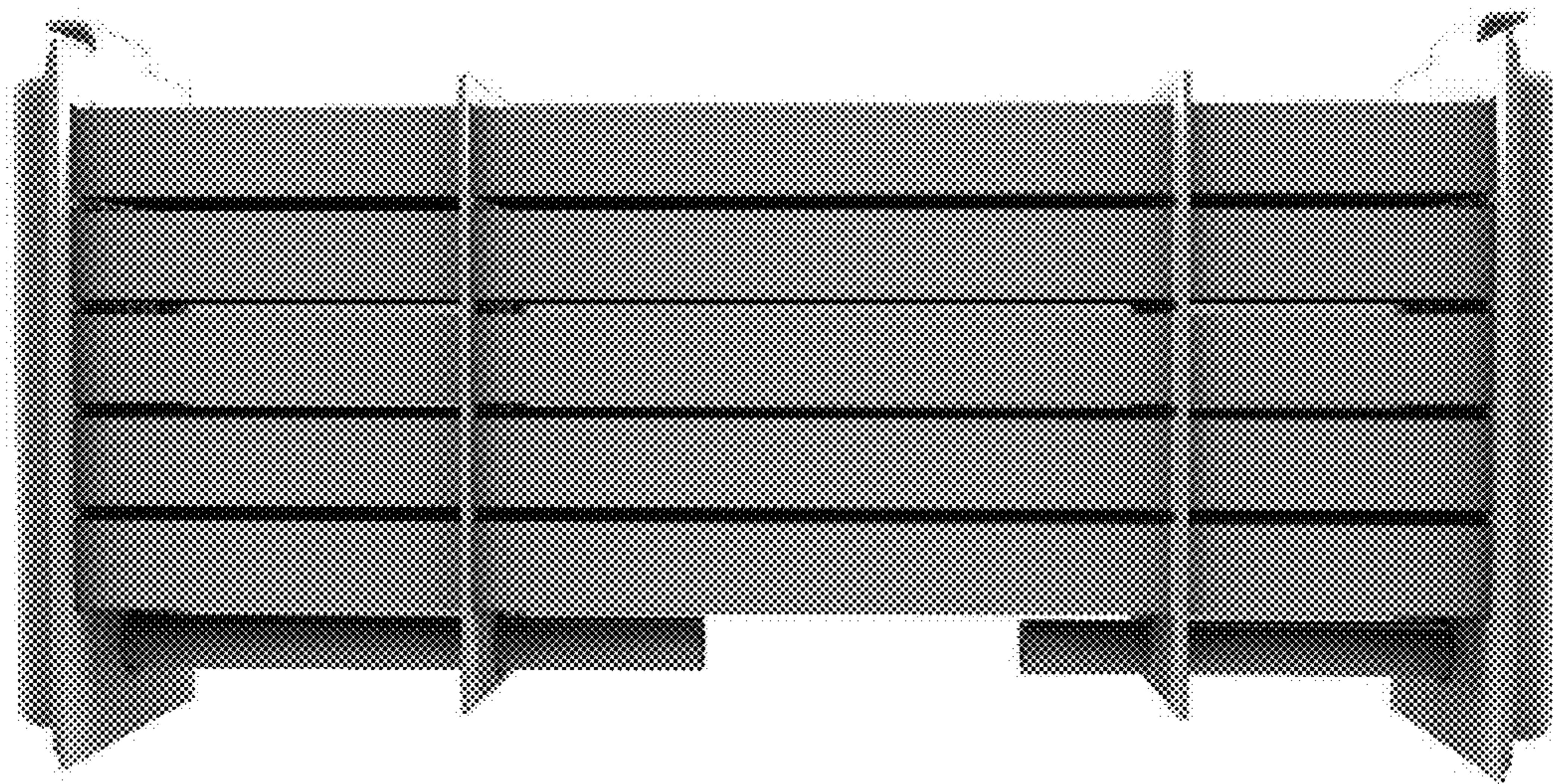
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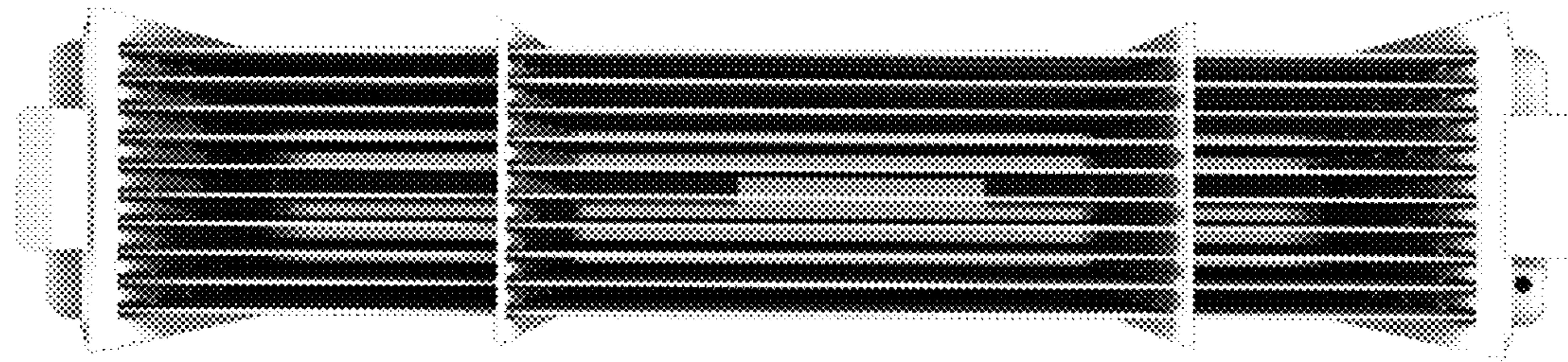
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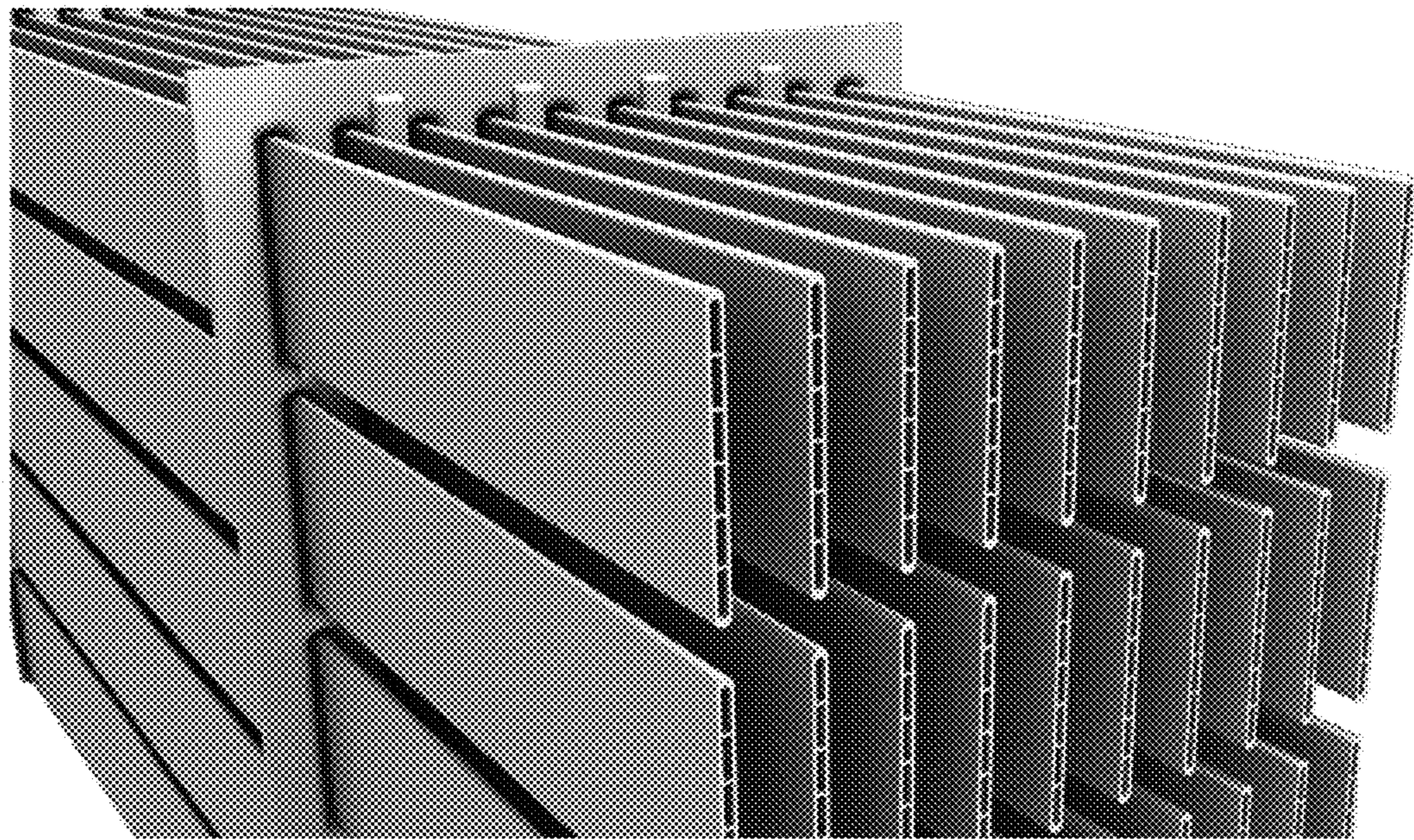
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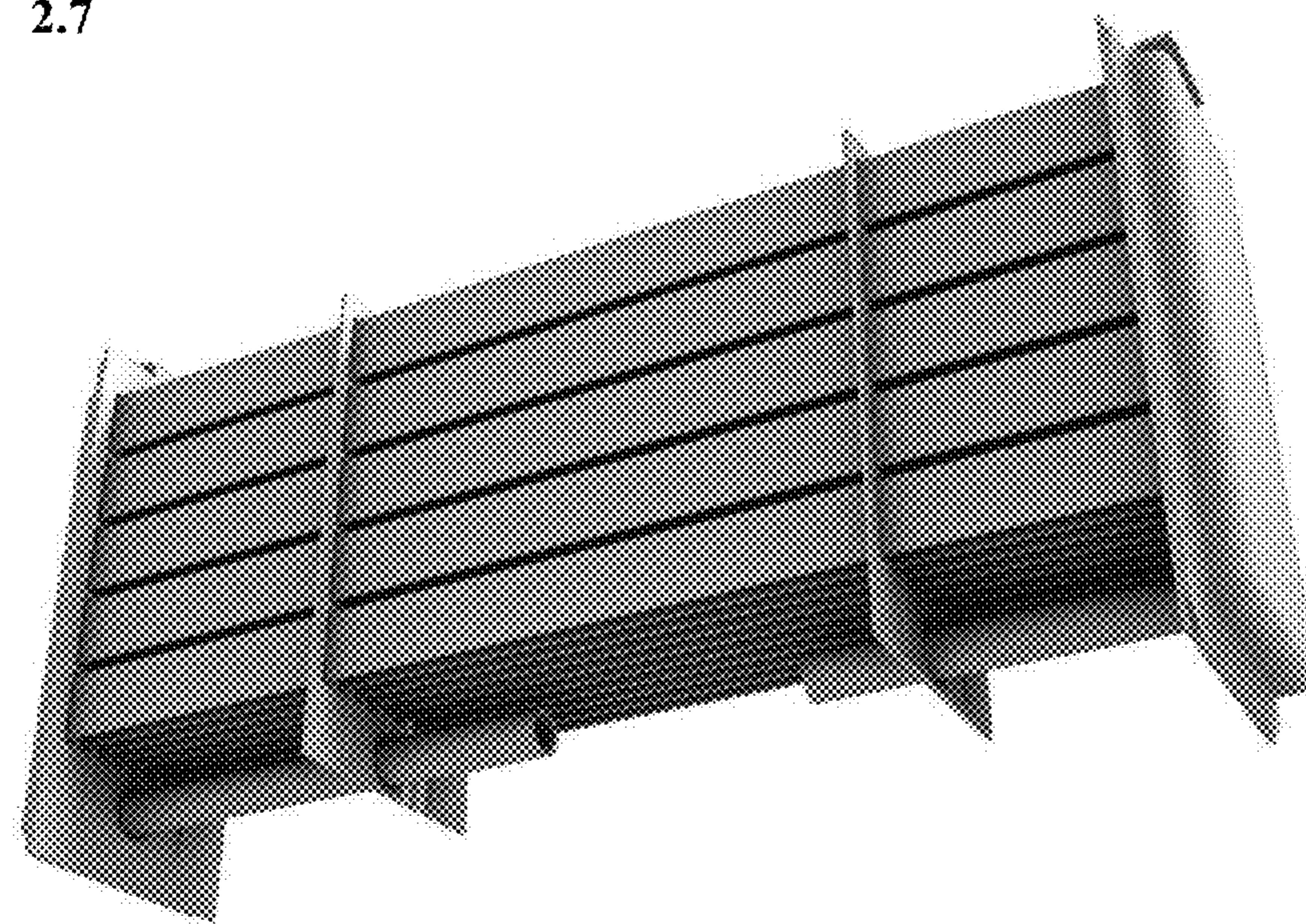
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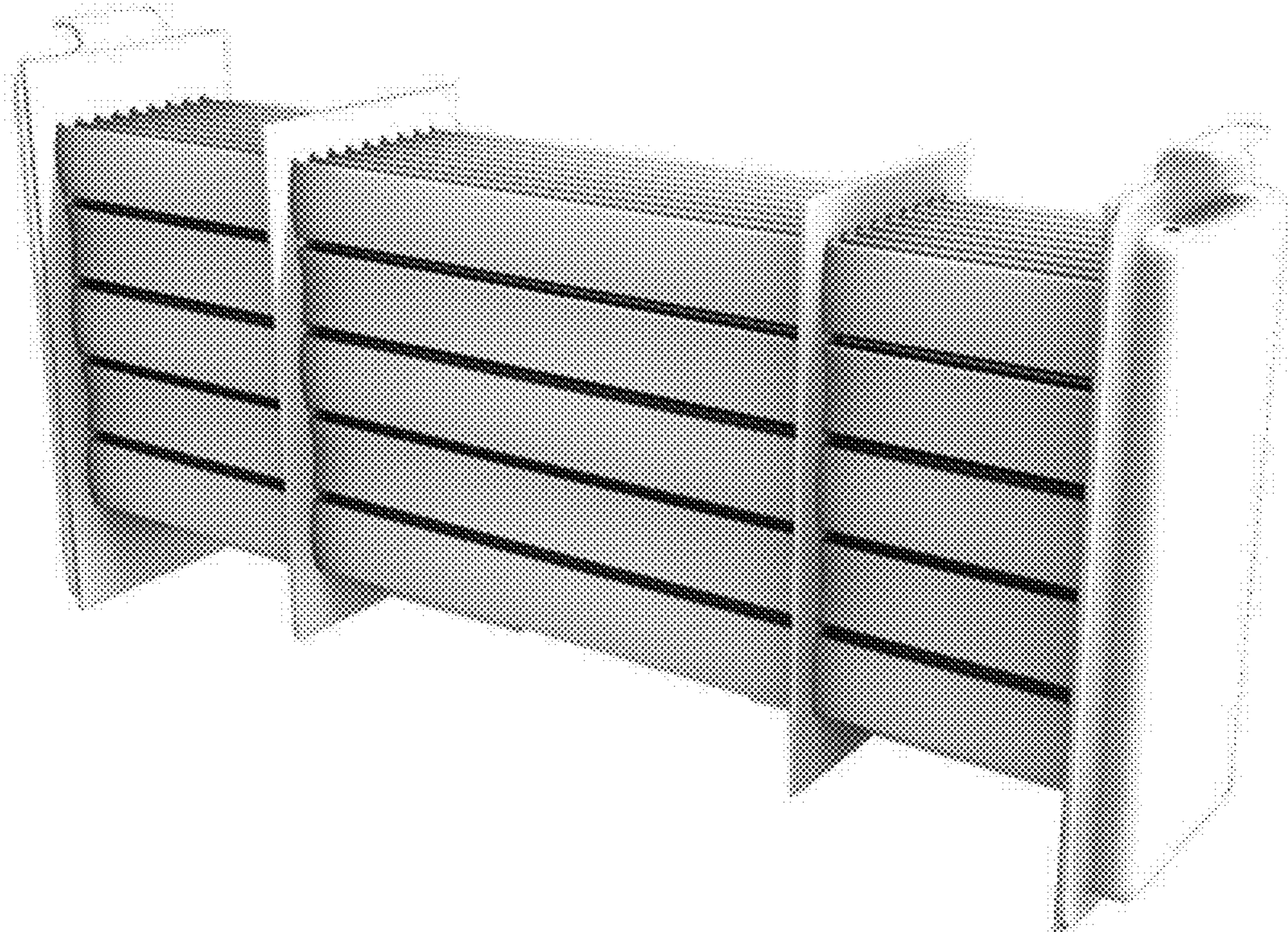
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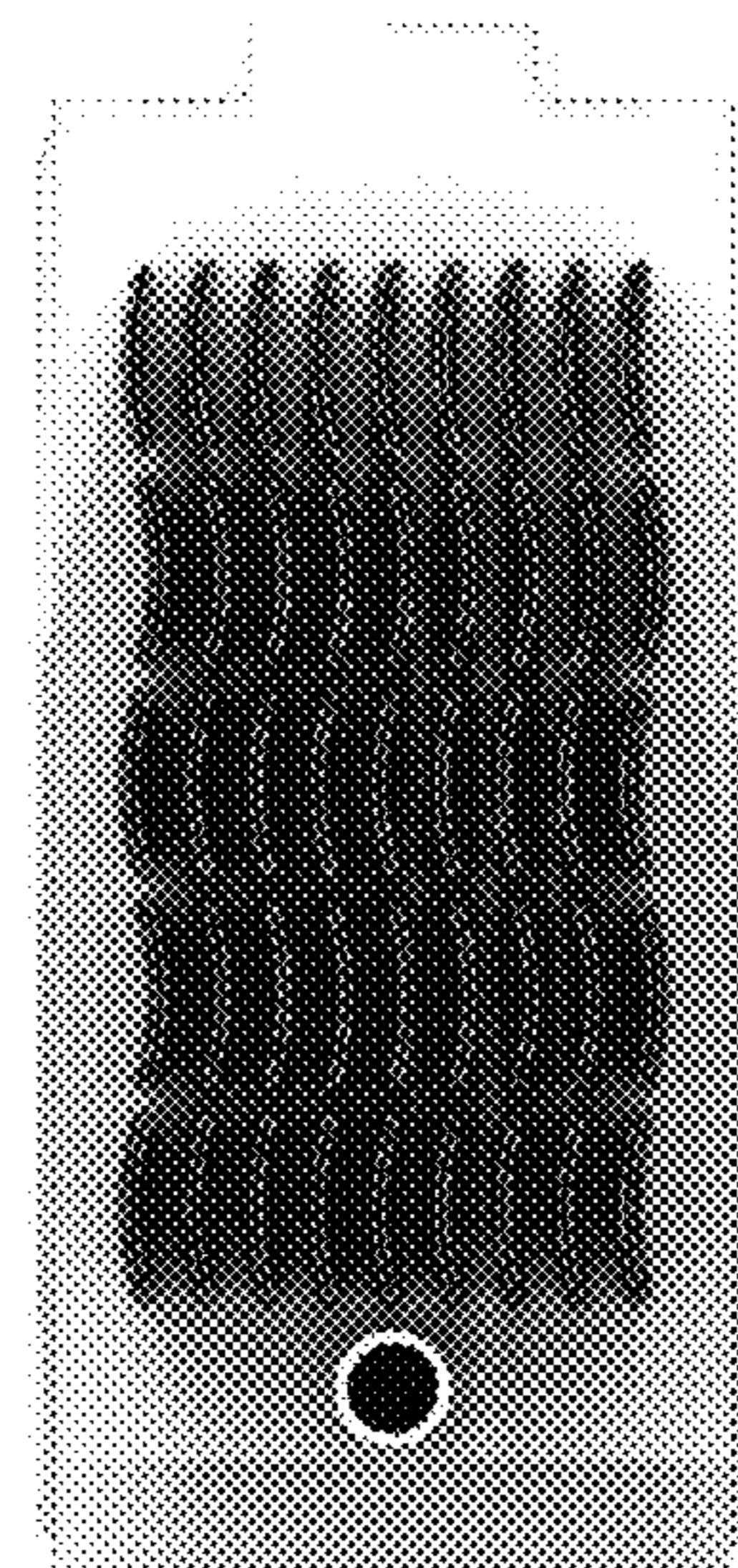
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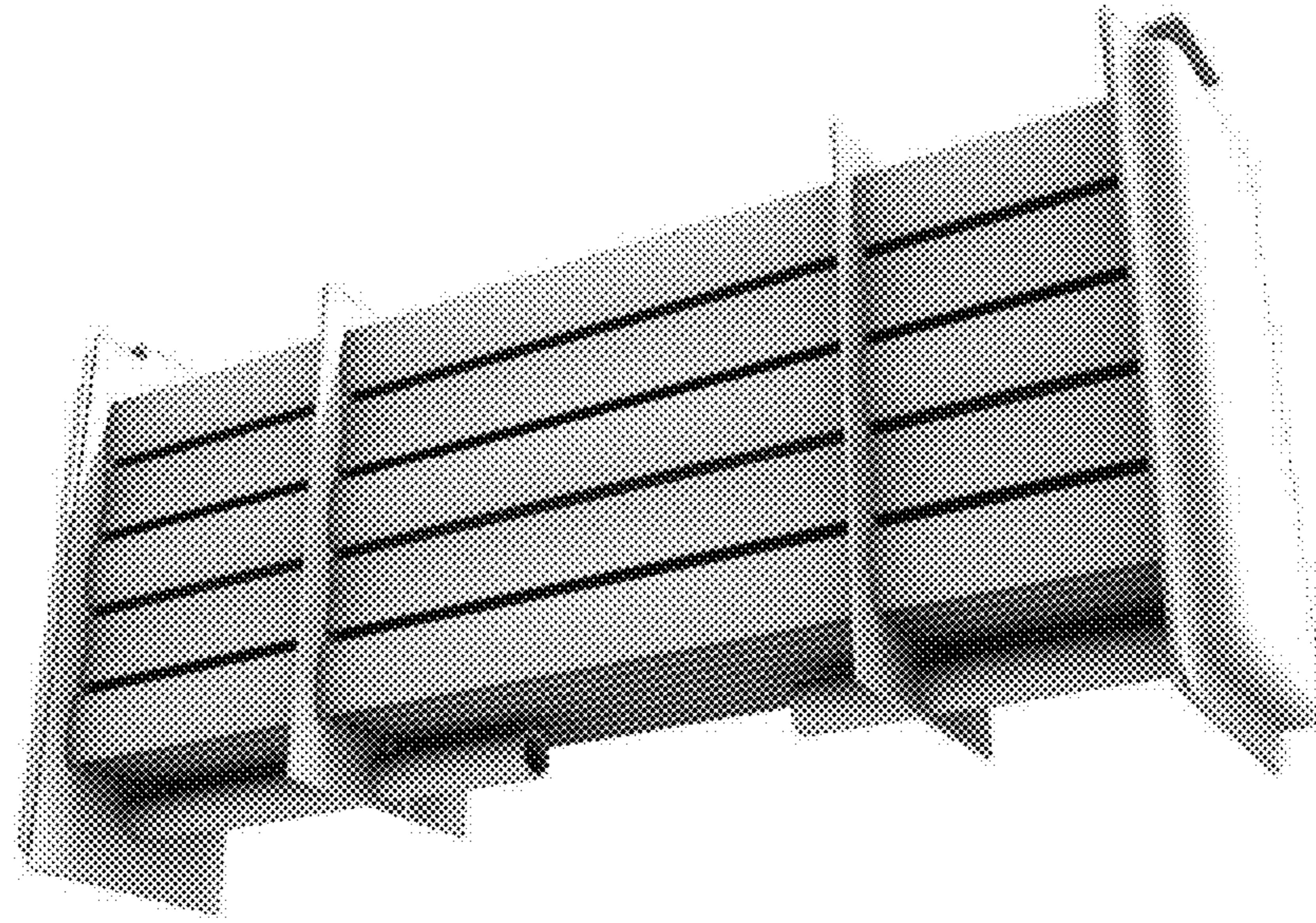
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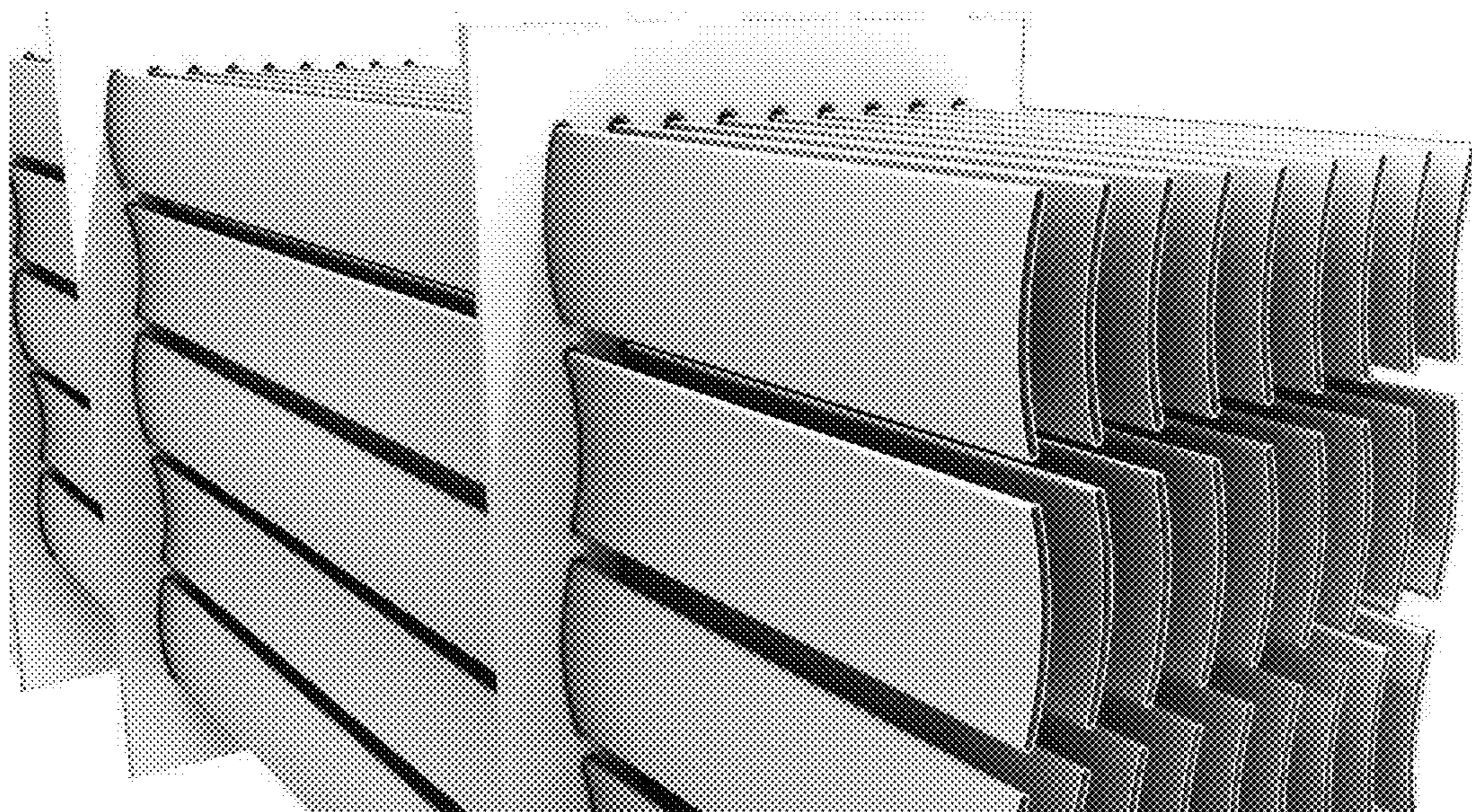
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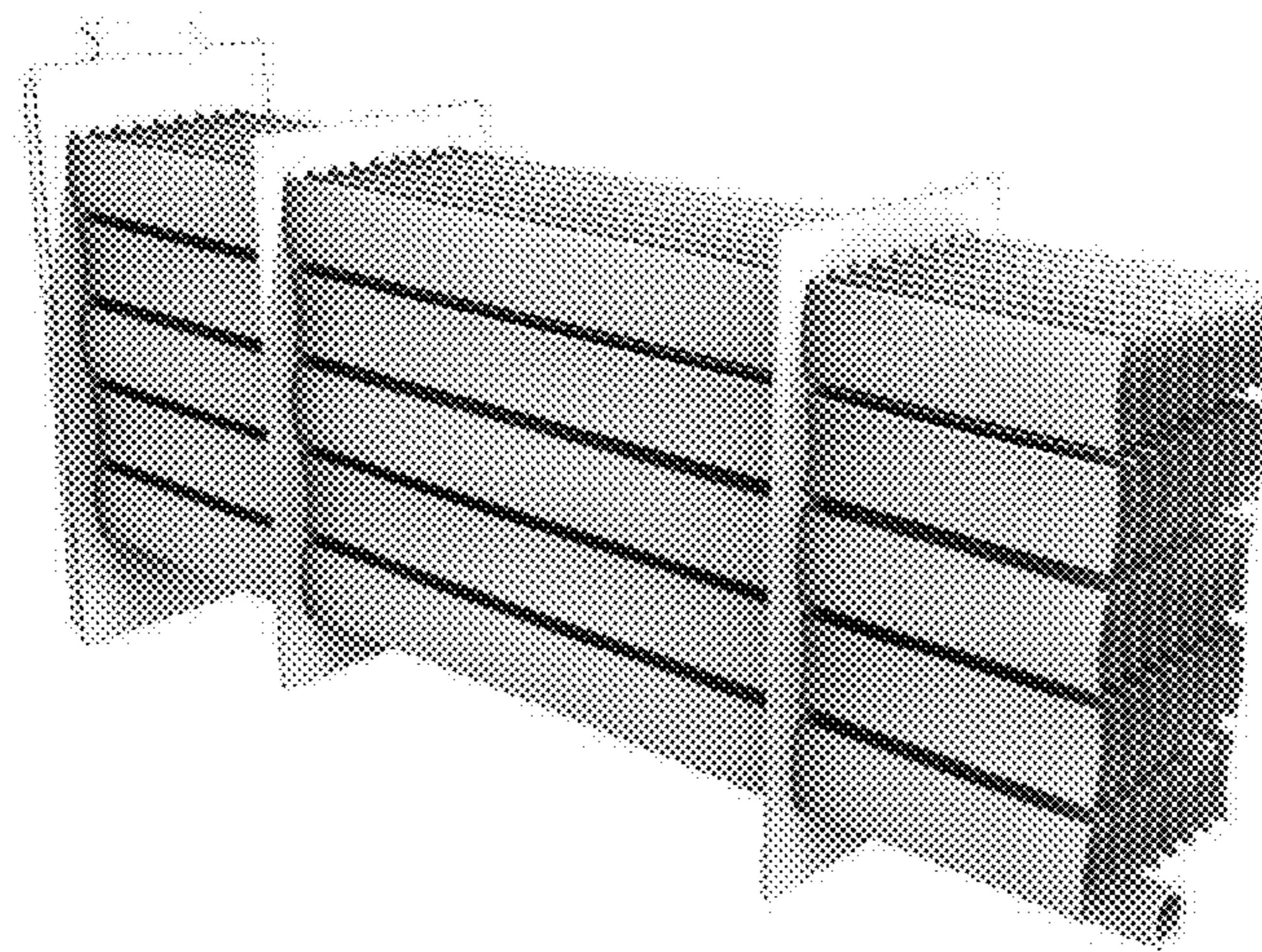
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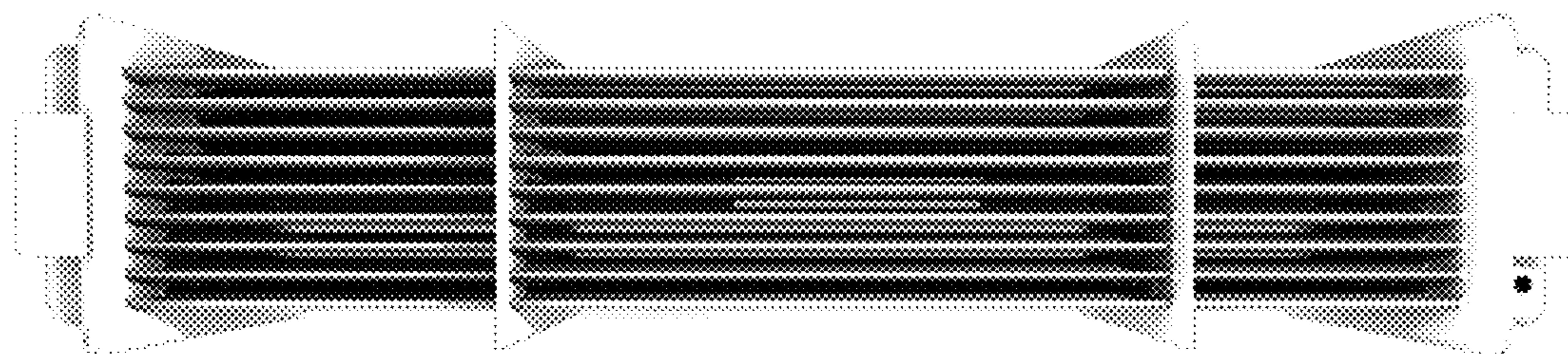
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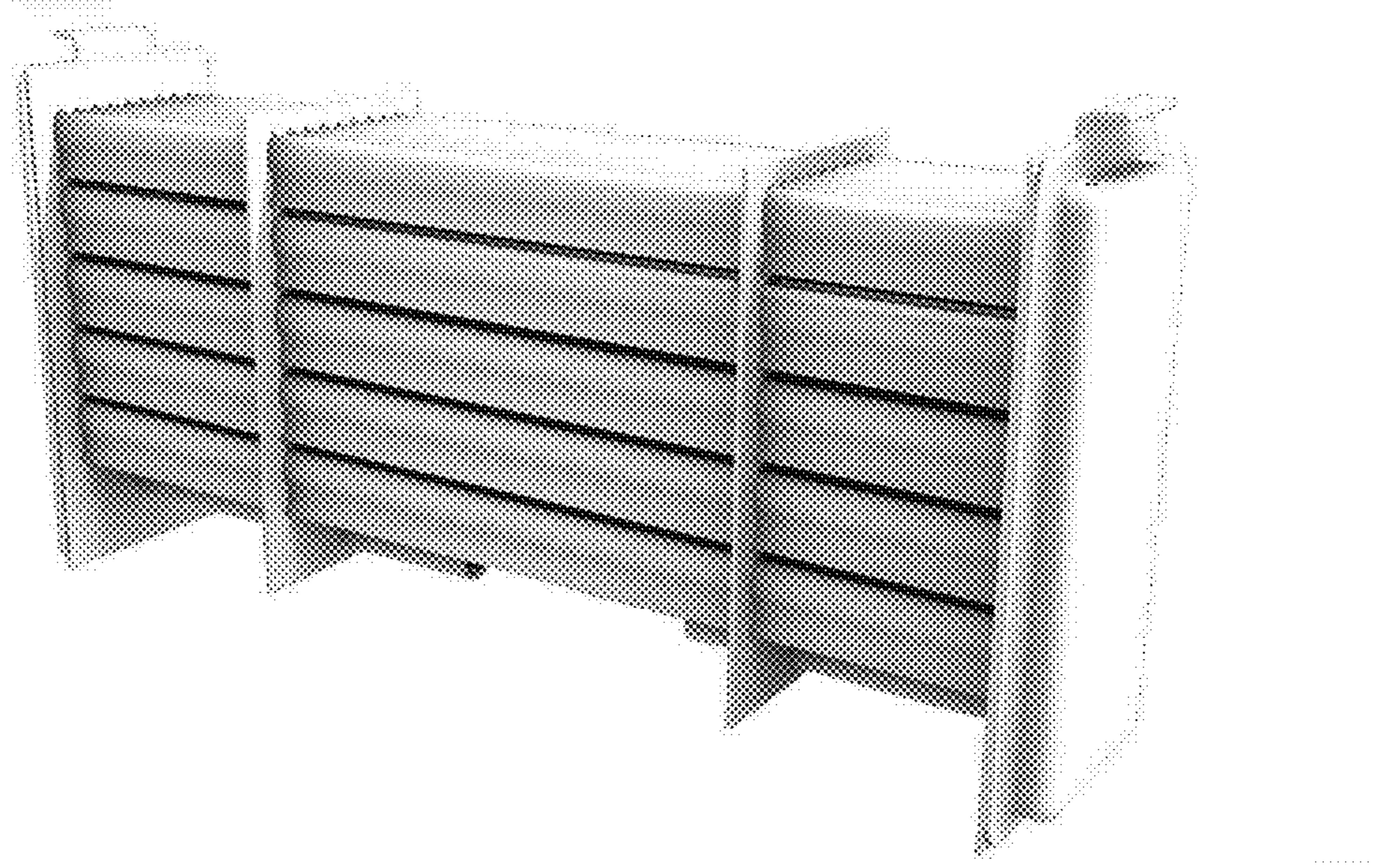
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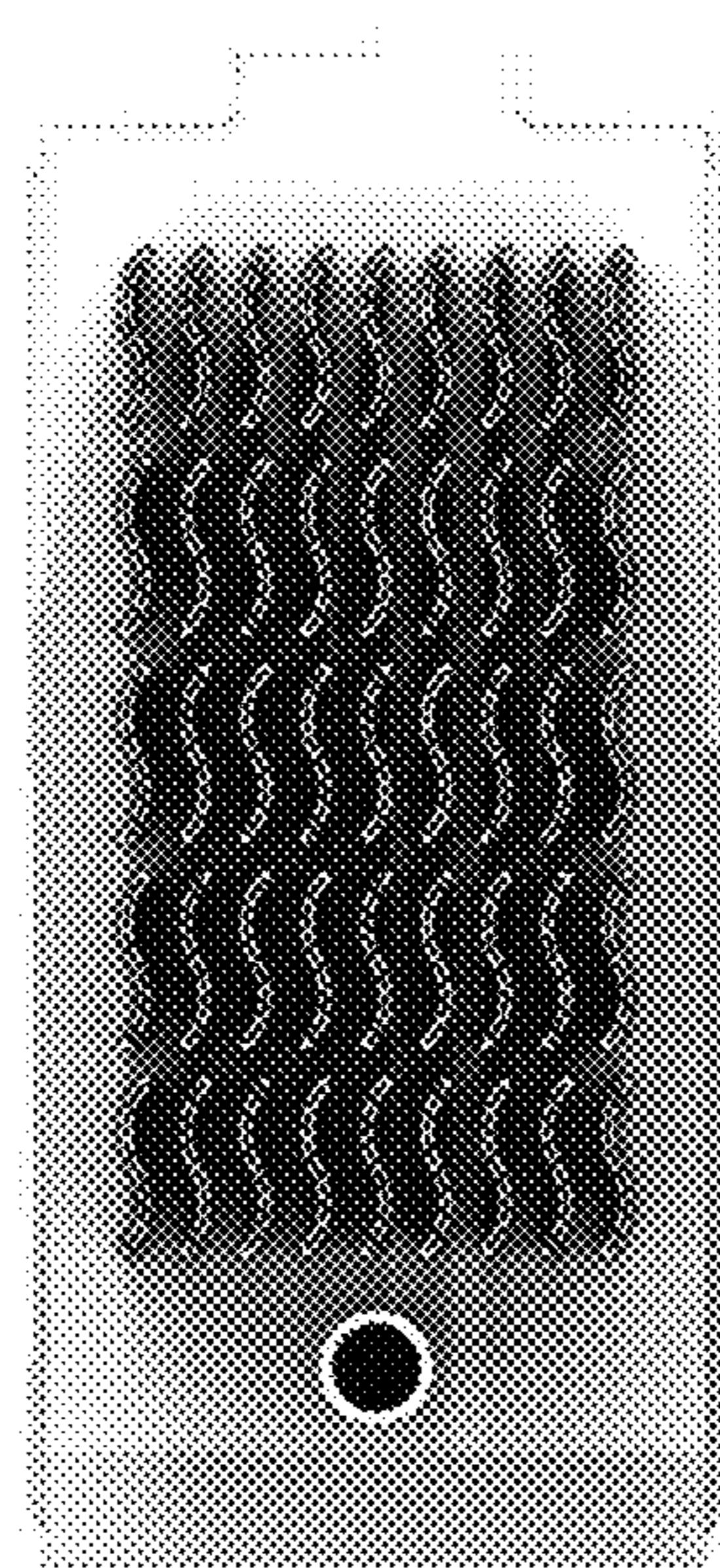
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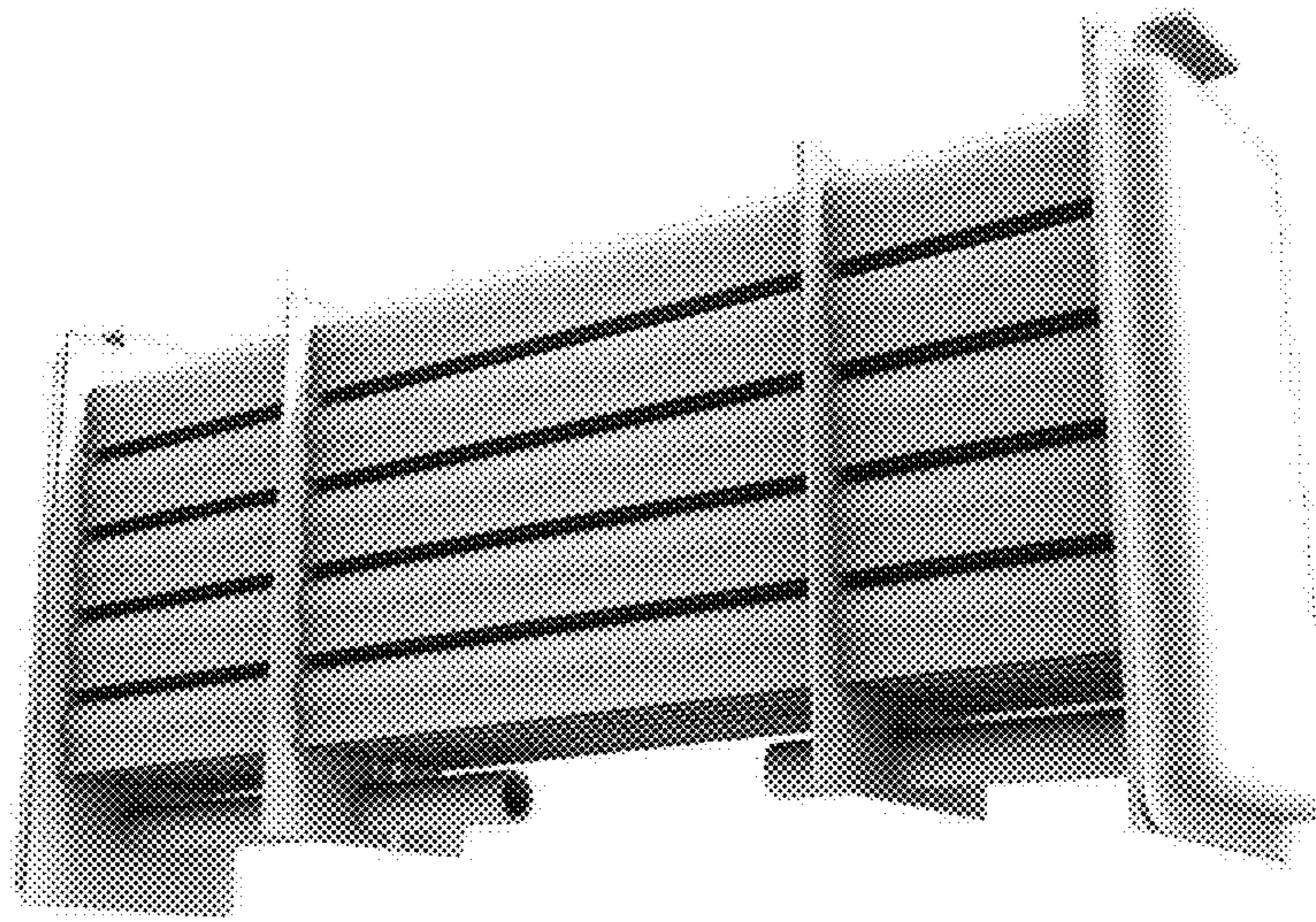
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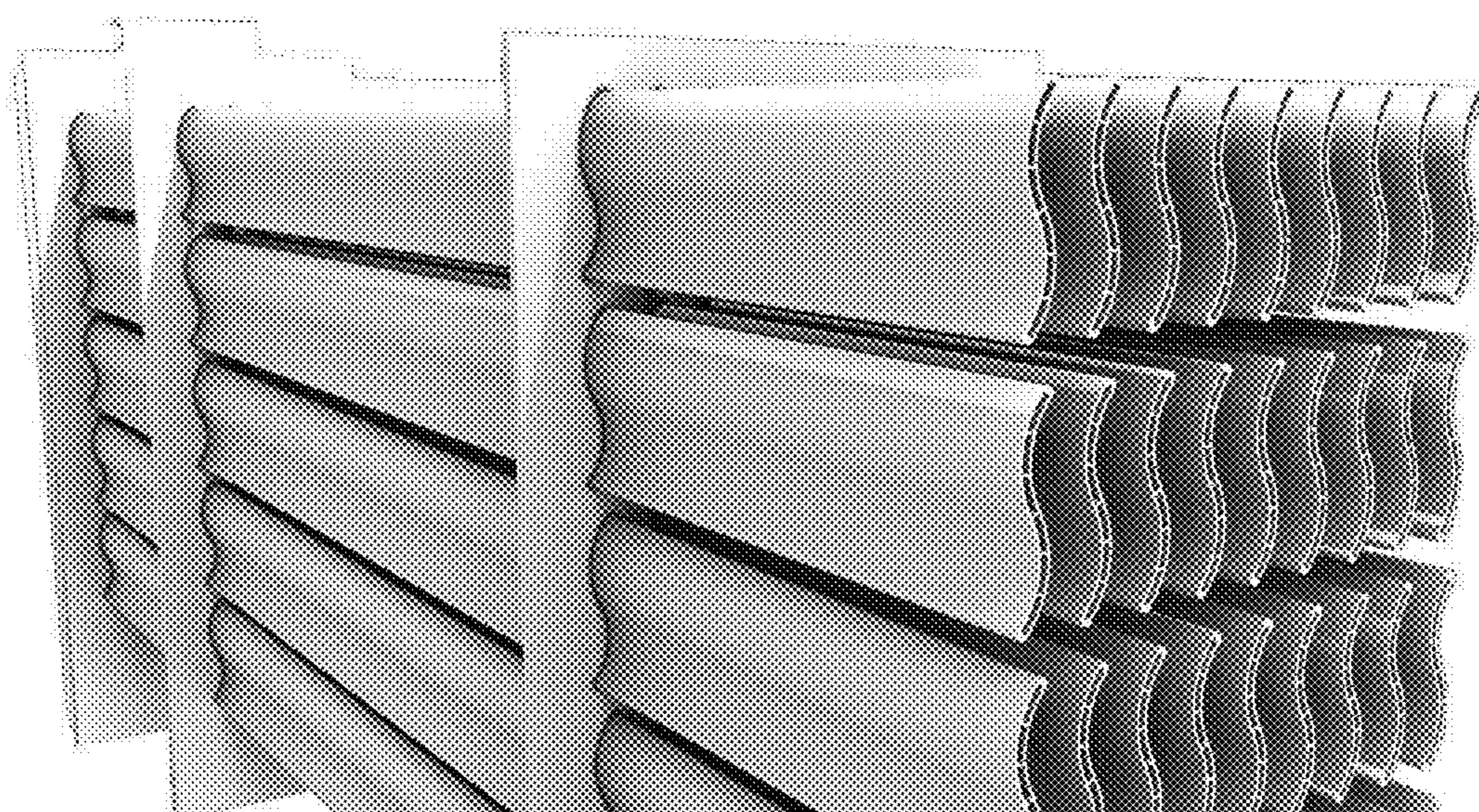
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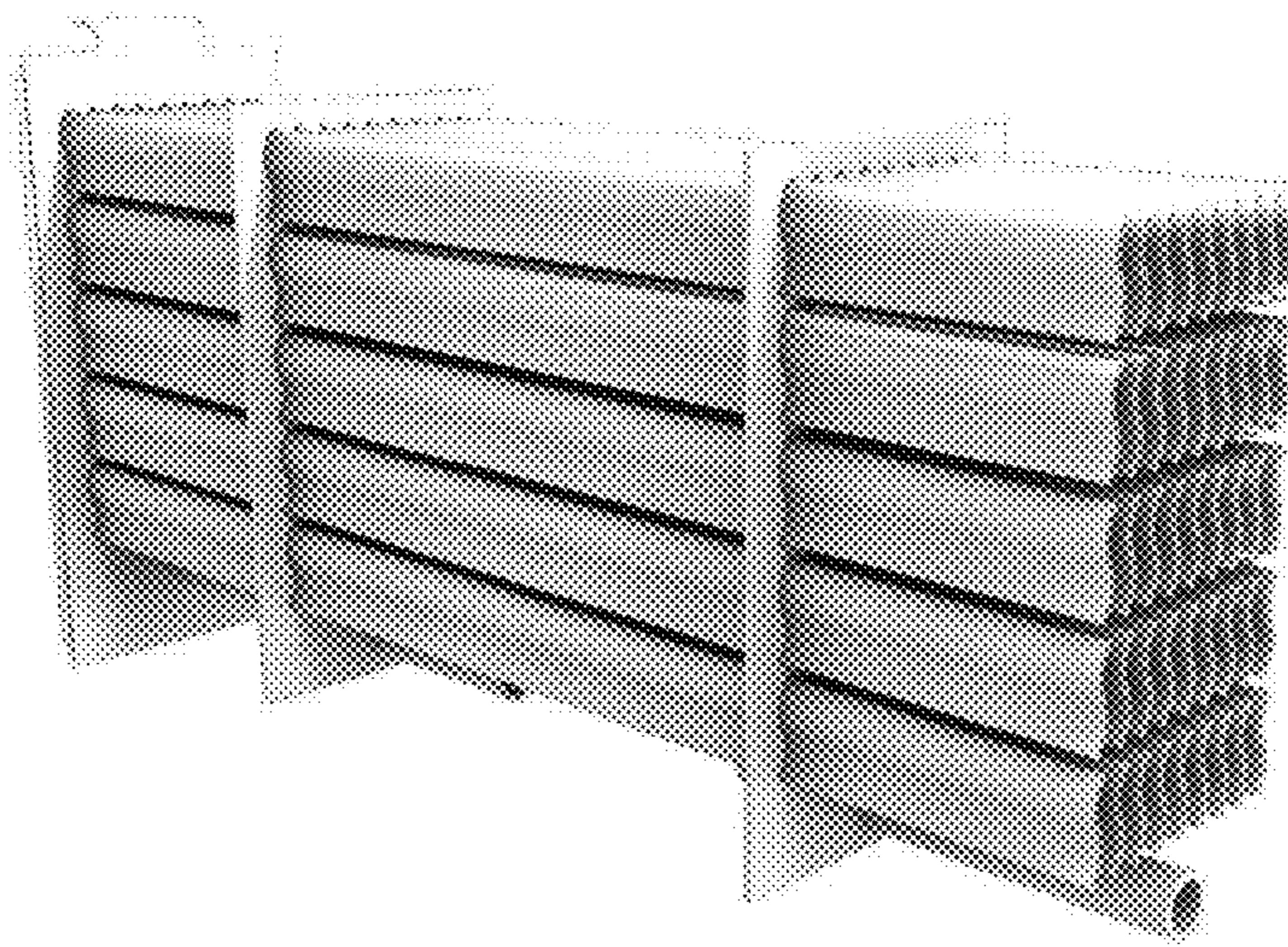
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5.4



5.5



5.6

