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(12) **United States Design Patent**
Hu

(10) **Patent No.:** **US D986,442 S**

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(54) **SLIDER AND LADDER ASSEMBLY**

(71) Applicant: **Lanhui Hu, Ji'an (CN)**

(72) Inventor: **Lanhui Hu, Ji'an (CN)**

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

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Related U.S. Application Data

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(51) **LOC (14) Cl.** **25-04**

(52) **U.S. Cl.**
USPC **D25/64; D21/826**

(58) **Field of Classification Search**
USPC D21/826, 814, 811; D25/64, 63; 182/27, 182/152, 20, 35
CPC E06C 1/32; A63B 9/00
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

212,050	A *	2/1879	Phillips	.....	E06C 1/32 182/27
316,643	A *	4/1885	Niehaus	.....	E06C 1/16 182/27
579,437	A *	3/1897	Knisell	.....	E06C 1/39 182/27
737,080	A *	8/1903	Conner	.....	E06C 1/32 182/27
2,012,592	A *	8/1935	Skiba	.....	E06C 1/32 182/27
2,312,148	A *	2/1943	Cederquist	.....	E06C 1/005 182/27
3,008,711	A *	11/1961	Dillon	.....	A63B 9/00 D21/826
3,547,435	A *	12/1970	Scott	.....	A63B 9/00 482/37

3,572,698	A *	3/1971	Greenly	.....	A63B 9/00 482/36
3,897,055	A *	7/1975	Caldow	.....	A63B 9/00 482/36
4,365,799	A *	12/1982	O'Brian	.....	A63G 21/00 182/27
4,493,392	A *	1/1985	Alimbau Marques	E06C 1/56 182/27
4,519,476	A *	5/1985	Alimbau Marques	E06C 1/56 182/35

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Primary Examiner — Cynthia R Underwood
(74) *Attorney, Agent, or Firm* — Daniel M. Cohn;
Howard M. Cohn

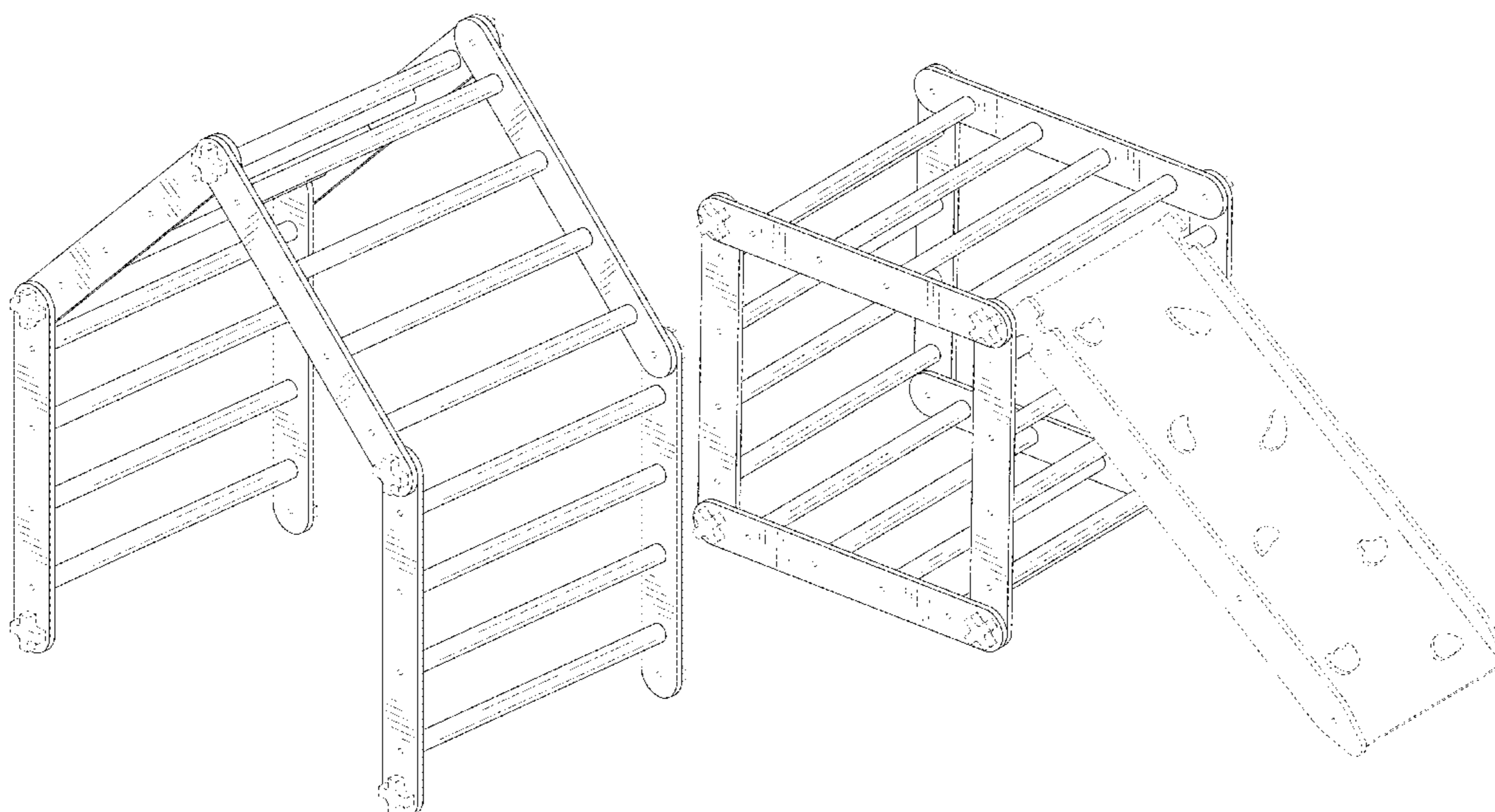
(57) **CLAIM**

The ornamental design for a slider and ladder assembly, as shown and described.

DESCRIPTION

FIG. 1 is a perspective view of a slider and ladder assembly showing my new design;
FIG. 2 is another perspective view thereof;
FIG. 3 is a front elevational view thereof;
FIG. 4 is a rear elevational view thereof;
FIG. 5 is a left side elevational view thereof;
FIG. 6 is a right side elevational view thereof;
FIG. 7 is a top plan view thereof;
FIG. 8 is a bottom plan view thereof;
FIG. 9 is the first use state diagram;
FIG. 10 is the second use state diagram;
FIG. 11 is the third use state diagram;
FIG. 12 is the fourth use state diagram;
FIG. 13 is the fifth use state diagram; and,
FIG. 14 is the sixth use state diagram.
The dash-dash broken lines in the drawings depict portions of the slider and ladder assembly that form no part of the claimed design.

1 Claim, 14 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

4,630,819 A * 12/1986 Levin A63B 9/00
182/152
4,804,176 A * 2/1989 Goble A47B 83/02
472/106
5,086,872 A * 2/1992 Lin E06C 1/32
182/20
5,368,126 A * 11/1994 Woodward E04G 1/20
182/152
D410,271 S * 5/1999 Manus D21/826
D411,604 S * 6/1999 Manus D21/826
D478,144 S * 8/2003 Fredriksson D21/826
D483,089 S * 12/2003 Johnson D21/818
7,007,344 B2 * 3/2006 Lee E06C 1/32
403/68
8,381,873 B2 * 2/2013 Cross E06C 1/39
182/27
9,320,955 B2 * 4/2016 Aral Diaz E06C 1/32
D771,763 S 11/2016 Hamons et al.
D832,966 S * 11/2018 Nelson D21/818
D847,287 S 4/2019 Chen
D952,784 S * 5/2022 Xiang D21/826
D966,556 S * 10/2022 Barker D25/64
D973,822 S * 12/2022 Klein D21/826
11,548,595 B2 * 1/2023 Schaub B63B 27/146
2023/0062245 A1 * 3/2023 Fletcher B65D 90/20
2023/0067327 A1 * 3/2023 Fletcher B65D 90/48

* cited by examiner

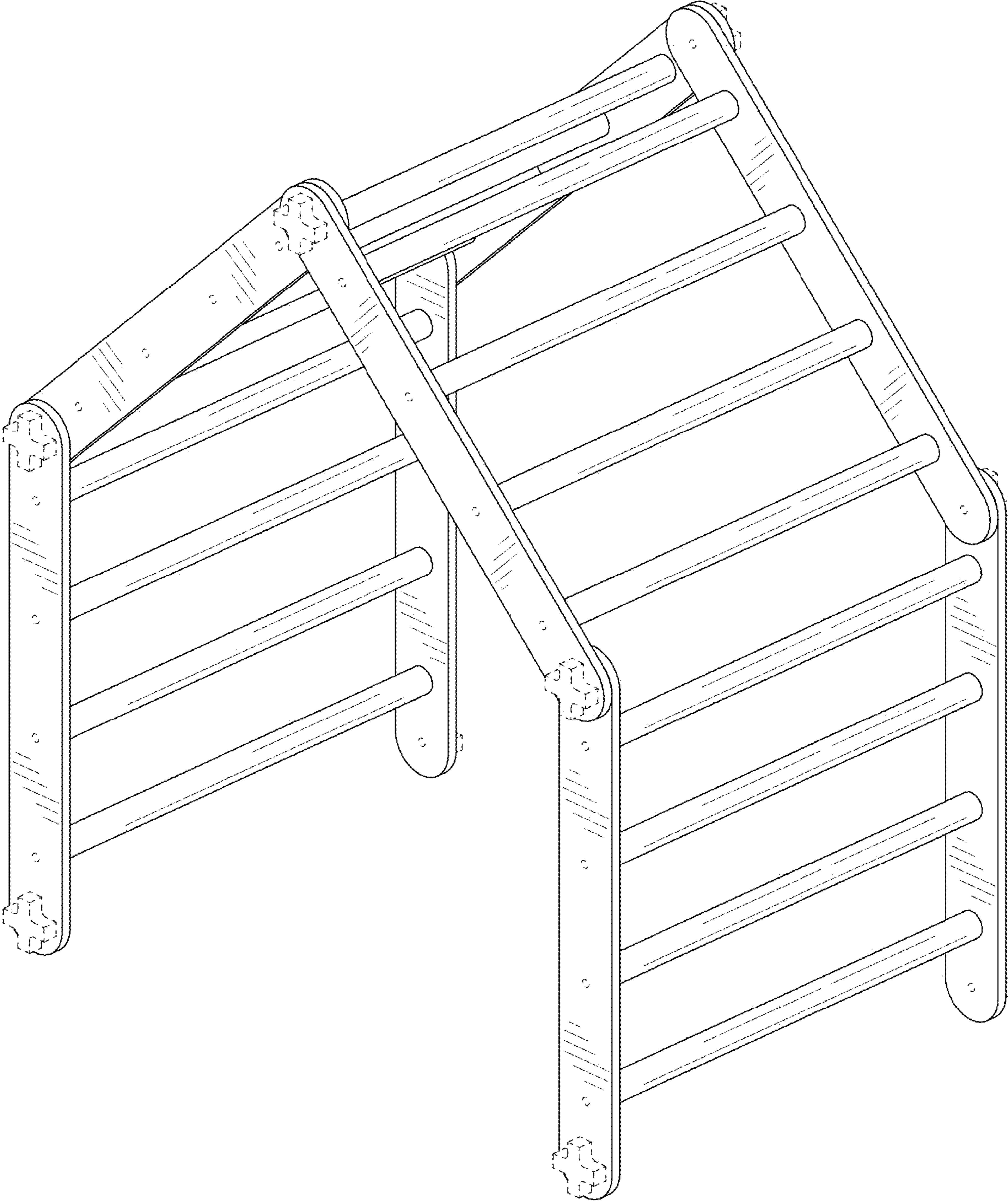


FIG. 1

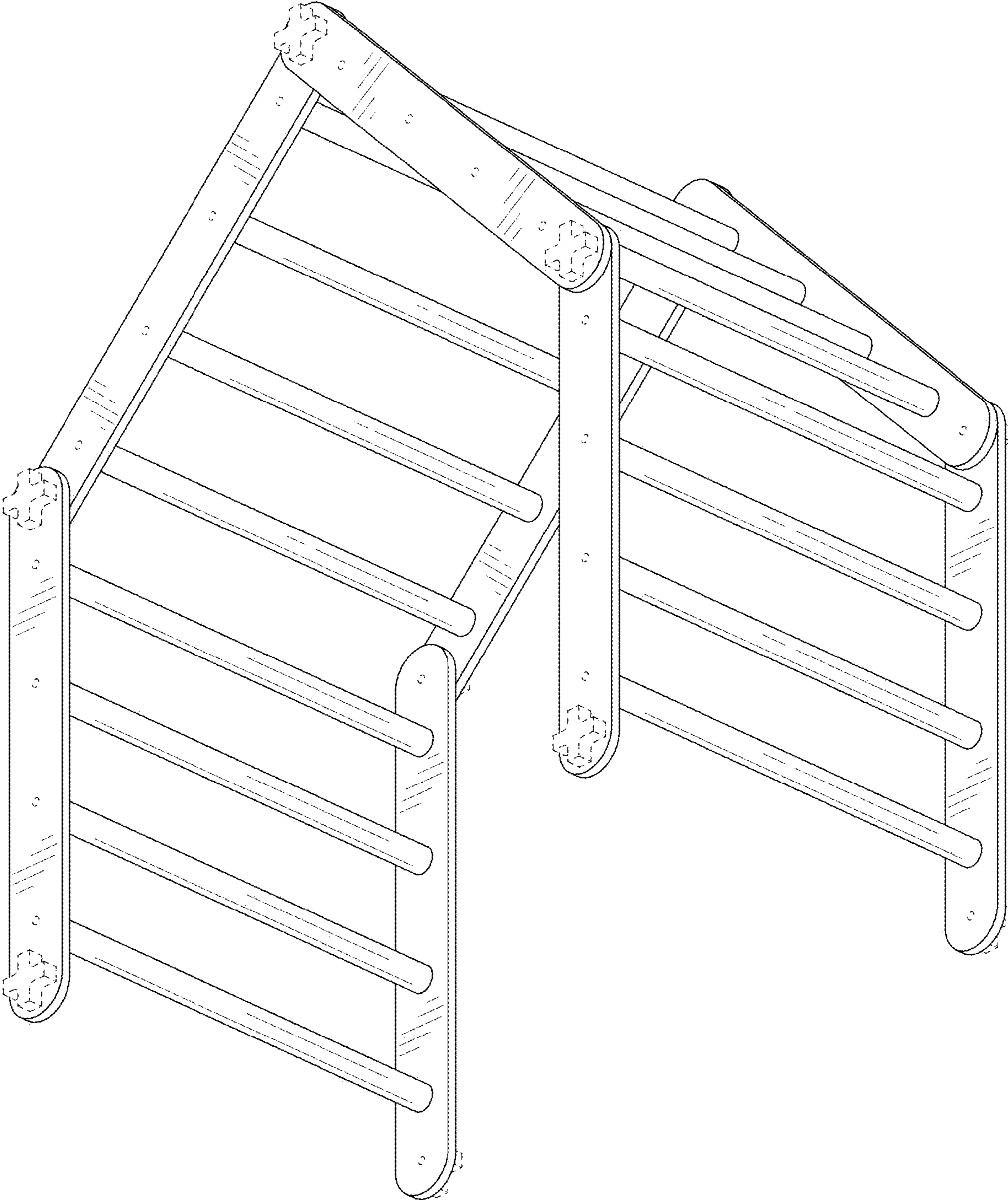


FIG. 2

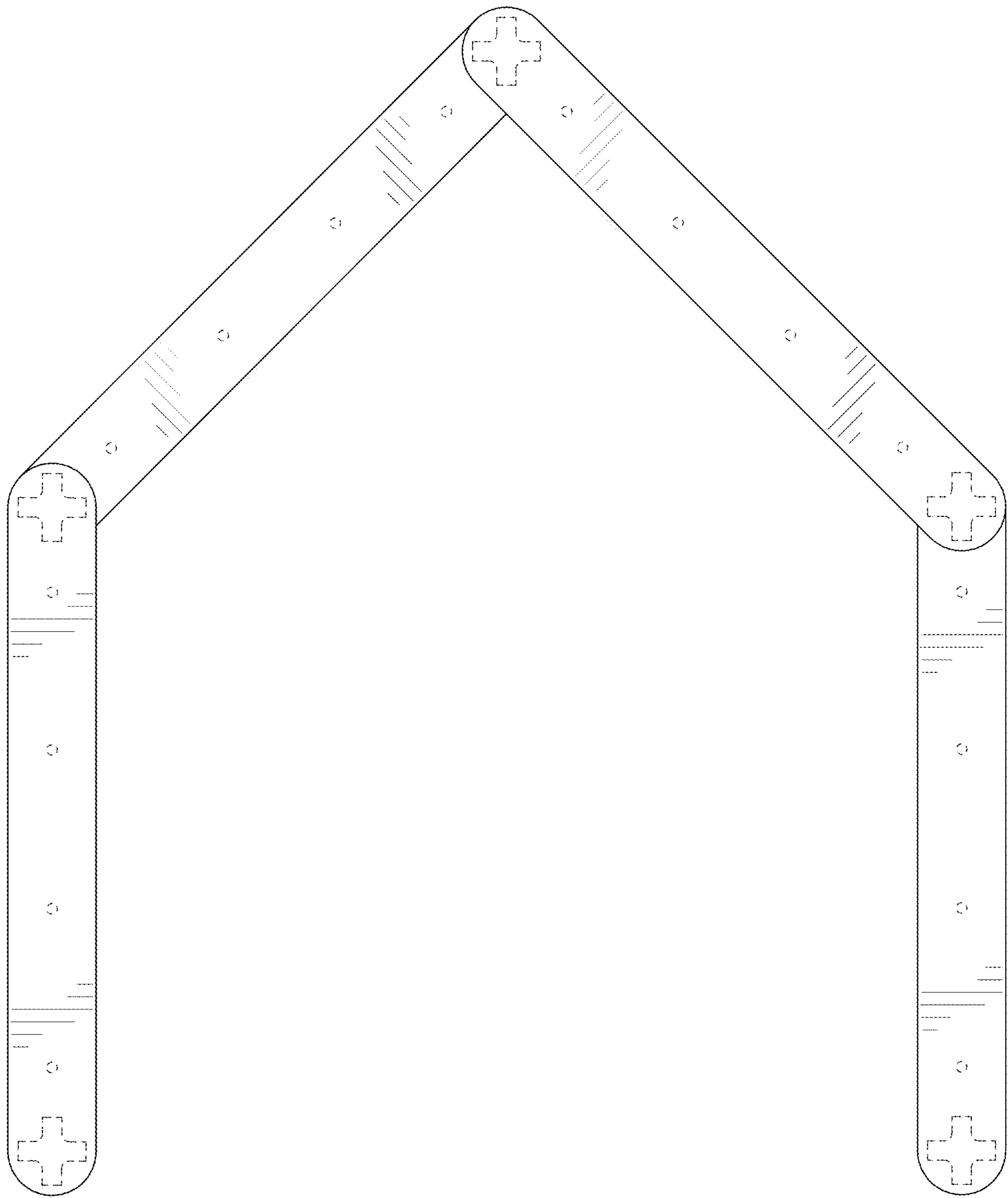


FIG. 3

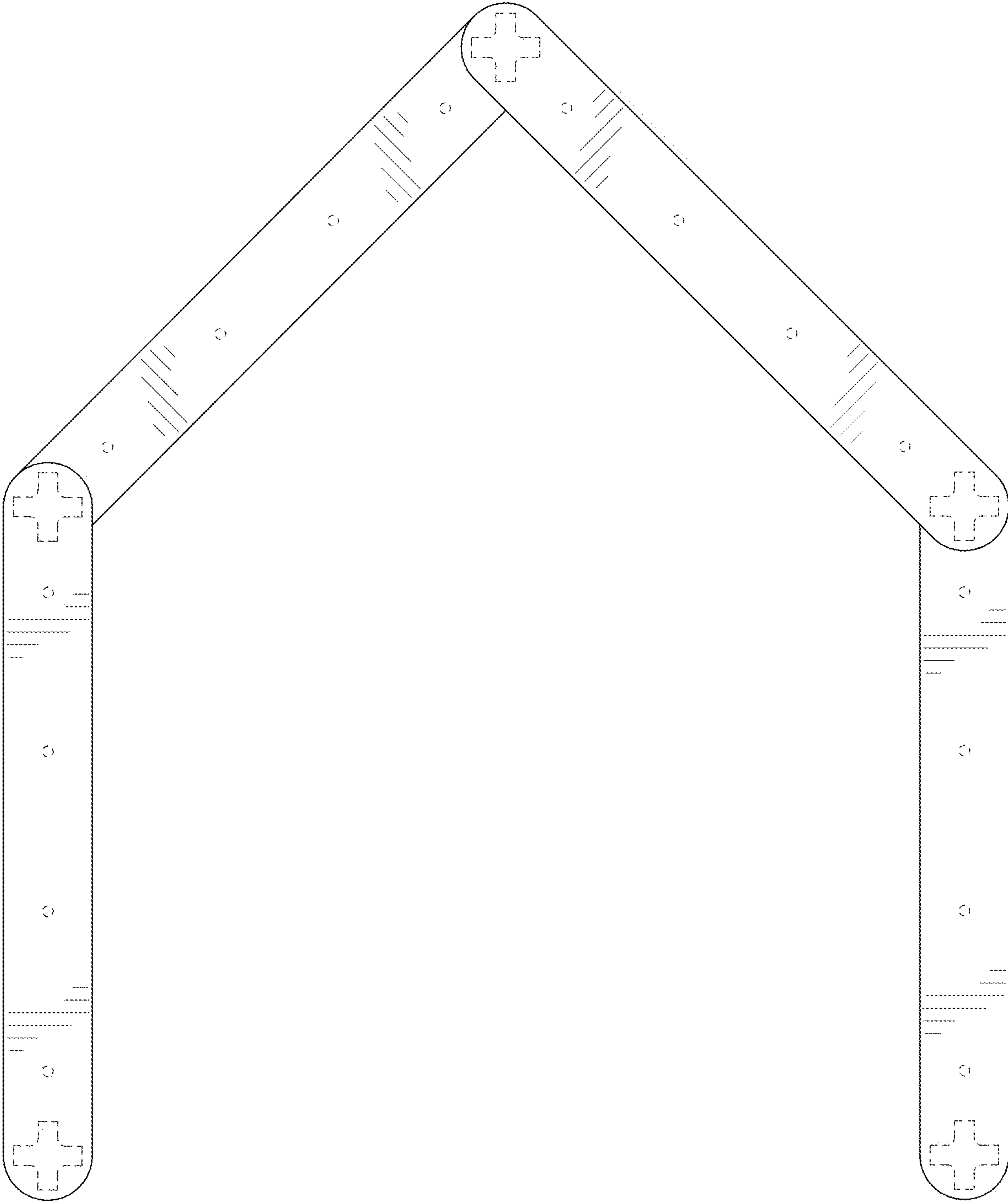


FIG. 4

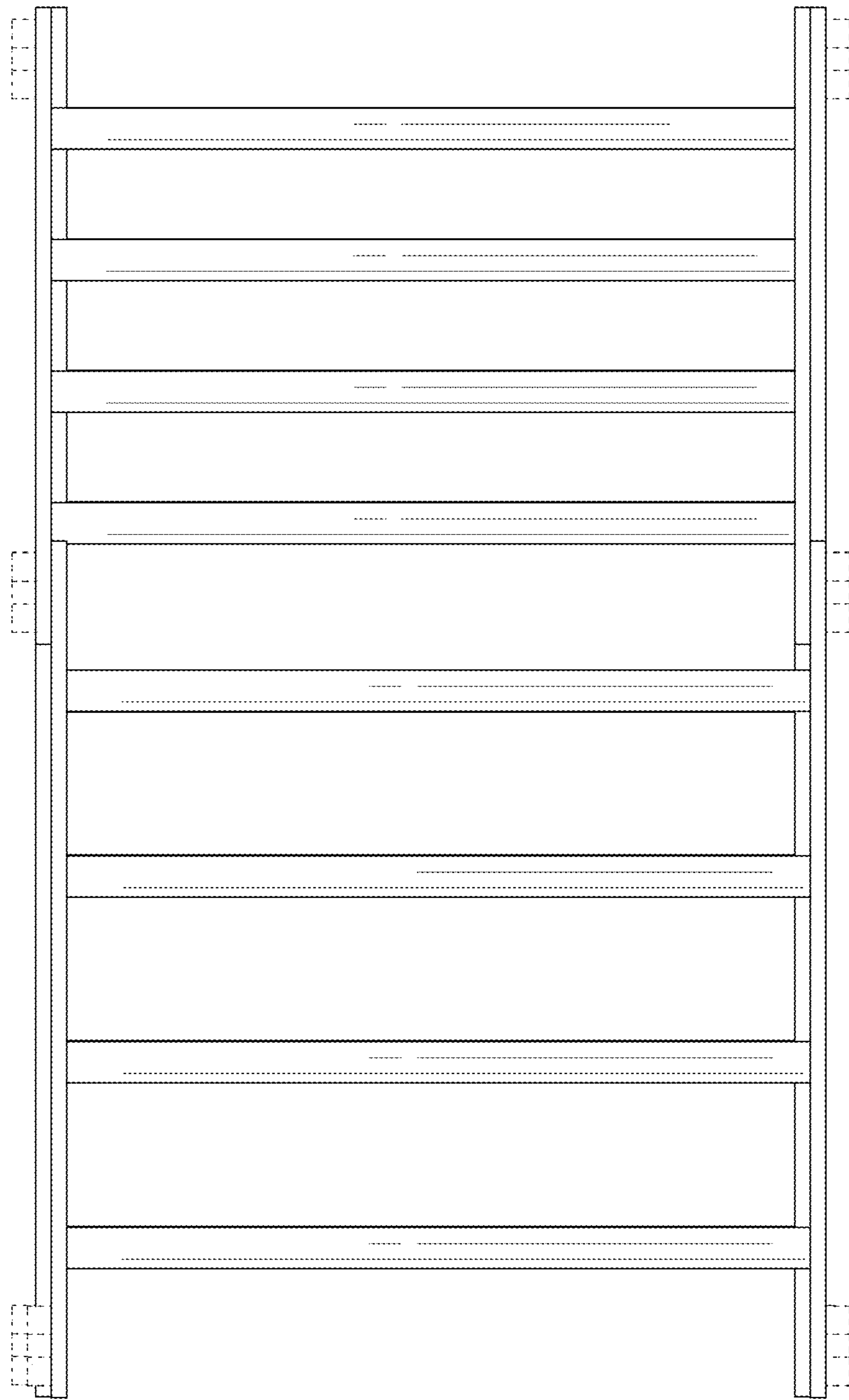


FIG. 5

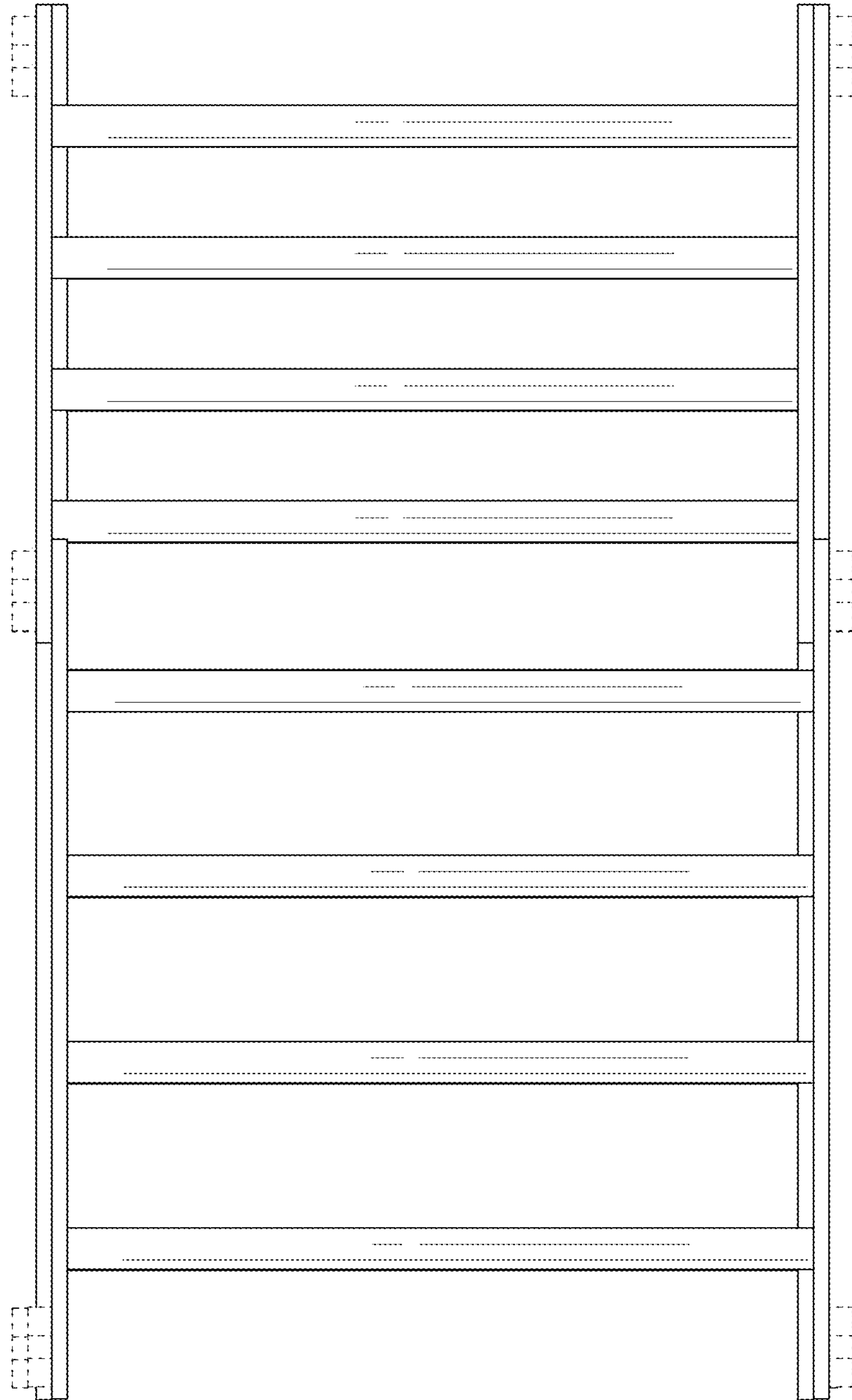


FIG. 6

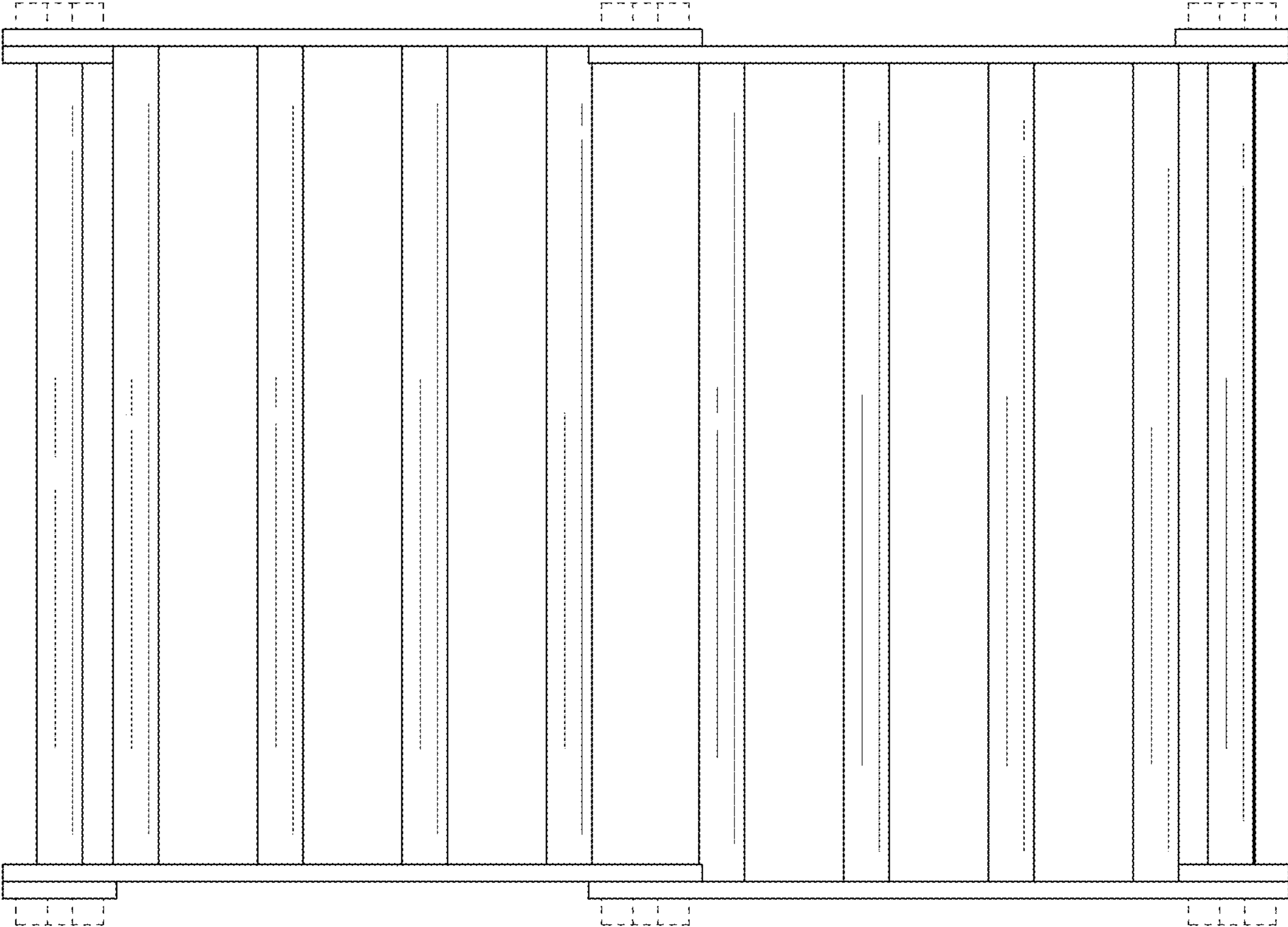


FIG. 7

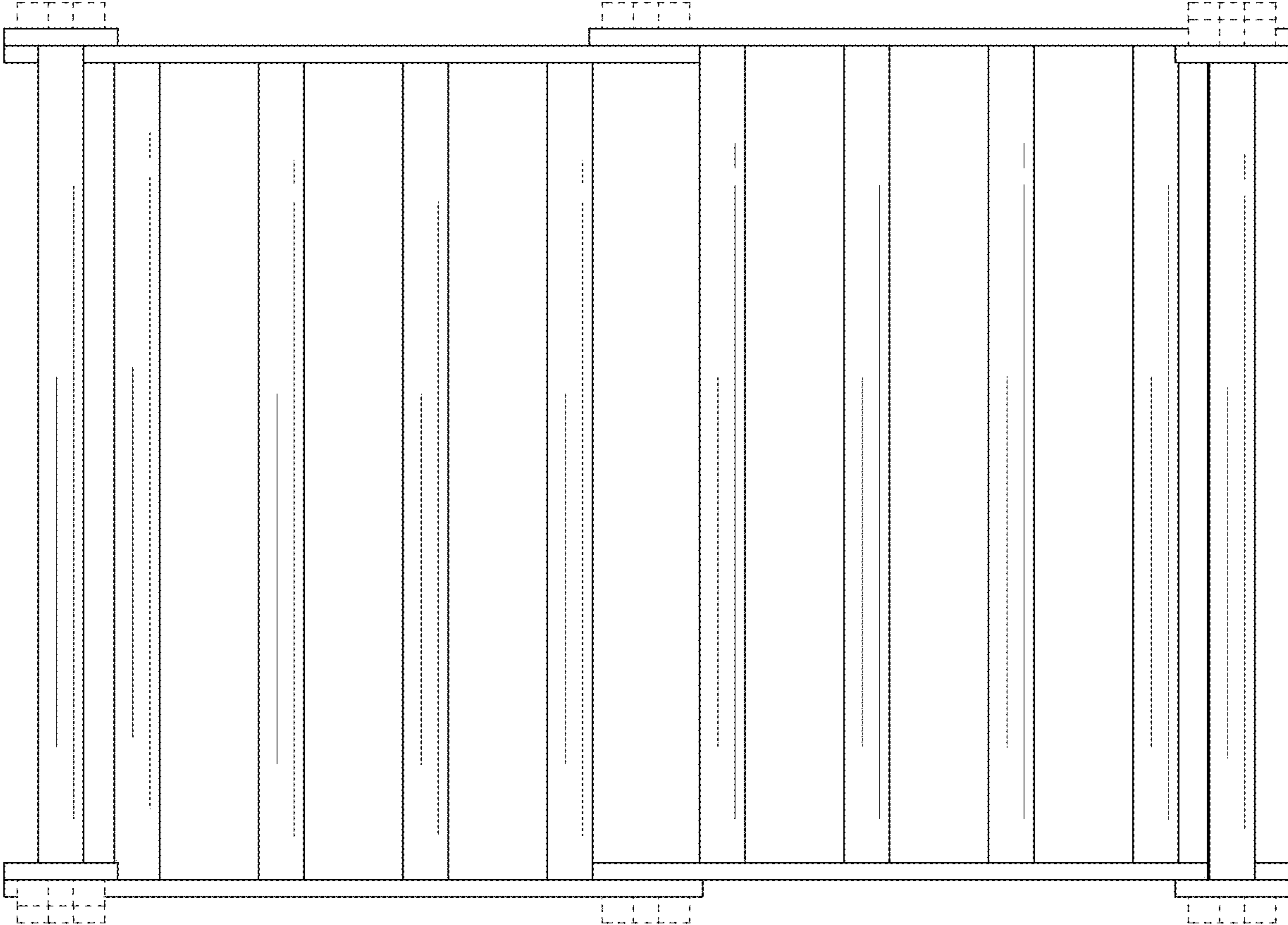


FIG. 8

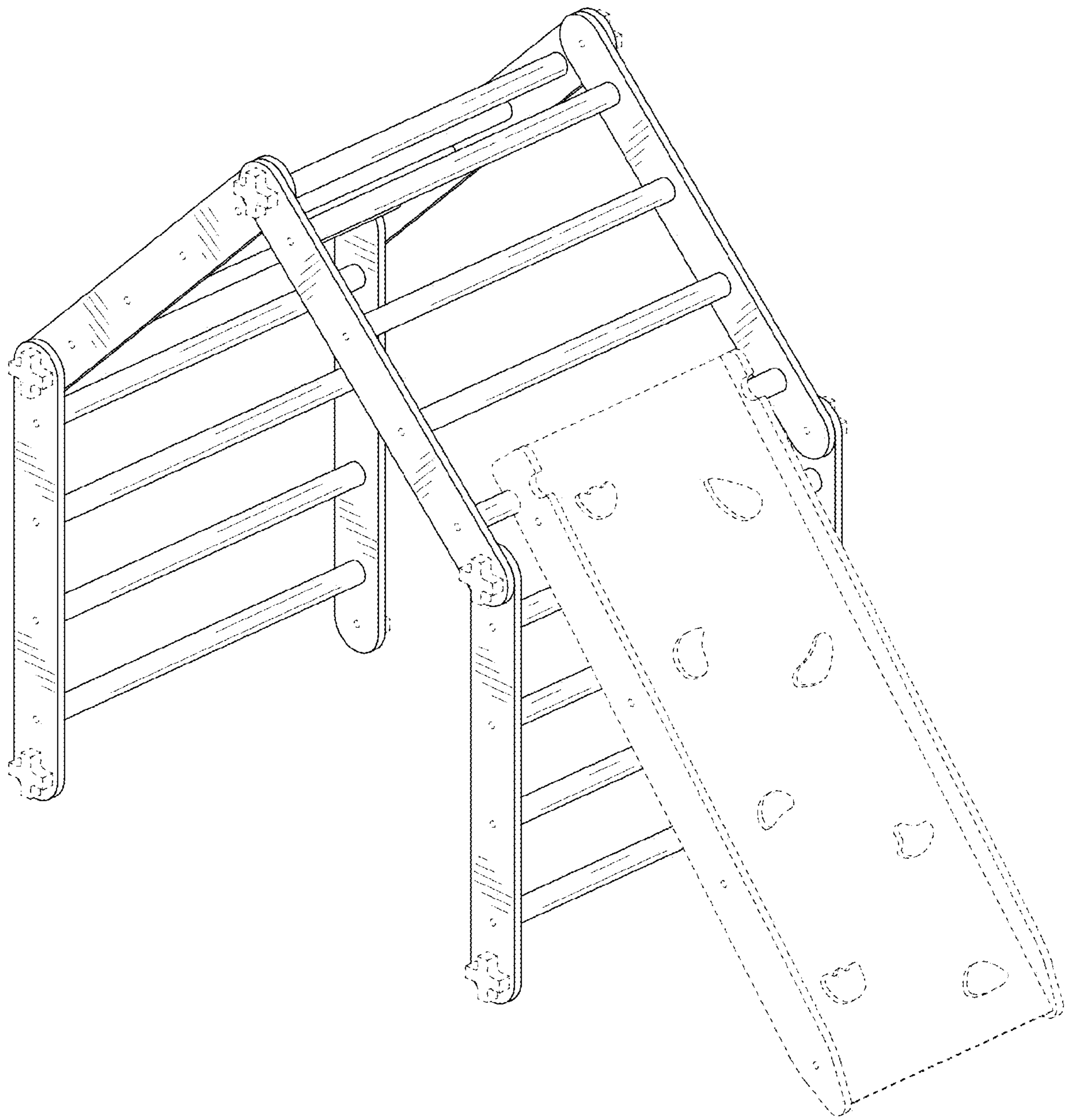


FIG. 9

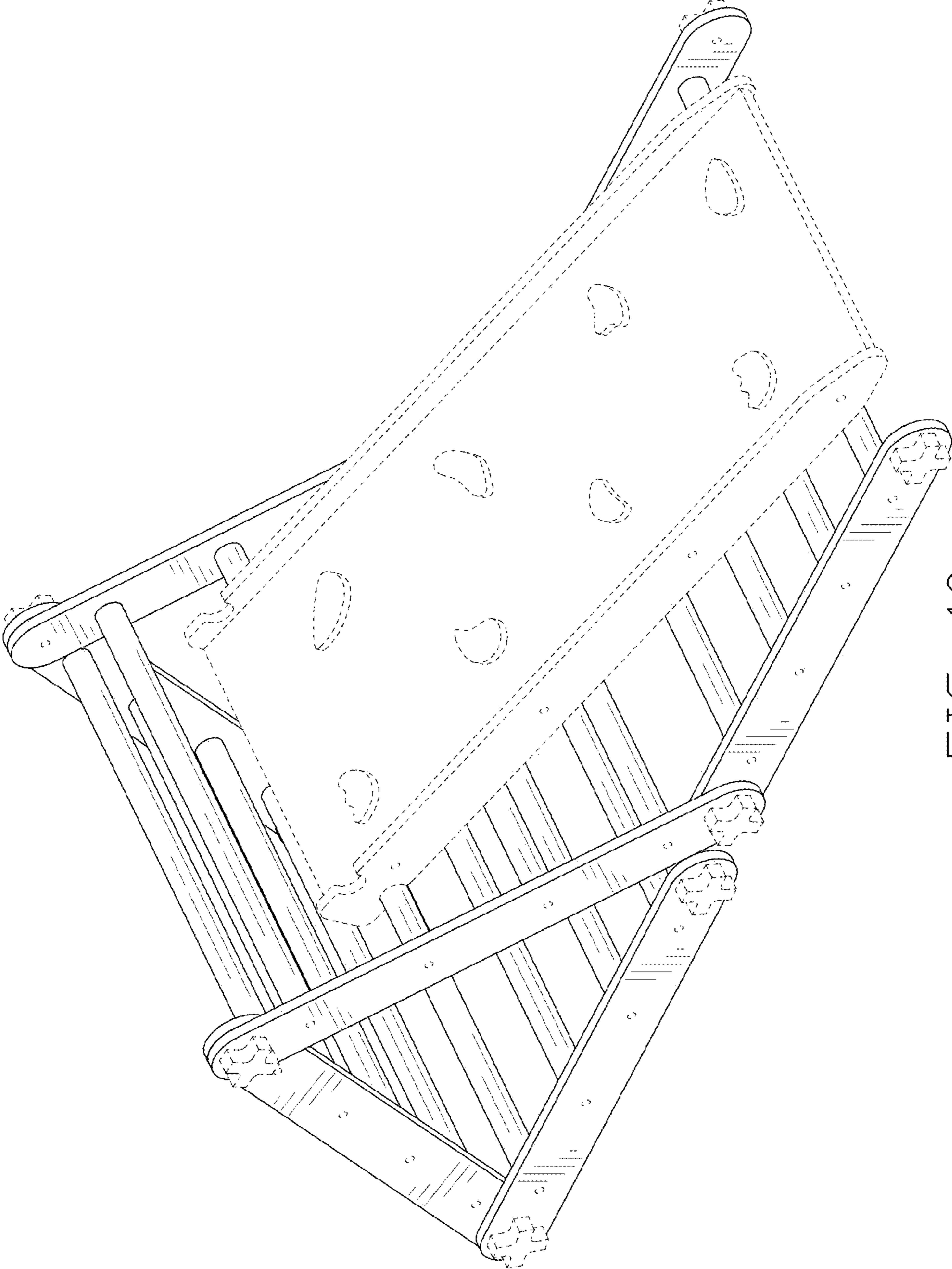


FIG. 10

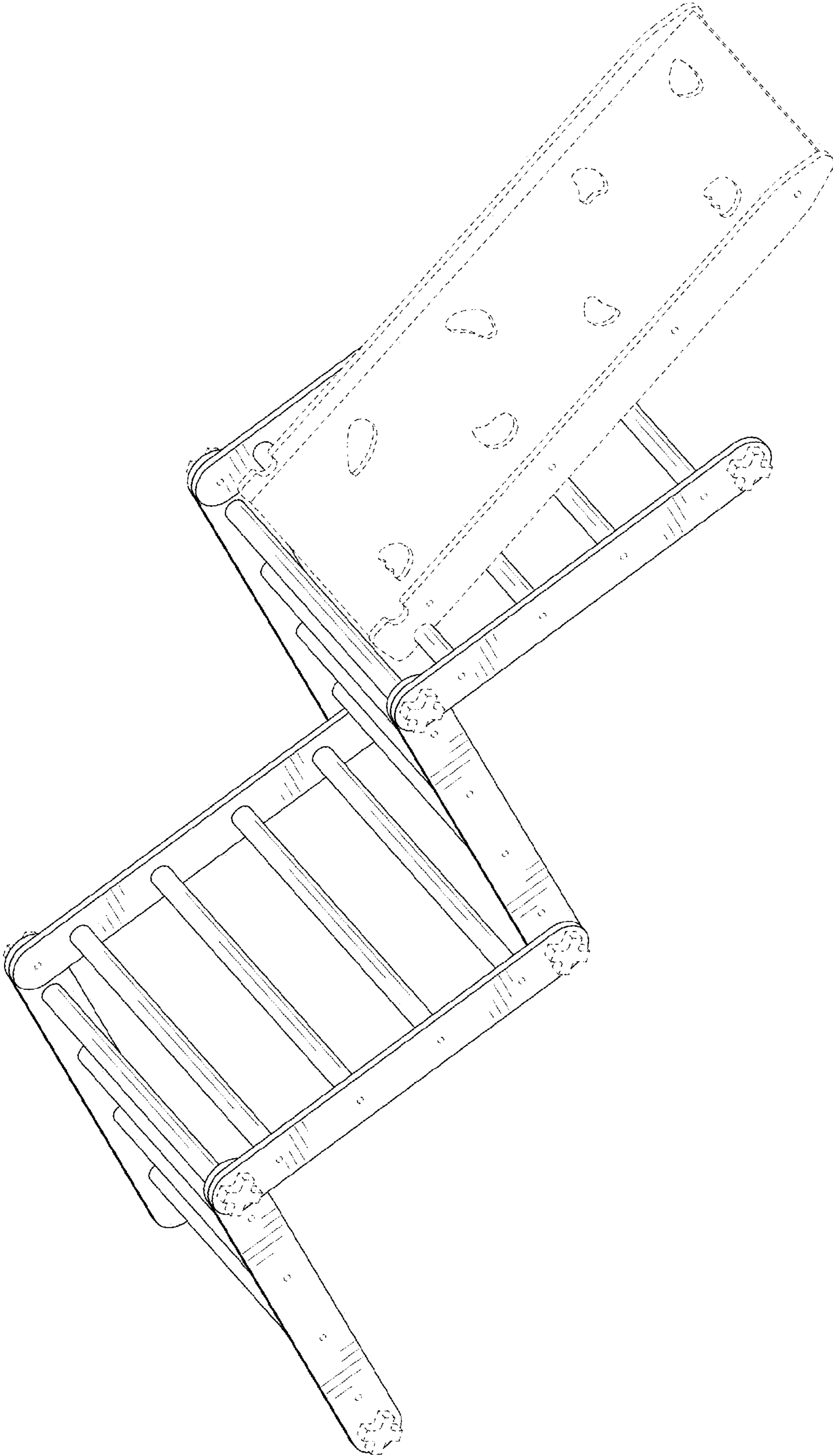


FIG. 11

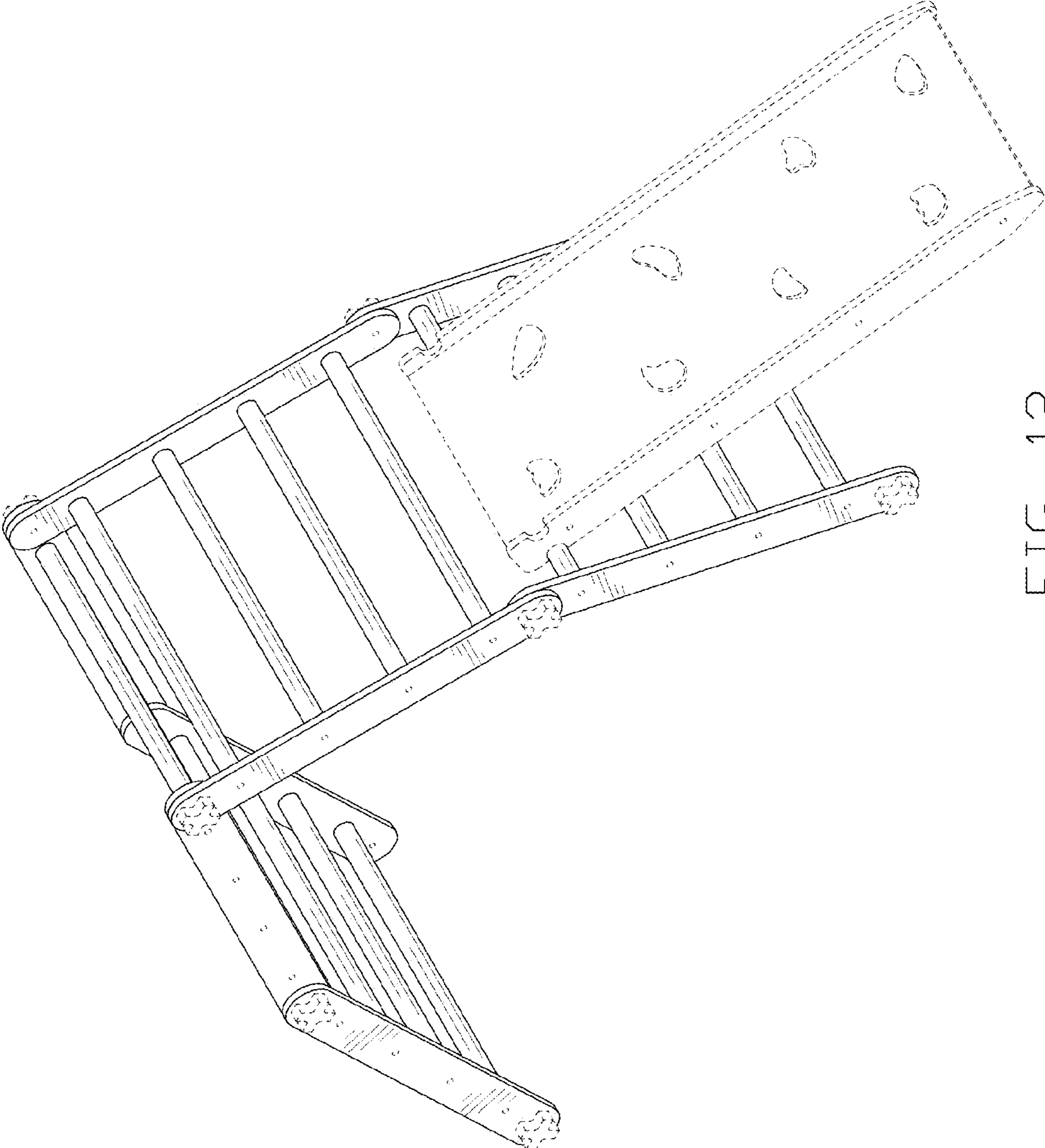


FIG. 12

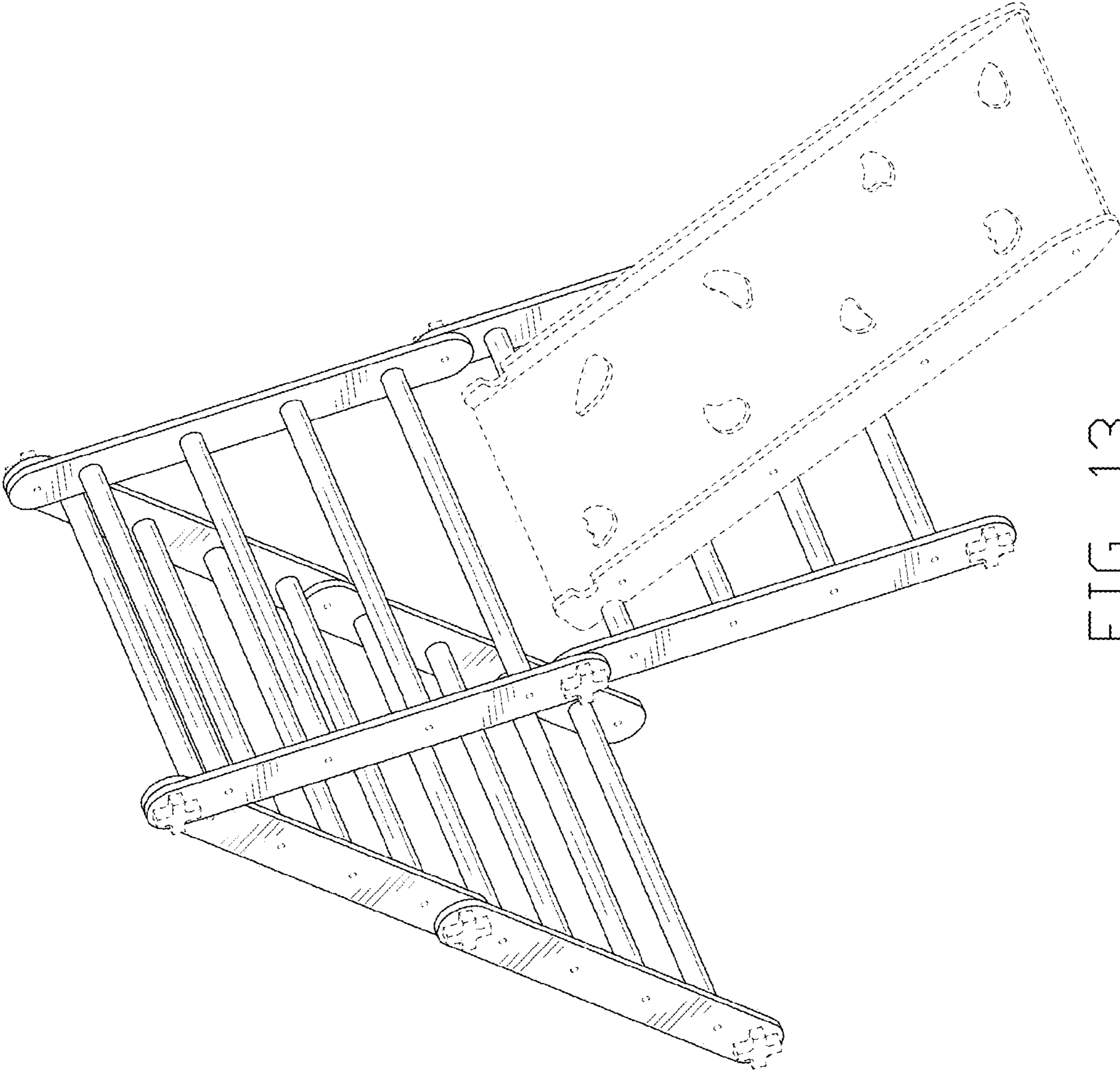


FIG. 13

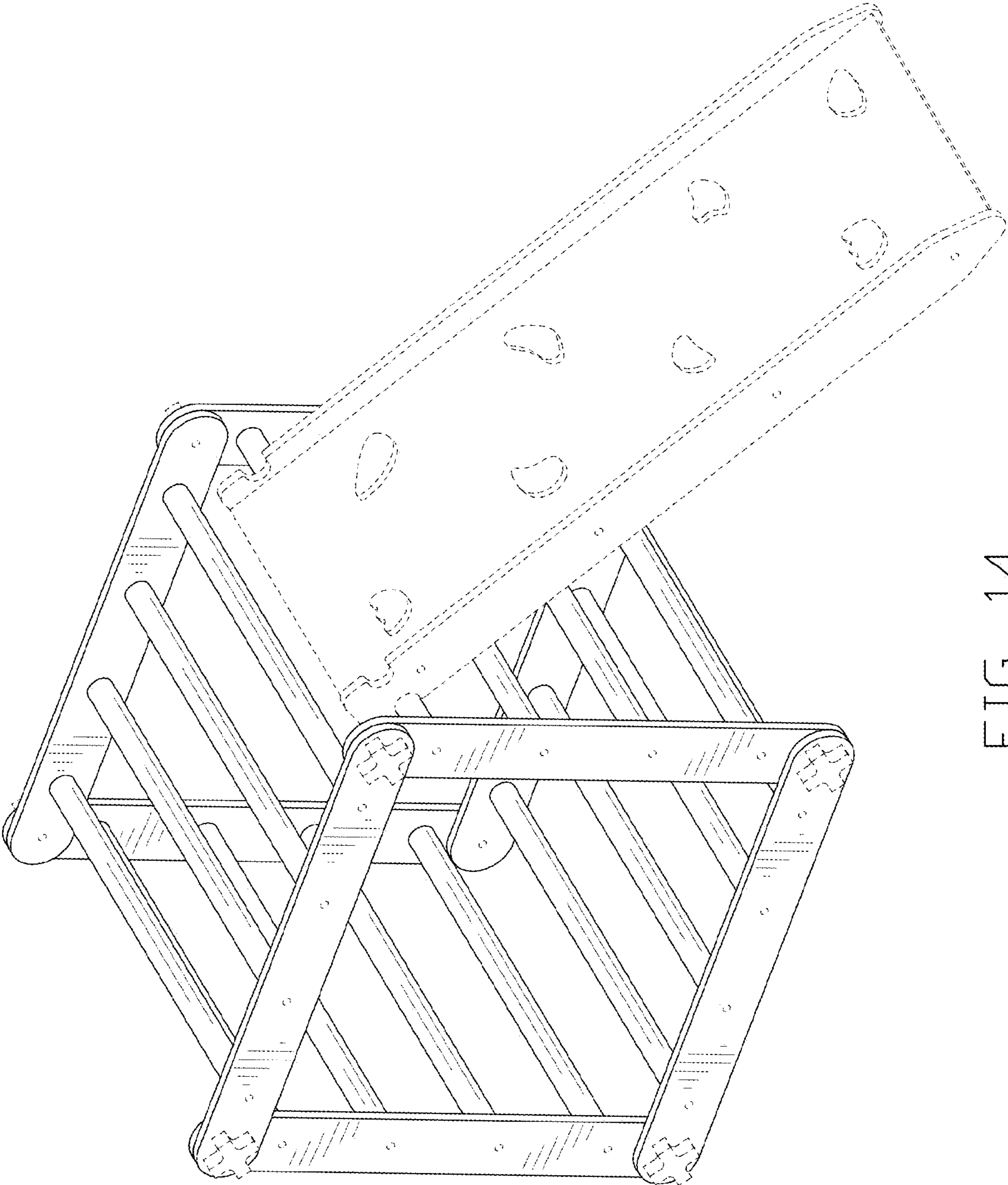


FIG. 14