



US00D988122S

(12) **United States Design Patent** (10) **Patent No.:** **US D988,122 S**  
**Cheng** (45) **Date of Patent:** **\*\* Jun. 6, 2023**

(54) **CONNECTOR BALL**  
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(52) **U.S. Cl.**  
USPC ..... **D8/382**  
(58) **Field of Classification Search**  
USPC ..... D8/382, 389, 396; D11/62, 70, 76;  
D21/707-709, 713-714; D25/13;  
D30/160  
CPC ..... F16B 12/24; F16B 12/22; F16B 12/125;  
F16B 21/12; F16B 2200/10; F16B 7/048;  
F16B 21/082; F16B 21/165  
See application file for complete search history.

D667,515 S \* 9/2012 Wang ..... D21/707  
D672,398 S \* 12/2012 Kondou ..... D21/373  
D685,034 S \* 6/2013 Naum ..... D21/707  
D697,919 S 1/2014 Gelsomini et al.  
D701,583 S \* 3/2014 Wade ..... D21/707  
D724,680 S \* 3/2015 Rub ..... D21/707

(Continued)

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(57) **CLAIM**

The ornamental design for a connector ball, as shown and described.

**DESCRIPTION**

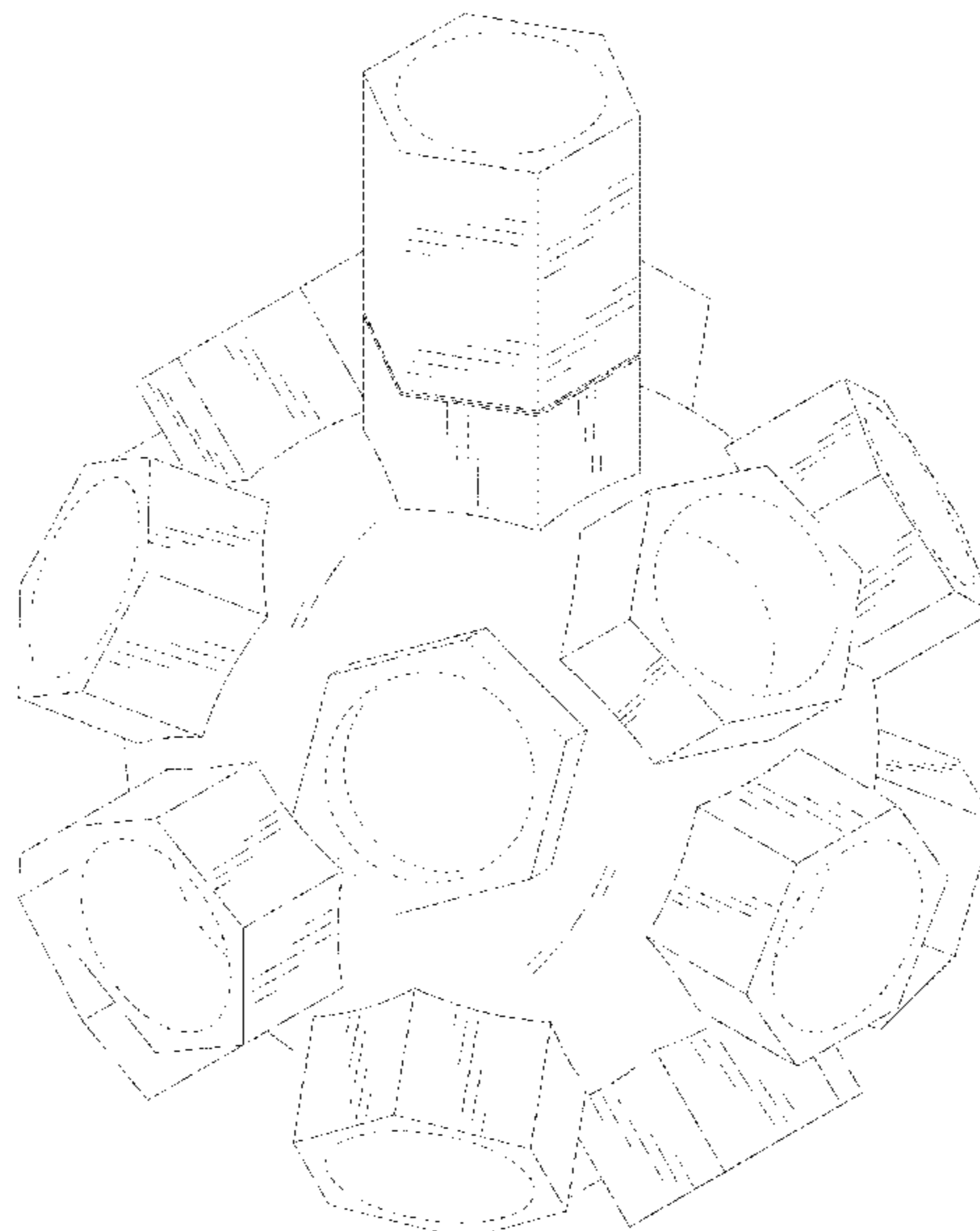
FIG. 1 is a perspective view of a connector ball showing my new design;  
FIG. 2 is a front elevational view thereof;  
FIG. 3 is a rear elevational view thereof;  
FIG. 4 is a left side elevational view thereof;  
FIG. 5 is a right side elevational view thereof;  
FIG. 6 is a top plan view thereof;  
FIG. 7 is a bottom plan view thereof;  
FIG. 8 is another perspective view thereof;  
FIG. 9 is a perspective view of the connector ball of FIG. 1 with the handle detached;  
FIG. 10 is another perspective view of the connector ball of FIG. 1 shown in use with a frame structure; and,  
FIG. 11 is an enlarged detail view of area 11 circumscribed within FIG. 10.  
The broken lines and all unshaded areas in the drawings depict portions of the connector ball that form no part of the claimed design. The additional broken lines in FIGS. 10-11 depict the environment subject matter of a framing structure that forms no part of the claimed design. The dash-dot-dash broken lines in FIGS. 10 and 11 denote the boundary of the detail area and form no part of the claimed design.

**1 Claim, 11 Drawing Sheets**

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

D305,788 S \* 1/1990 Herren ..... D21/468  
D356,355 S \* 3/1995 Martin ..... D21/712  
D358,858 S \* 5/1995 McGreevy ..... D21/707  
D368,502 S \* 4/1996 Liao ..... D30/160  
D372,749 S \* 8/1996 Klundt ..... D21/707  
D378,106 S 2/1997 Gabriel  
5,599,221 A \* 2/1997 Gabriel ..... A63H 33/10  
446/124  
D378,536 S \* 3/1997 Fireman ..... D21/707  
D381,380 S \* 7/1997 Fireman ..... D21/707  
D392,555 S 3/1998 Glickman et al.  
D581,765 S \* 12/2008 Lane ..... D21/707  
D582,998 S \* 12/2008 Chernick ..... D21/707  
D596,681 S \* 7/2009 Chernick ..... D21/707  
D614,823 S 4/2010 Blom



(56)

**References Cited**

U.S. PATENT DOCUMENTS

D724,681	S	*	3/2015	Rub	.....	D21/707
D725,204	S	*	3/2015	Rub	.....	D21/707
D725,205	S	*	3/2015	Rub	.....	D21/707
D738,964	S	*	9/2015	Reynolds	.....	D21/493
D738,972	S	*	9/2015	Black	.....	D21/708
D793,399	S		8/2017	Feldstein et al.		
D807,164	S		1/2018	Nishide et al.		
D813,414	S	*	3/2018	Nguyen	.....	D8/382
D828,457	S	*	9/2018	Reynolds	.....	D21/493
D829,287	S	*	9/2018	Kessler	.....	D21/714
D831,850	S	*	10/2018	Nguyen	.....	D8/382
D831,851	S	*	10/2018	Nguyen	.....	D8/382
D831,852	S	*	10/2018	Nguyen	.....	D8/382
D831,853	S	*	10/2018	Nguyen	.....	D8/382
D831,854	S	*	10/2018	Nguyen	.....	D8/382
D833,542	S	*	11/2018	Reynolds	.....	D21/493
D955,069	S	*	6/2022	Xu	.....	D30/160

\* cited by examiner

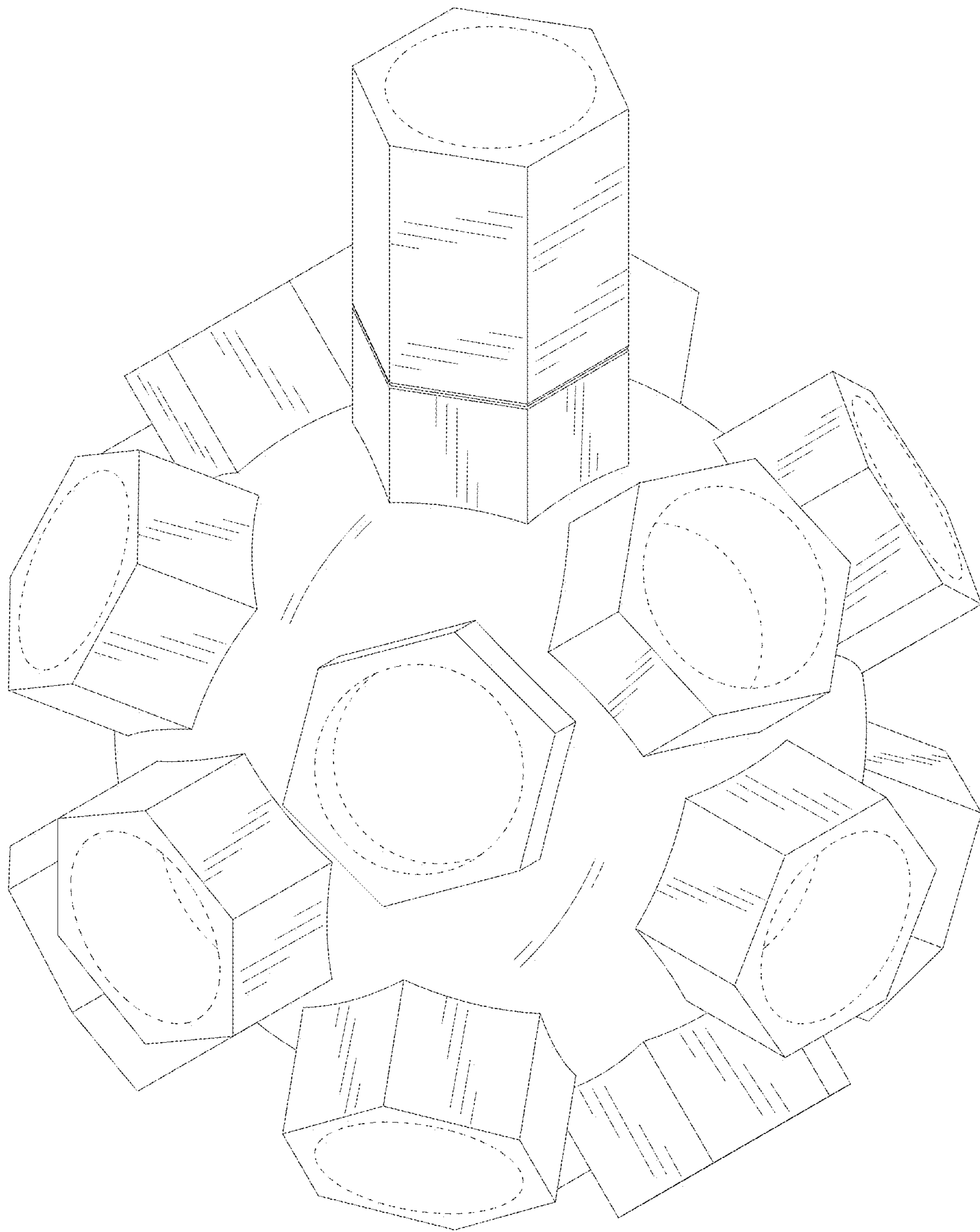


FIG. 1

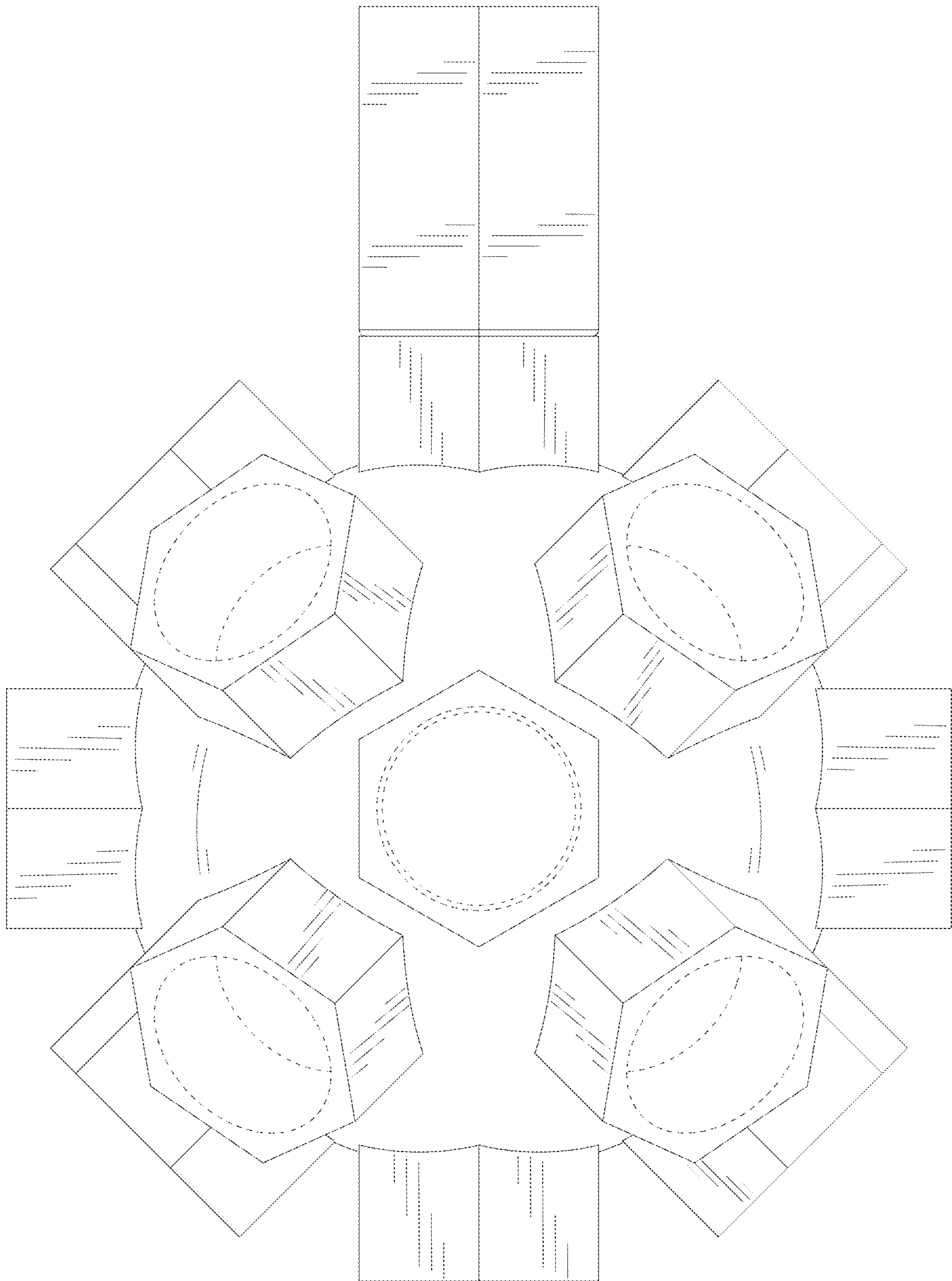


FIG. 2

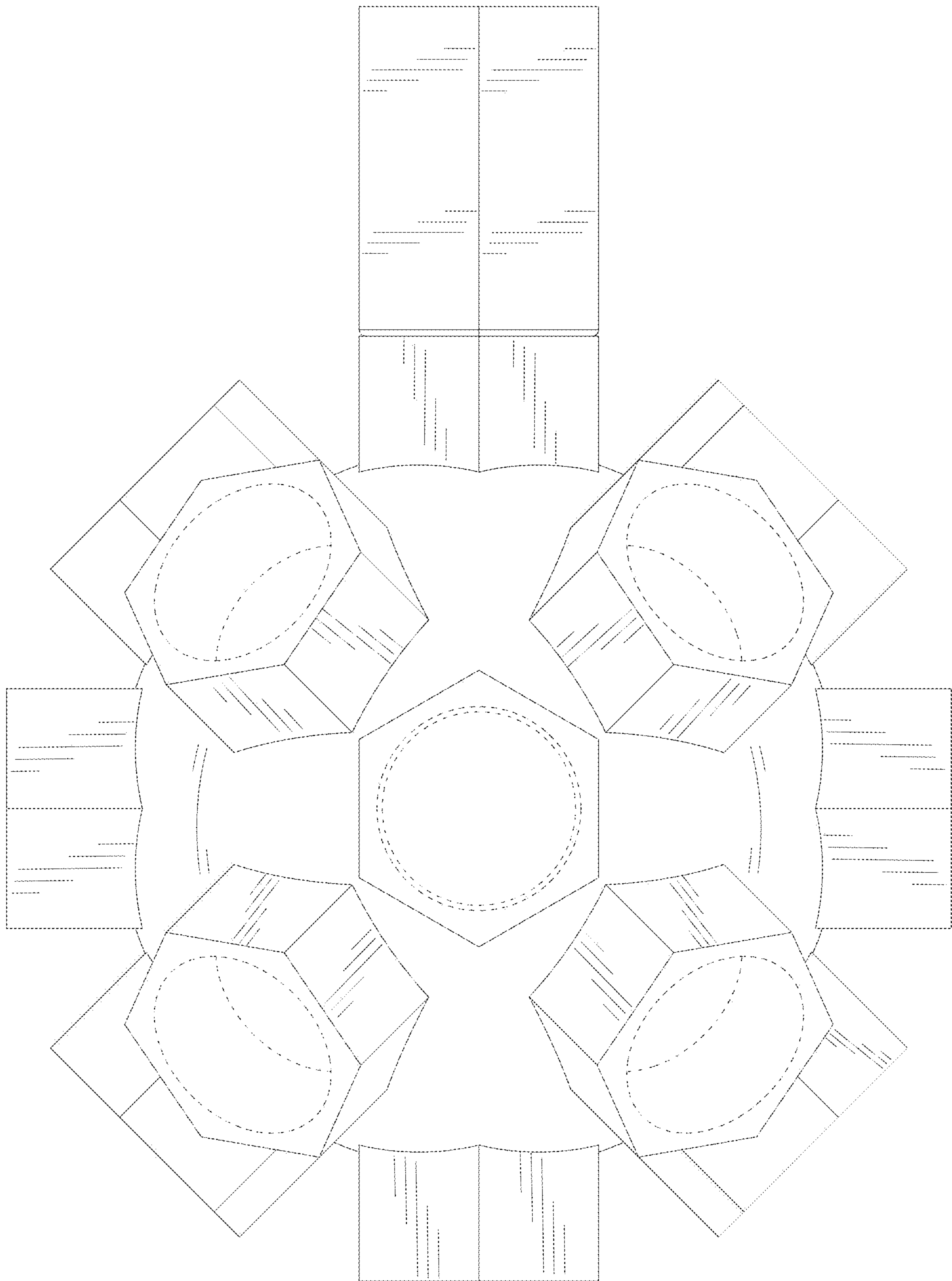


FIG. 3

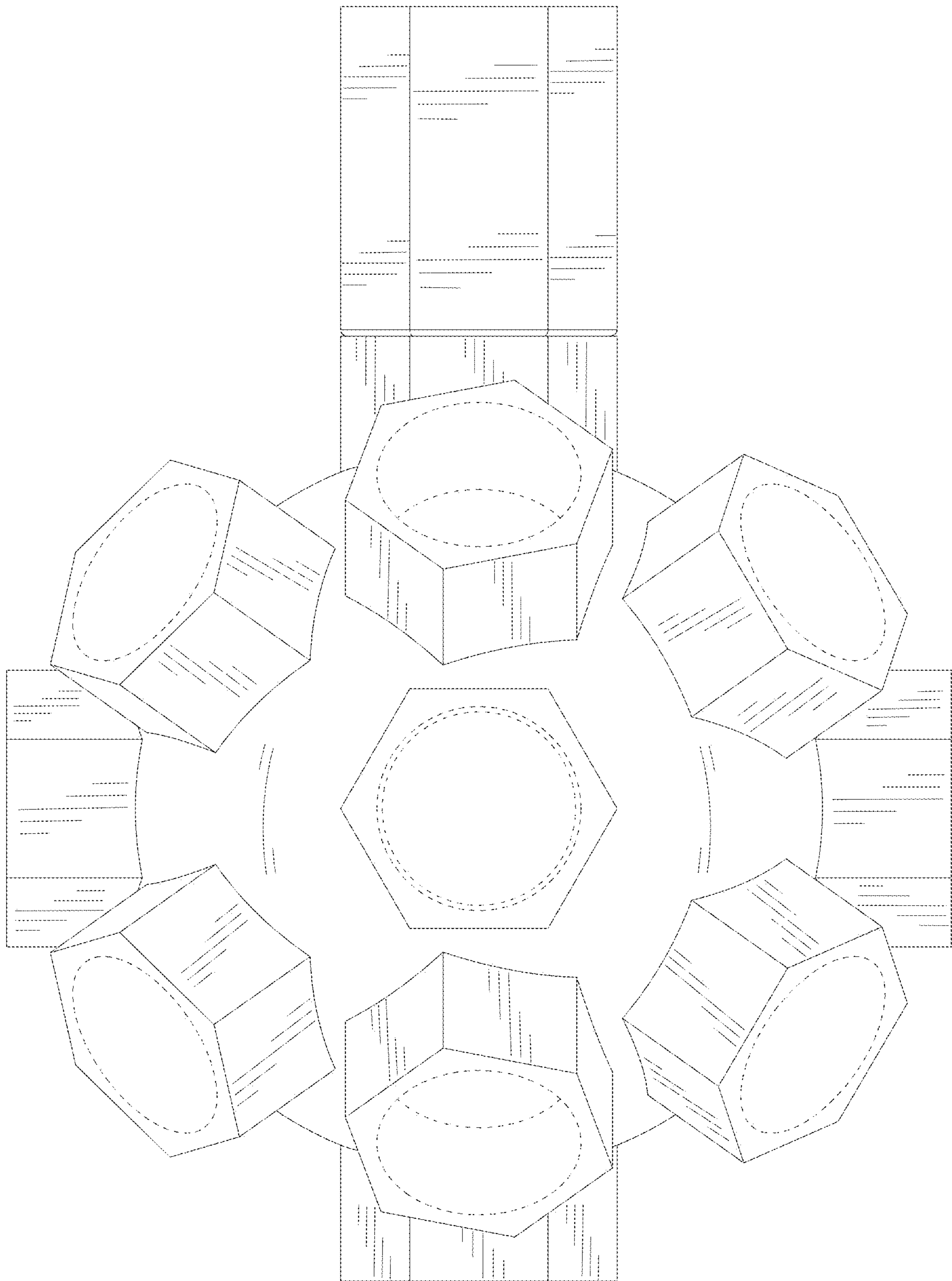


FIG. 4

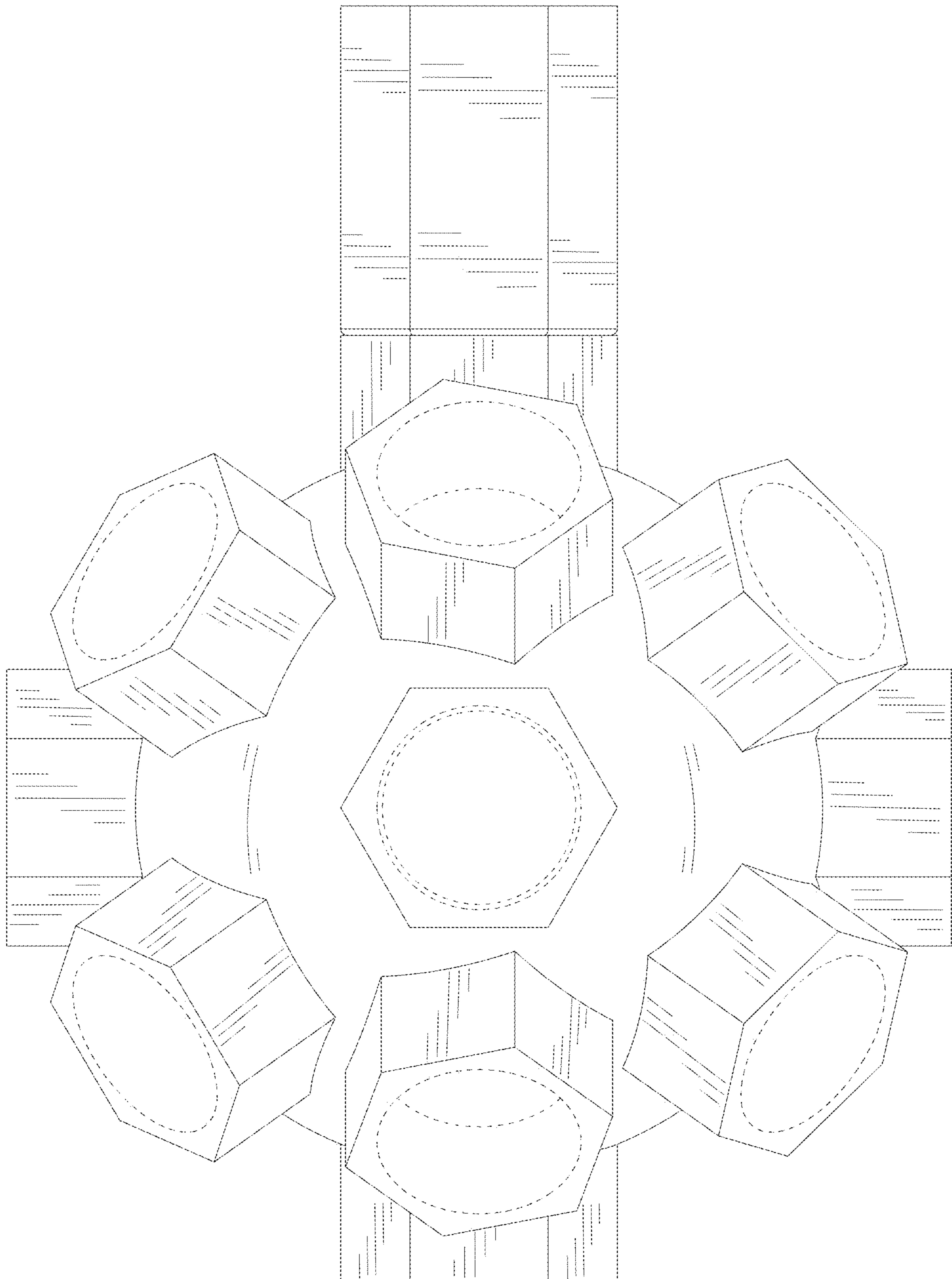


FIG. 5

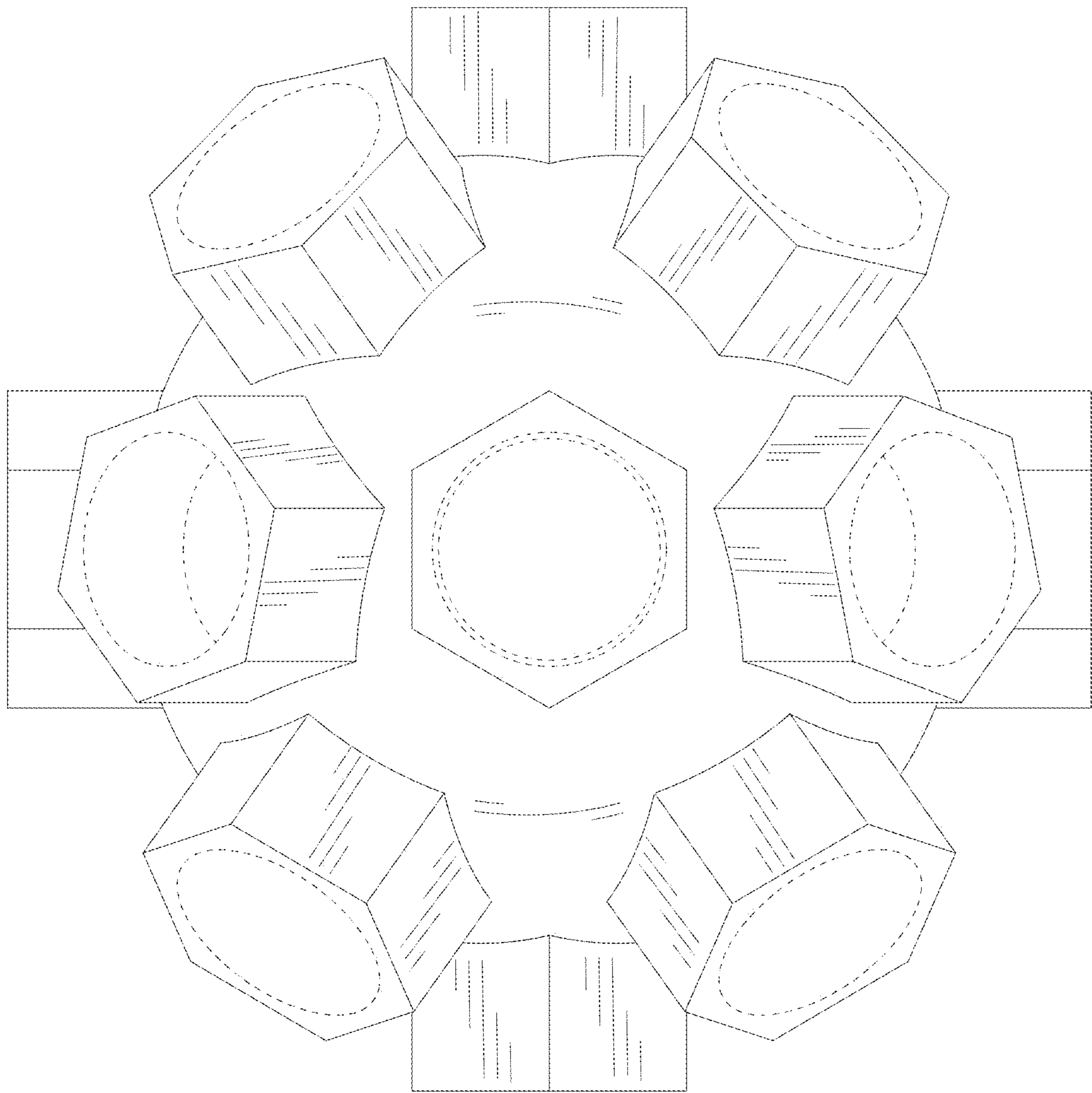


FIG. 6



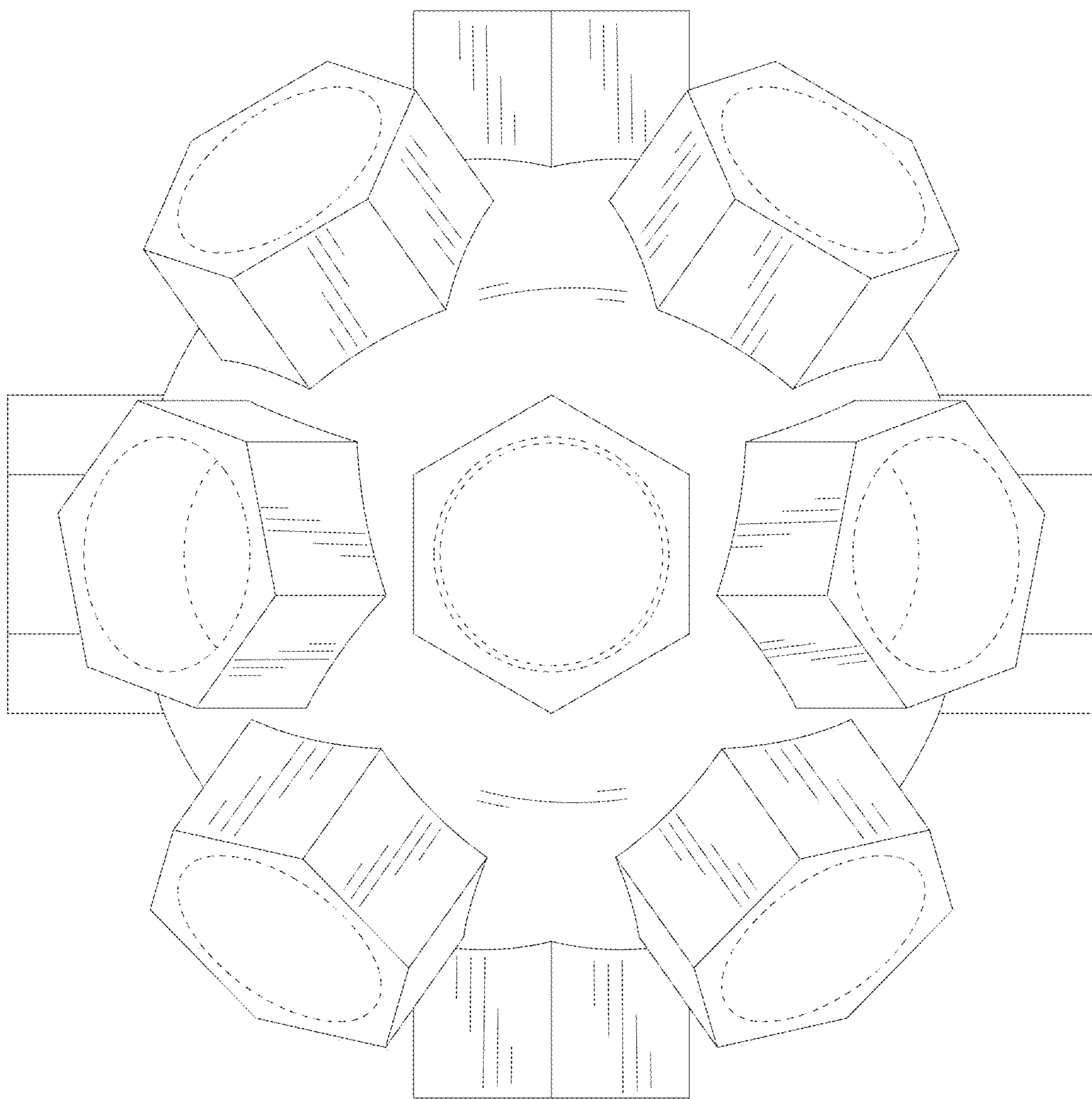


FIG. 7

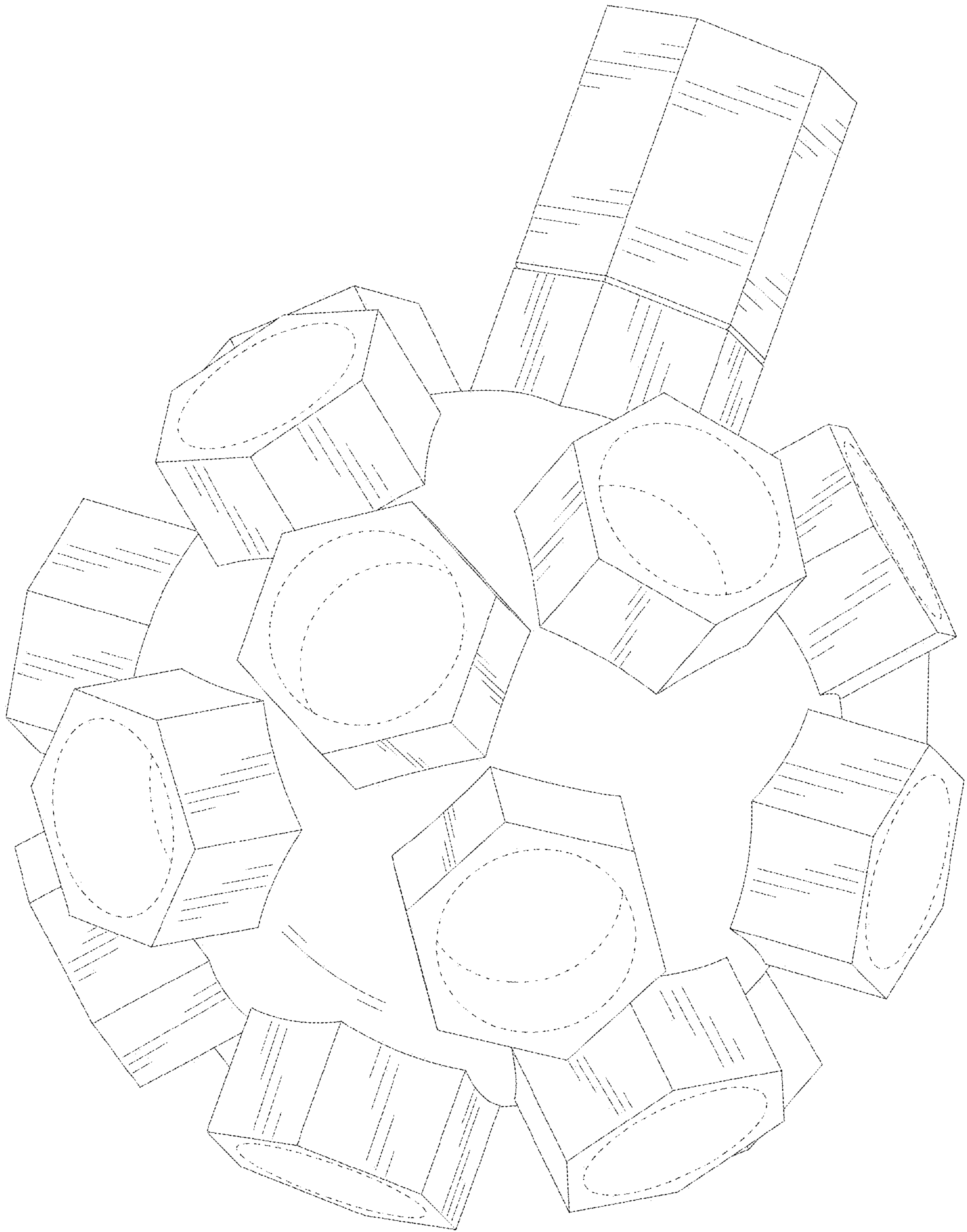


FIG. 8

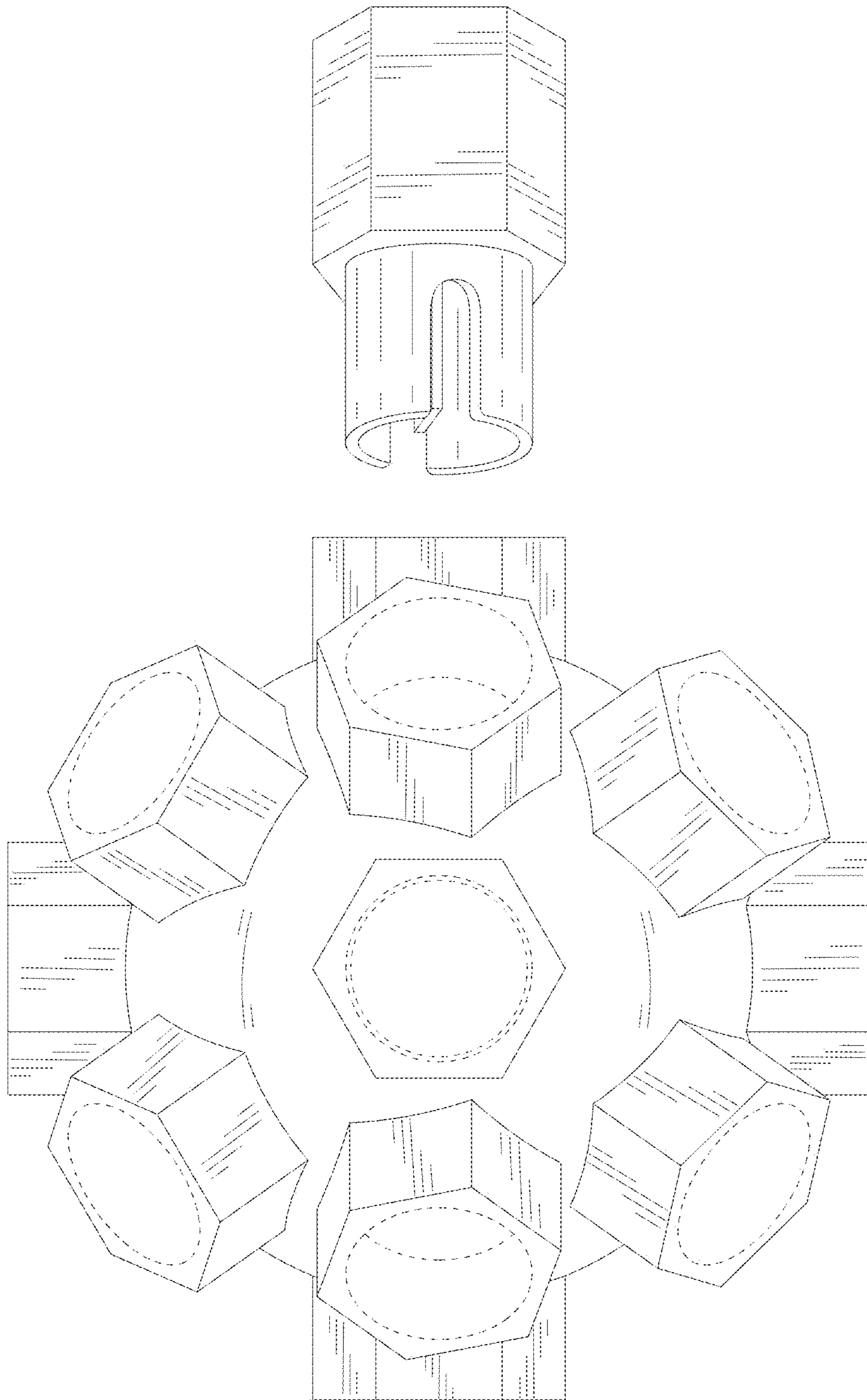


FIG. 9

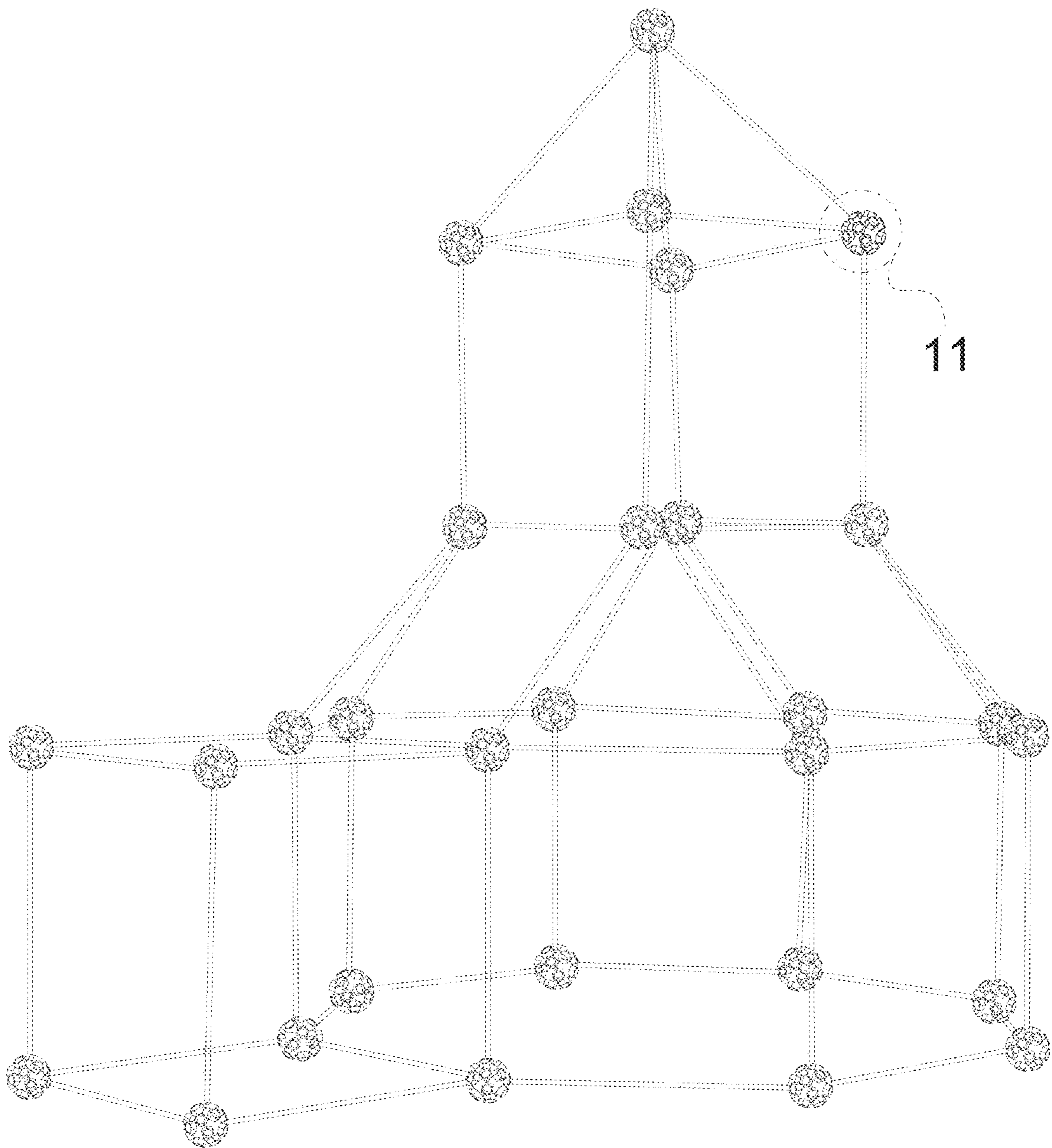


FIG. 10

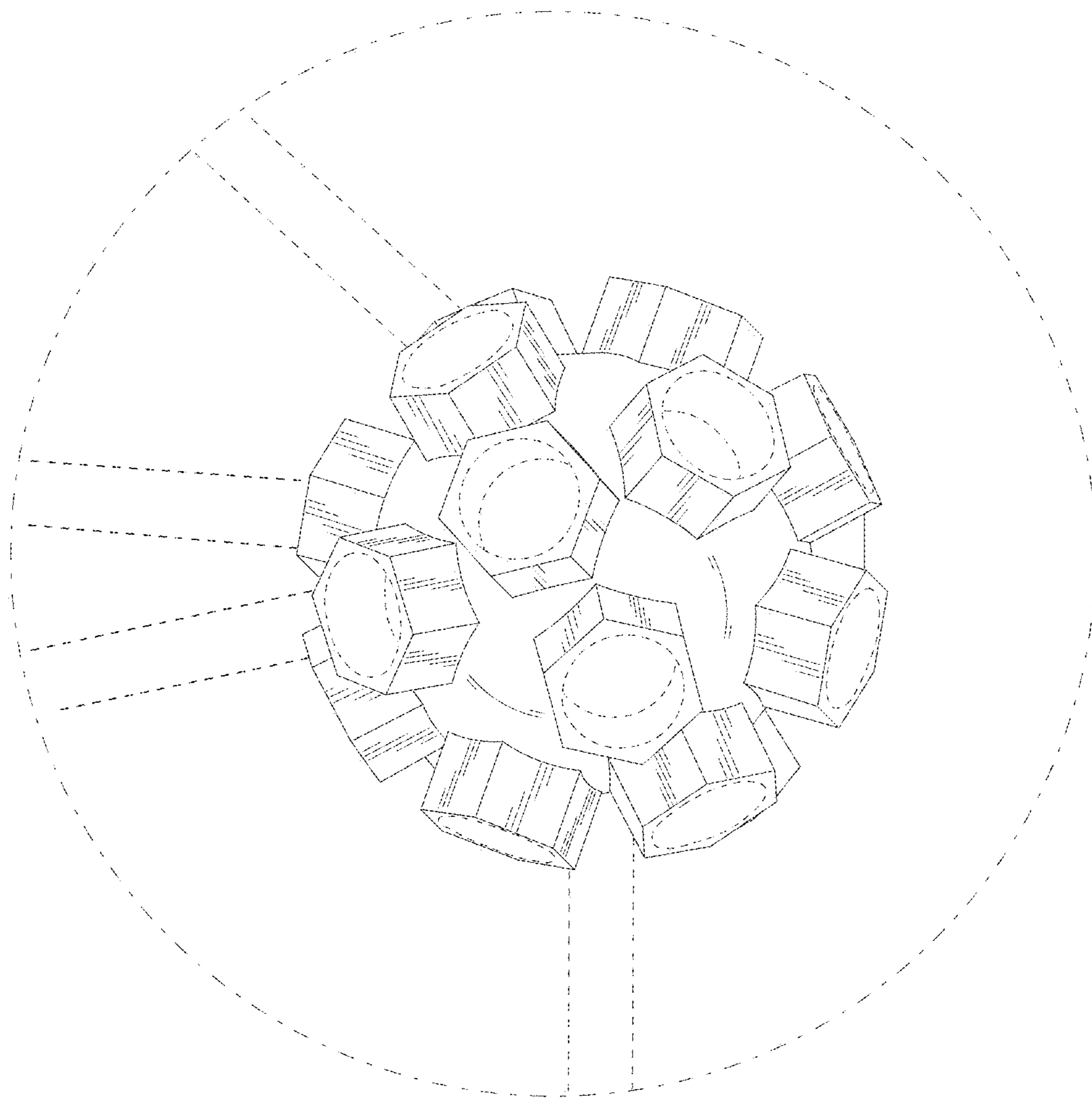


FIG. 11