



US00D970731S

(12) **United States Design Patent** (10) **Patent No.:** **US D970,731 S**
Dyer (45) **Date of Patent:** **** Nov. 22, 2022**

(54) **ORTHODONTIC ELASTOMERIC LIGATURE TIE**

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(73) Assignee: **Message Ties, LLC**, Birmingham, AL (US)

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

(21) Appl. No.: **29/839,818**

(22) Filed: **May 24, 2022**

(51) **LOC (13) Cl.** **24-02**

(52) **U.S. Cl.**
USPC **D24/180**

(58) **Field of Classification Search**
USPC D24/133, 144, 147, 176, 180, 181;
D18/24; D20/12
CPC A61C 7/28; A61C 7/30; A61C 13/275;
A61C 13/267
See application file for complete search history.

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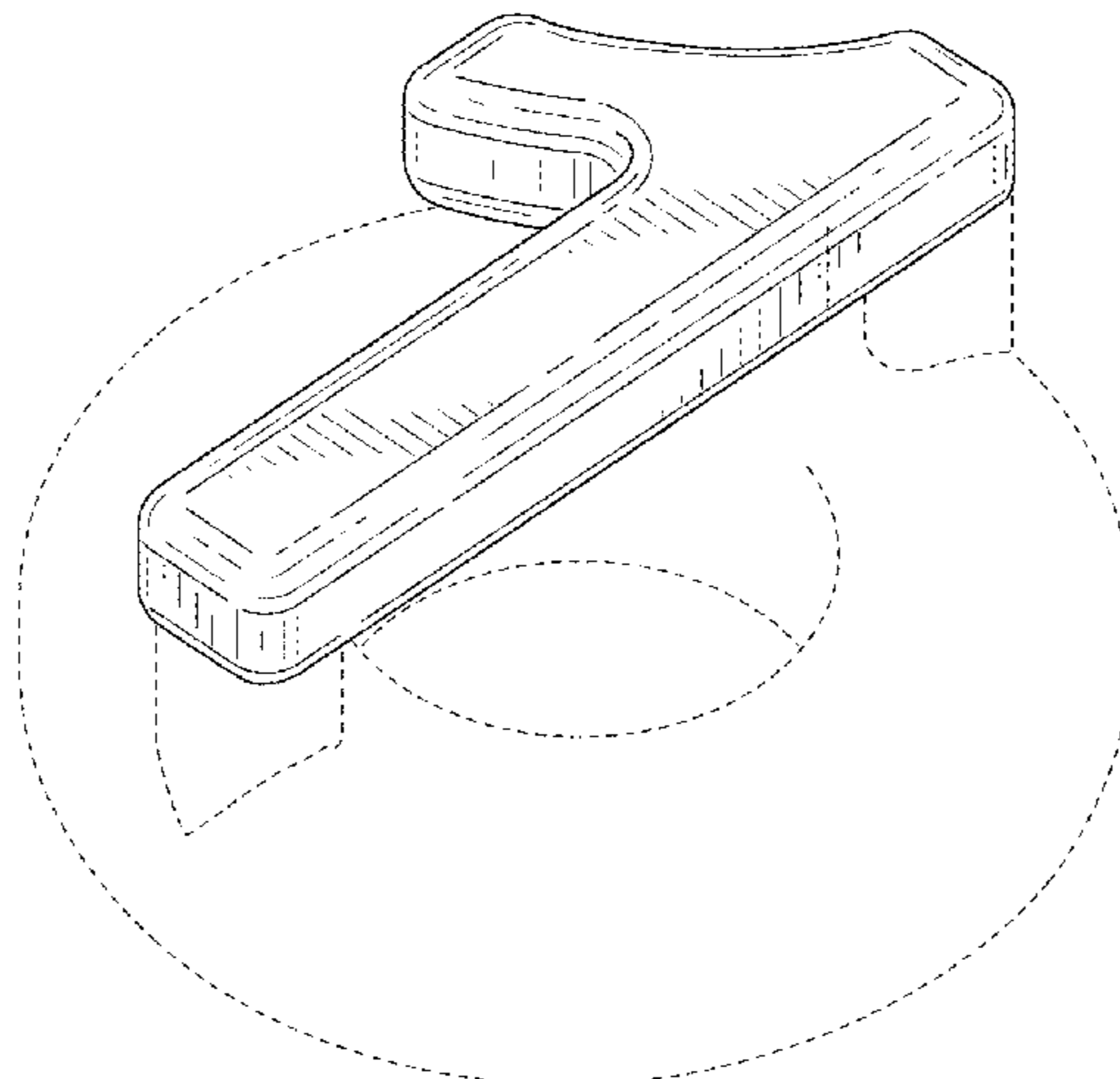
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Primary Examiner — Jennifer L Rempfer

Assistant Examiner — Danielle Nichole Bowly

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(57) CLAIM

The ornamental design for an orthodontic elastomeric ligature tie, as shown and described.

DESCRIPTION

FIG. 1 is a perspective view of a first embodiment of my new design.

FIG. 2 is a front view of the design shown in FIG. 1.

FIG. 3 is a rear view of the design shown in FIG. 1.

FIG. 4 is a right-side view of the design shown in FIG. 1.

FIG. 5 is a left-side view of the design shown in FIG. 1.

FIG. 6 is a top view of the design shown in FIG. 1.

FIG. 7 is a bottom view of the design shown in FIG. 1.

FIG. 8 is a perspective view of the design shown in FIG. 1 in use.

FIG. 9 is a perspective view of a second embodiment of my new design.

FIG. 10 is a front view of the design shown in FIG. 9.

FIG. 11 is a rear view of the design shown in FIG. 9.

FIG. 12 is a right-side view of the design shown in FIG. 9.

FIG. 13 is a left-side view of the design shown in FIG. 9.

FIG. 14 is a top view of the design shown in FIG. 9.

FIG. 15 is a bottom view of the design shown in FIG. 9.

FIG. 16 is a perspective view of the design shown in FIG. 9 in use.

FIG. 17 is a perspective view of a third embodiment of my new design.

FIG. 18 is a front view of the design shown in FIG. 17.

FIG. 19 is a rear view of the design shown in FIG. 17.

FIG. 20 is a right-side view of the design shown in FIG. 17.

FIG. 21 is a left-side view of the design shown in FIG. 17.

FIG. 22 is a top view of the design shown in FIG. 17.

FIG. 23 is a bottom view of the design shown in FIG. 17.

FIG. 24 is a perspective view of the design shown in FIG. 17 in use.

FIG. 25 is a perspective view of a fourth embodiment of my new design.

FIG. 26 is a front view of the design shown in FIG. 25.

FIG. 27 is a rear view of the design shown in FIG. 25.

FIG. 28 is a right-side view of the design shown in FIG. 25.

FIG. 29 is a left-side view of the design shown in FIG. 25.

FIG. 30 is a top view of the design shown in FIG. 25.

FIG. 31 is a bottom view of the design shown in FIG. 25.

FIG. 32 is a perspective view of the design shown in FIG. 25 in use.

FIG. 33 is a perspective view of a fifth embodiment of my new design.

FIG. 34 is a front view of the design shown in FIG. 33.

FIG. 35 is a rear view of the design shown in FIG. 33.

FIG. 36 is a right-side view of the design shown in FIG. 33.

FIG. 37 is a left-side view of the design shown in FIG. 33.

FIG. 38 is a top view of the design shown in FIG. 33.

FIG. 39 is a bottom view of the design shown in FIG. 33.

FIG. 40 is a perspective view of the design shown in FIG. 33 in use.

FIG. 41 is a perspective view of a sixth embodiment of my new design.

FIG. 42 is a front view of the design shown in FIG. 41.

FIG. 43 is a rear view of the design shown in FIG. 41.

FIG. 44 is a right-side view of the design shown in FIG. 41.

FIG. 45 is a left-side view of the design shown in FIG. 41.

FIG. 46 is a top view of the design shown in FIG. 41.

FIG. 47 is a bottom view of the design shown in FIG. 41.

FIG. 48 is a perspective view of the design shown in FIG. 41 in use.

FIG. 49 is a perspective view of a seventh embodiment of my new design.

FIG. 50 is a front view of the design shown in FIG. 49.

FIG. 51 is a rear view of the design shown in FIG. 49.

FIG. 52 is a right-side view of the design shown in FIG. 49.

FIG. 53 is a left-side view of the design shown in FIG. 49.

FIG. 54 is a top view of the design shown in FIG. 49.

FIG. 55 is a bottom view of the design shown in FIG. 49.

FIG. 56 is a perspective view of the design shown in FIG. 49 in use.

FIG. 57 is a perspective view of an eighth embodiment of my new design.

FIG. 58 is a front view of the design shown in FIG. 57.

FIG. 59 is a rear view of the design shown in FIG. 57.

FIG. 60 is a right-side view of the design shown in FIG. 57.

FIG. 61 is a left-side view of the design shown in FIG. 57.

FIG. 62 is a top view of the design shown in FIG. 57.

FIG. 63 is a bottom view of the design shown in FIG. 57.

FIG. 64 is a perspective view of the design shown in FIG. 57 in use.

FIG. 65 is a perspective view of a ninth embodiment of my new design.

FIG. 66 is a front view of the design shown in FIG. 65.

FIG. 67 is a rear view of the design shown in FIG. 65.

FIG. 68 is a right-side view of the design shown in FIG. 65.

FIG. 69 is a left-side view of the design shown in FIG. 65.

FIG. 70 is a top view of the design shown in FIG. 65.

FIG. 71 is a bottom view of the design shown in FIG. 65.

FIG. 72 is a perspective view of the design shown in FIG. 65 in use.

FIG. 73 is a perspective view of a tenth embodiment of my new design.

FIG. 74 is a front view of the design shown in FIG. 73.

FIG. 75 is a rear view of the design shown in FIG. 73.

FIG. 76 is a right-side view of the design shown in FIG. 73.

FIG. 77 is a left-side view of the design shown in FIG. 73.

FIG. 78 is a top view of the design shown in FIG. 73.

FIG. 79 is a bottom view of the design shown in FIG. 73;

and,

FIG. 80 is a perspective view of the design shown in FIG. 73 in use.

The mouth and teeth rendered in short broken lines in FIGS. 8, 16, 24, 32, 40, 48, 56, 64, 72, and 80, illustrate environmental subject matter intended to assist in showing how the design appears when in use and forms no part of the claim. The short broken lines showing elements of the orthodontic elastomeric ligature tie in the drawings illustrate features of the article of manufacture that form no part of the claimed design.

1 Claim, 50 Drawing Sheets

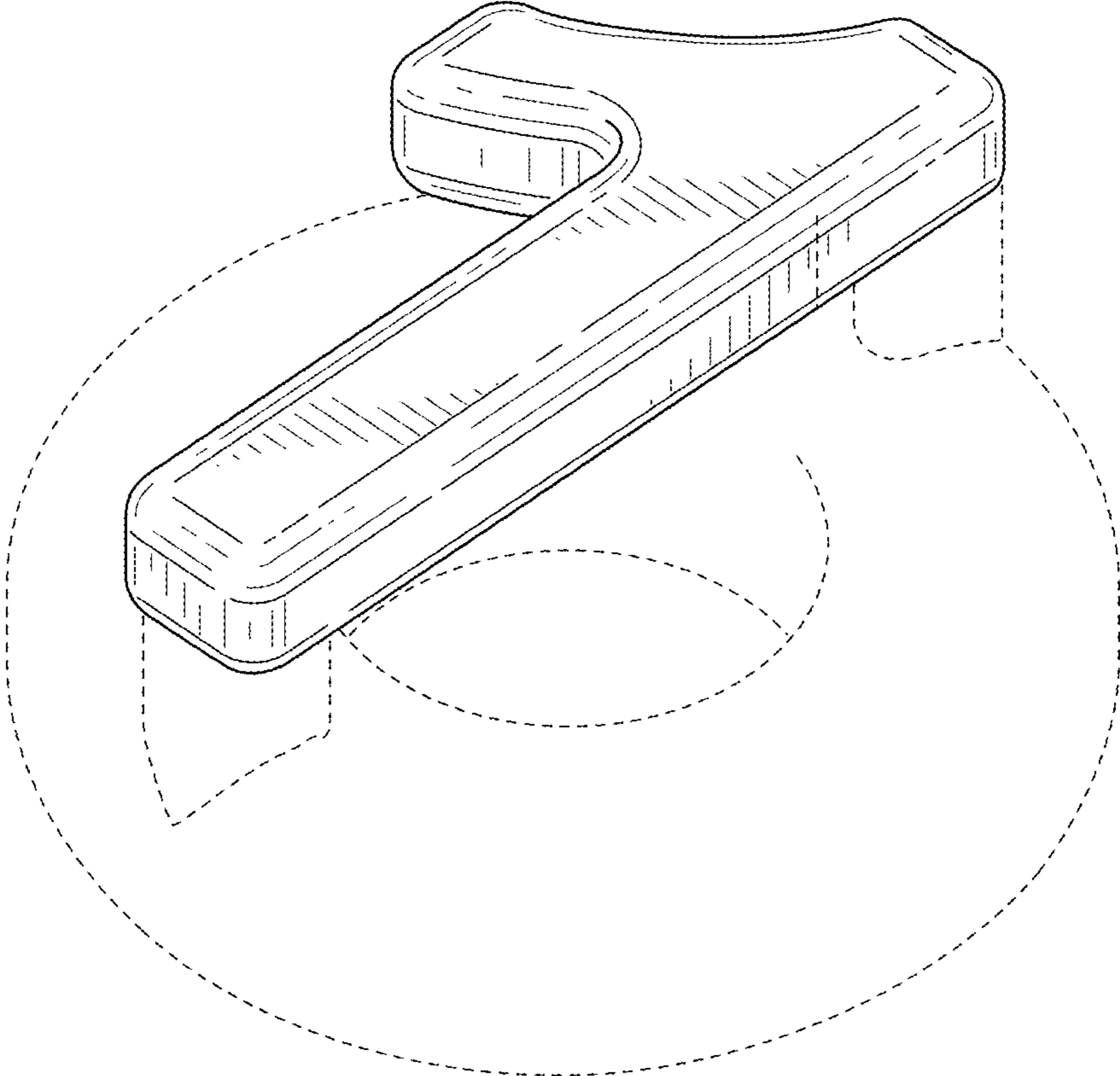


FIG. 1

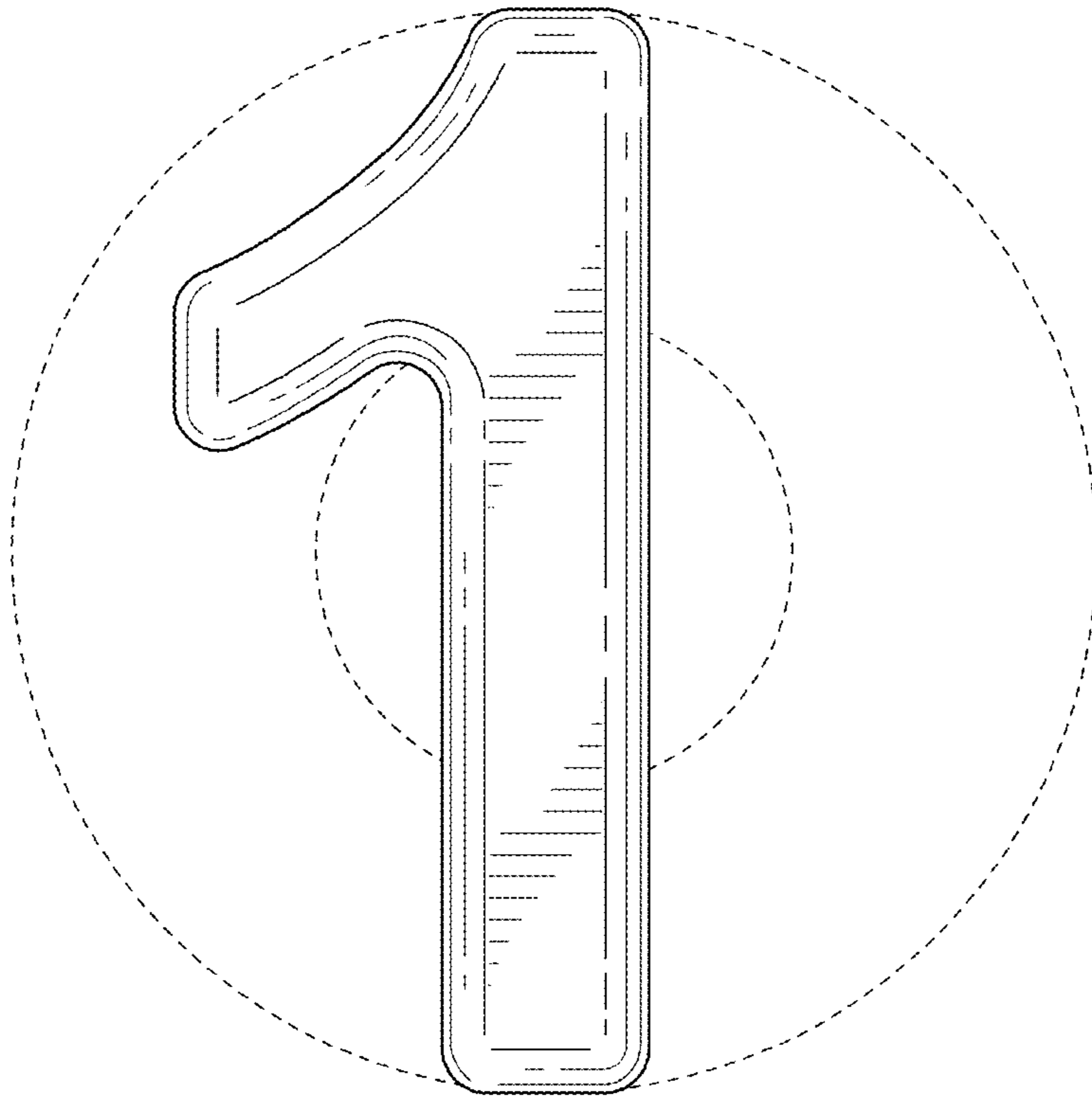


FIG. 2

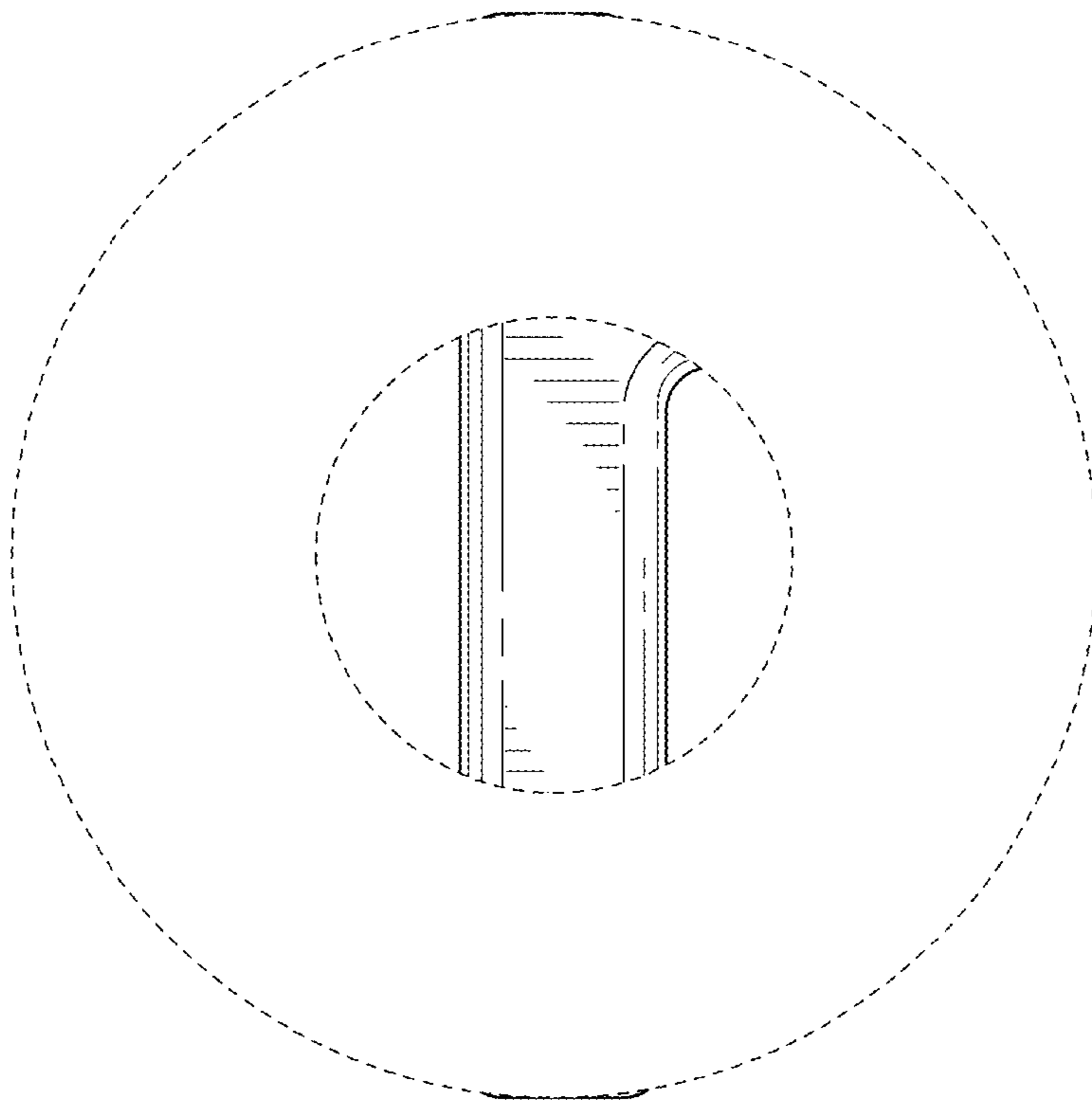


FIG. 3

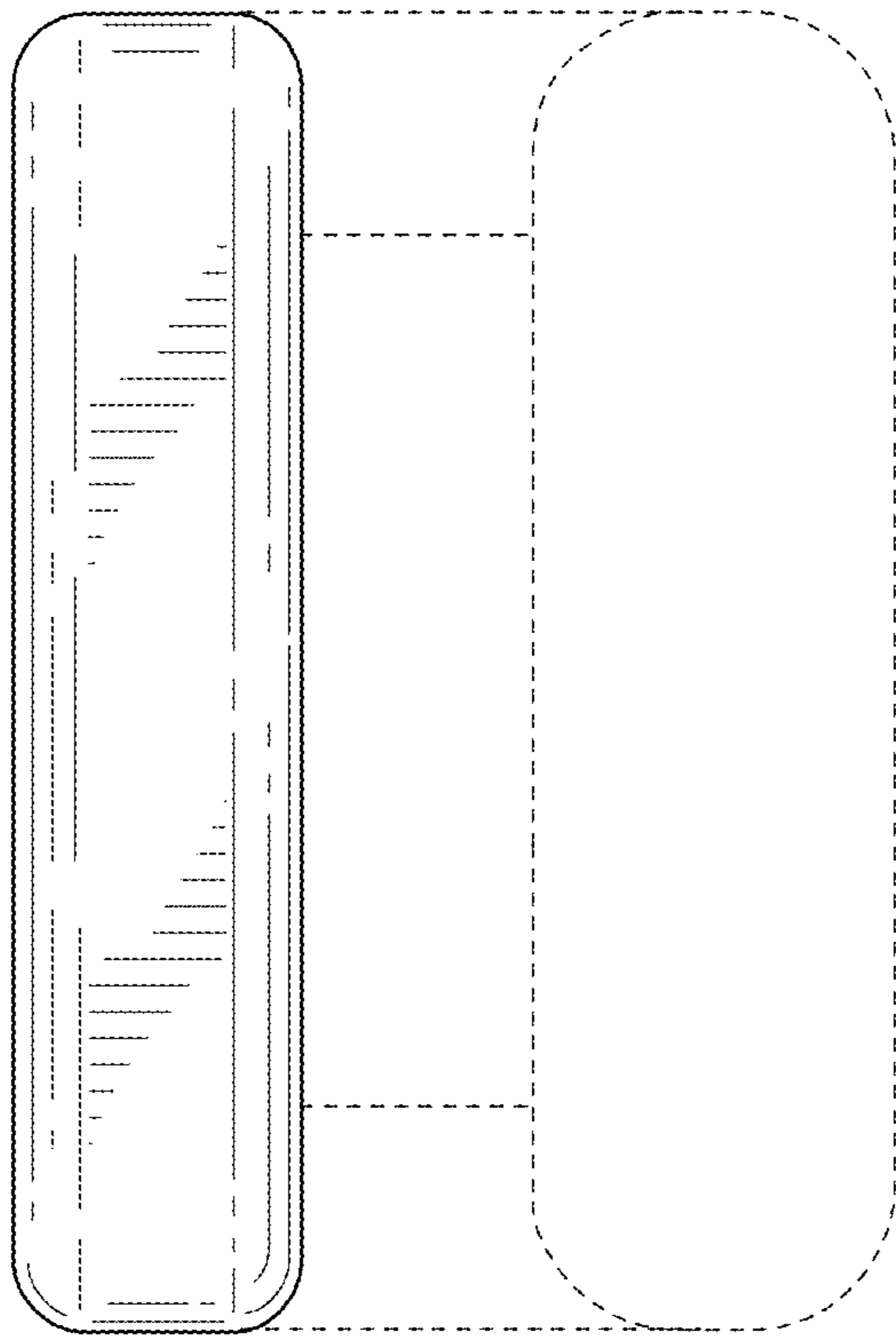


FIG. 4

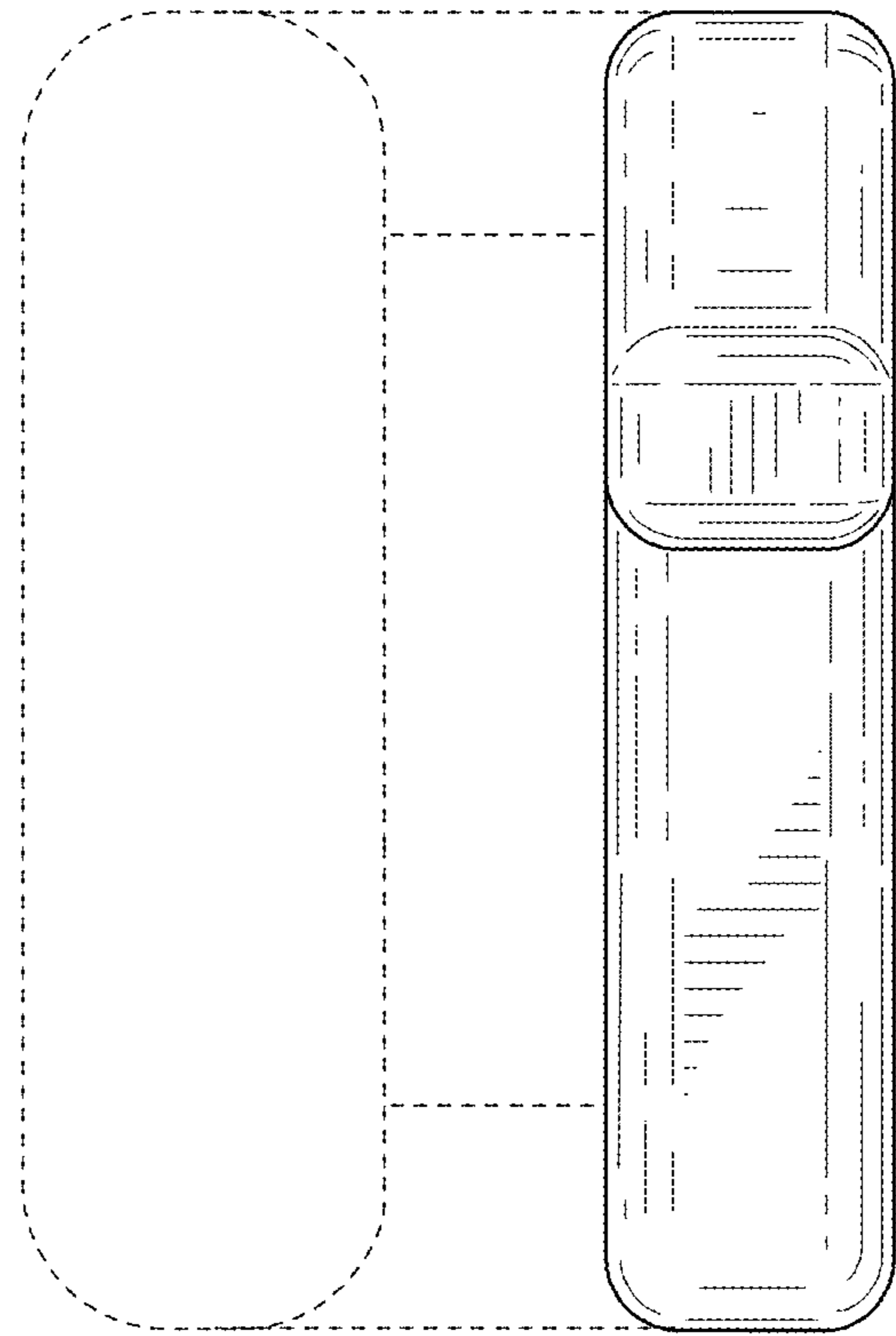


FIG. 5

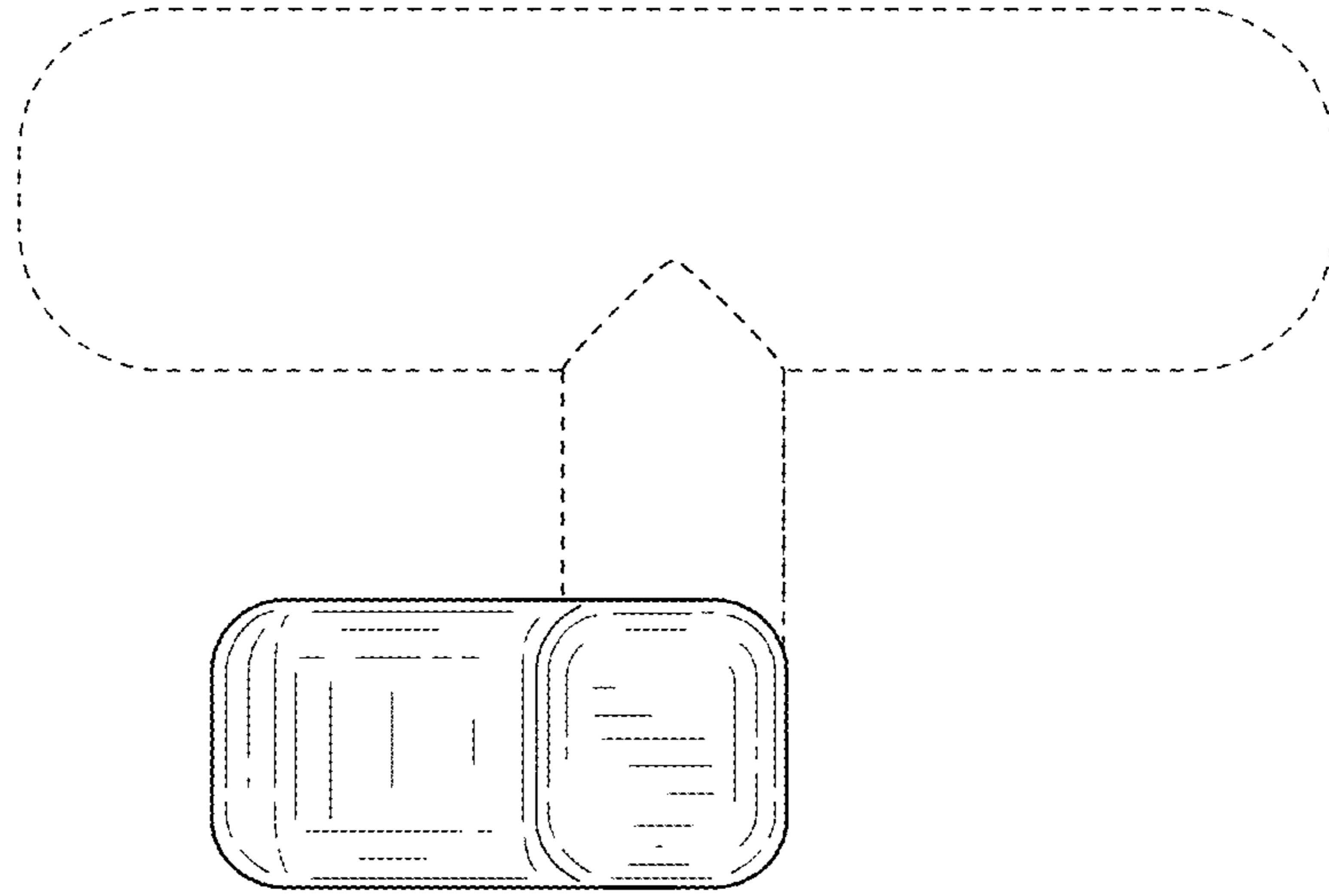


FIG. 6

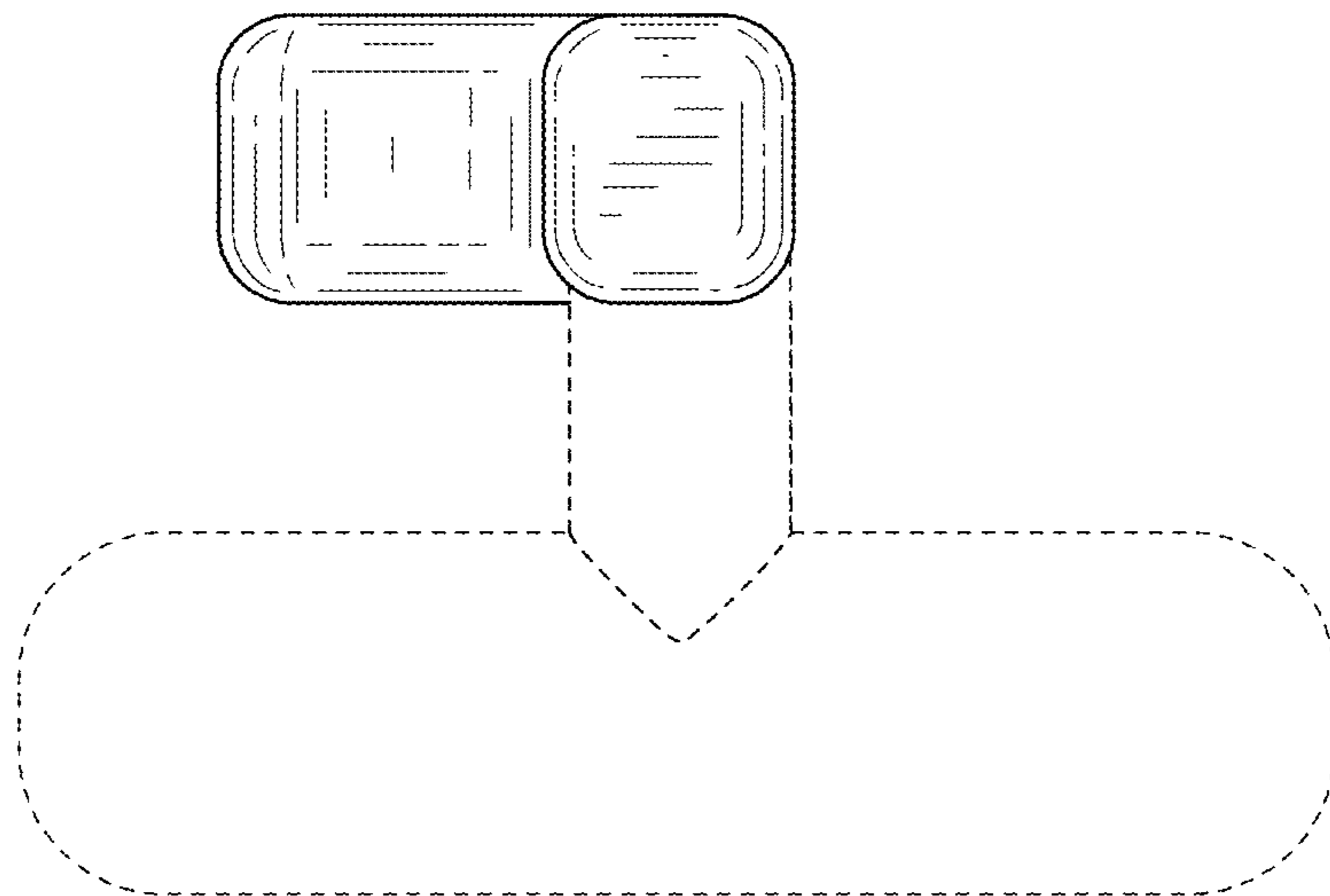


FIG. 7

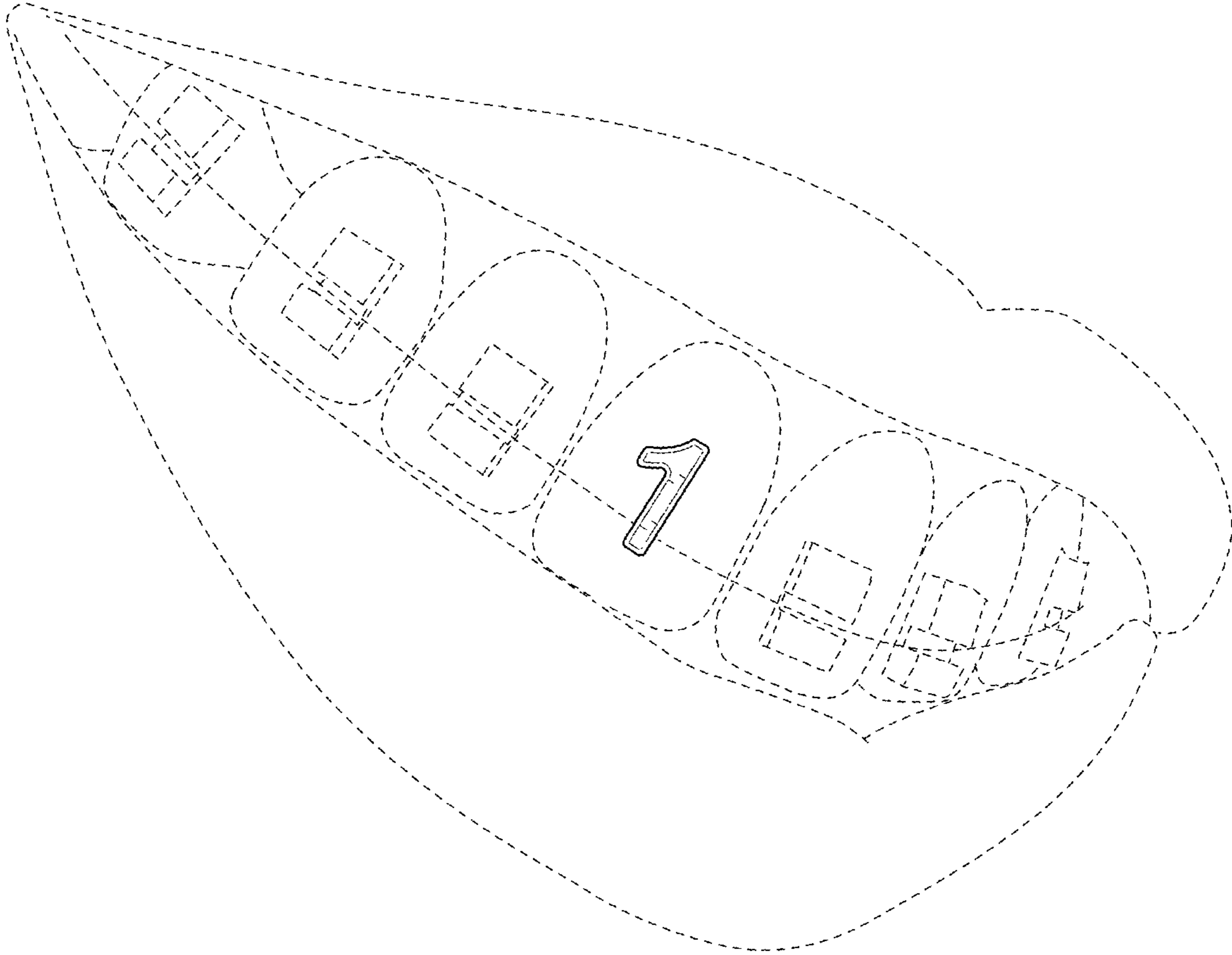


FIG. 8

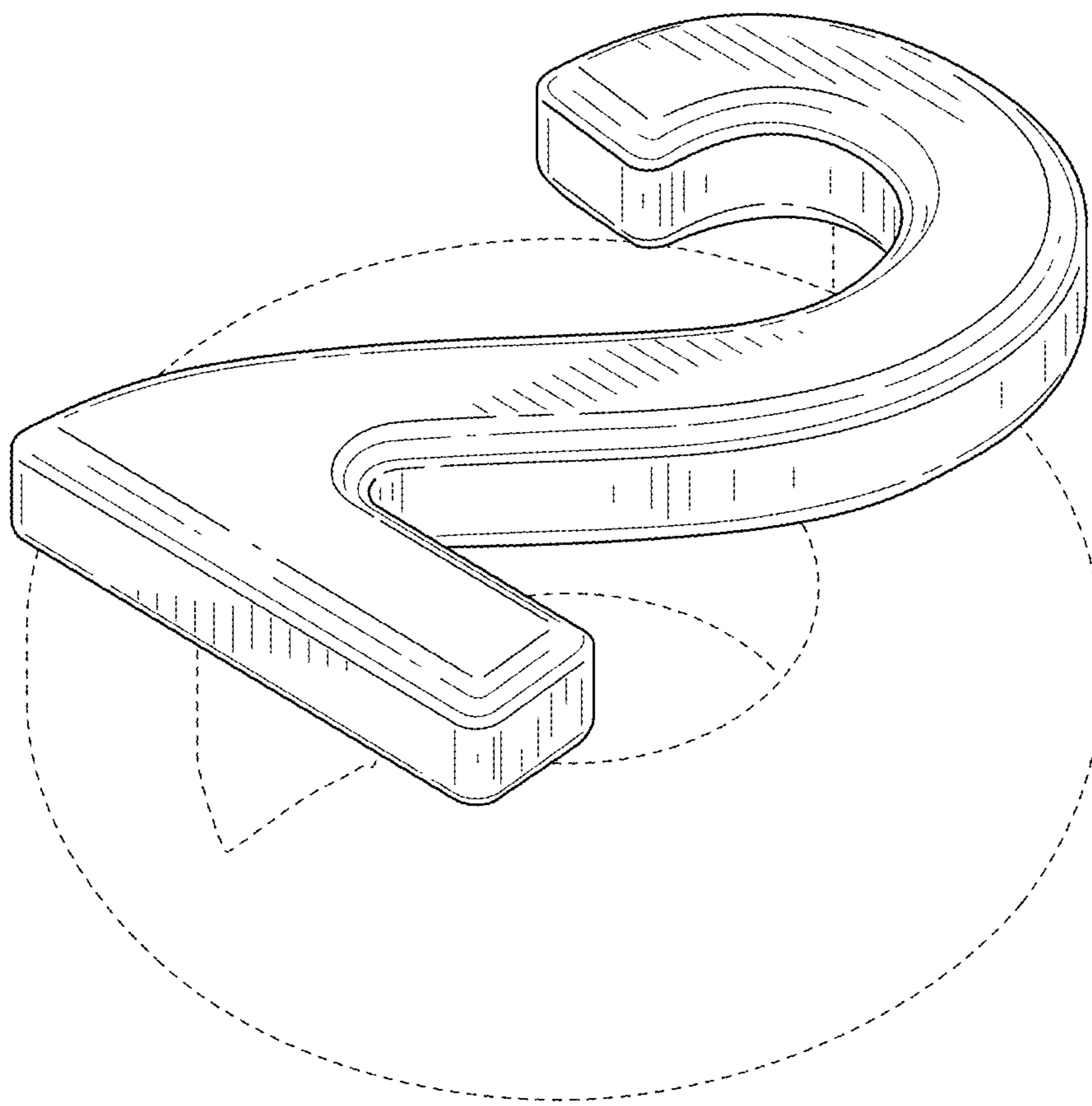


FIG. 9



FIG. 10

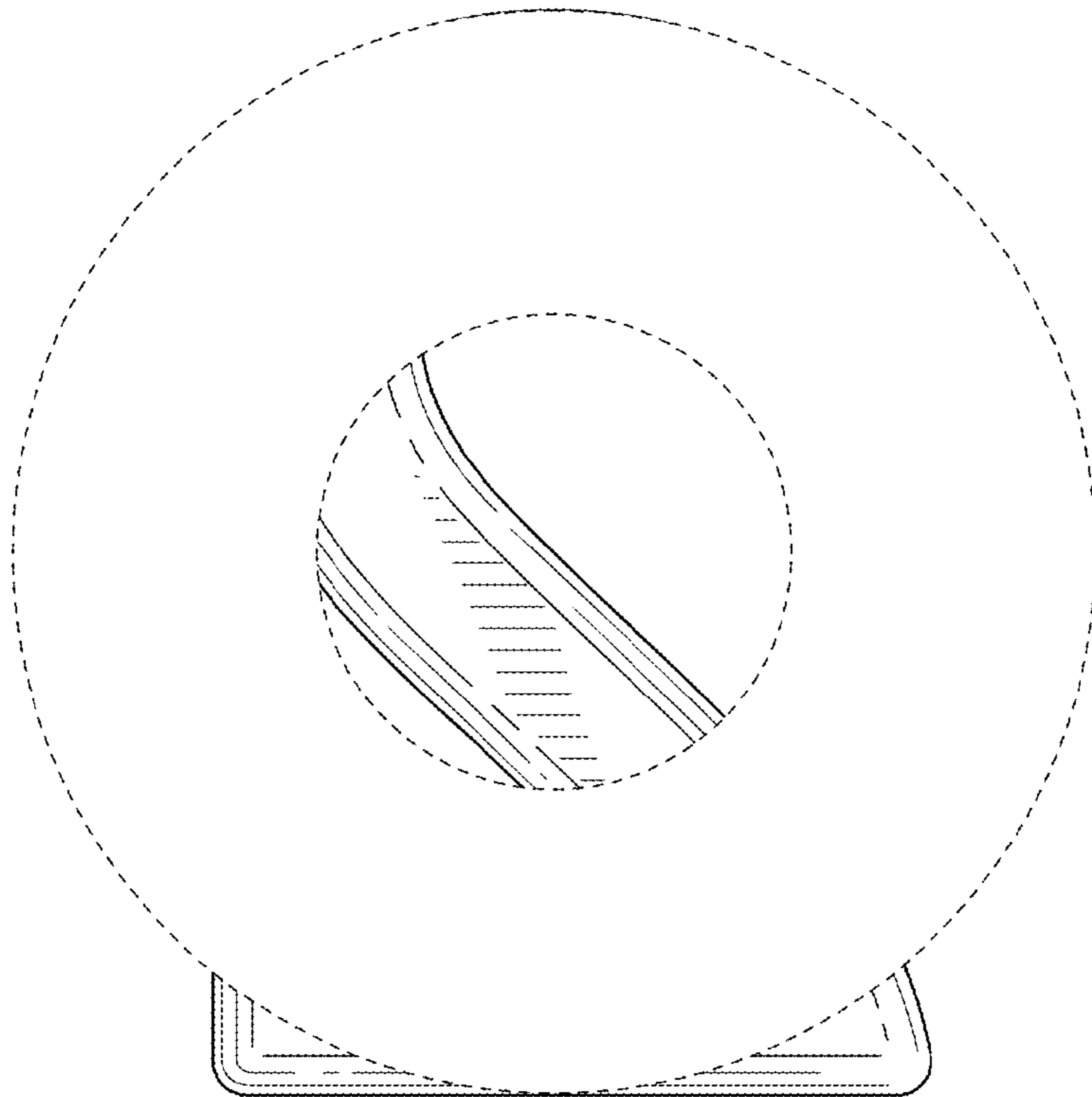


FIG. 11

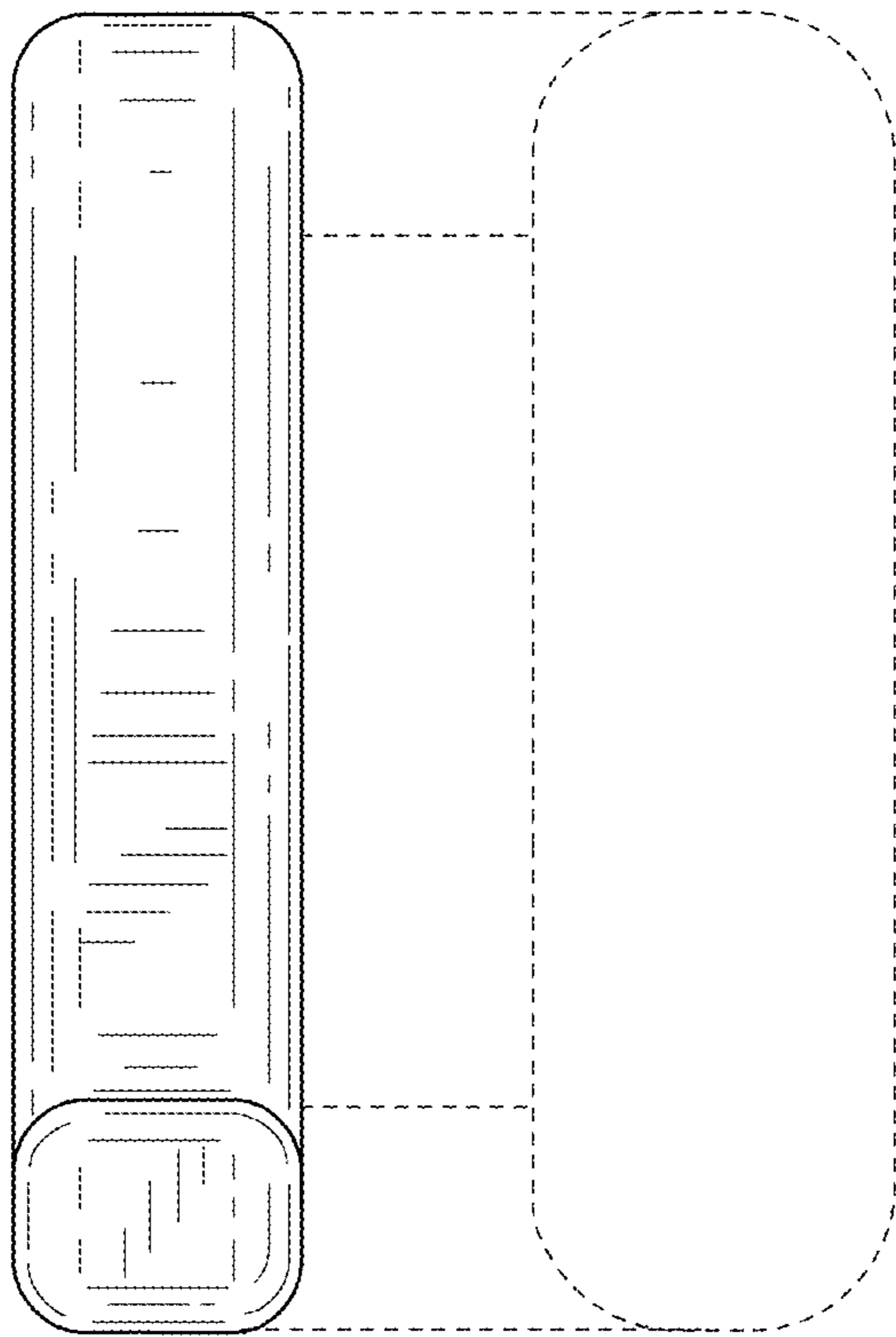


FIG. 12

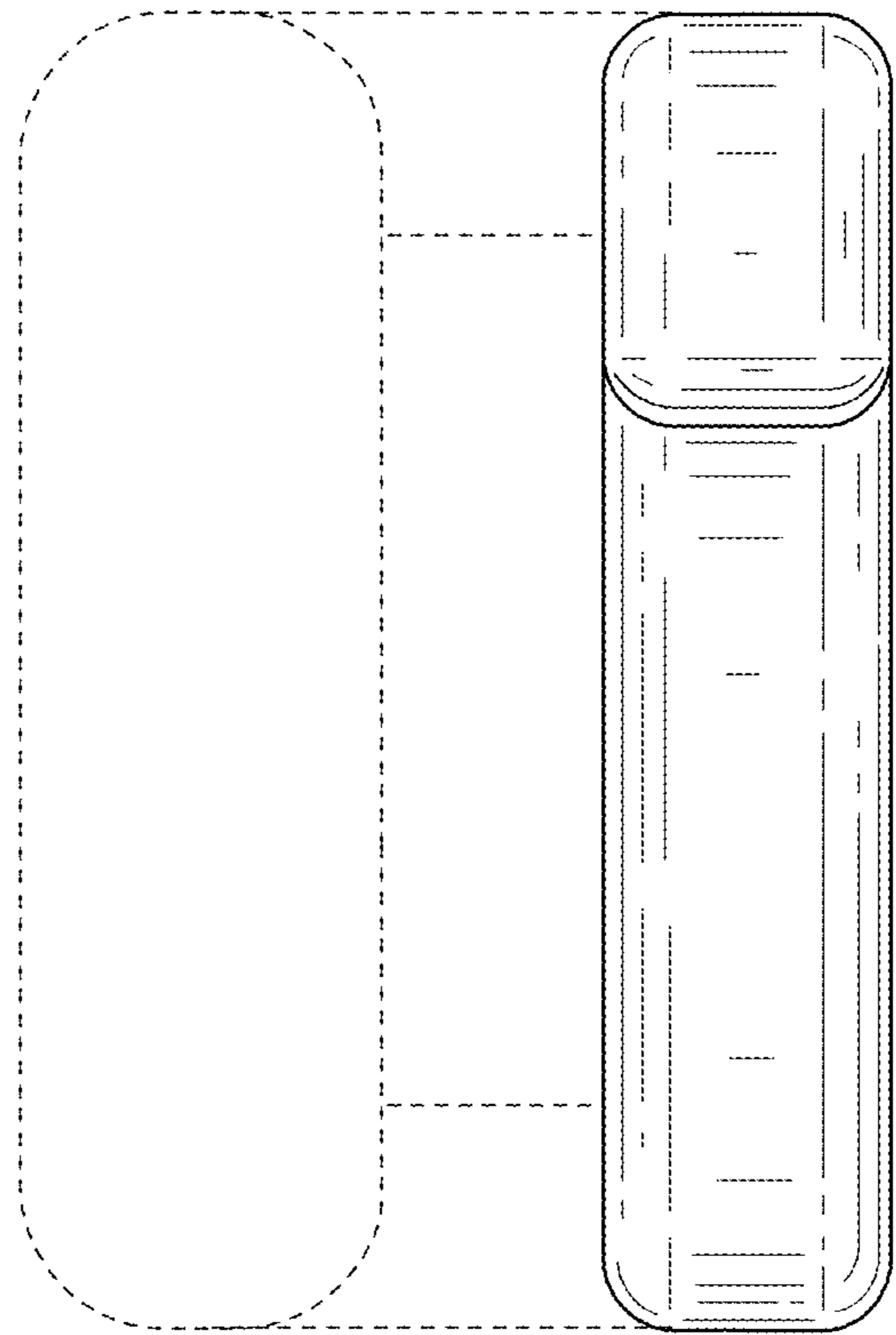


FIG. 13

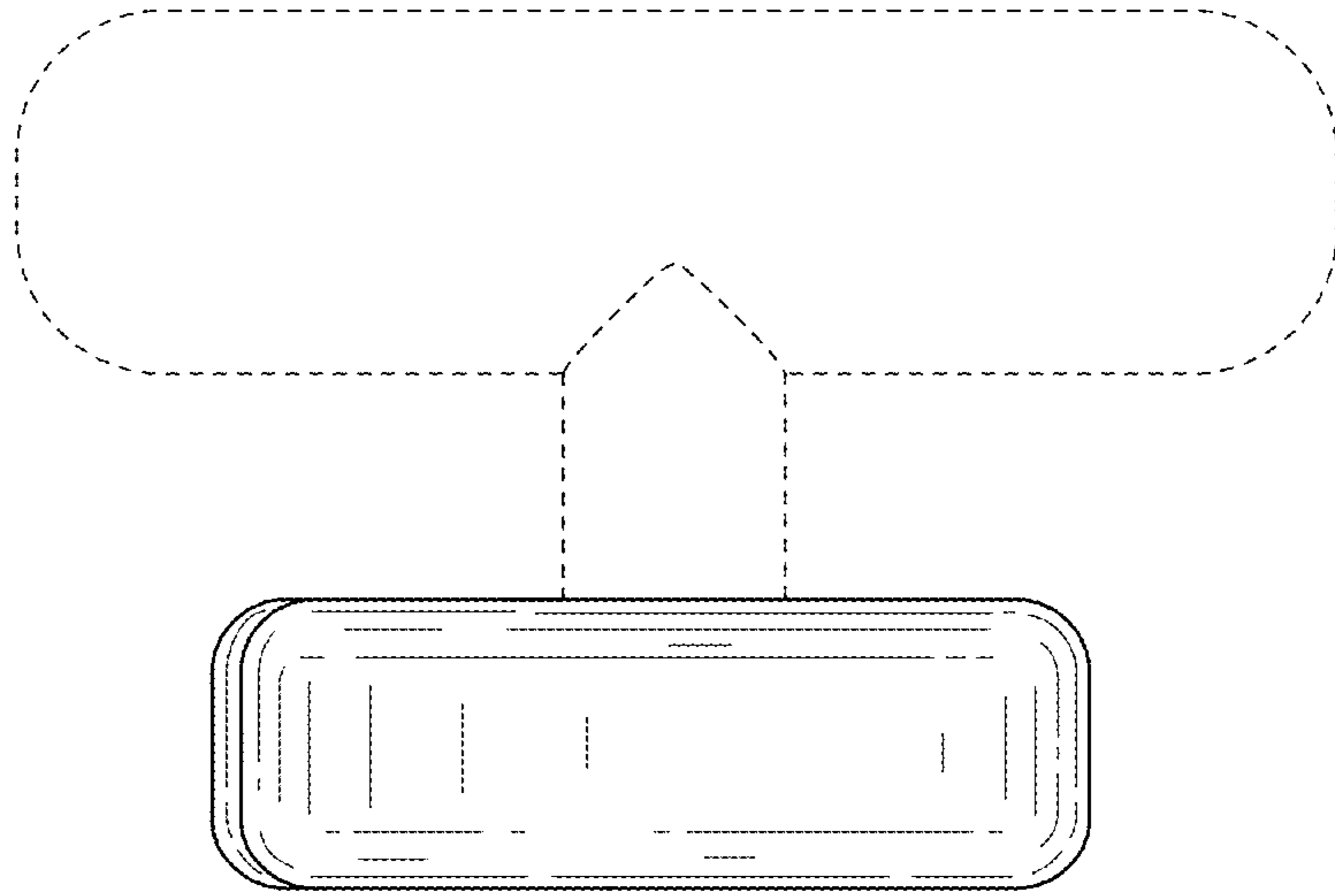


FIG. 14

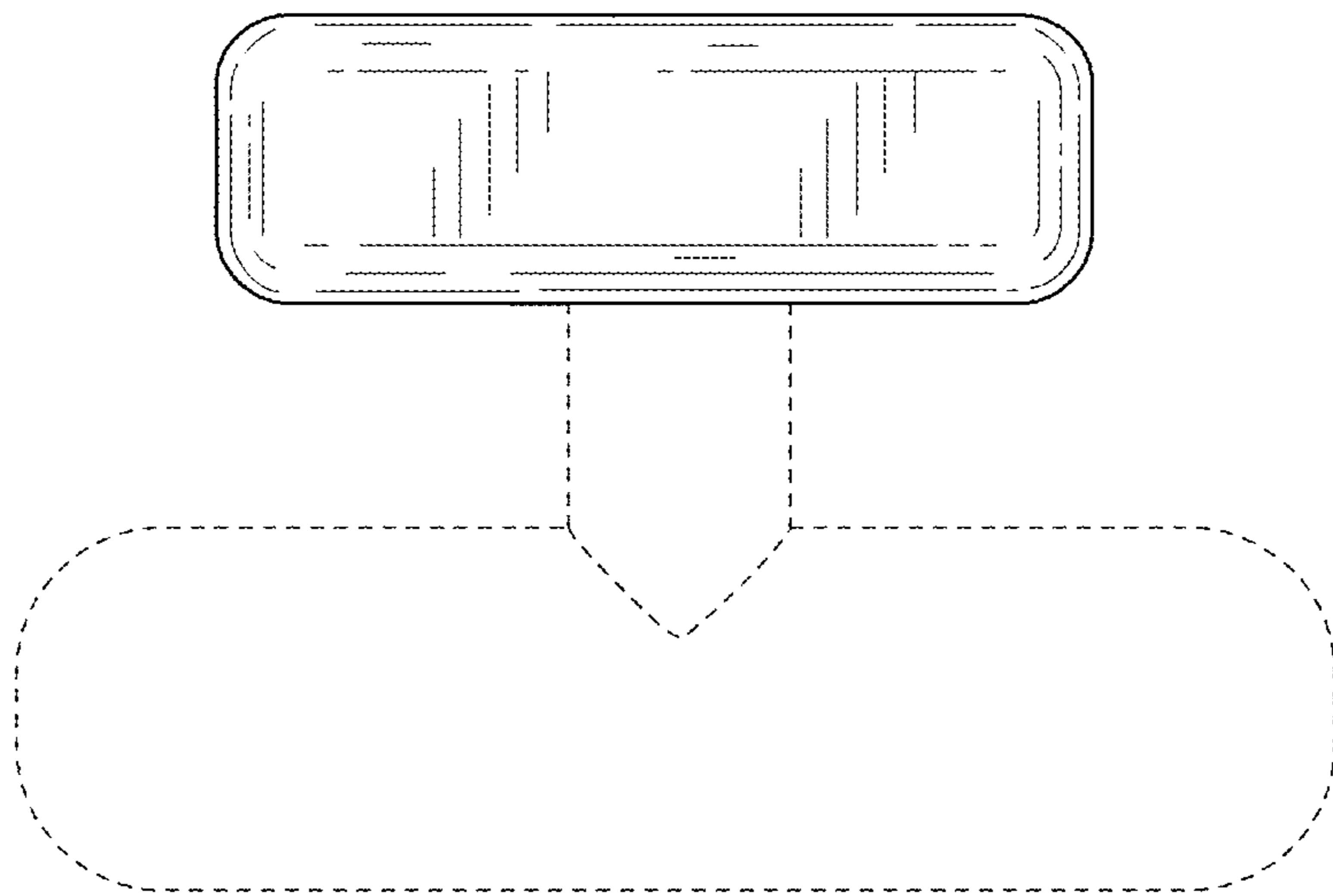


FIG. 15

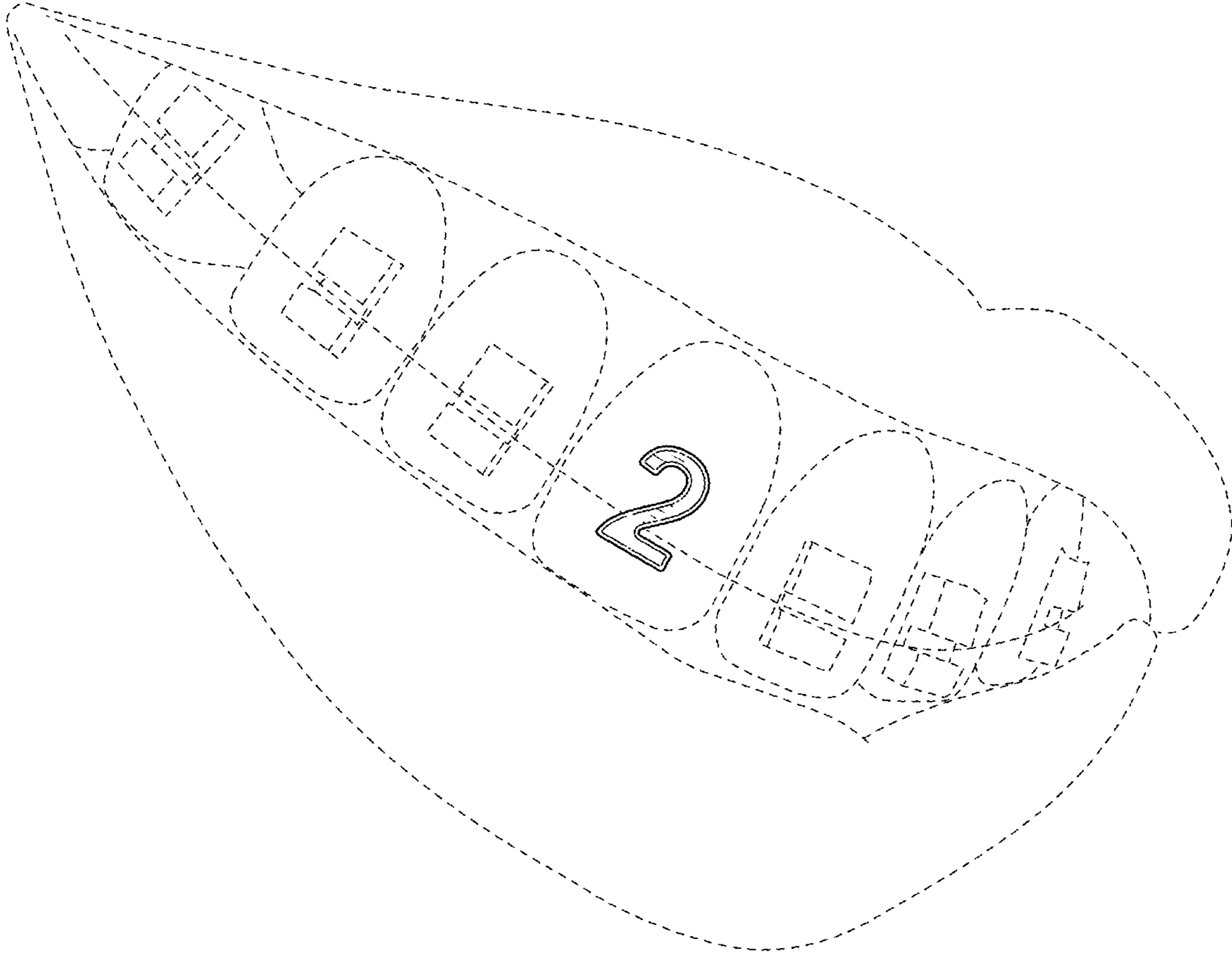


FIG. 16

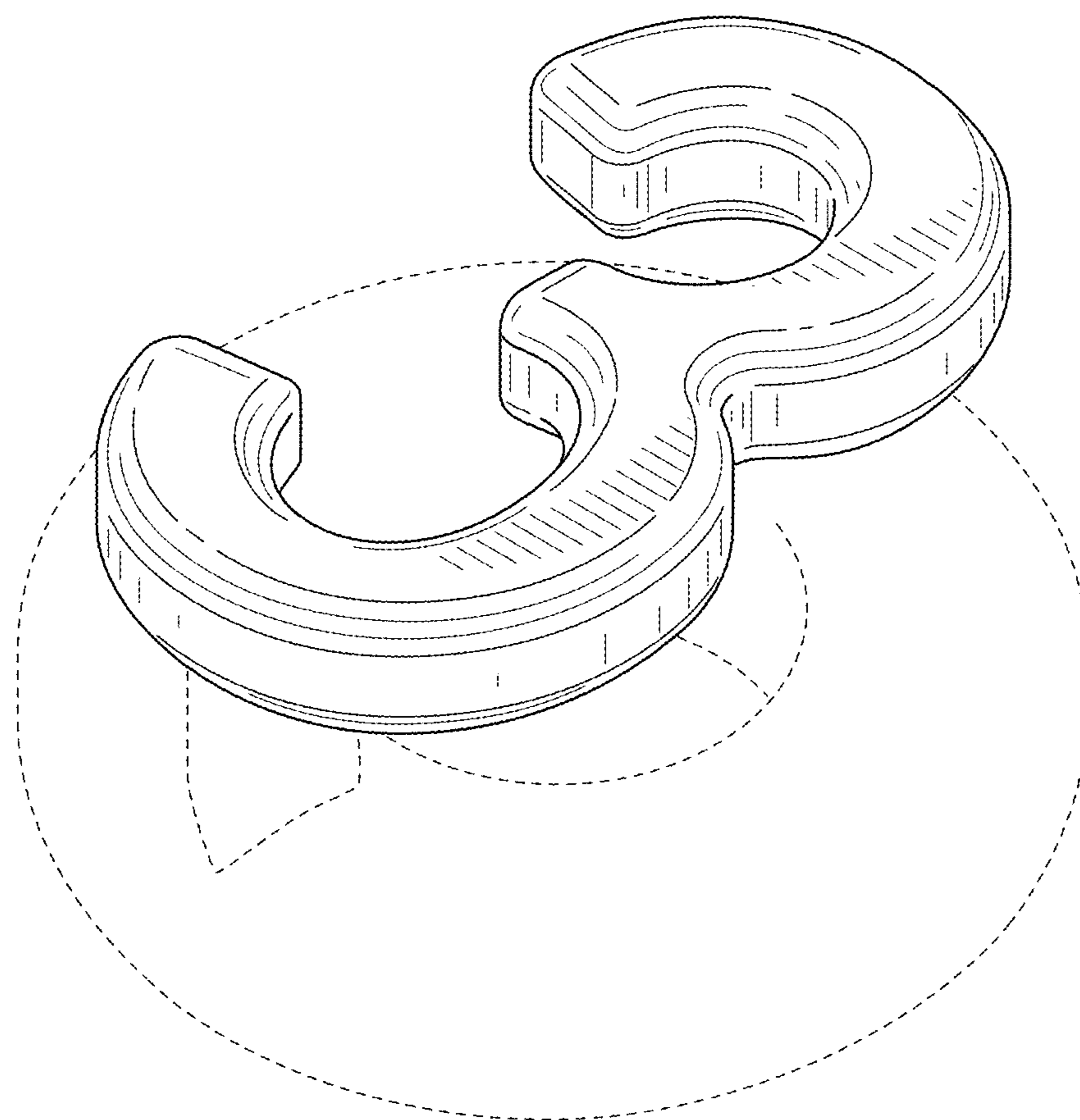


FIG. 17



FIG. 18

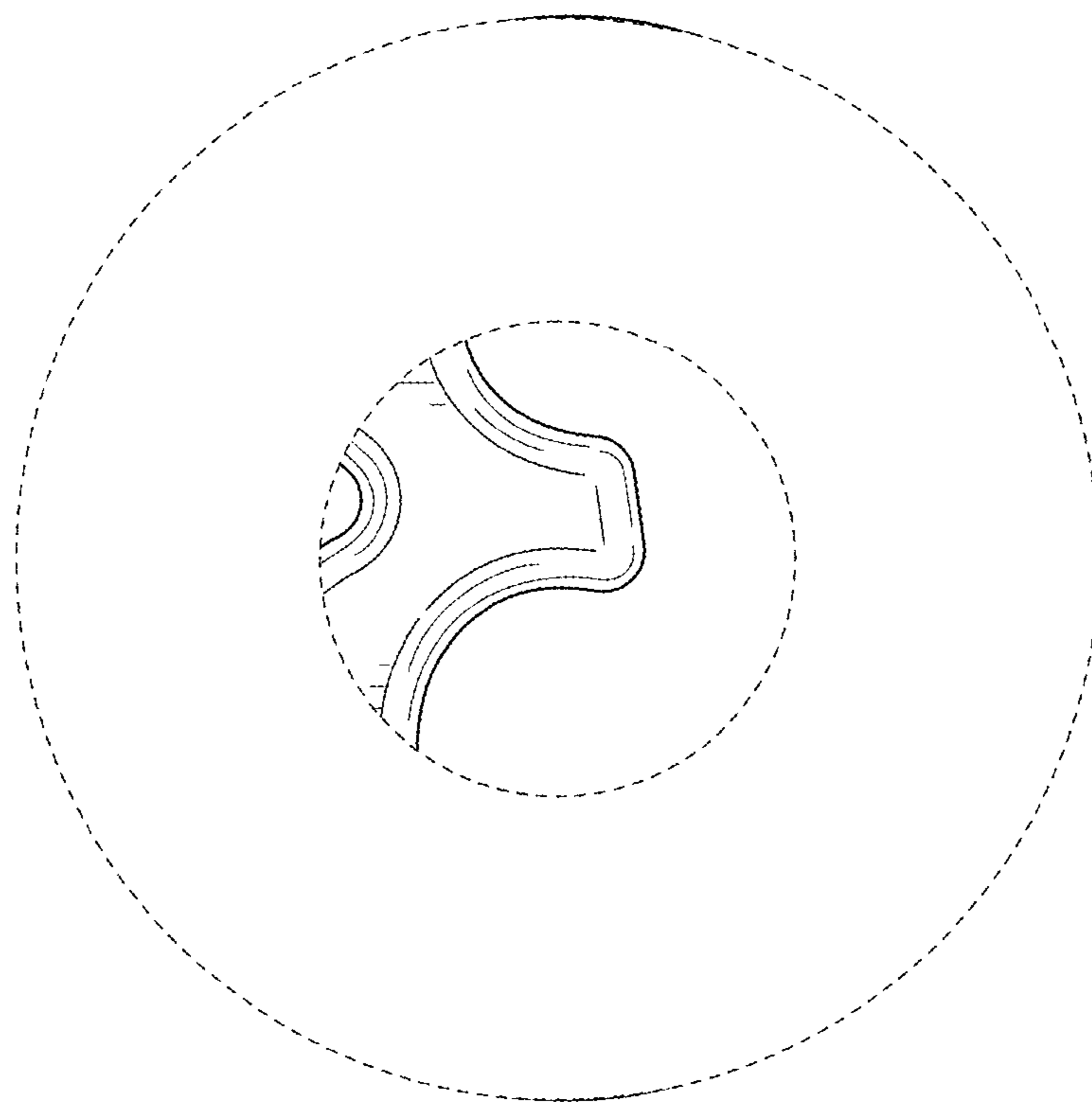


FIG. 19

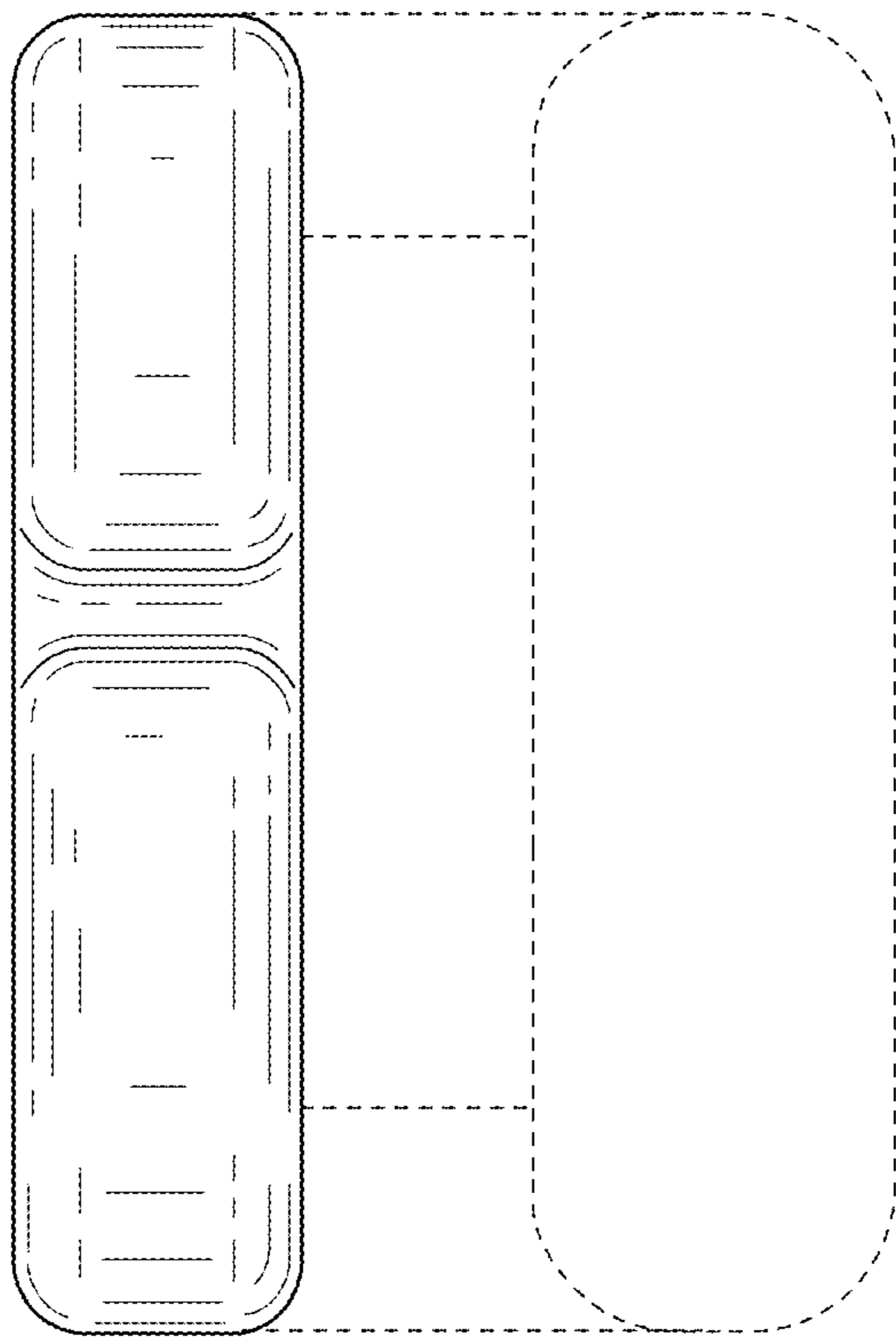


FIG. 20

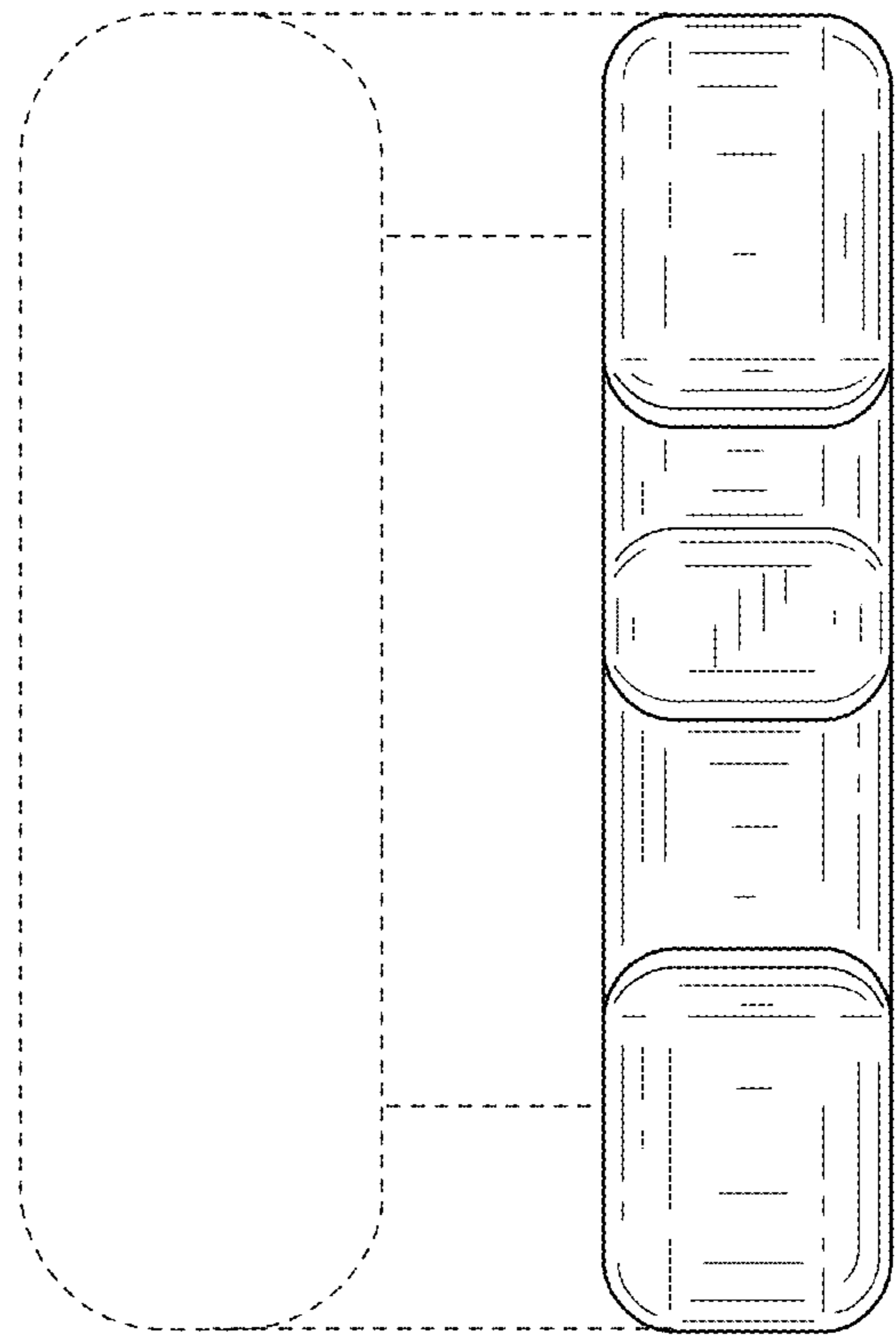


FIG. 21

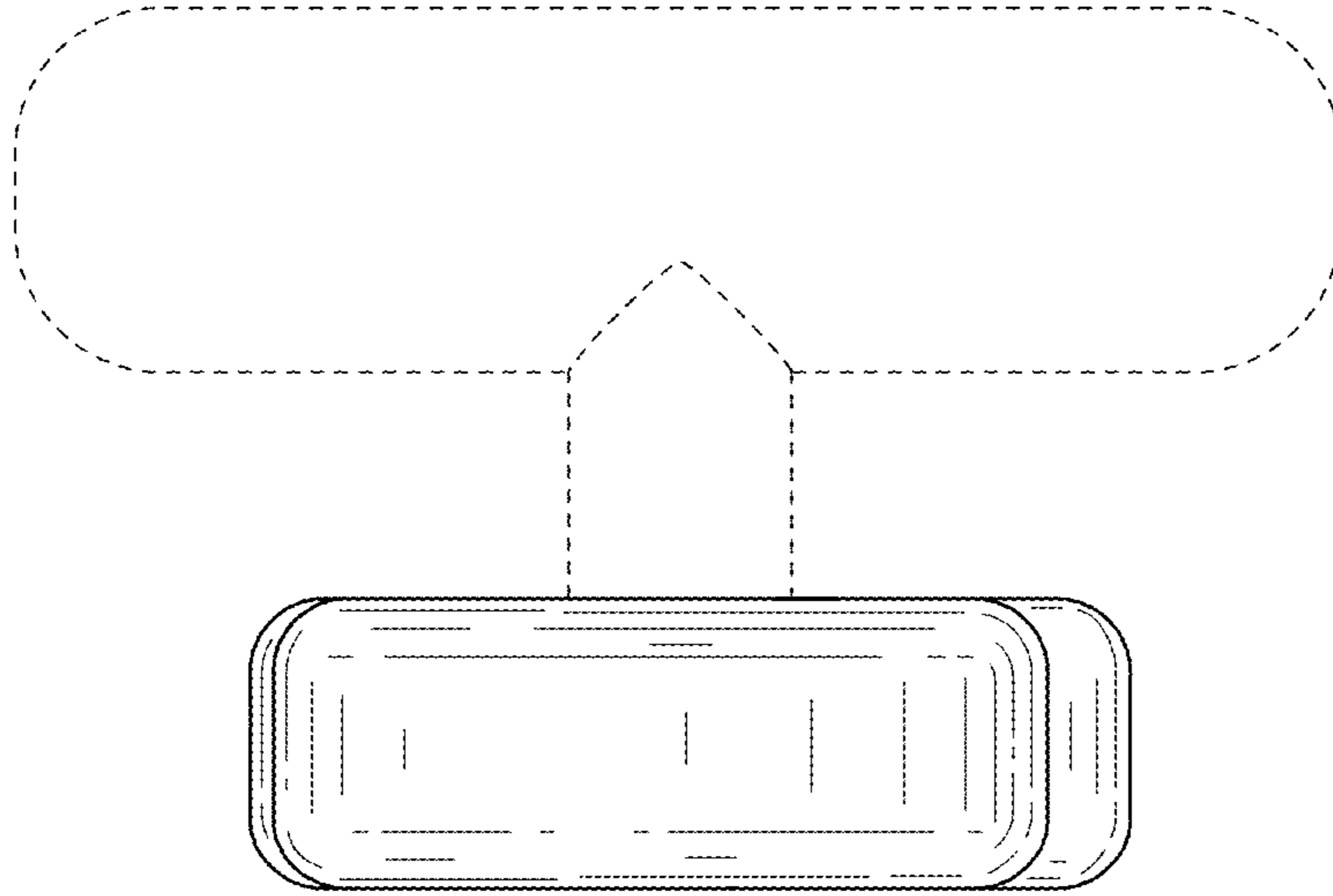


FIG. 22

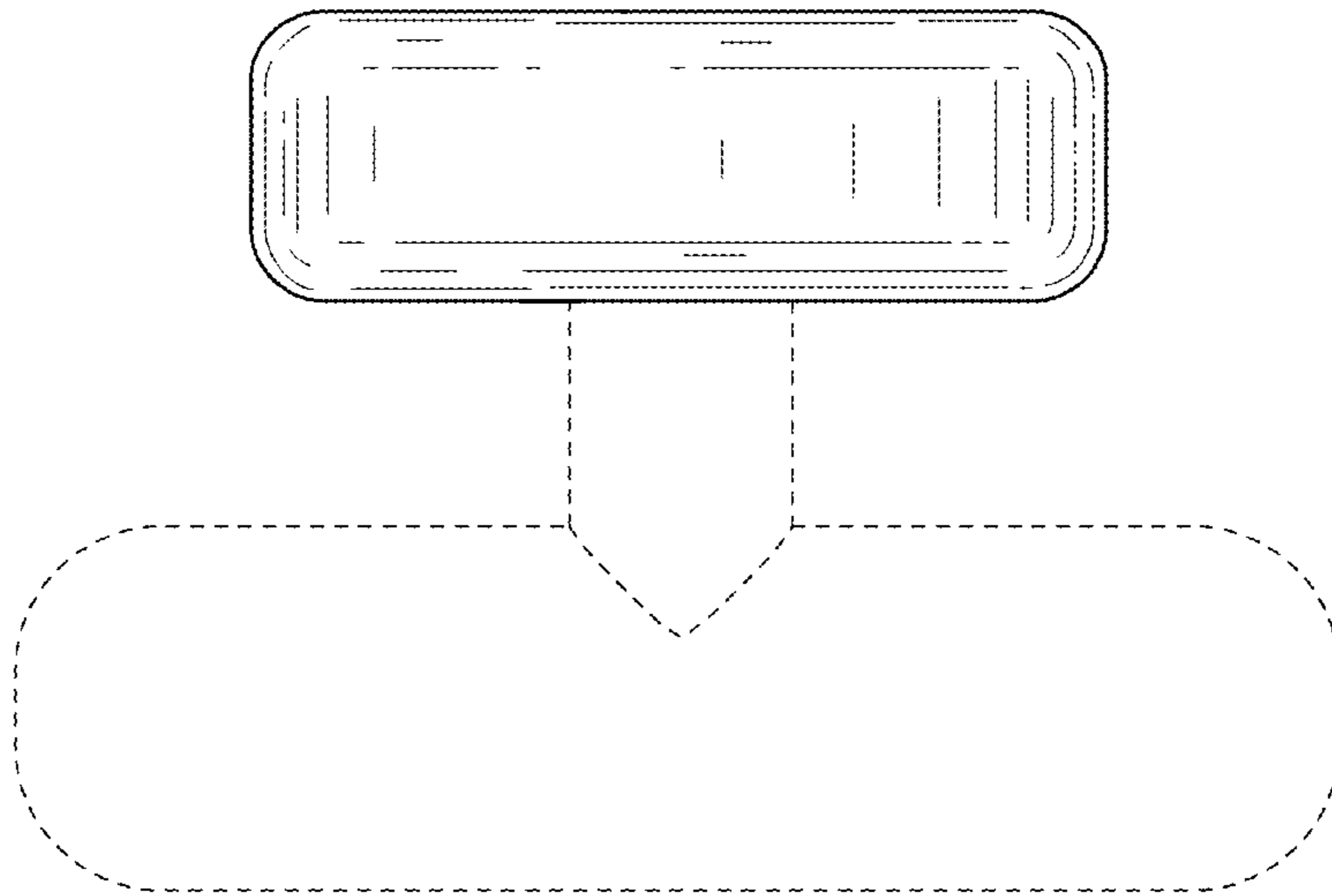


FIG. 23

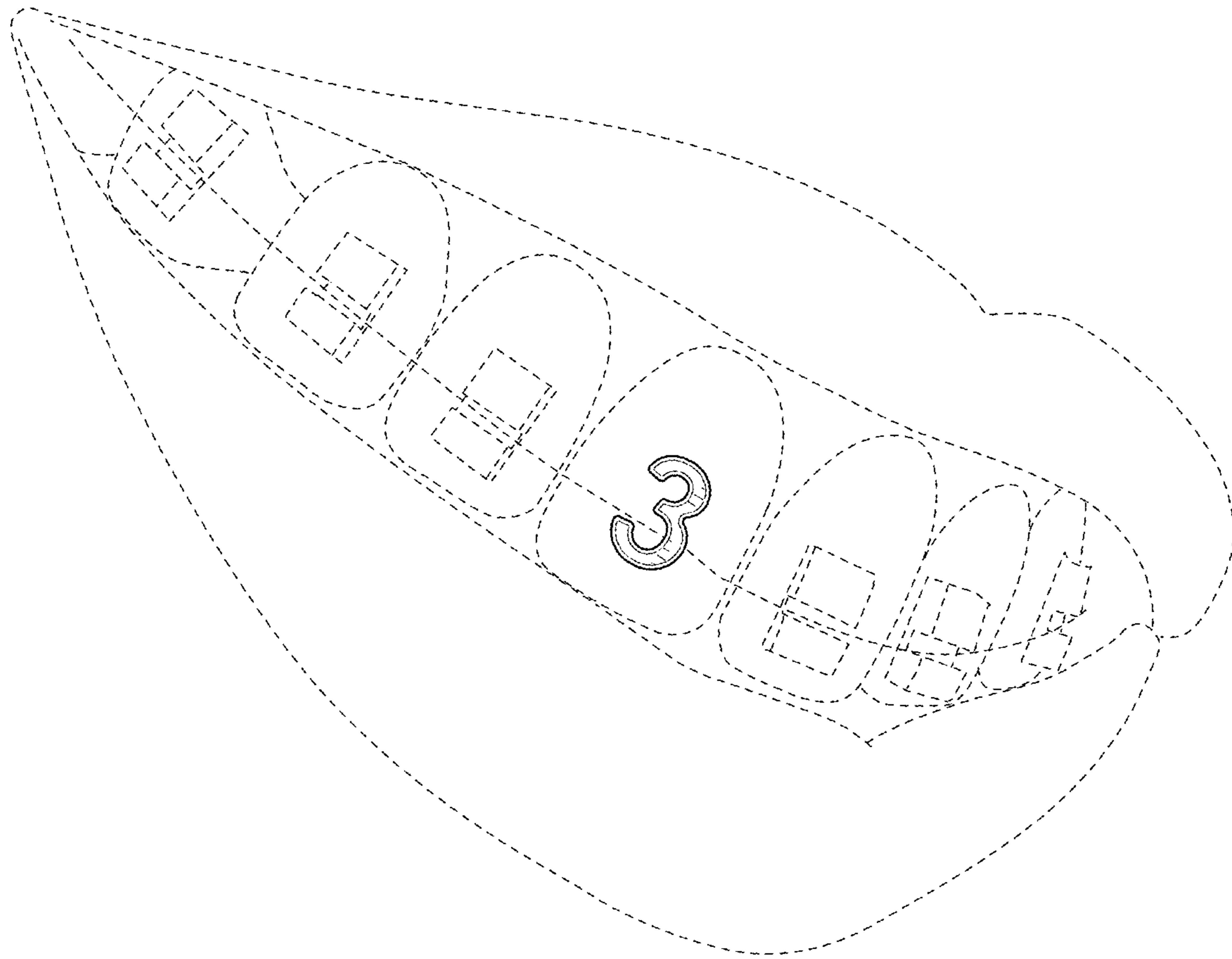


FIG. 24

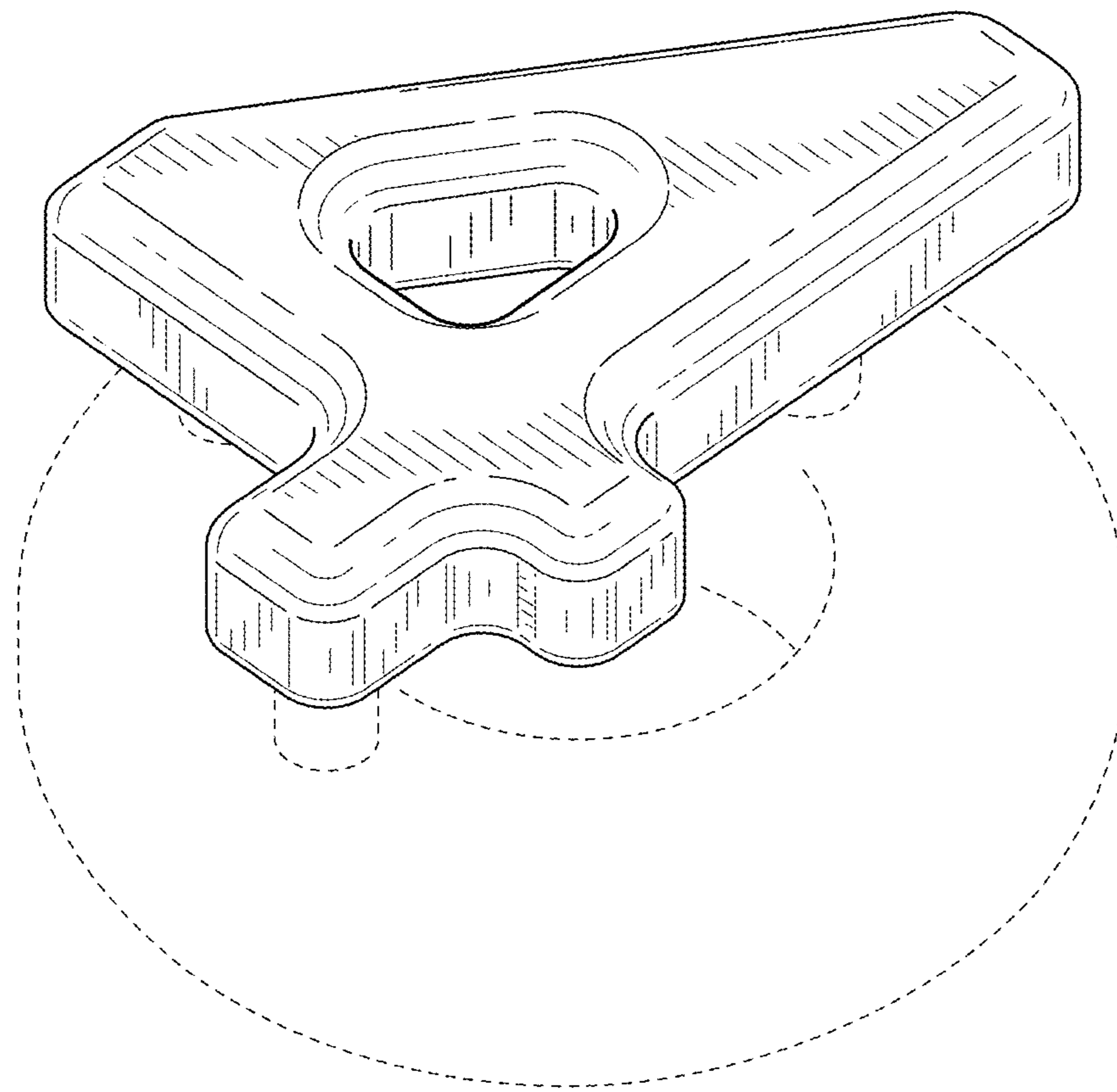


FIG. 25

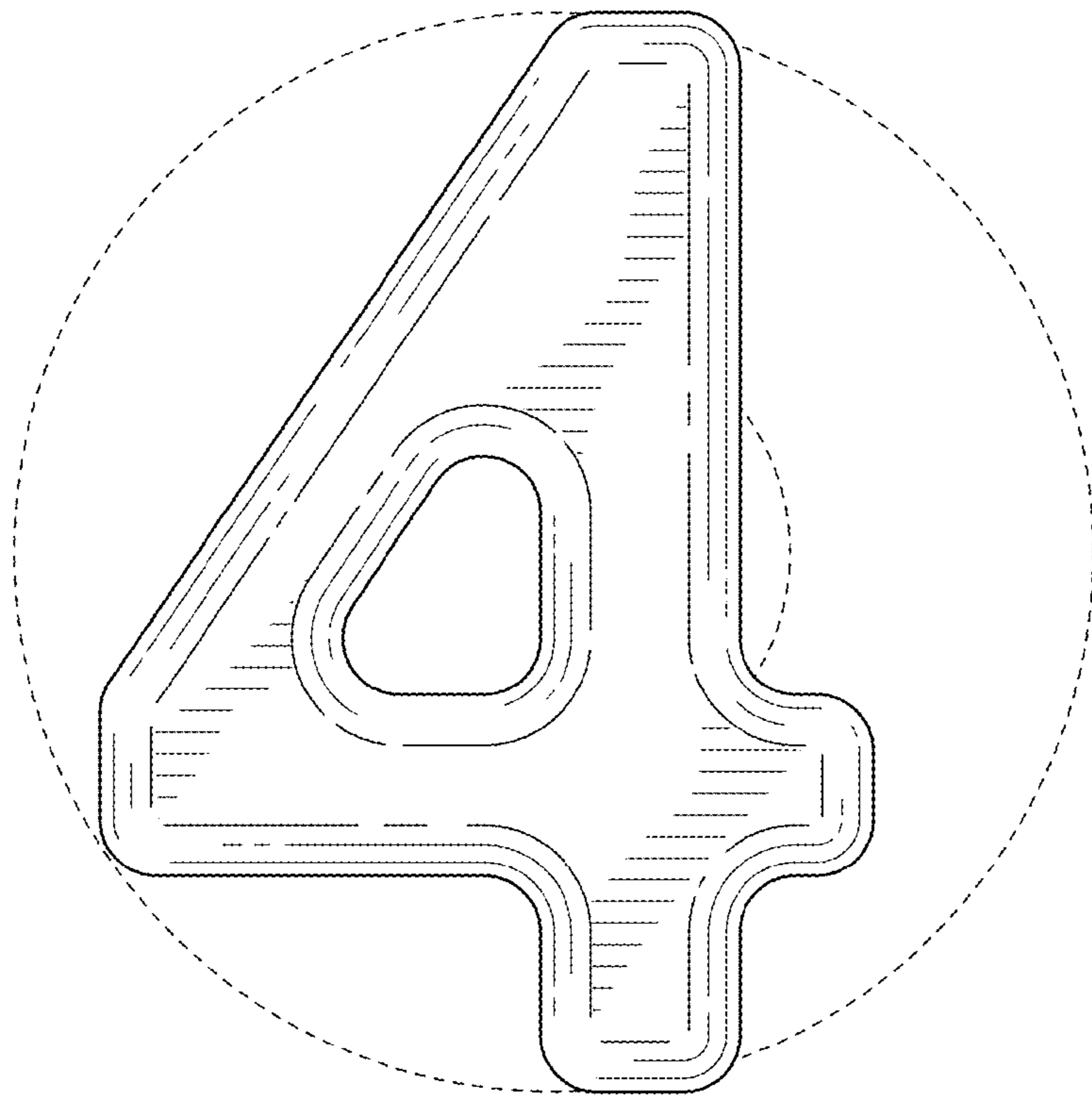


FIG. 26

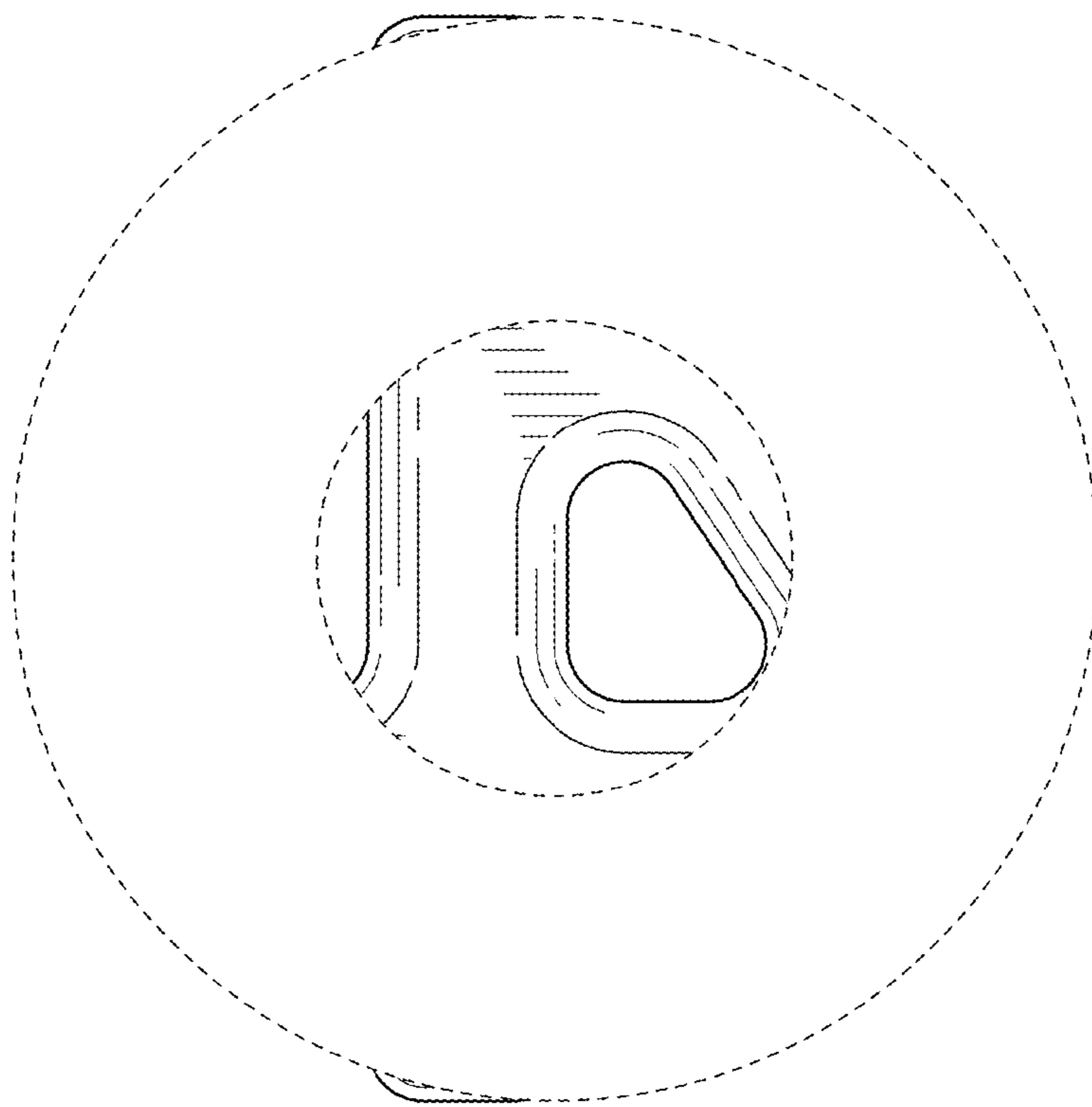


FIG. 27

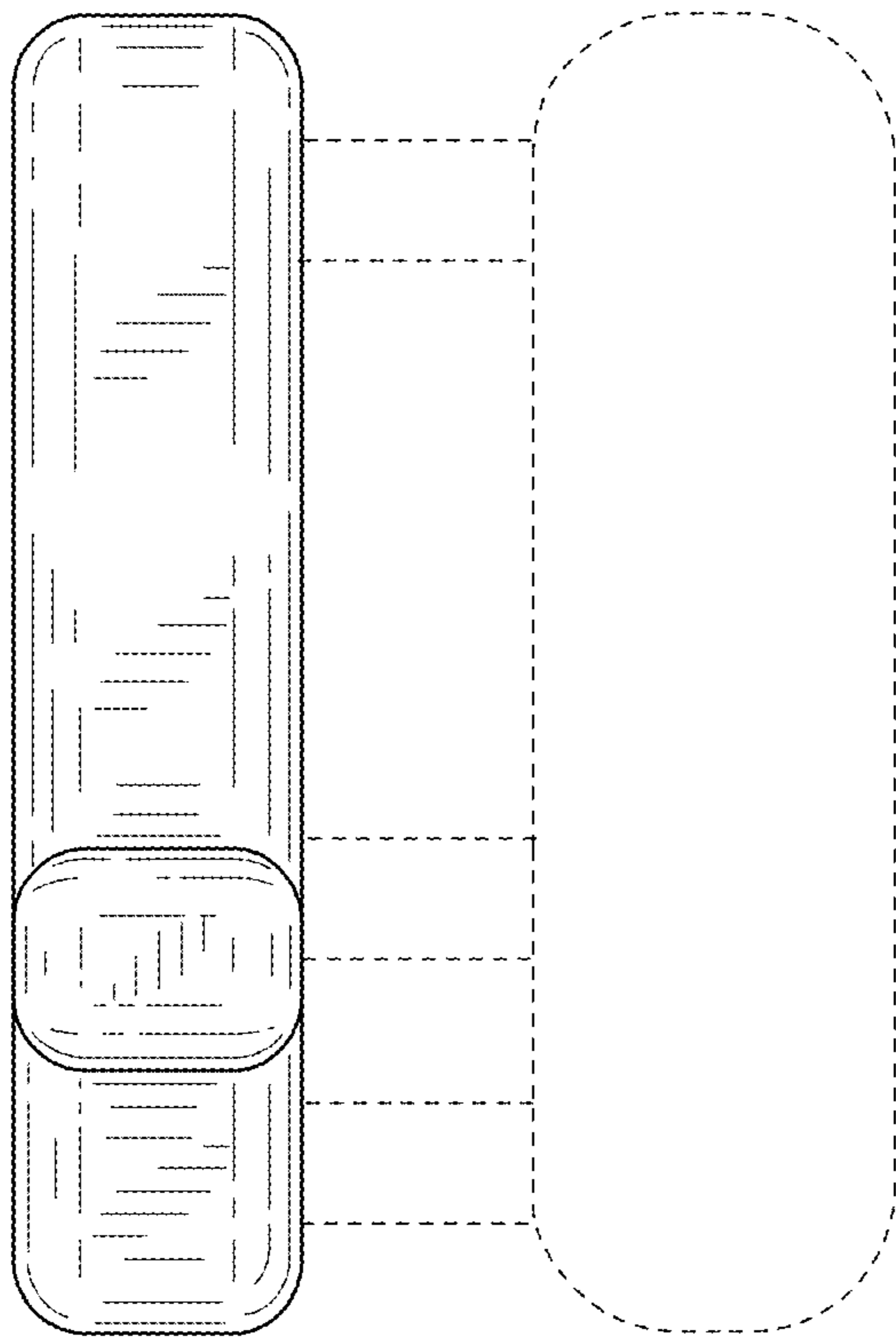


FIG. 28

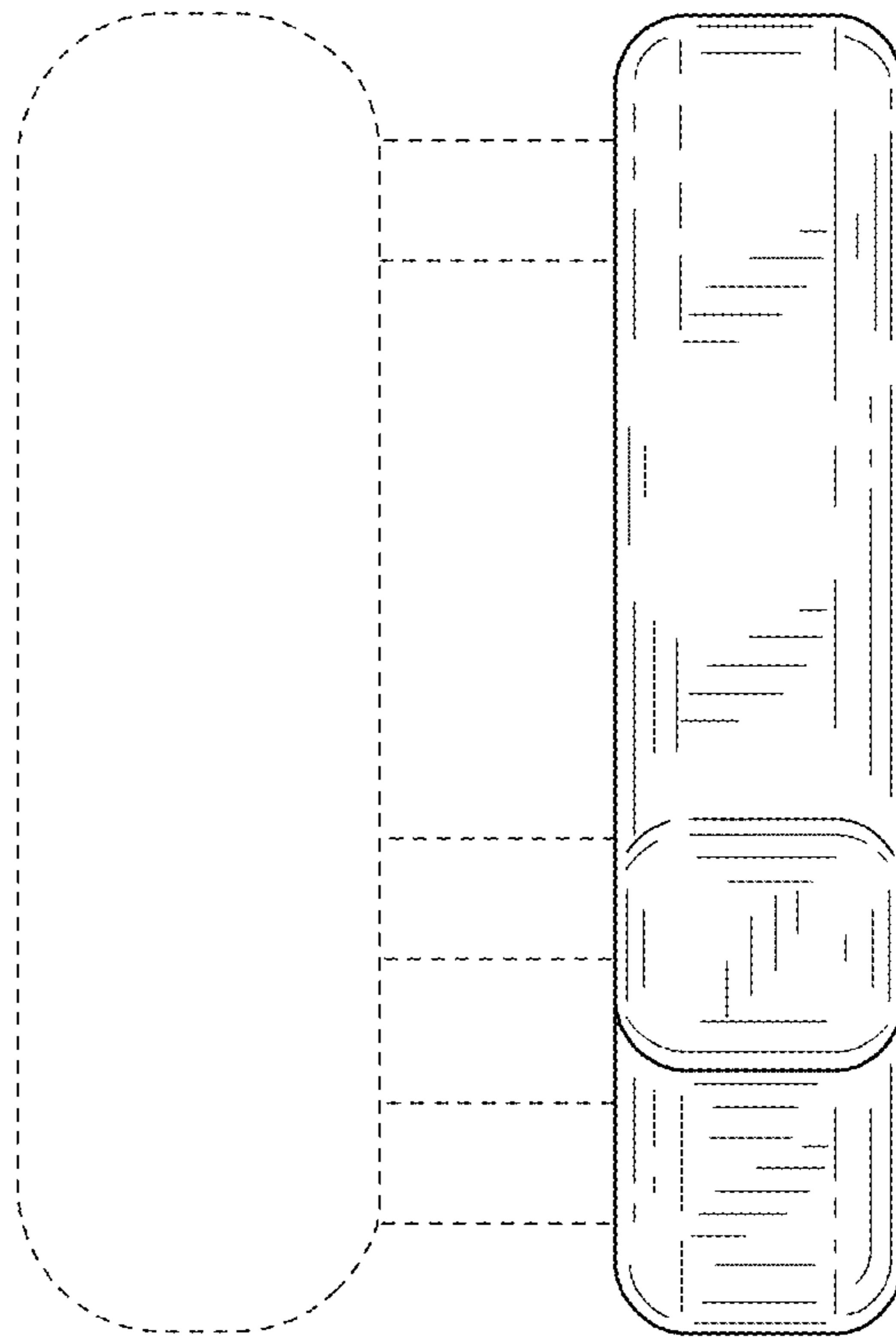


FIG. 29

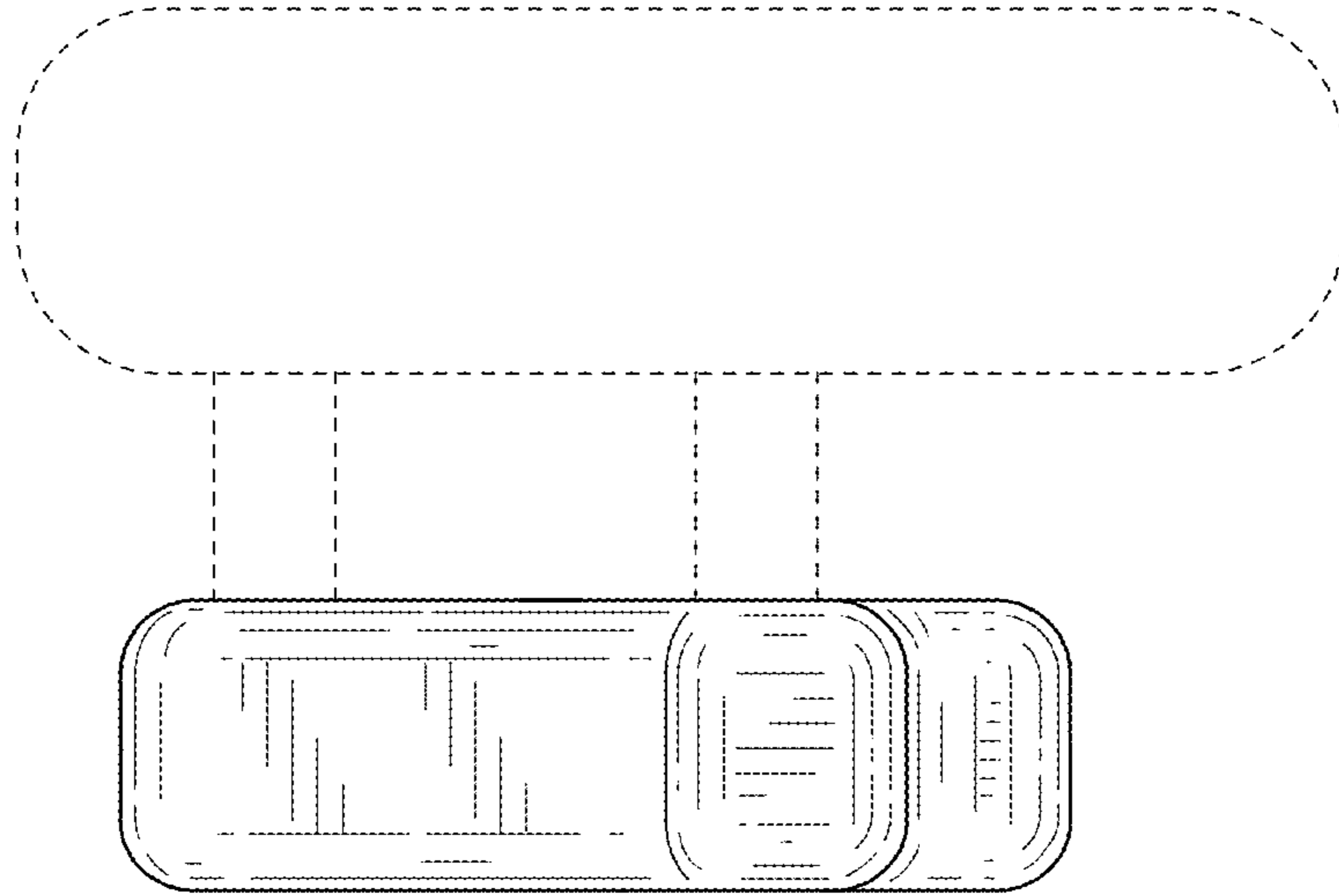


FIG. 30

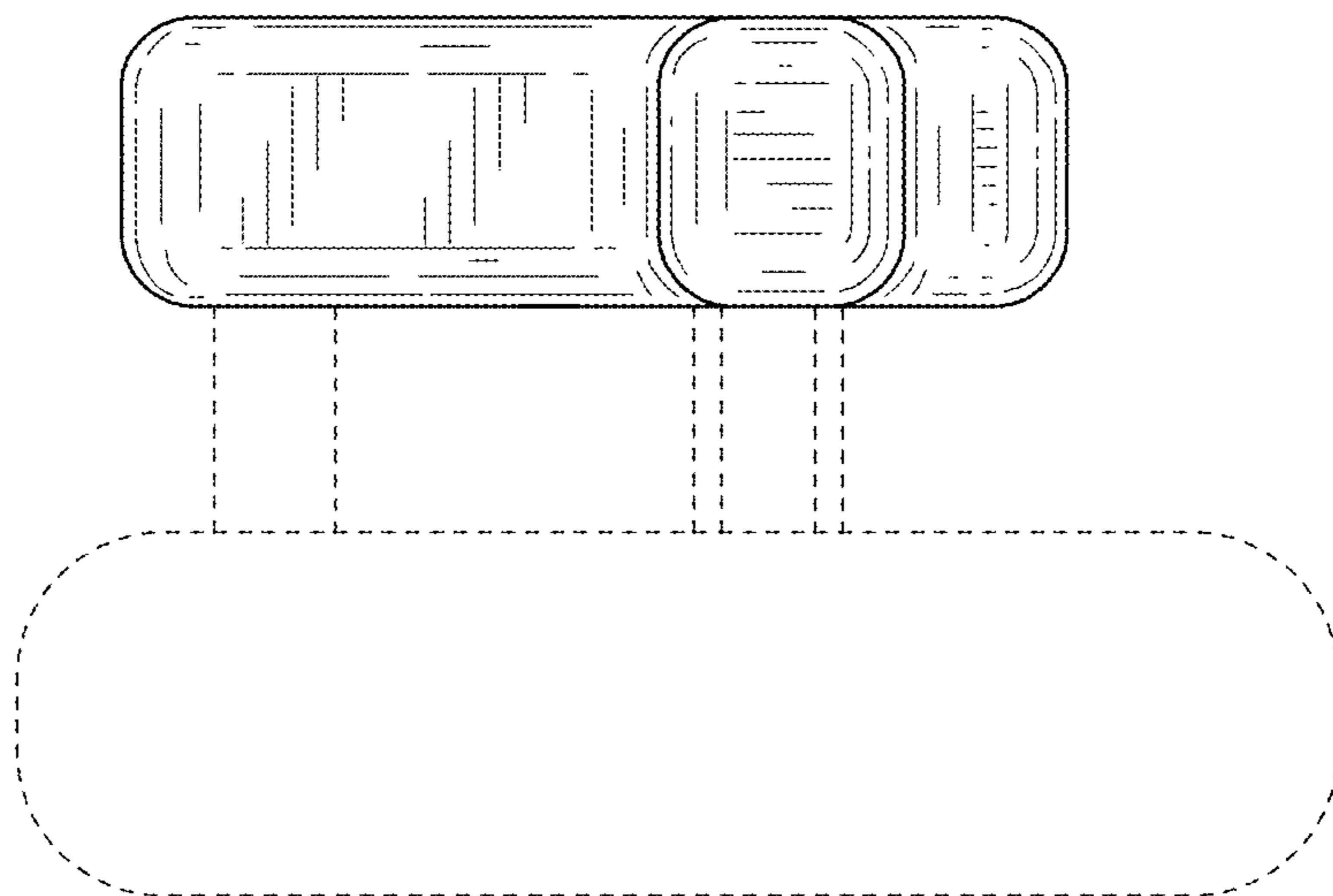


FIG. 31

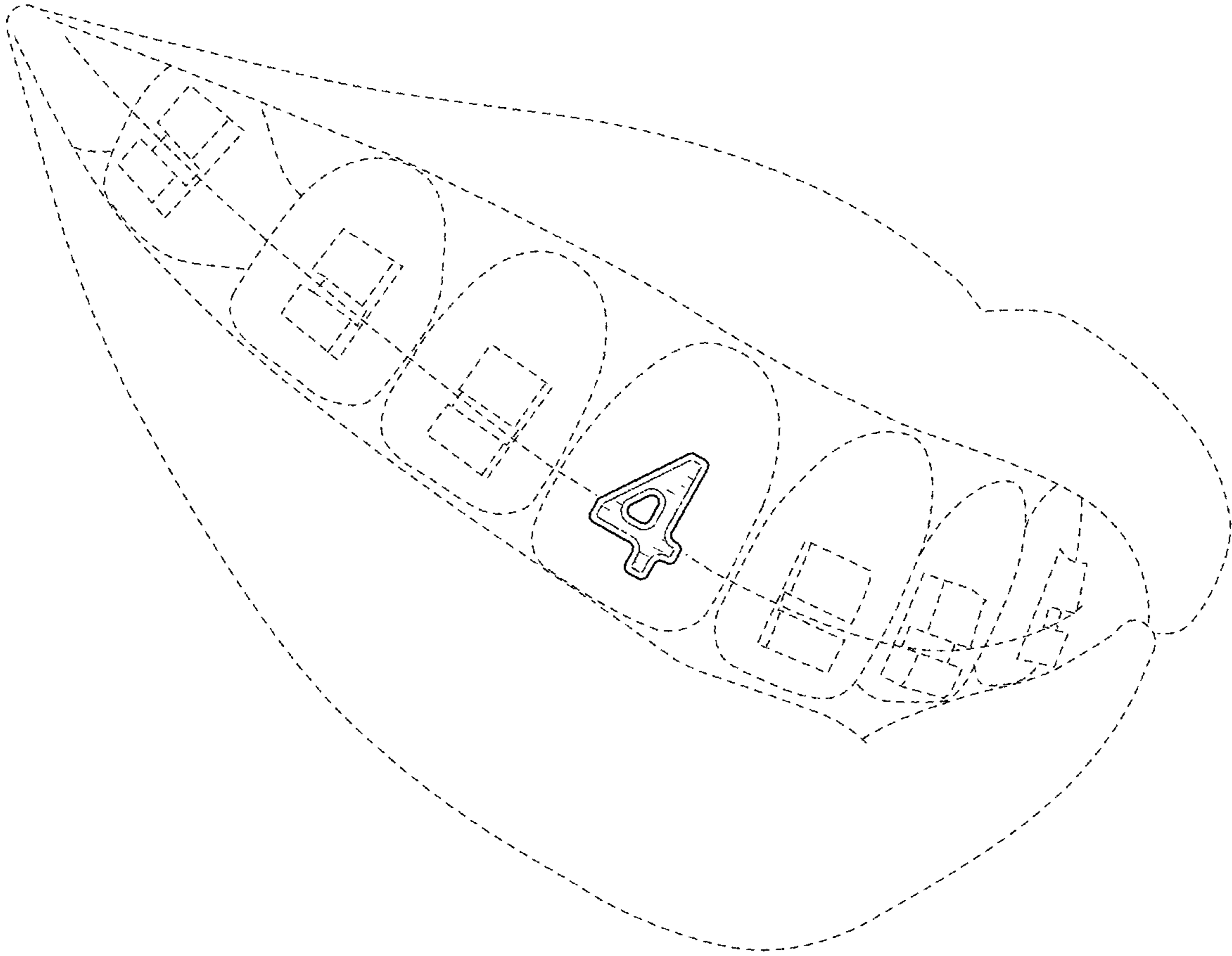


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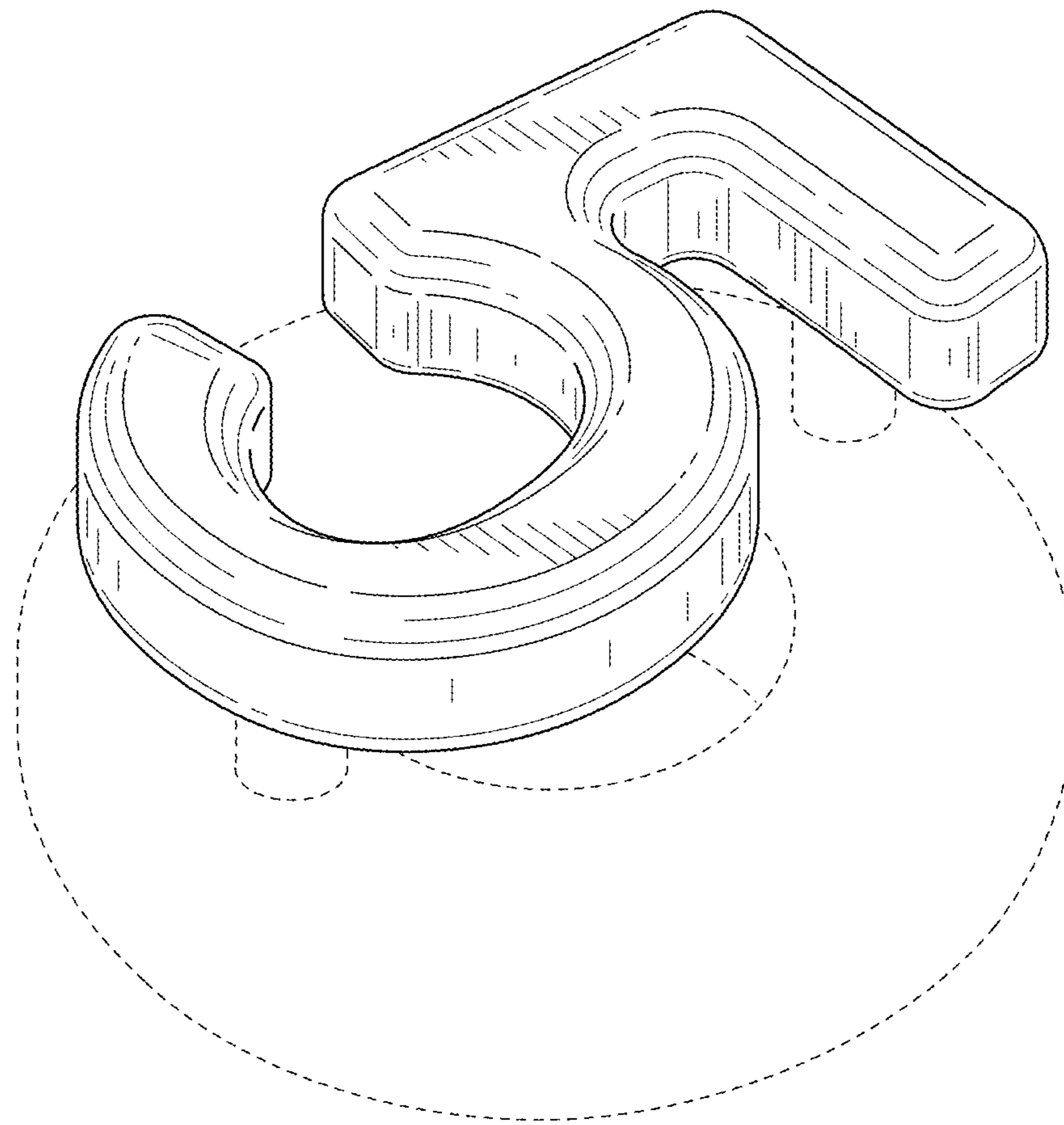


FIG. 33

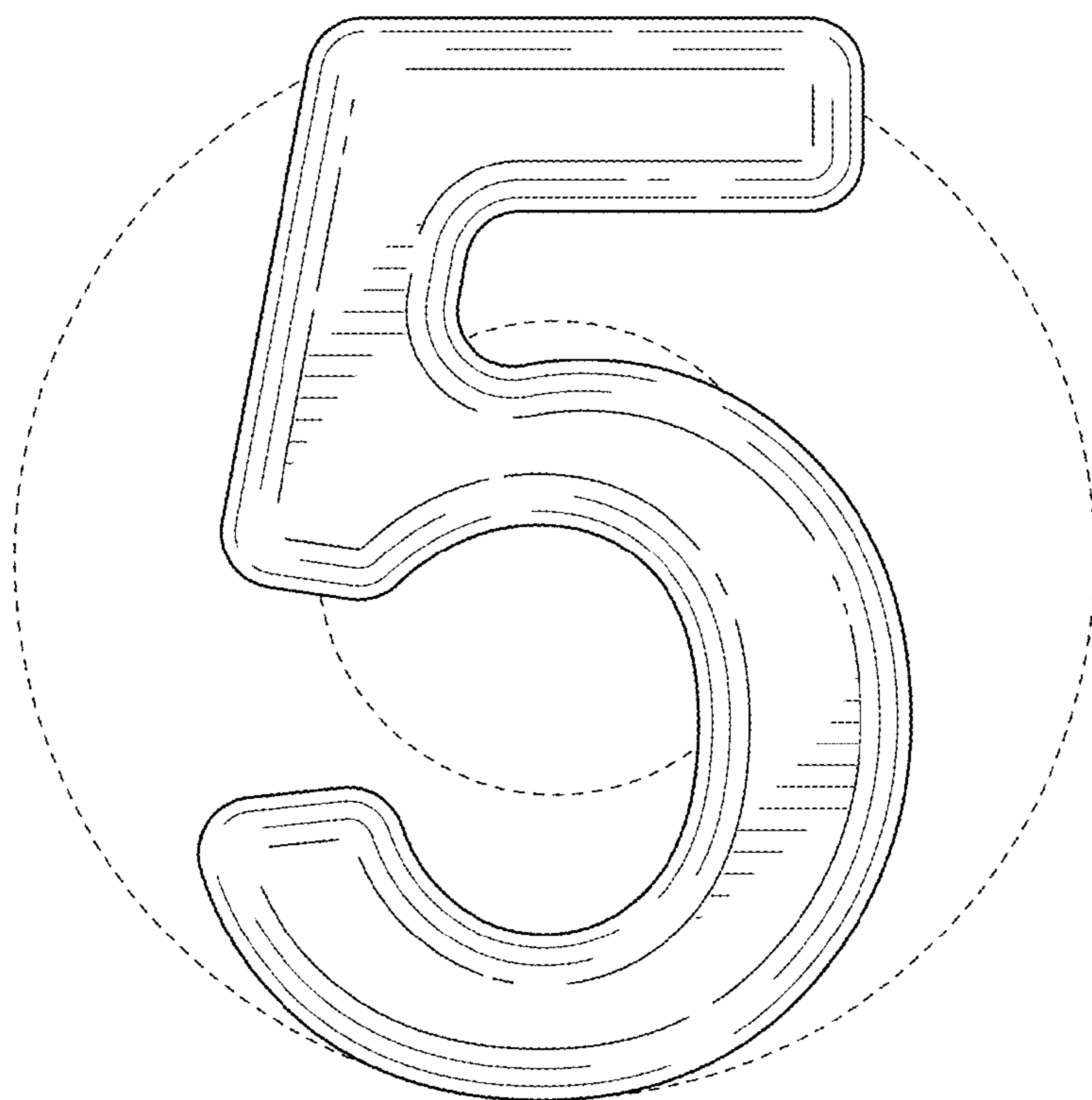


FIG. 34

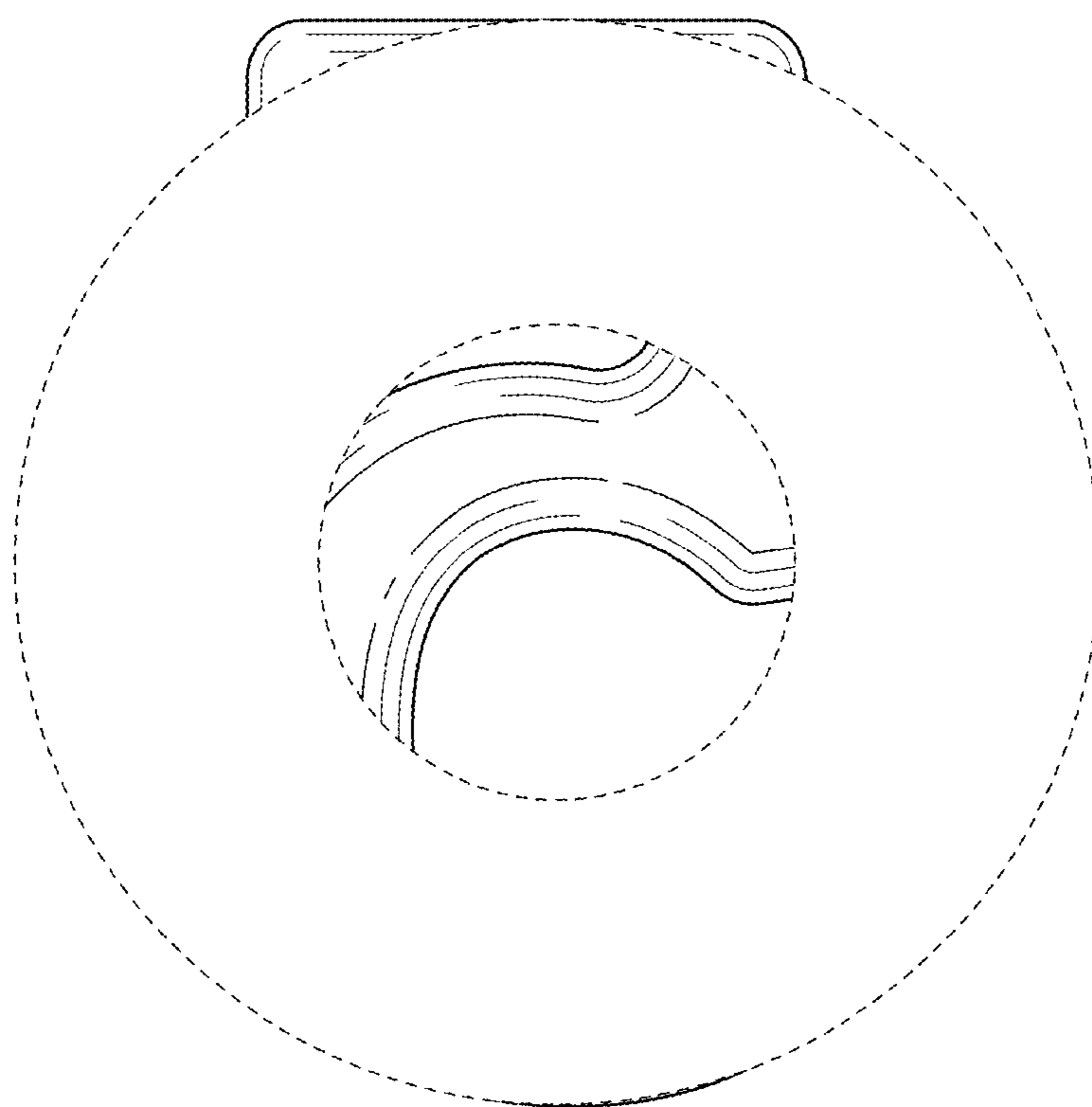


FIG. 35

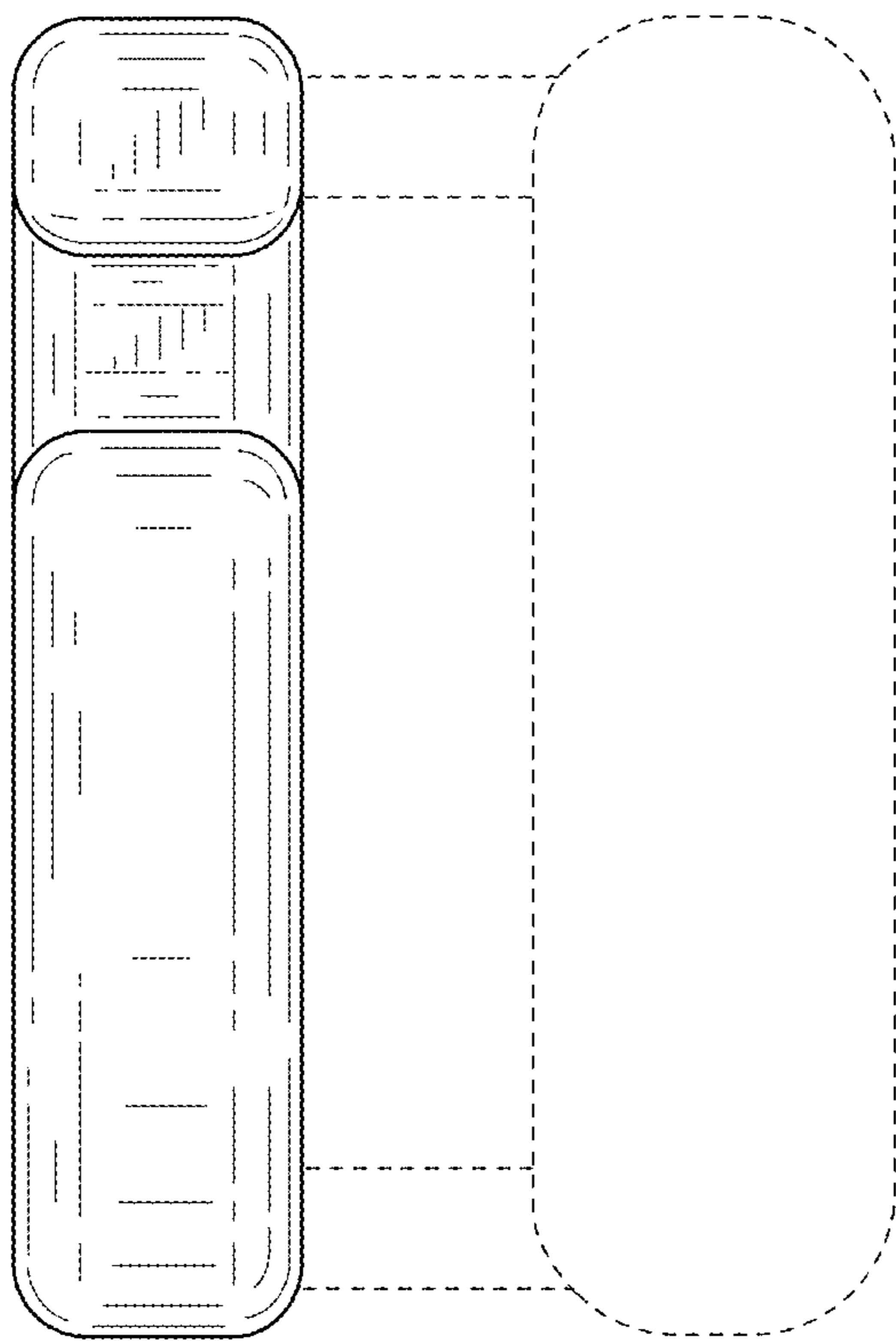


FIG. 36

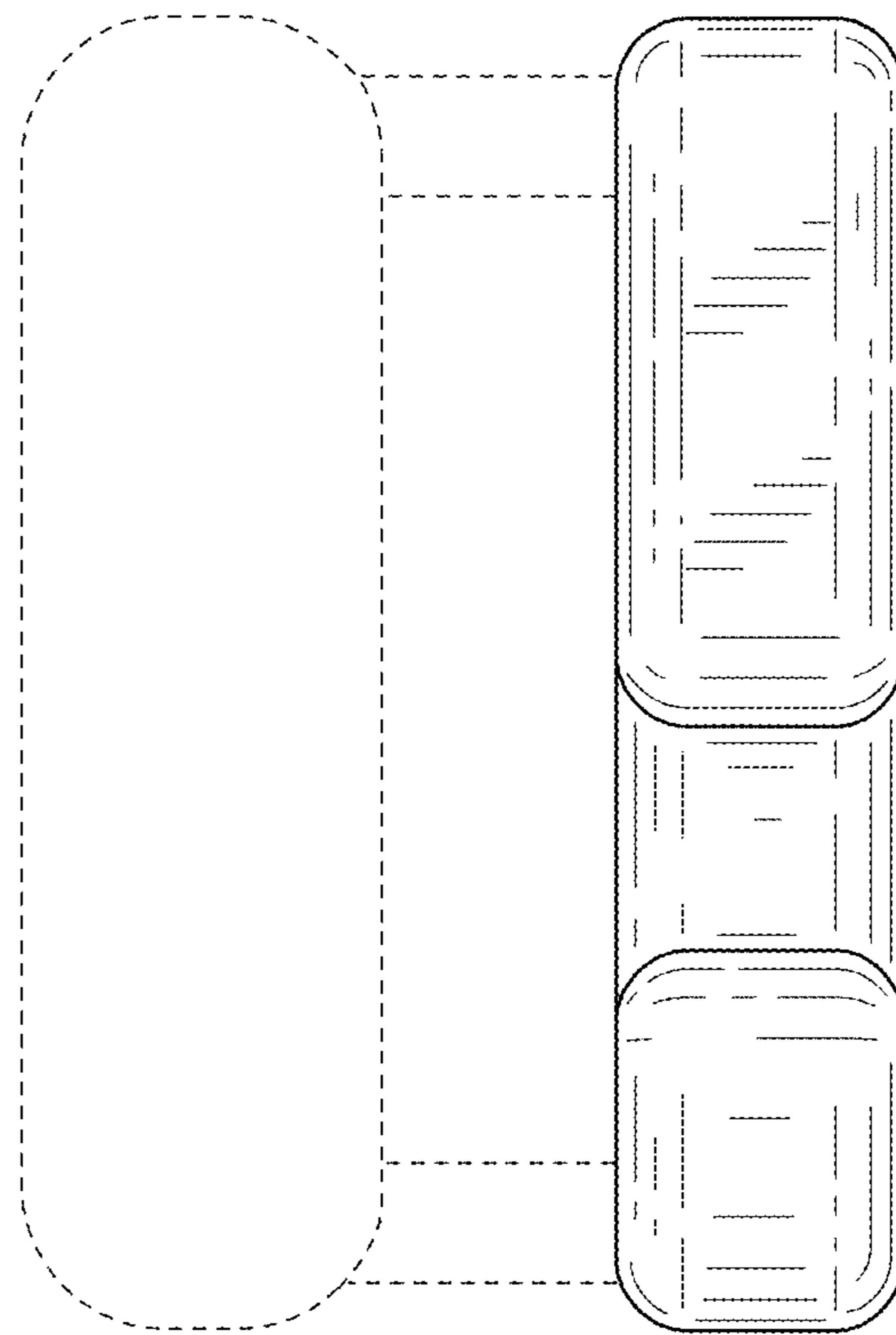


FIG. 37

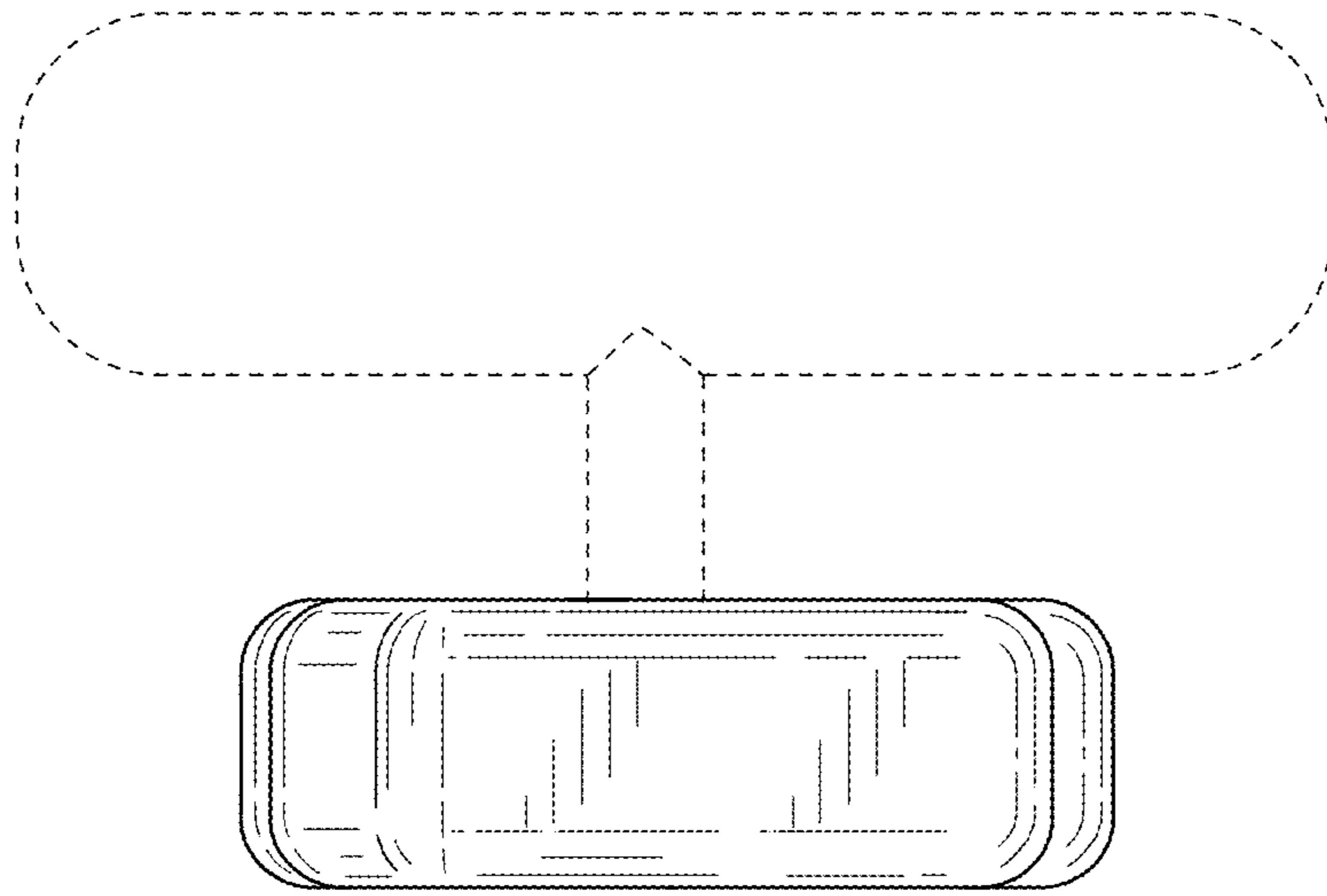


FIG. 38

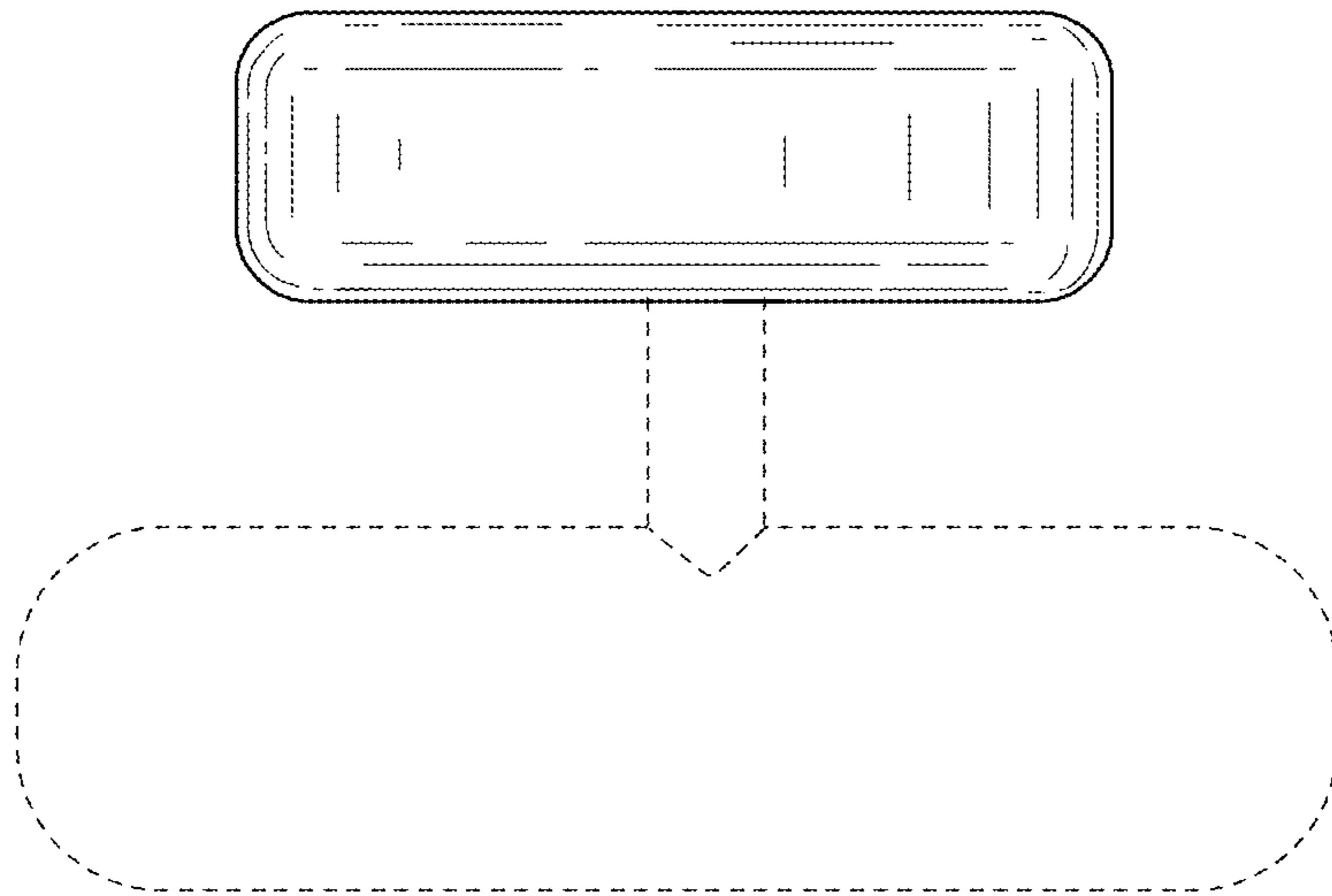


FIG. 39

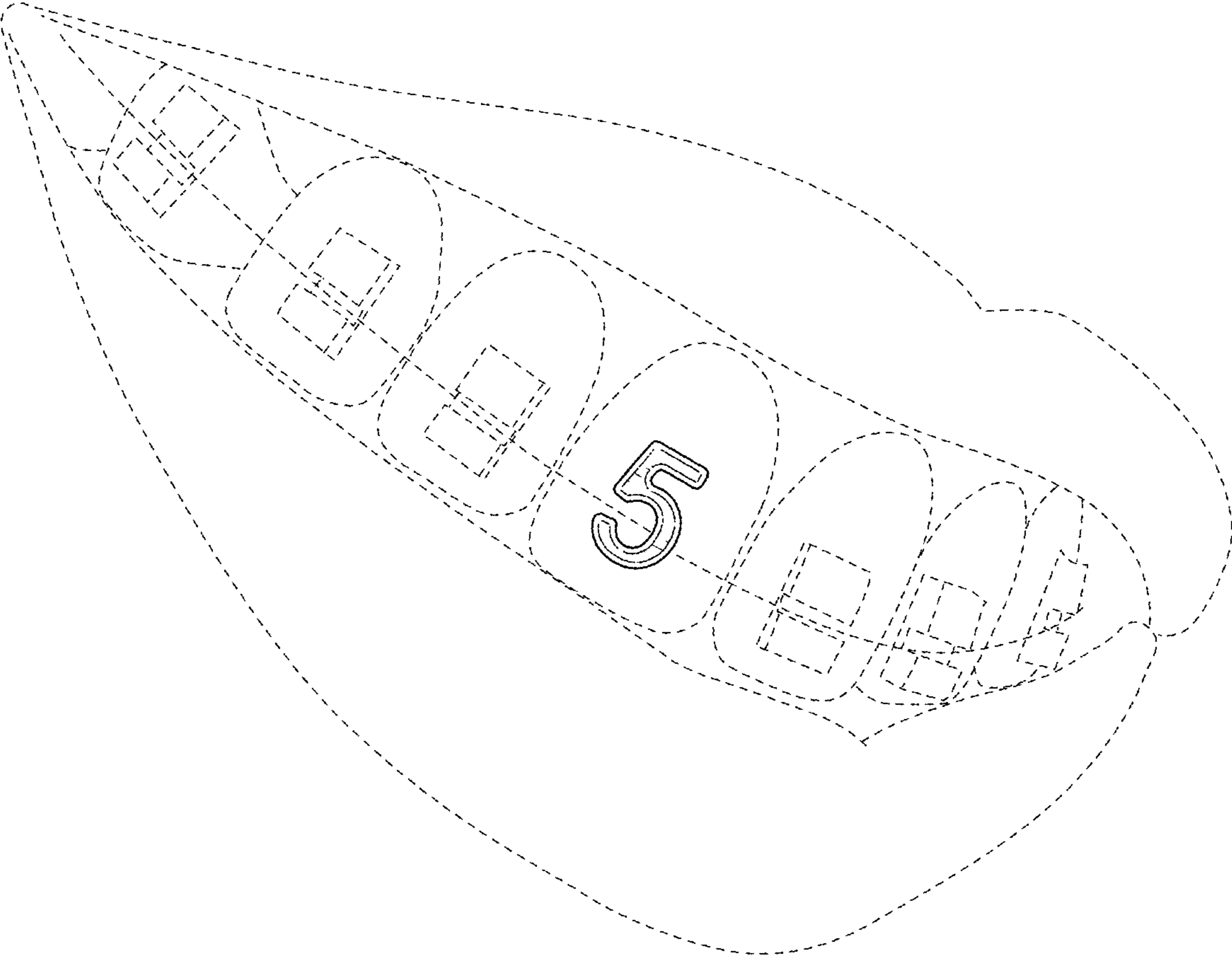


FIG. 40

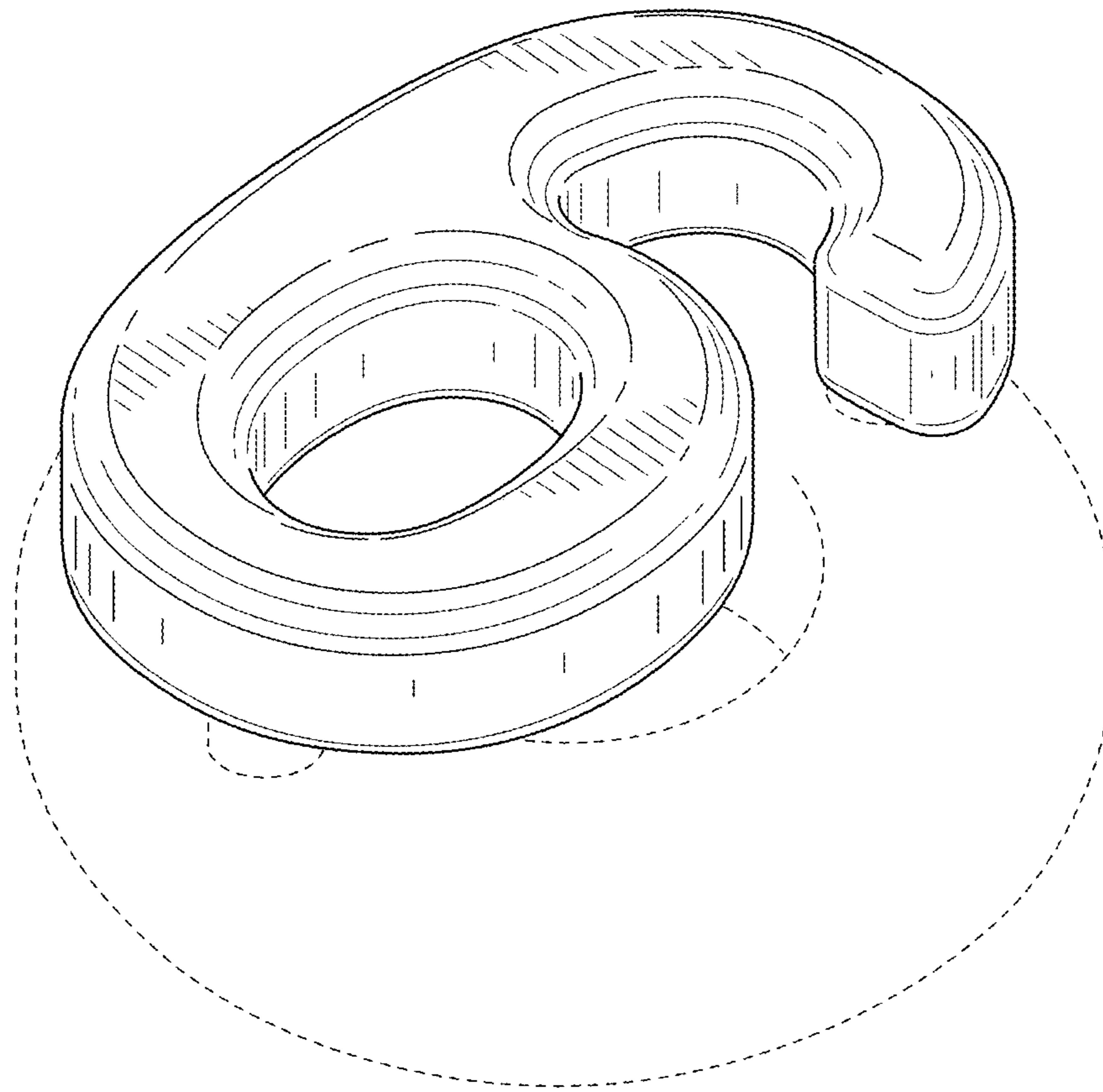


FIG. 41

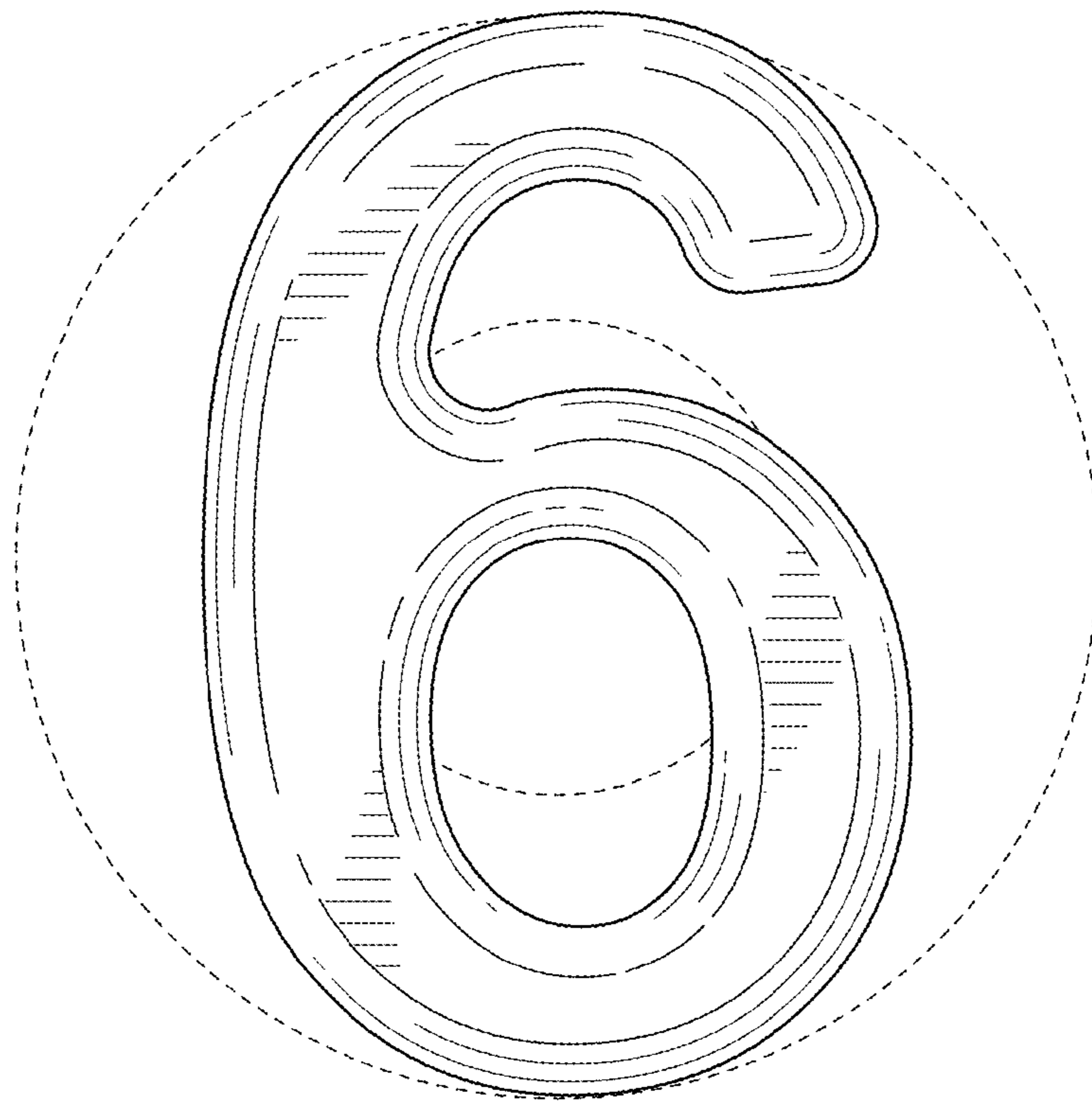


FIG. 42

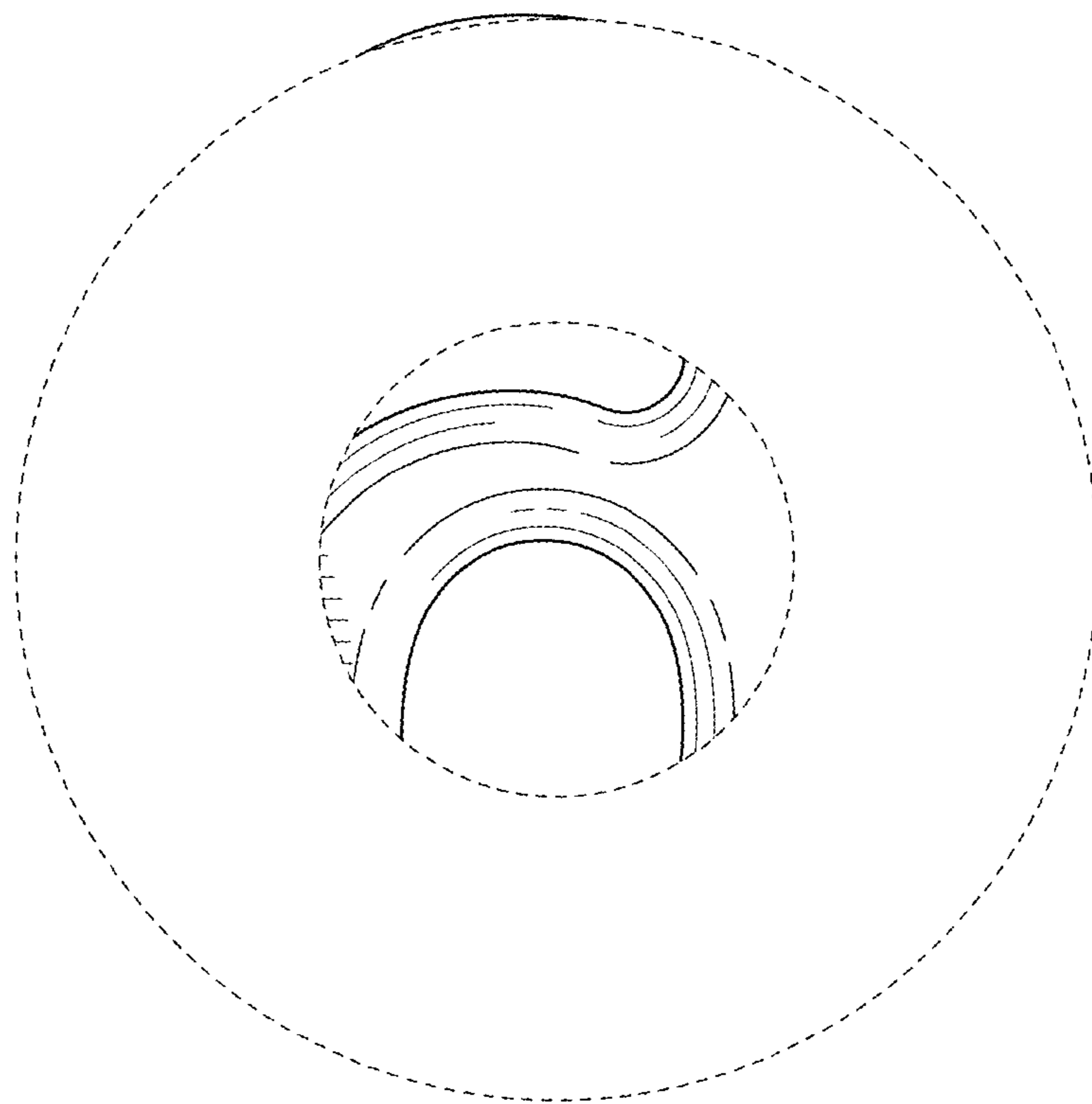


FIG. 43

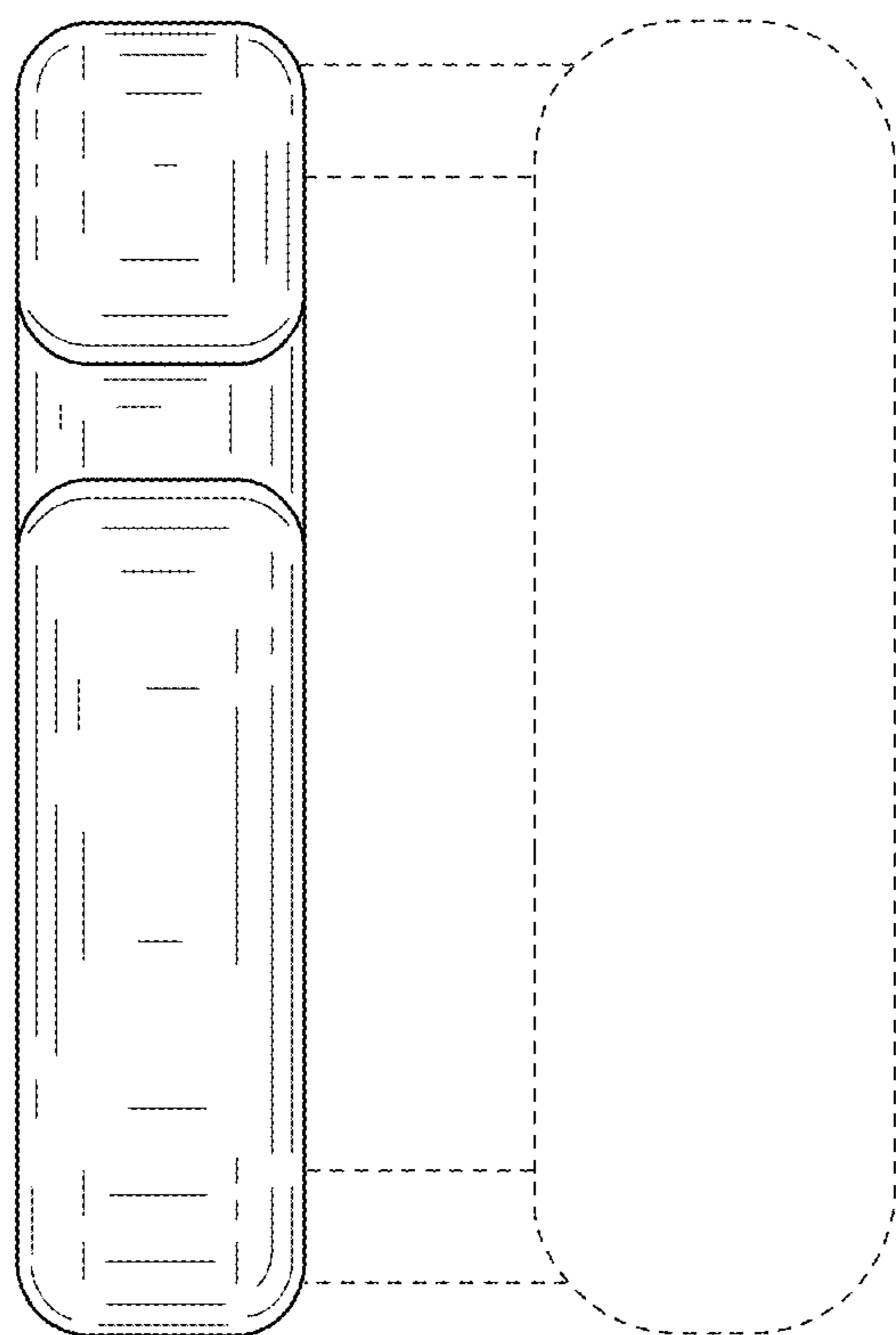


FIG. 44

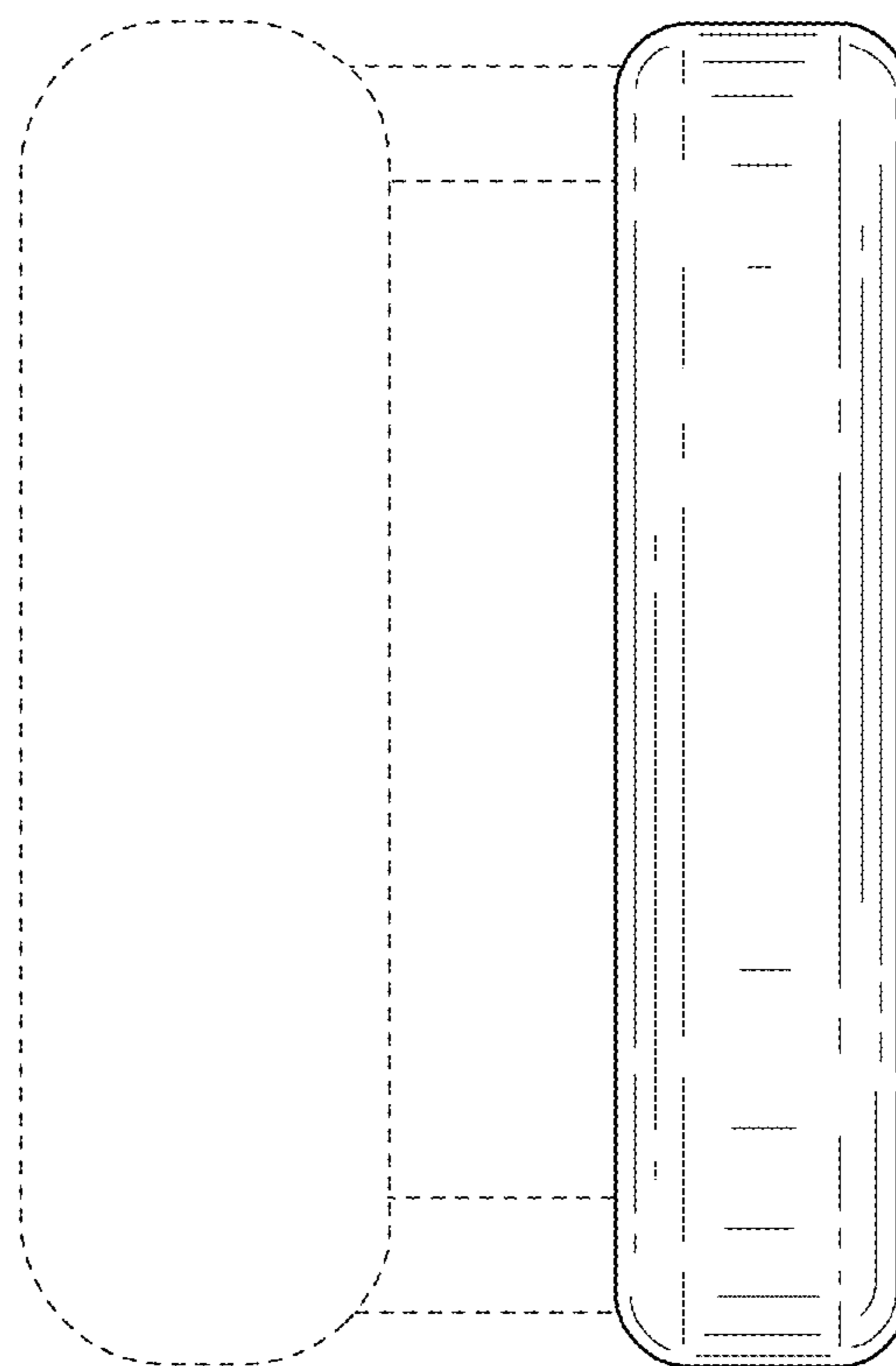


FIG. 45

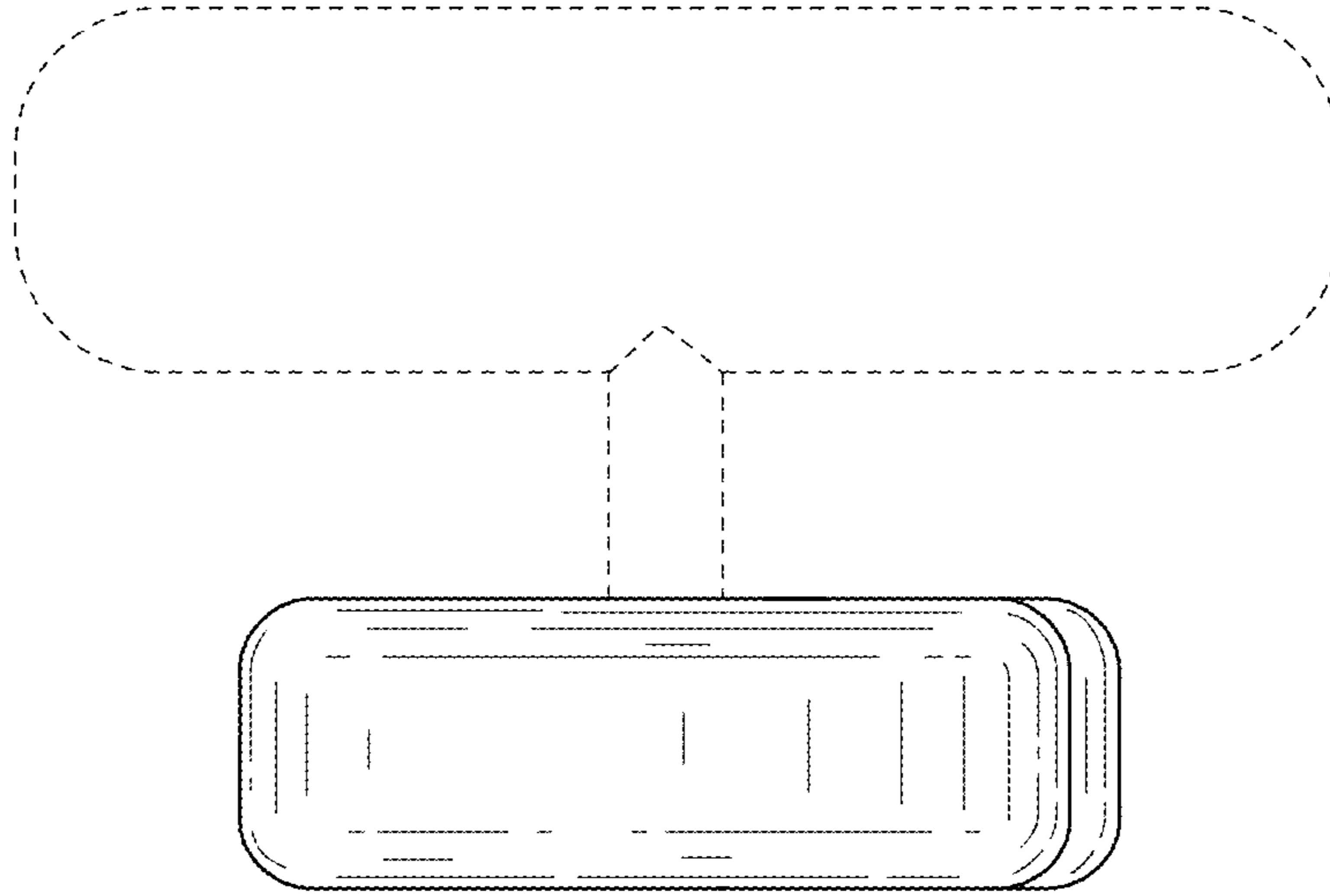


FIG. 46

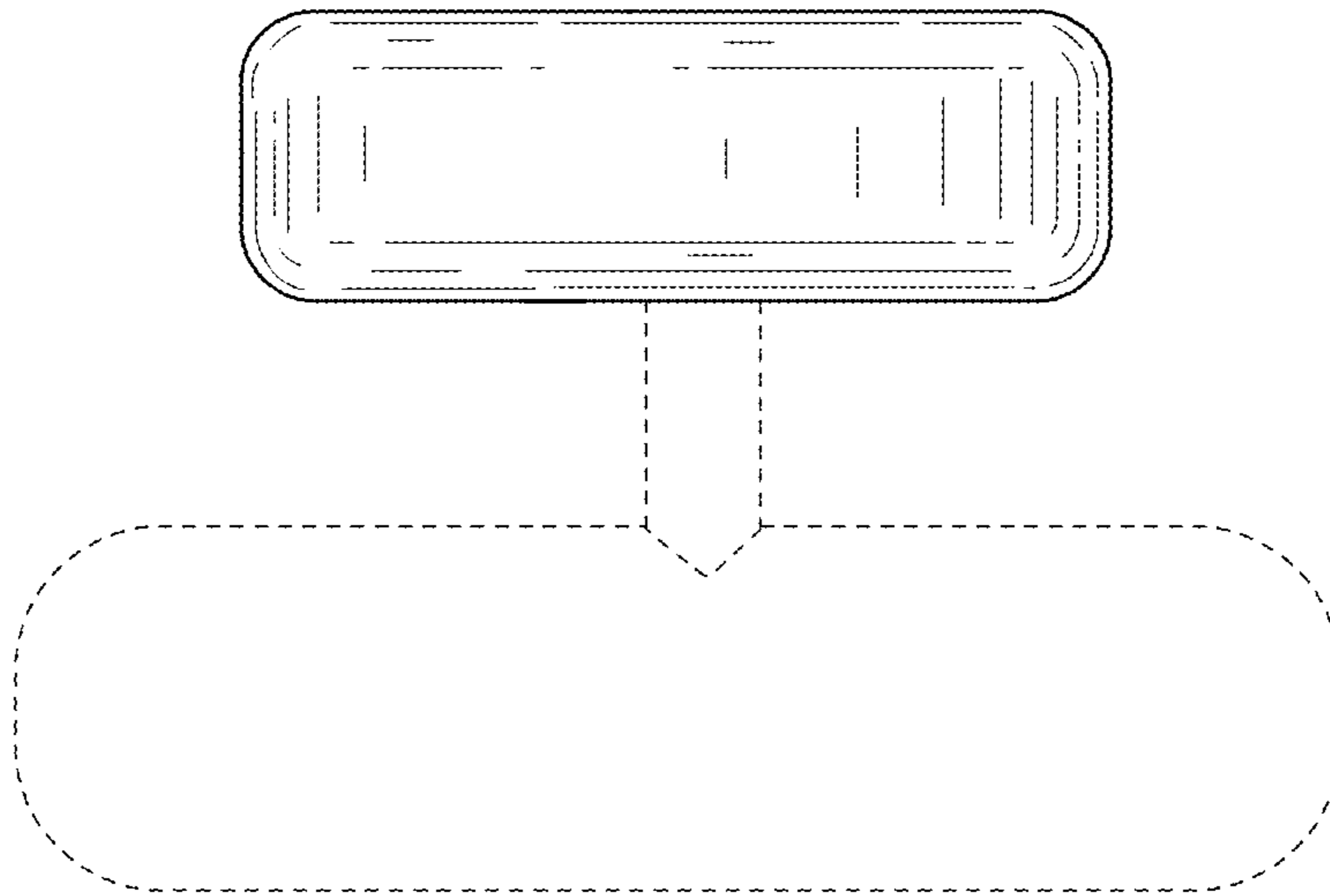


FIG. 47

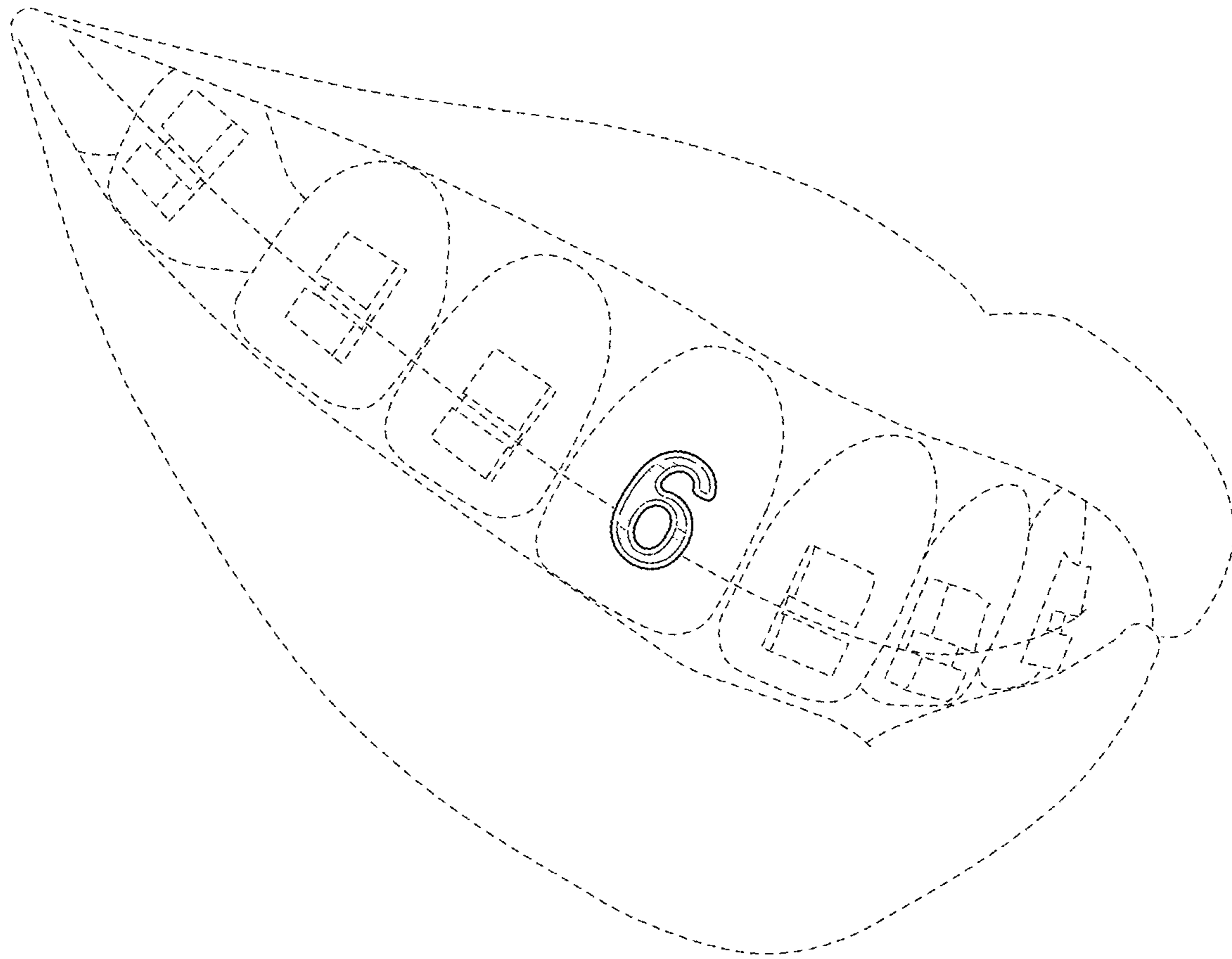


FIG. 48

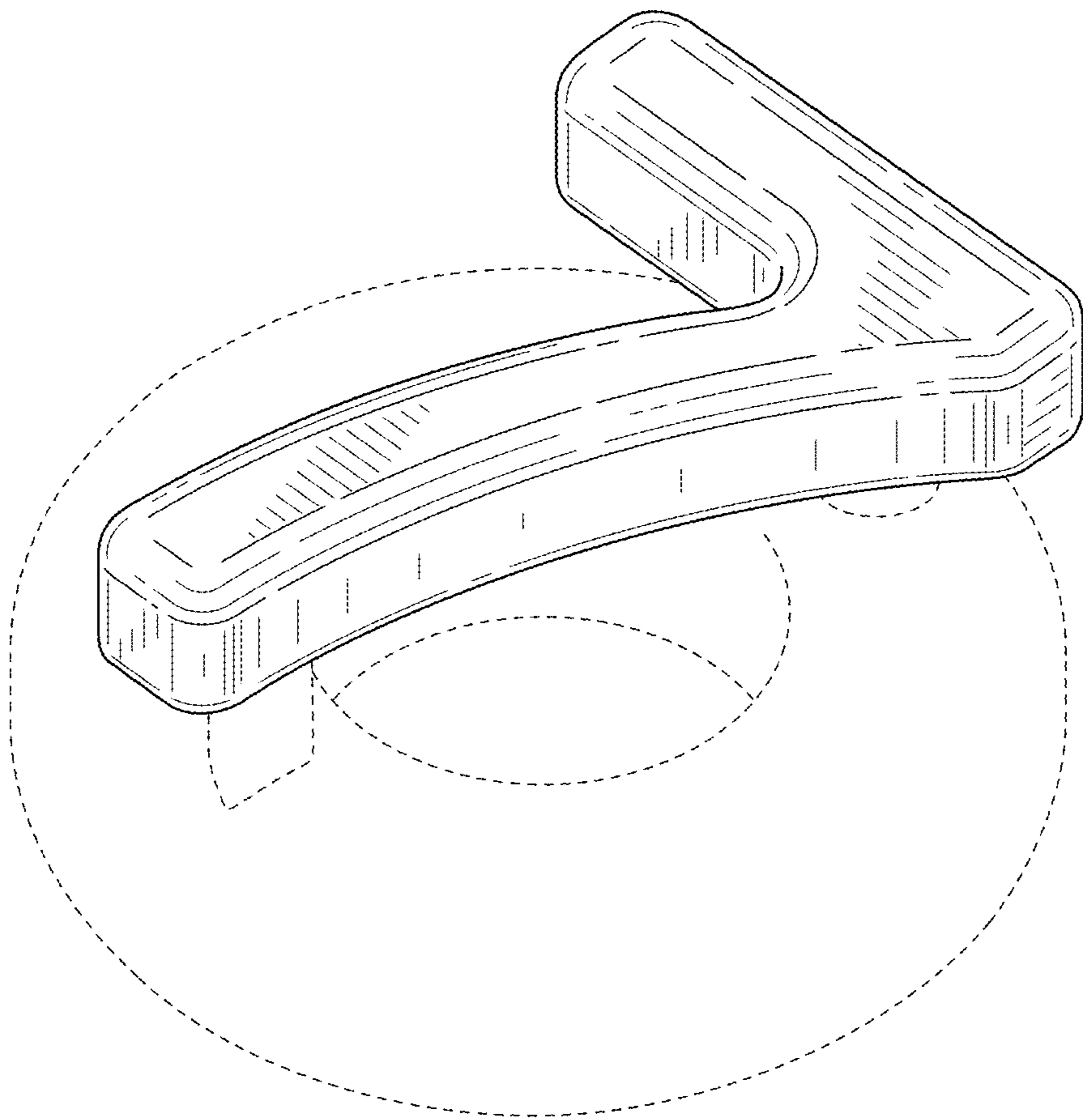


FIG. 49

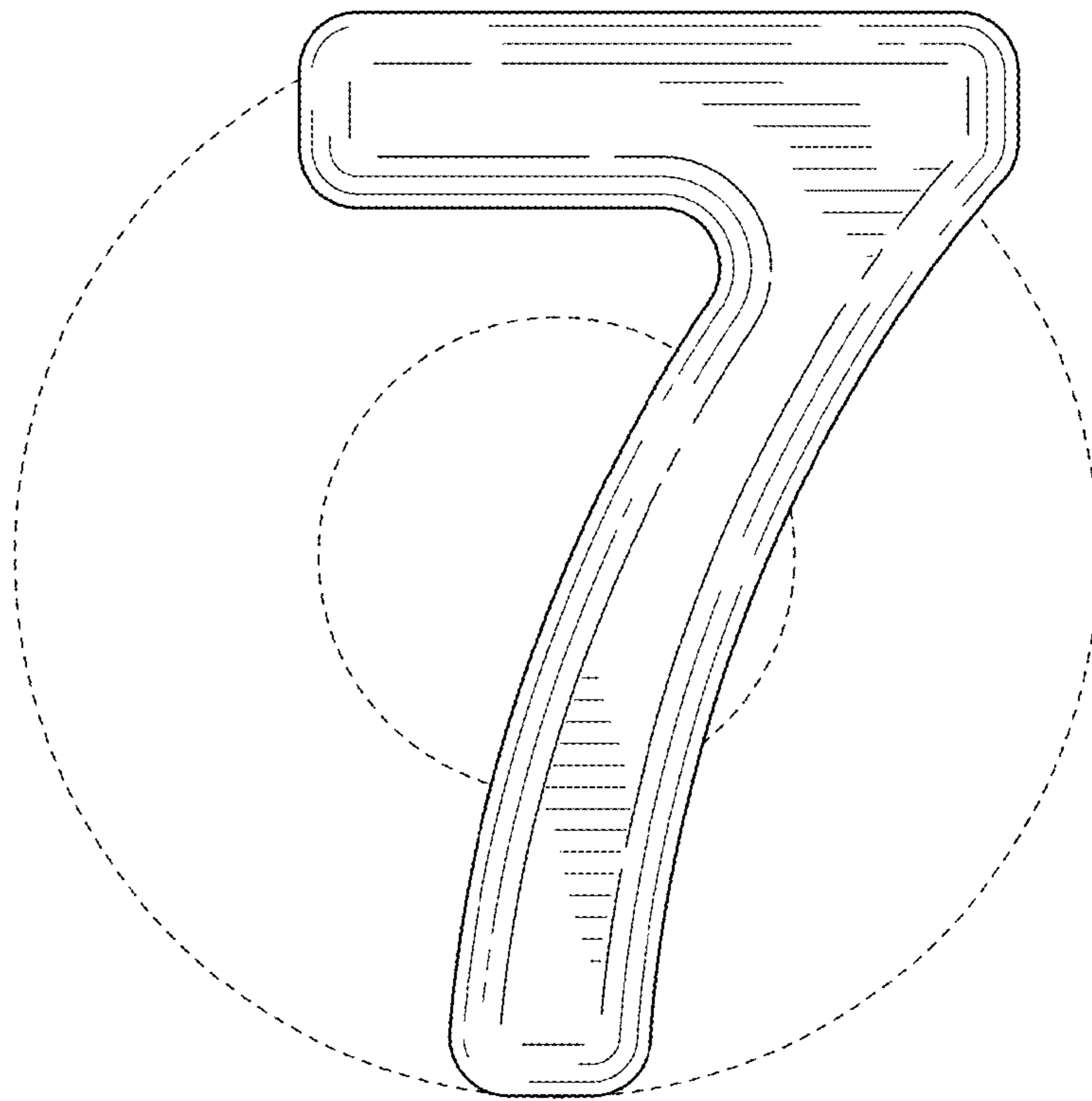


FIG. 50

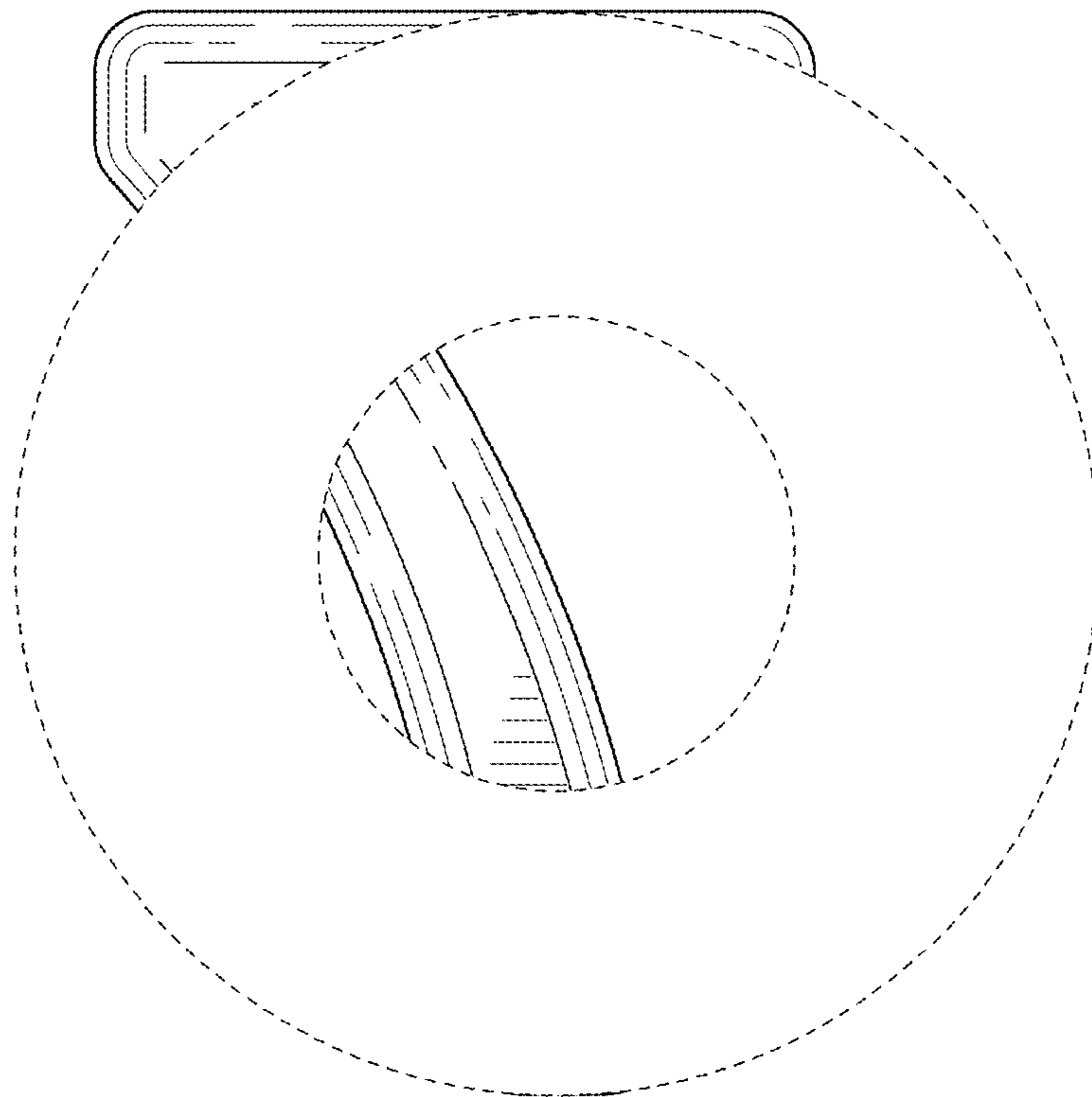


FIG. 51

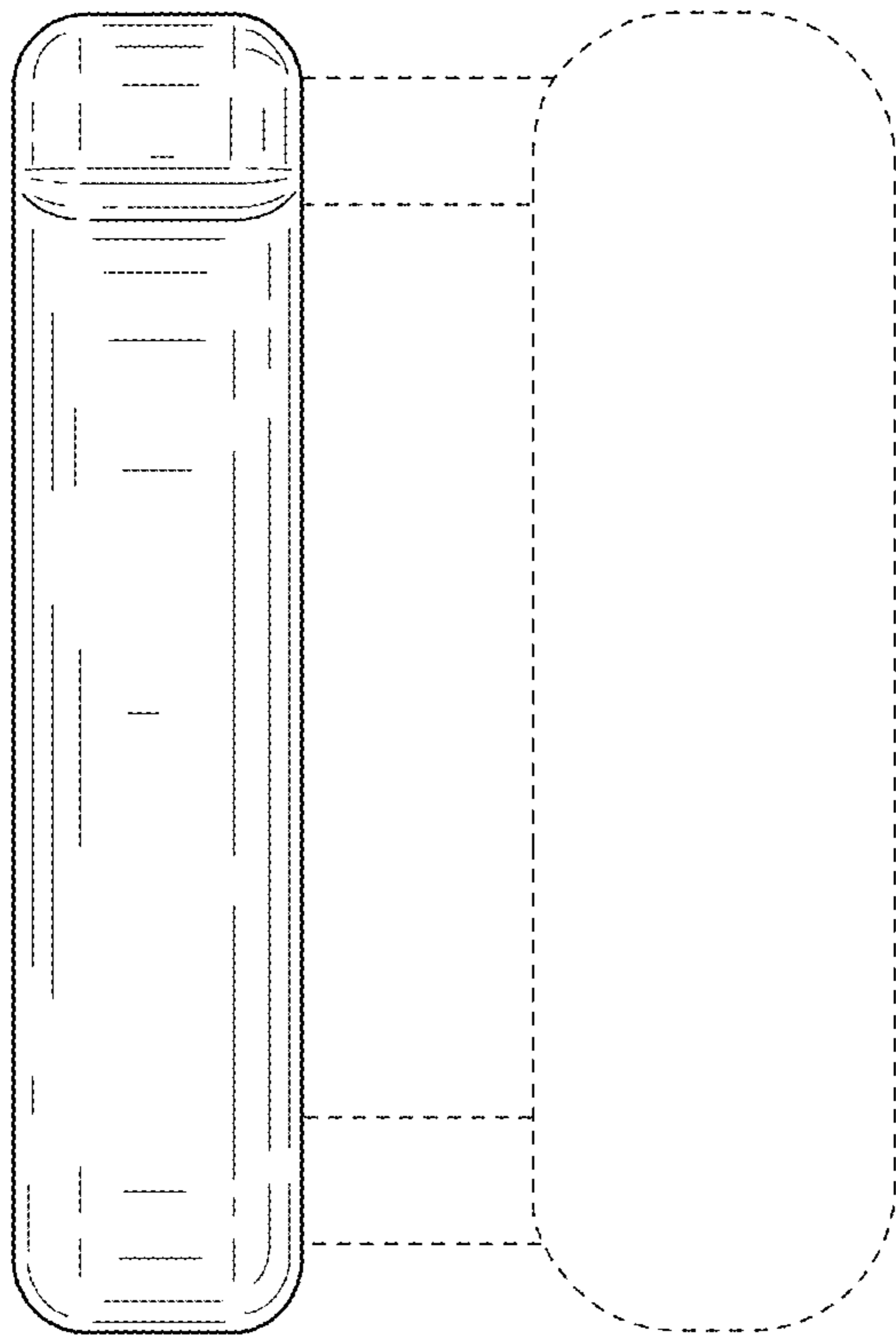


FIG. 52

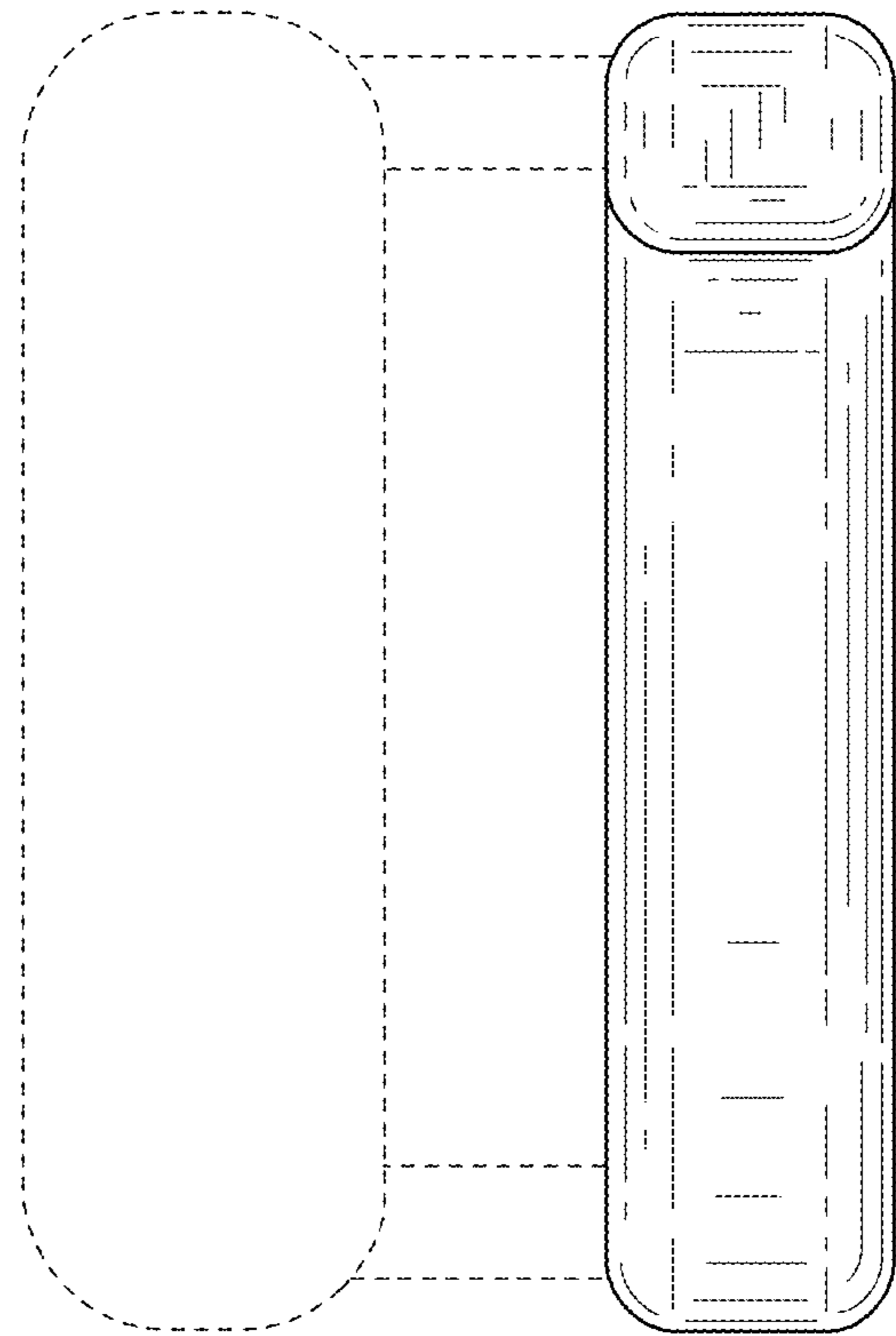


FIG. 53

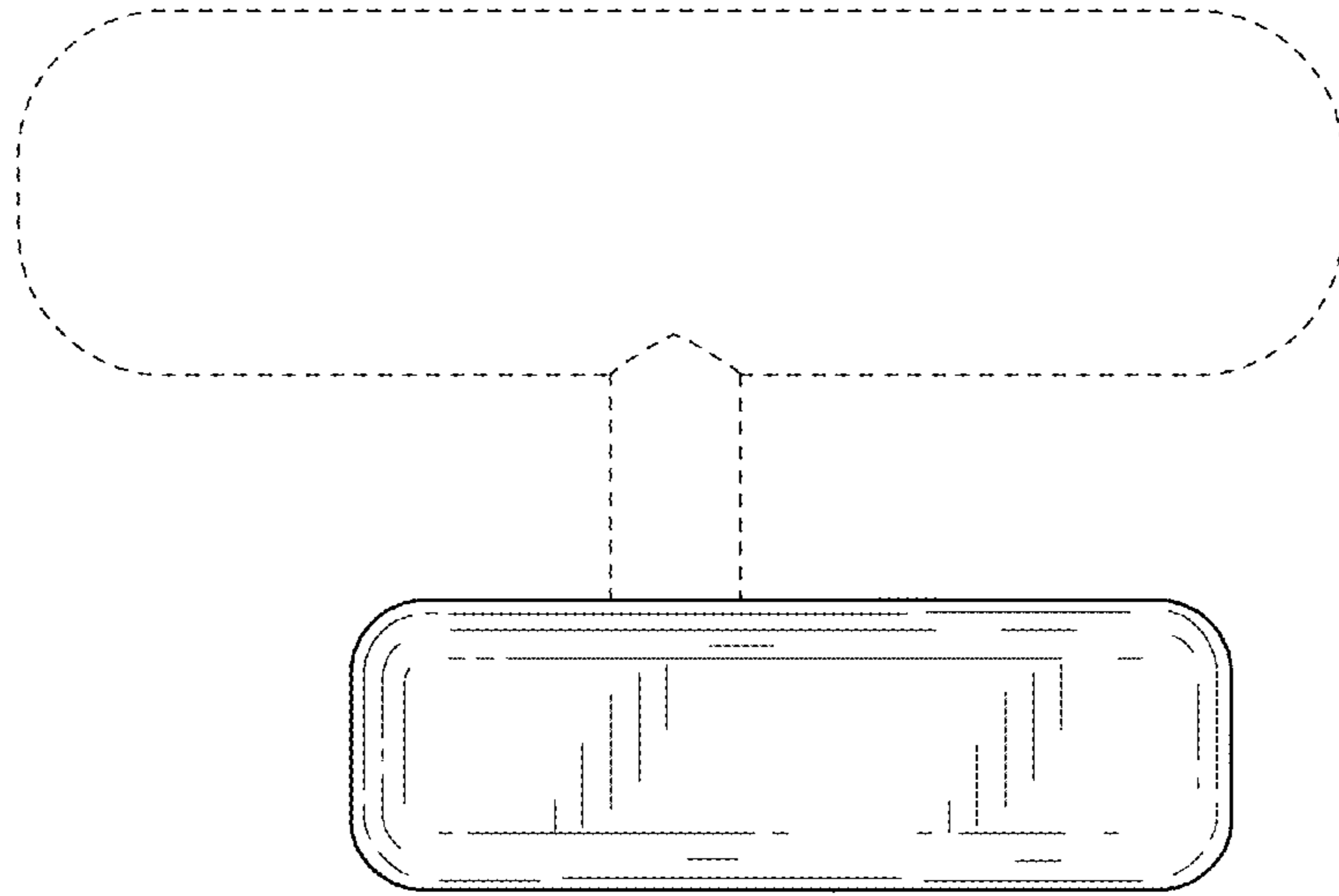


FIG. 54

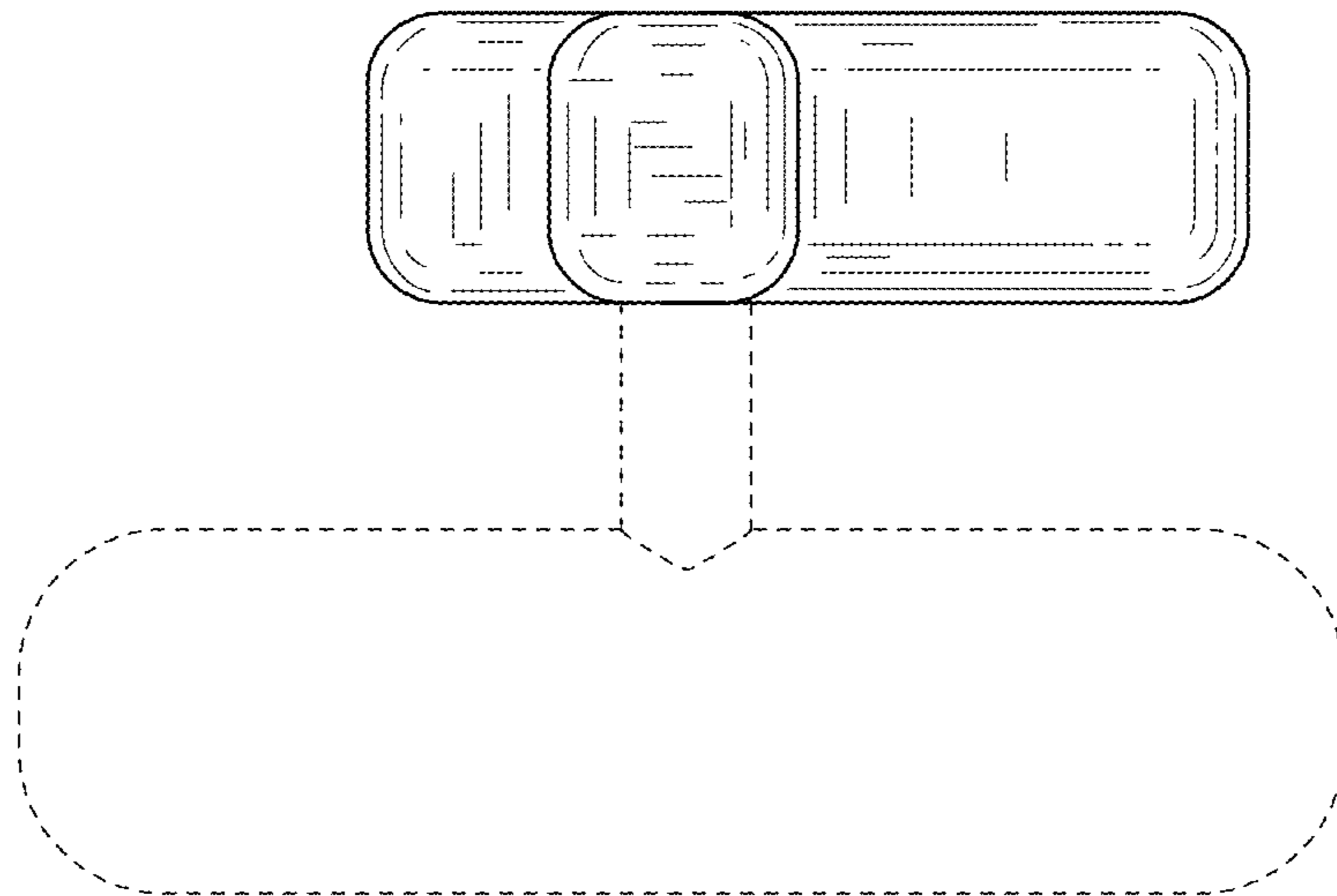


FIG. 55

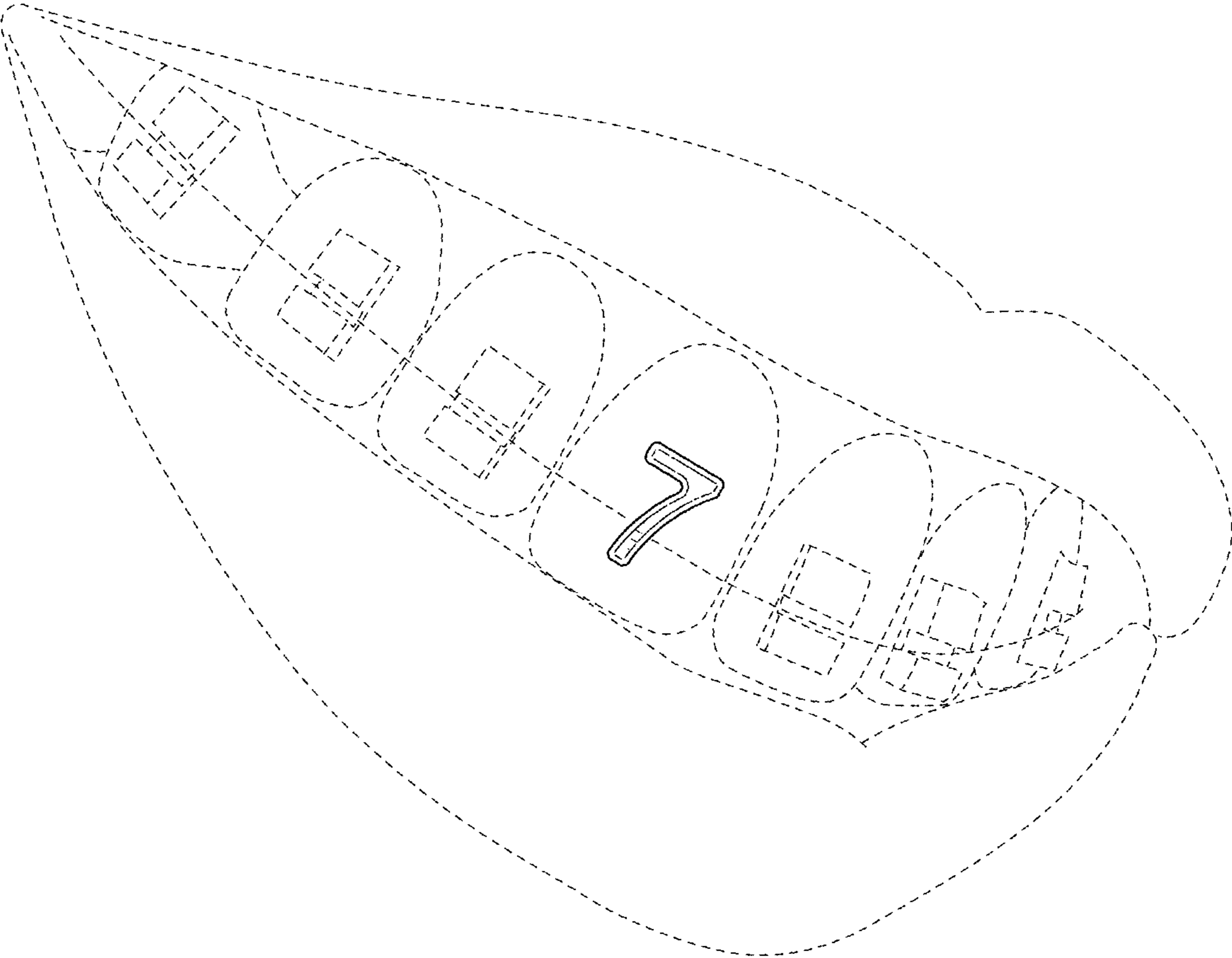


FIG. 56

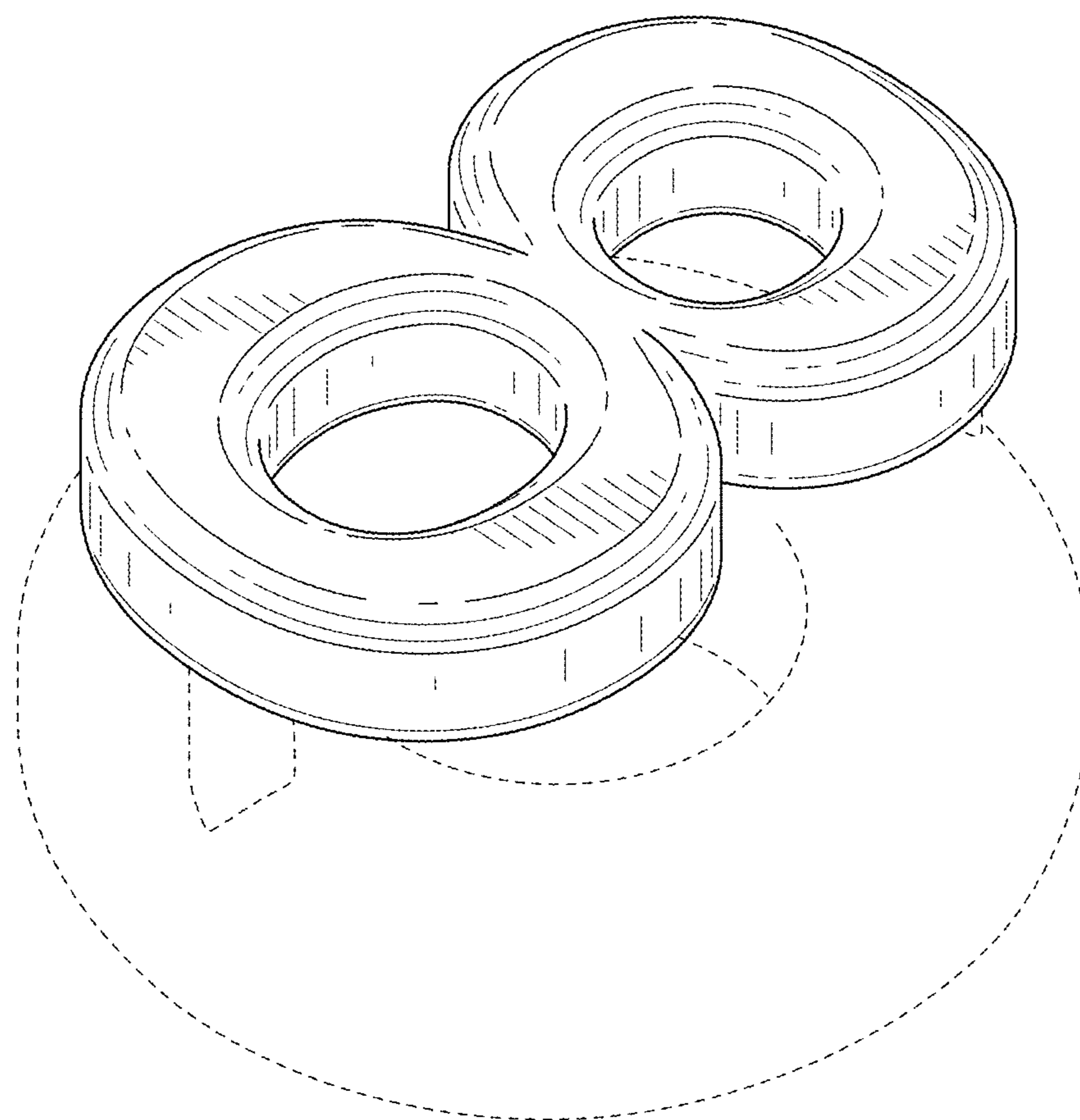


FIG. 57

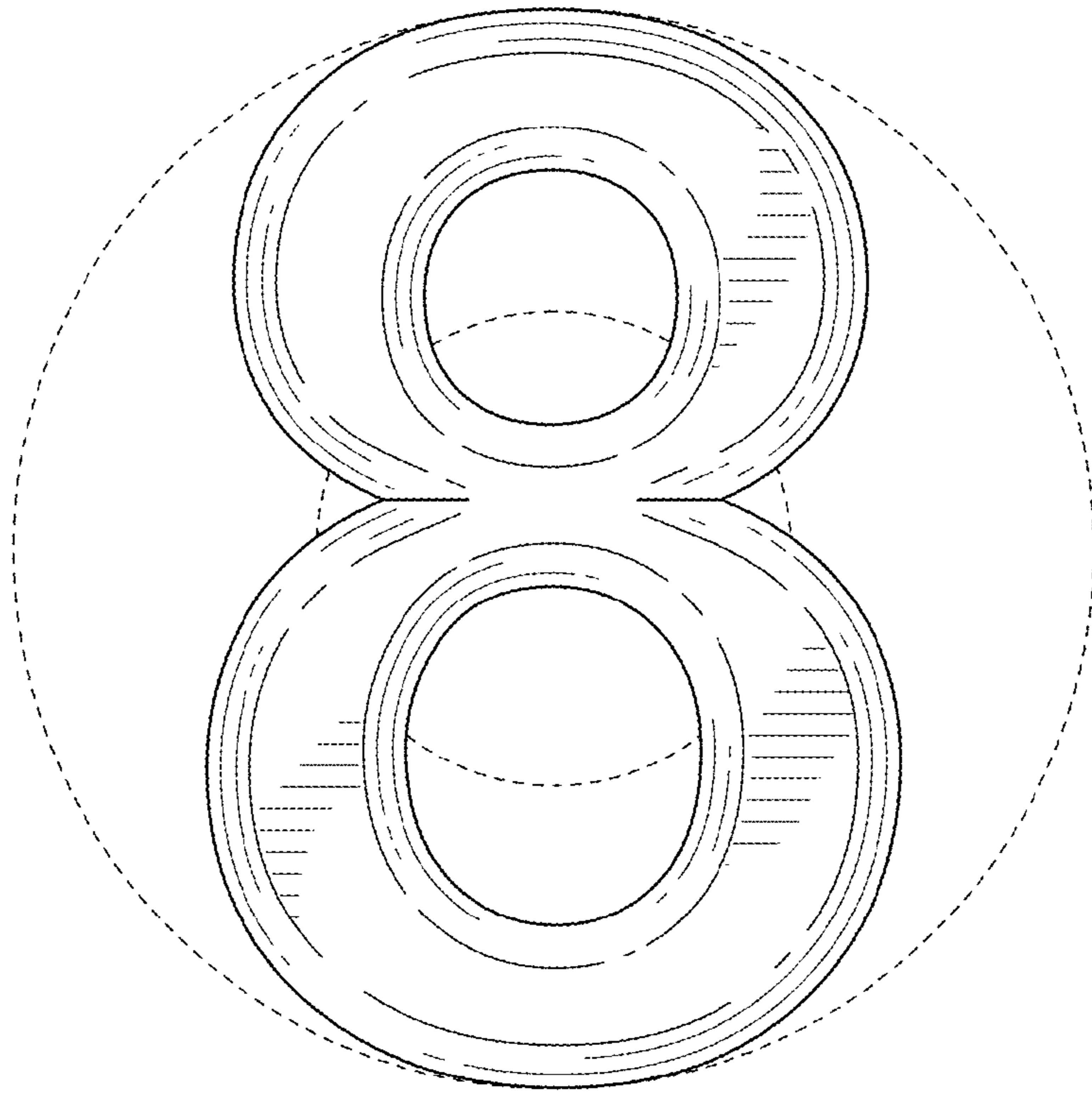


FIG. 58

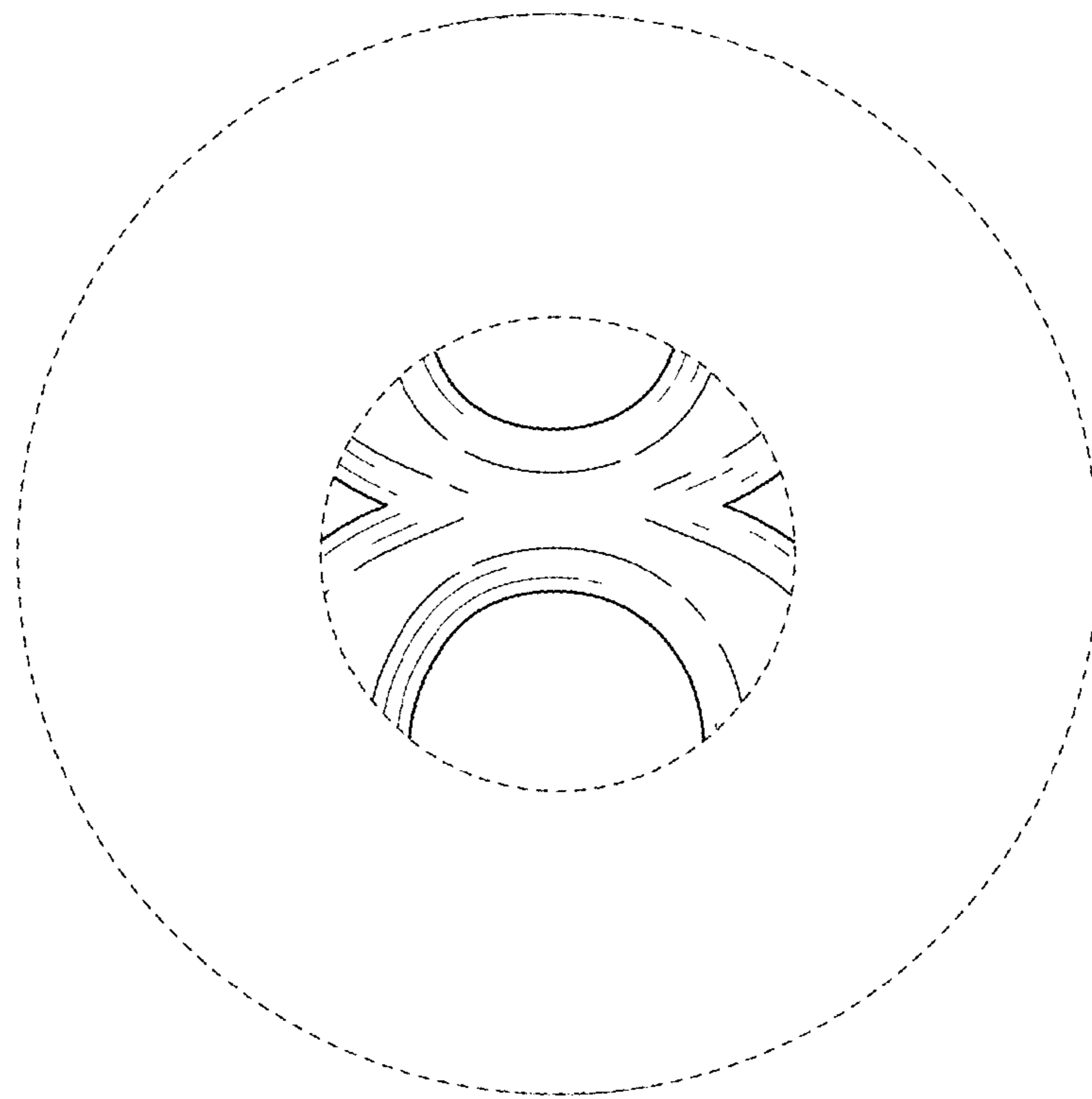


FIG. 59

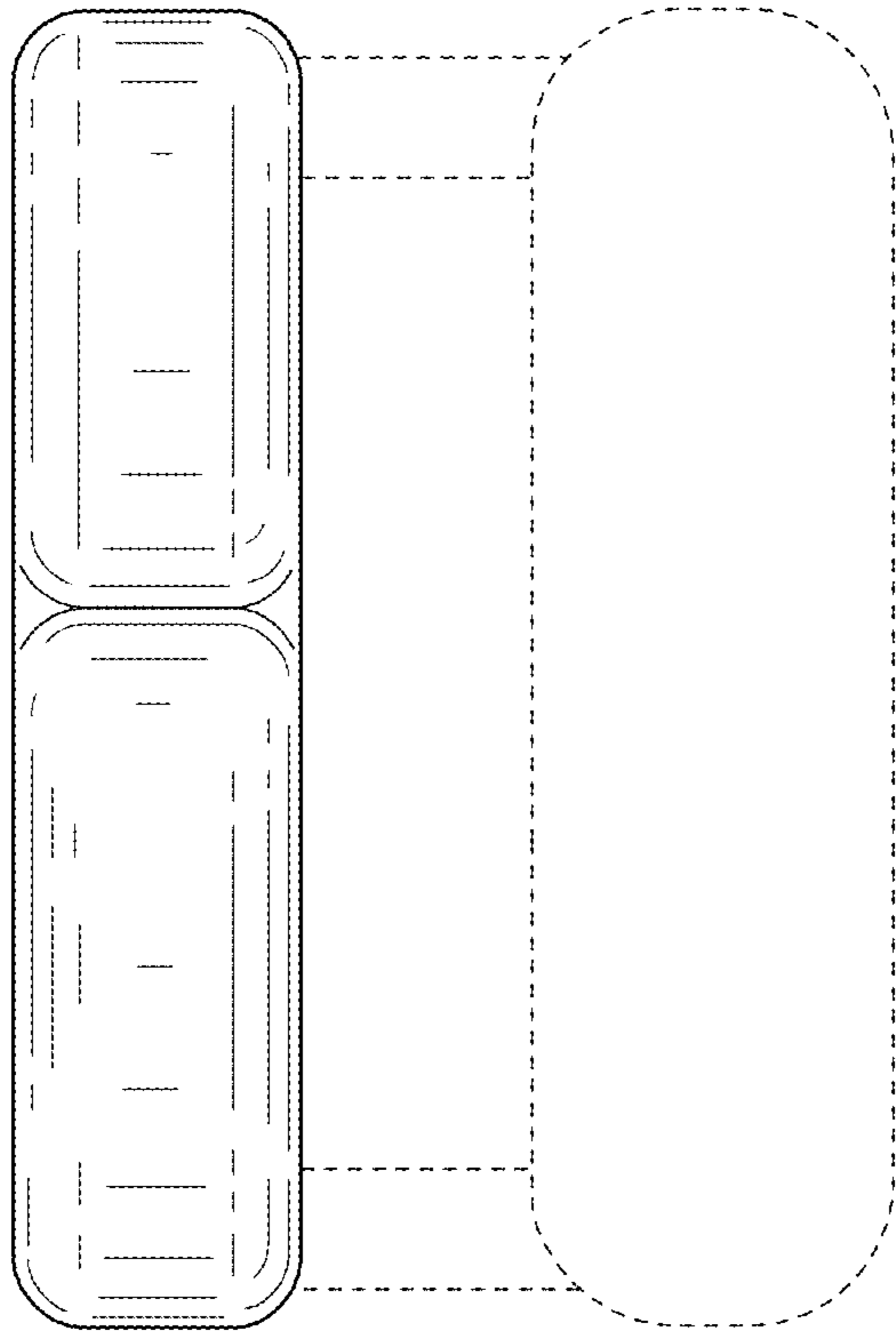


FIG. 60

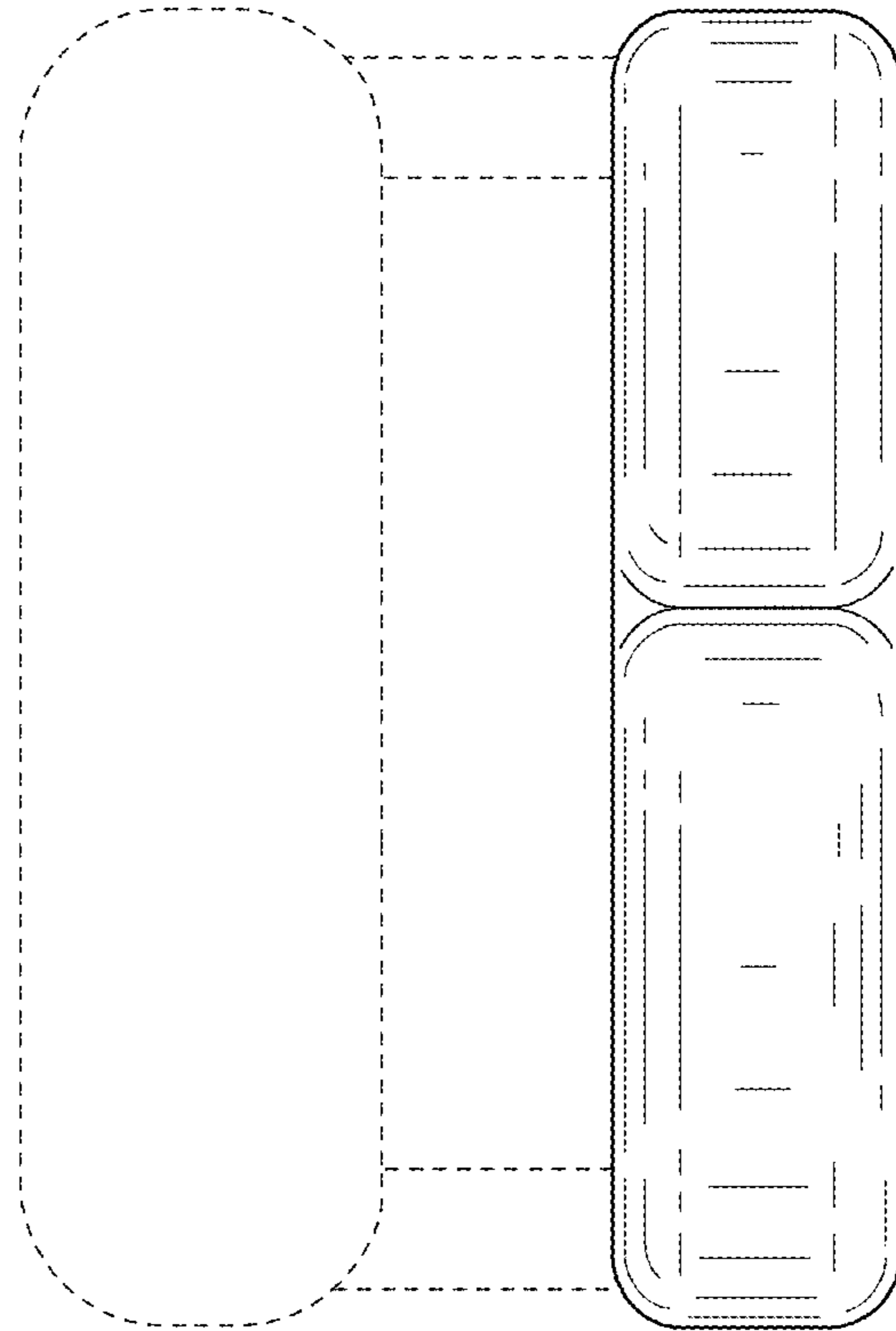


FIG. 61

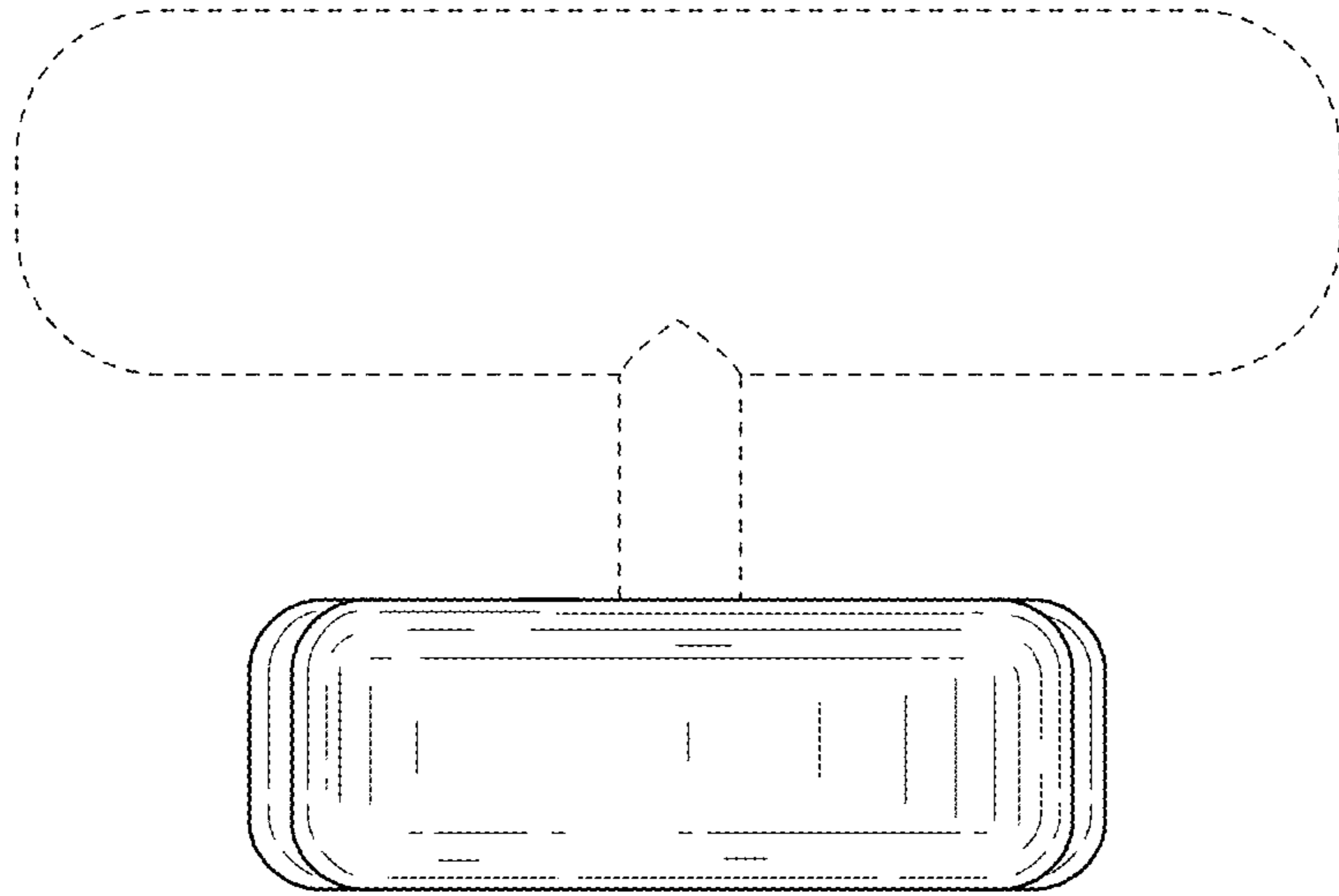


FIG. 62

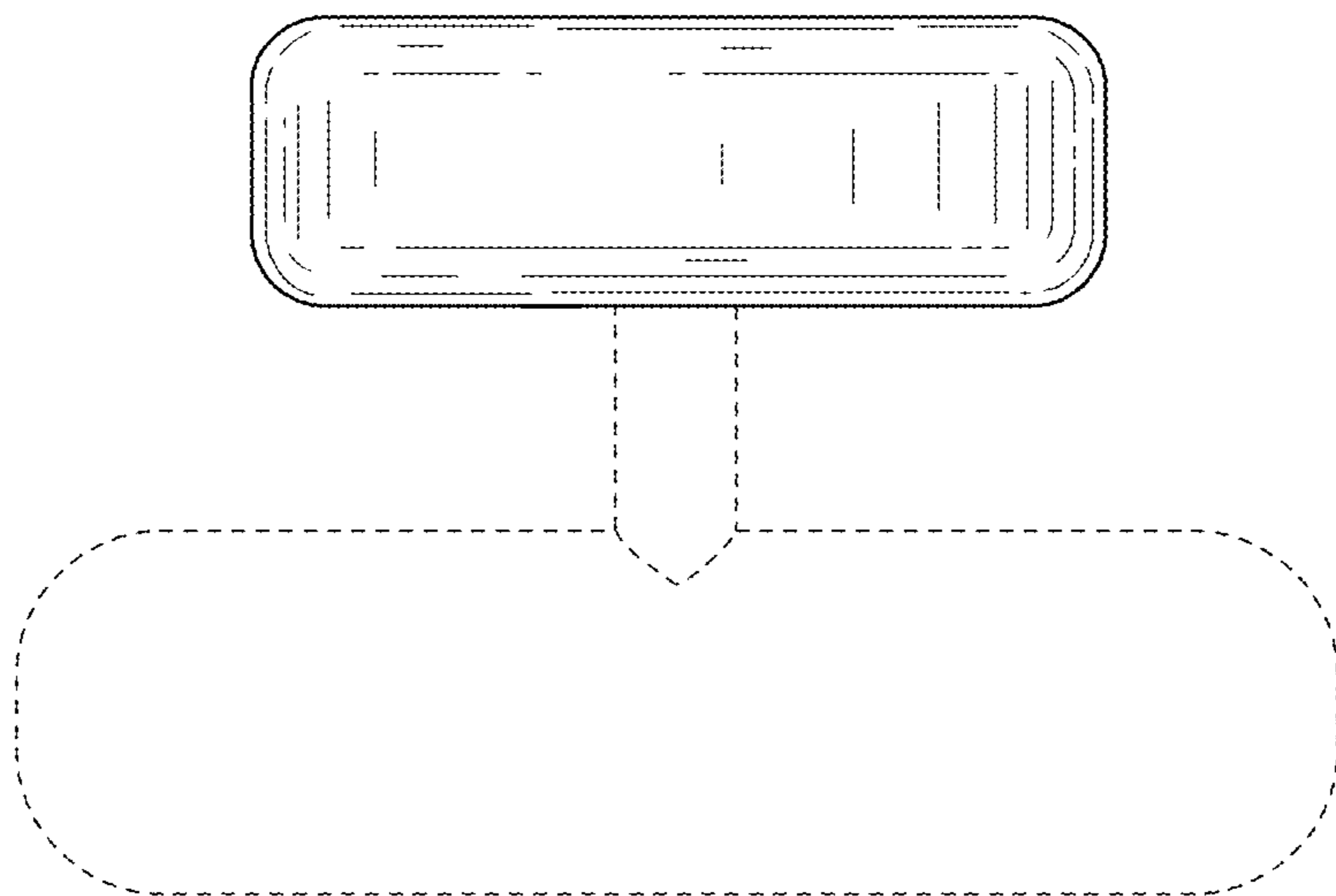


FIG. 63

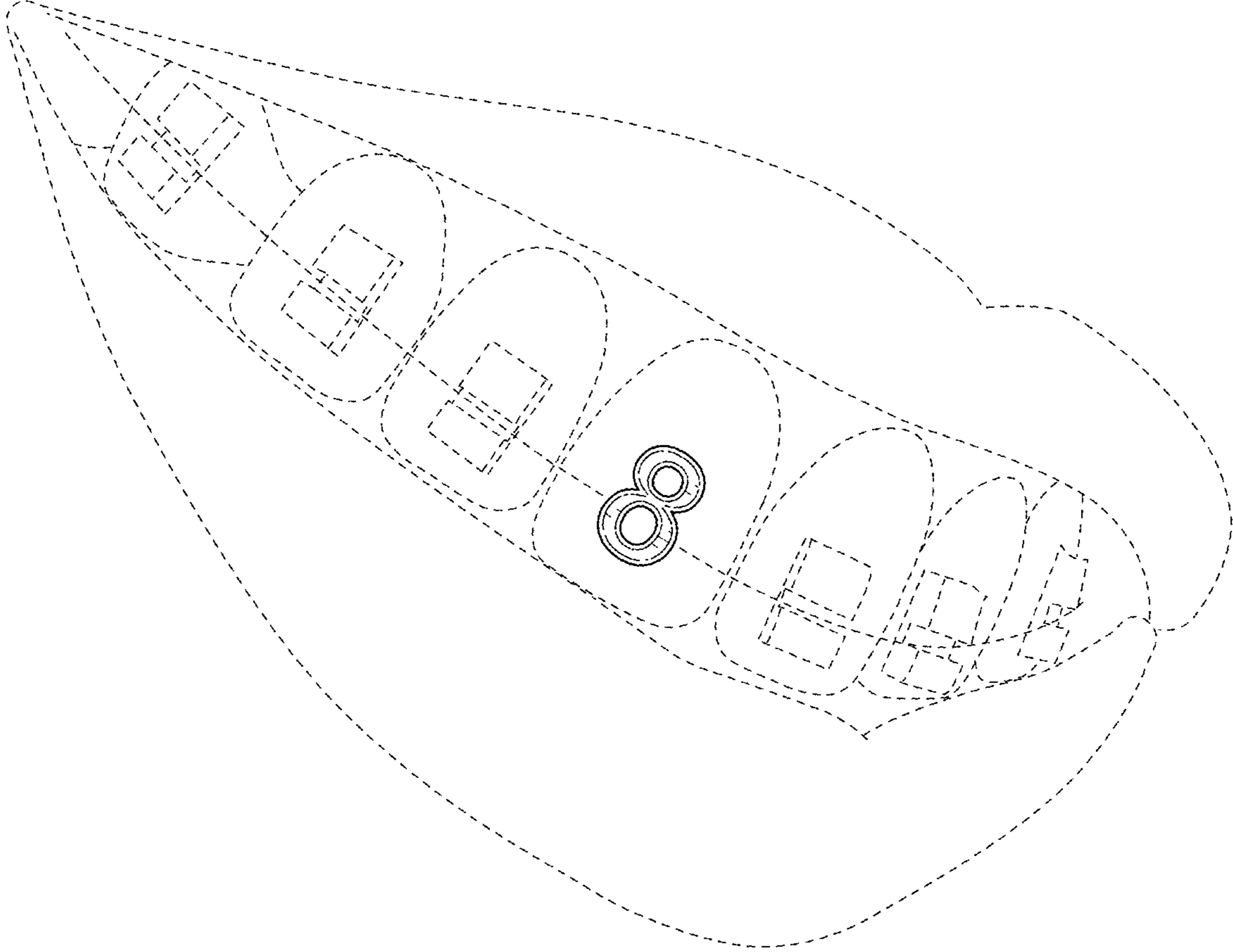


FIG. 64

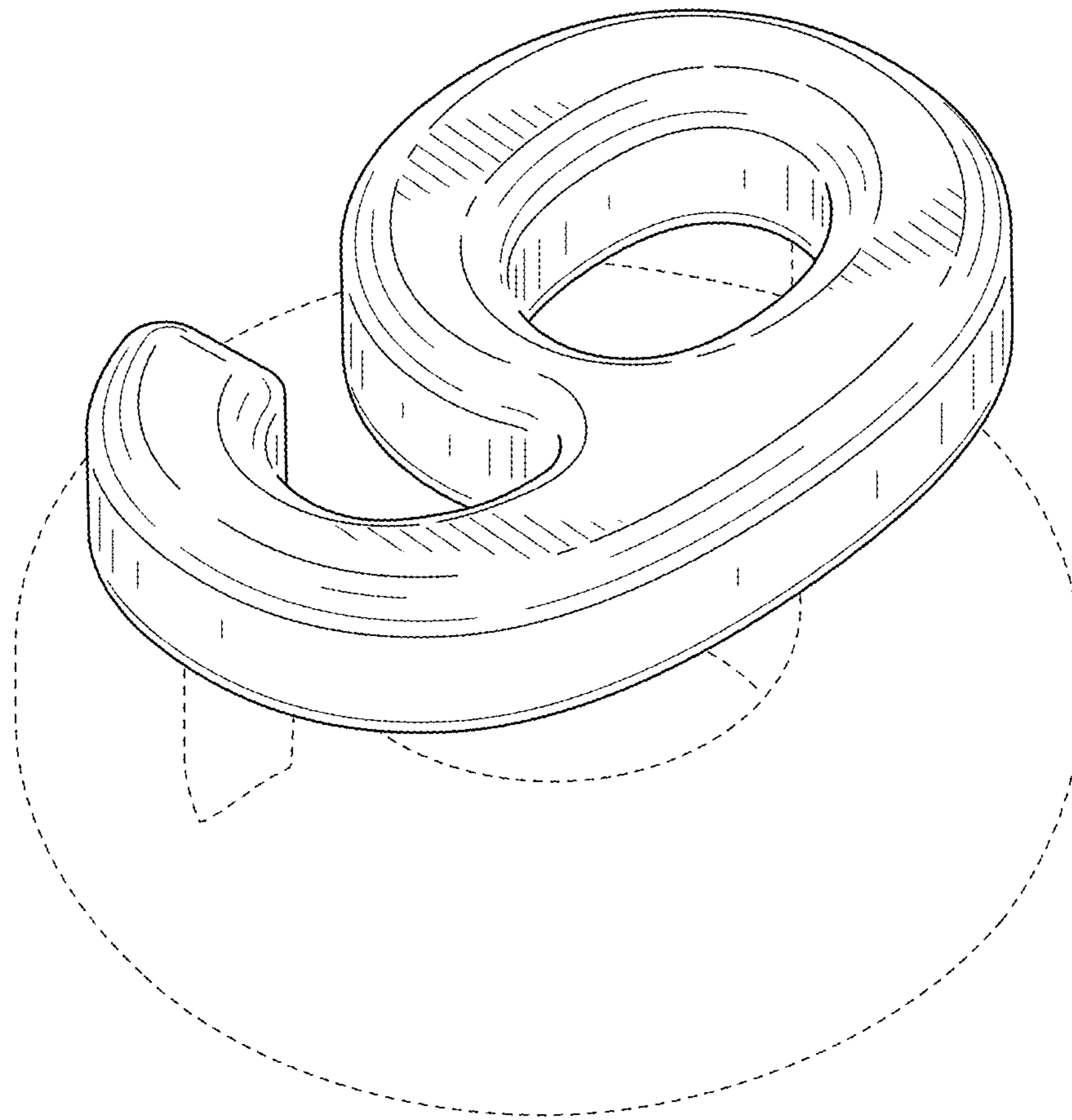


FIG. 65

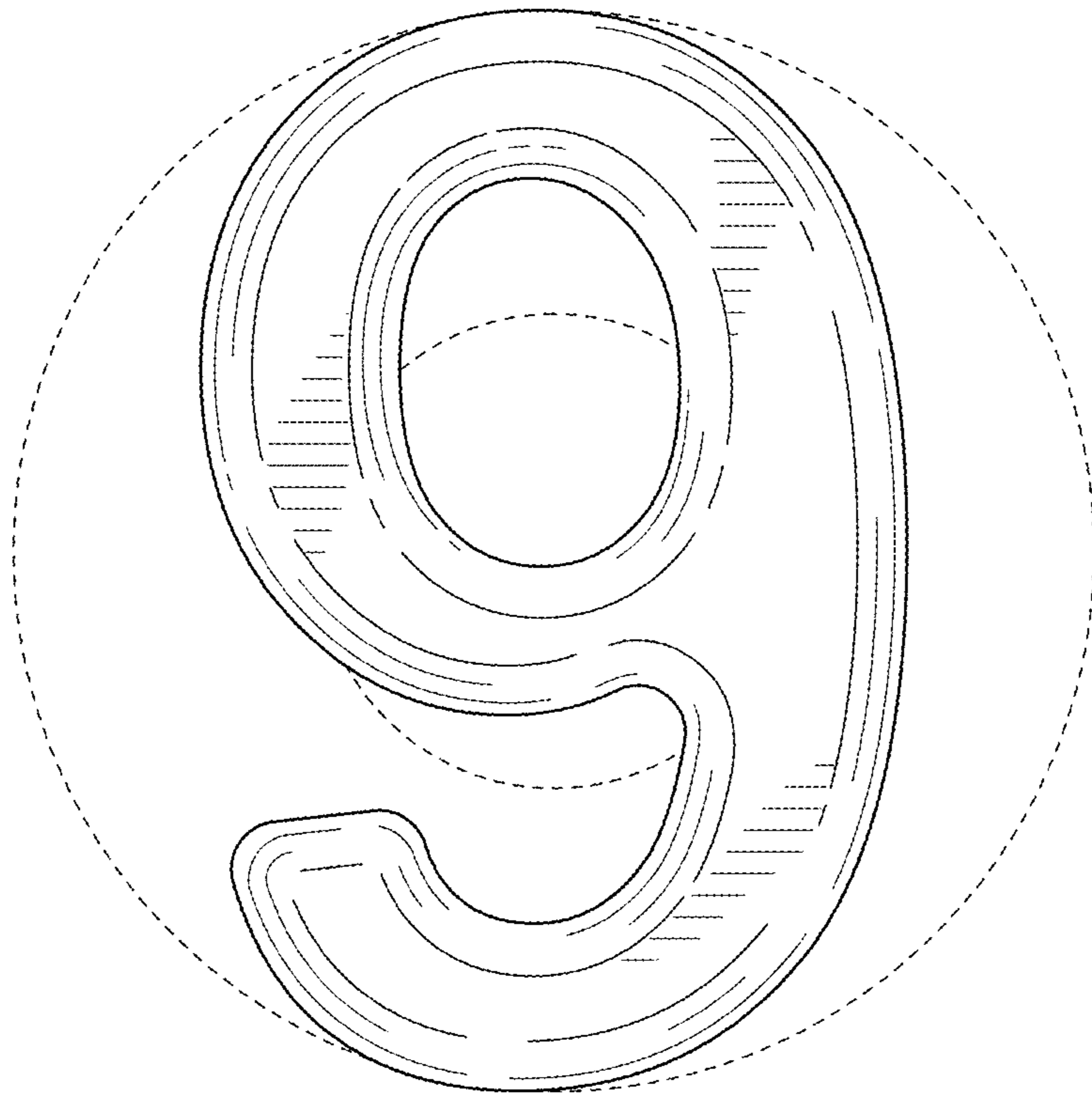


FIG. 66

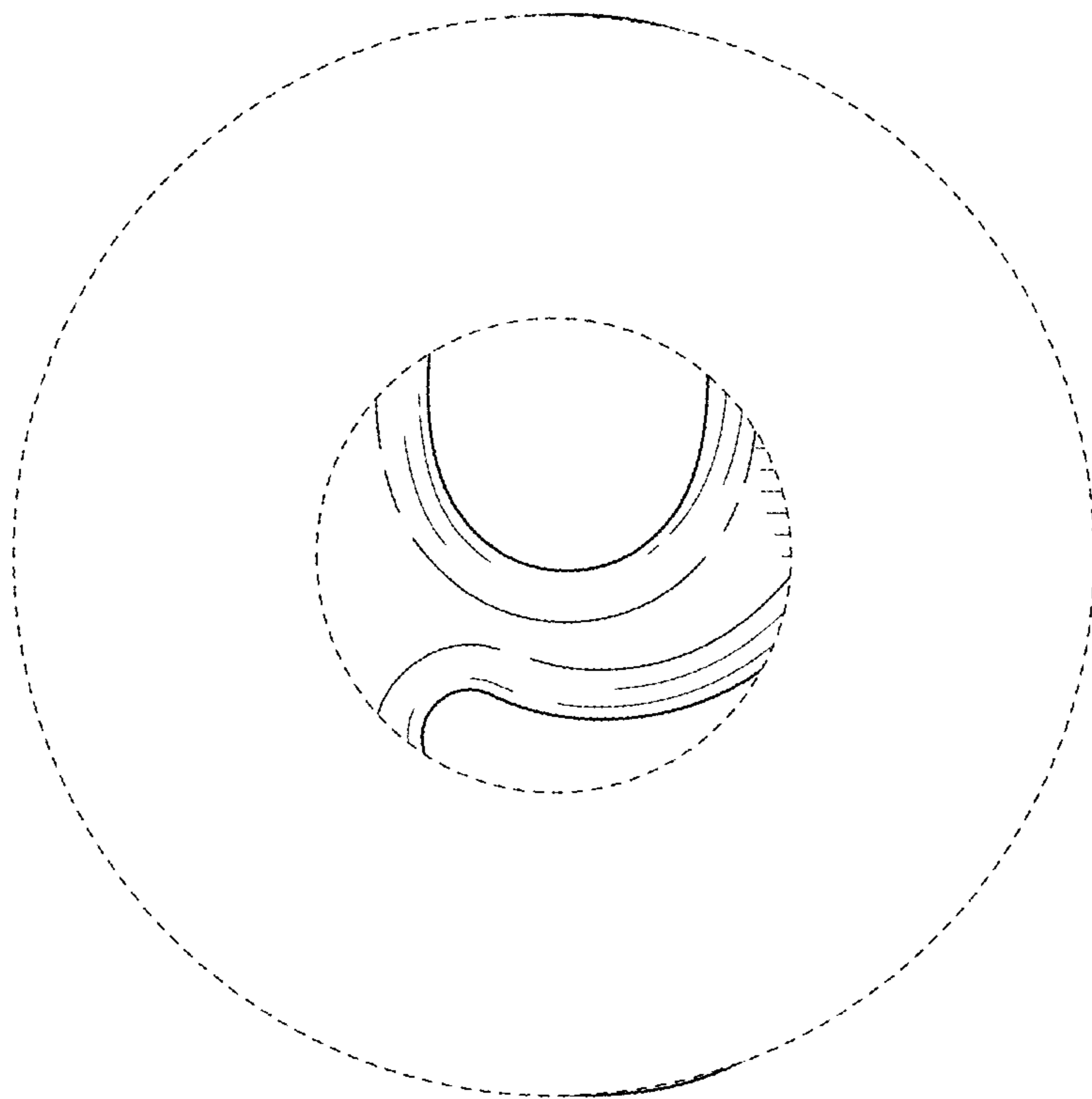


FIG. 67

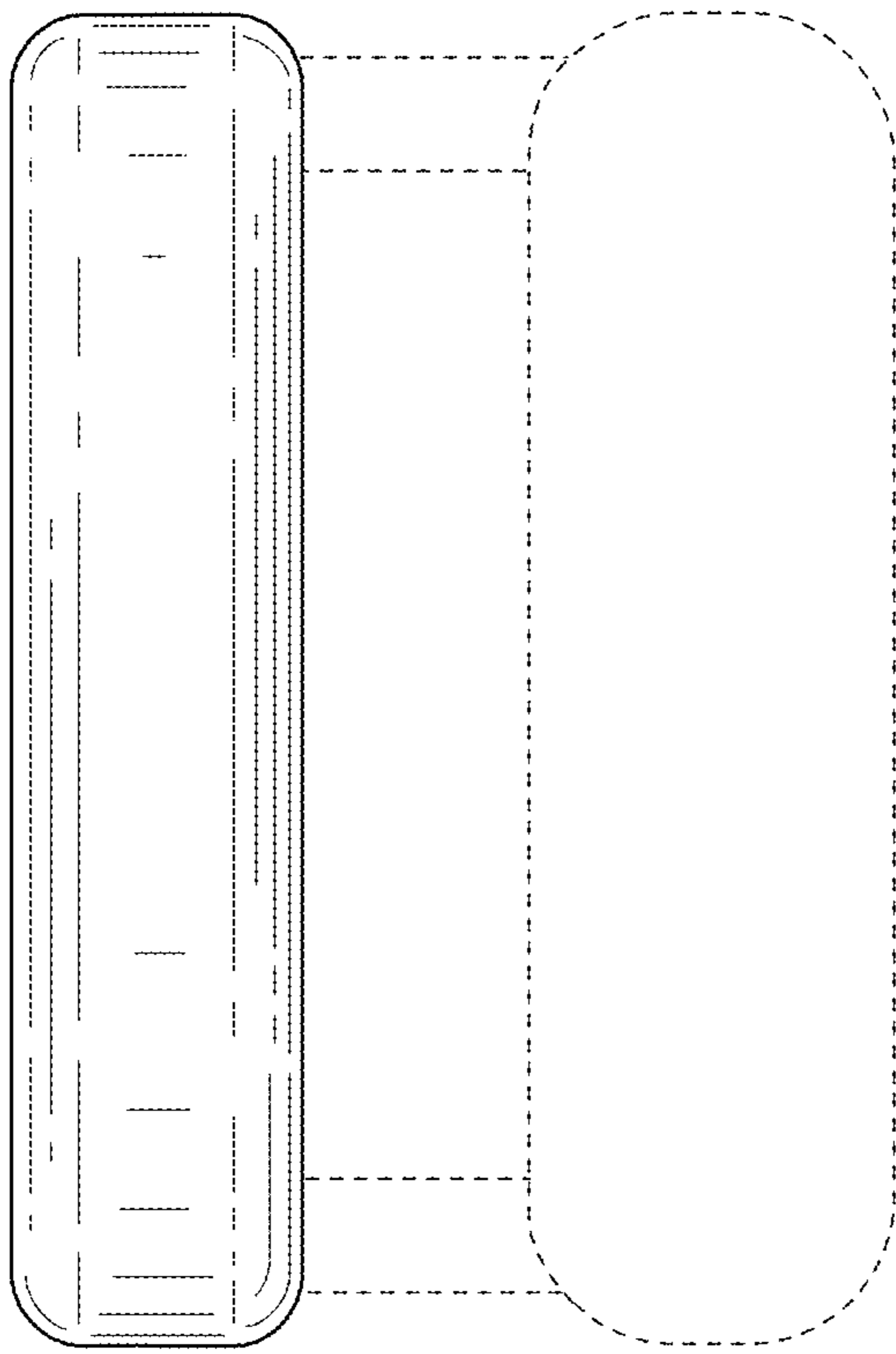


FIG. 68

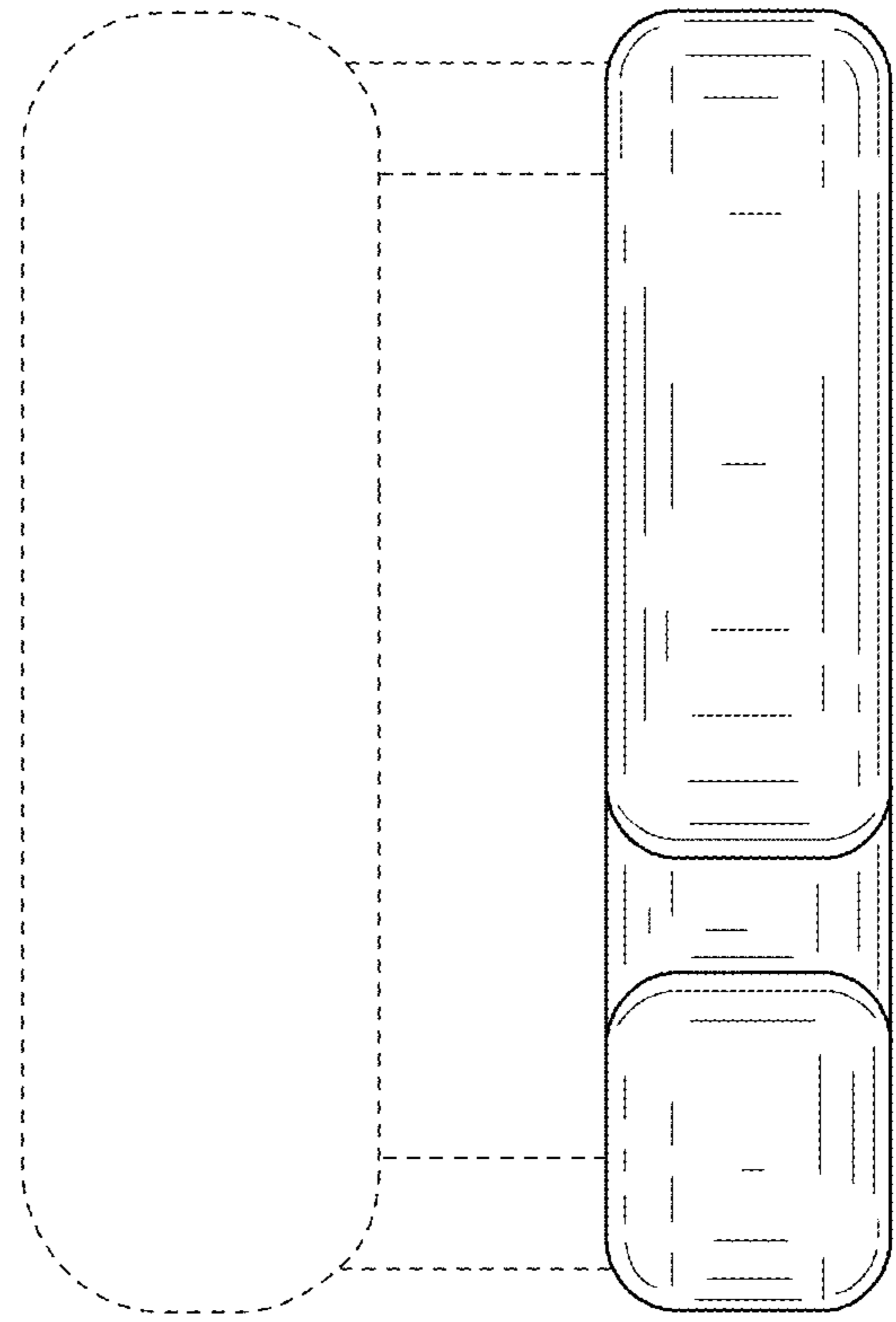


FIG. 69

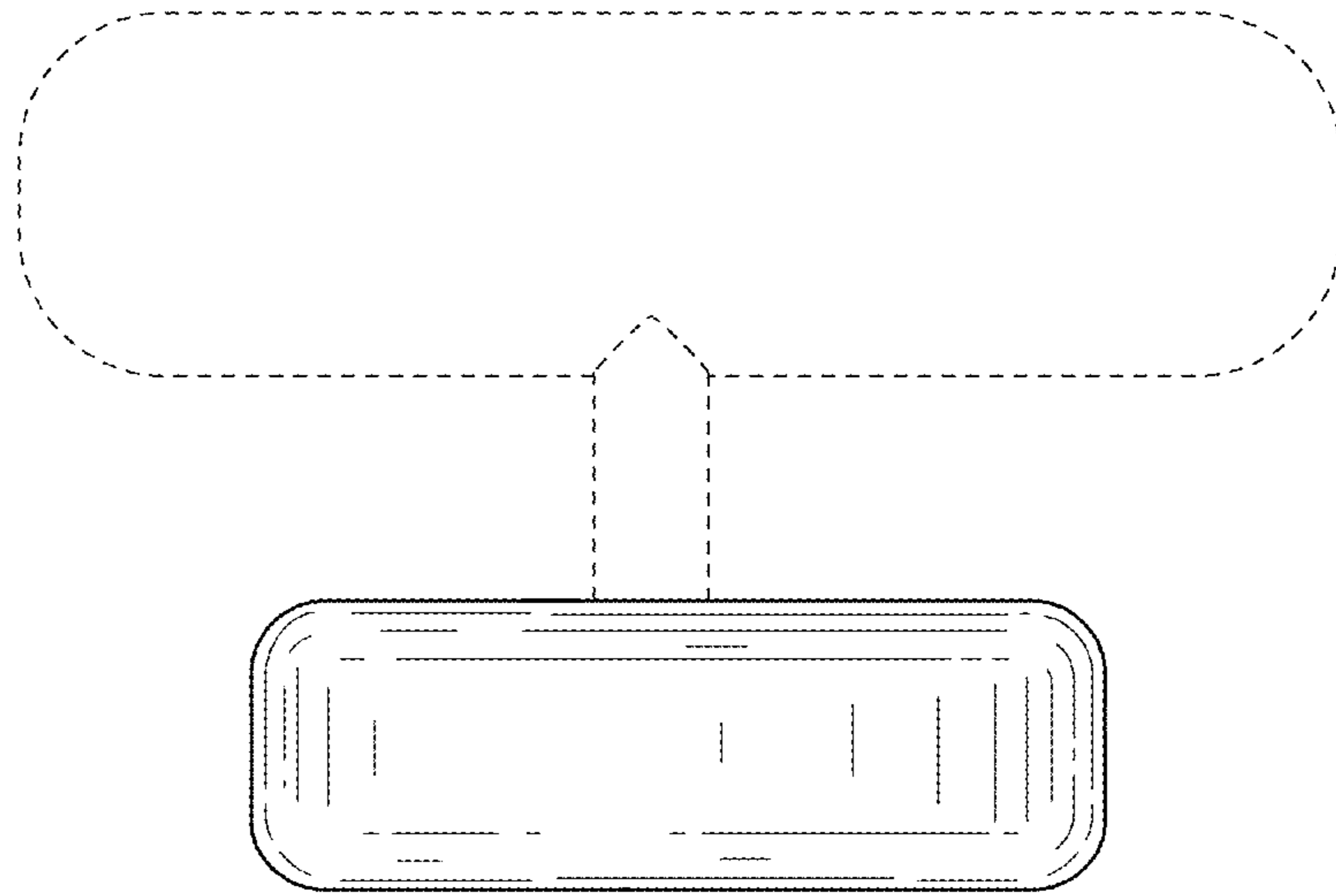


FIG. 70

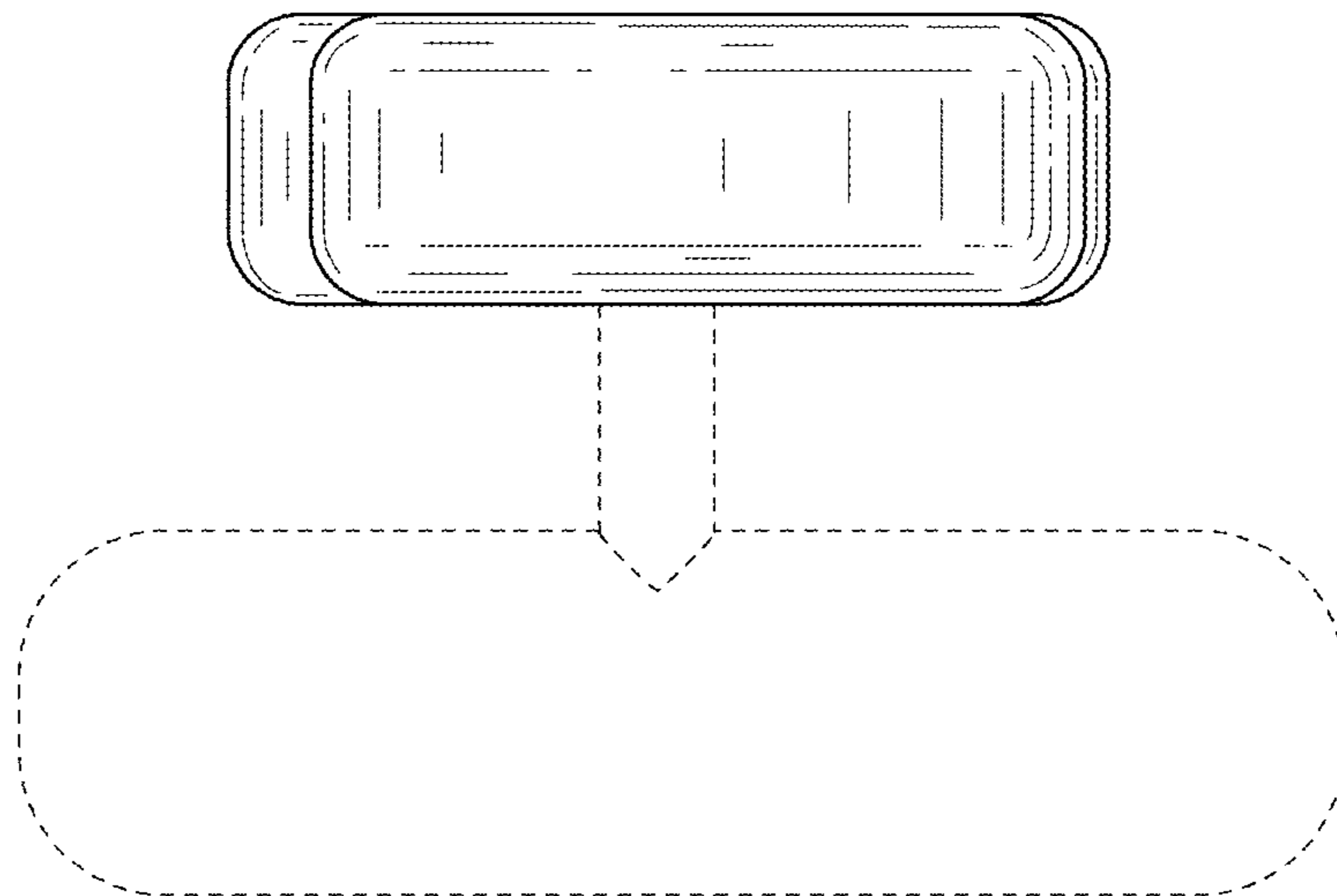


FIG. 71

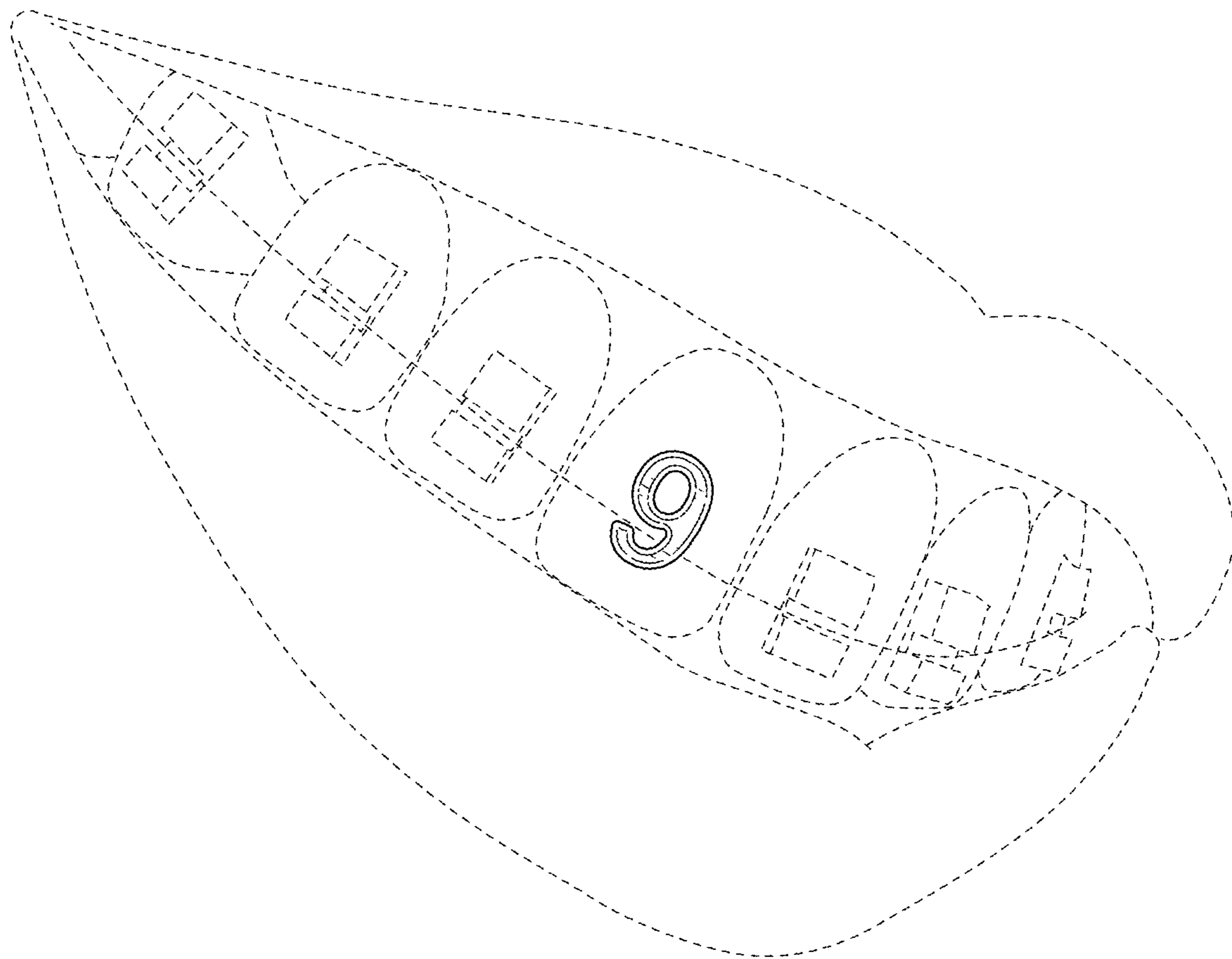


FIG. 72

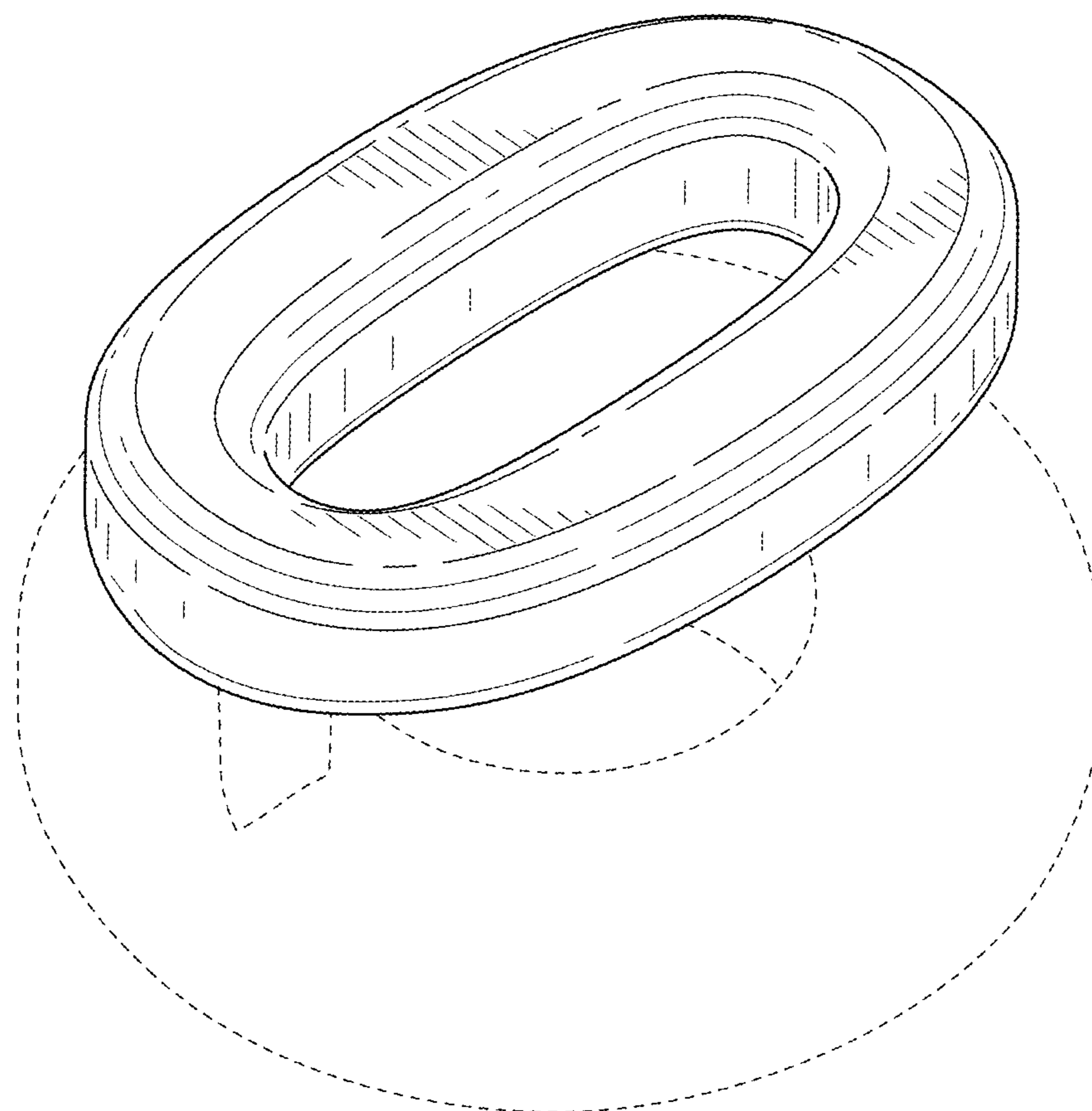


FIG. 73

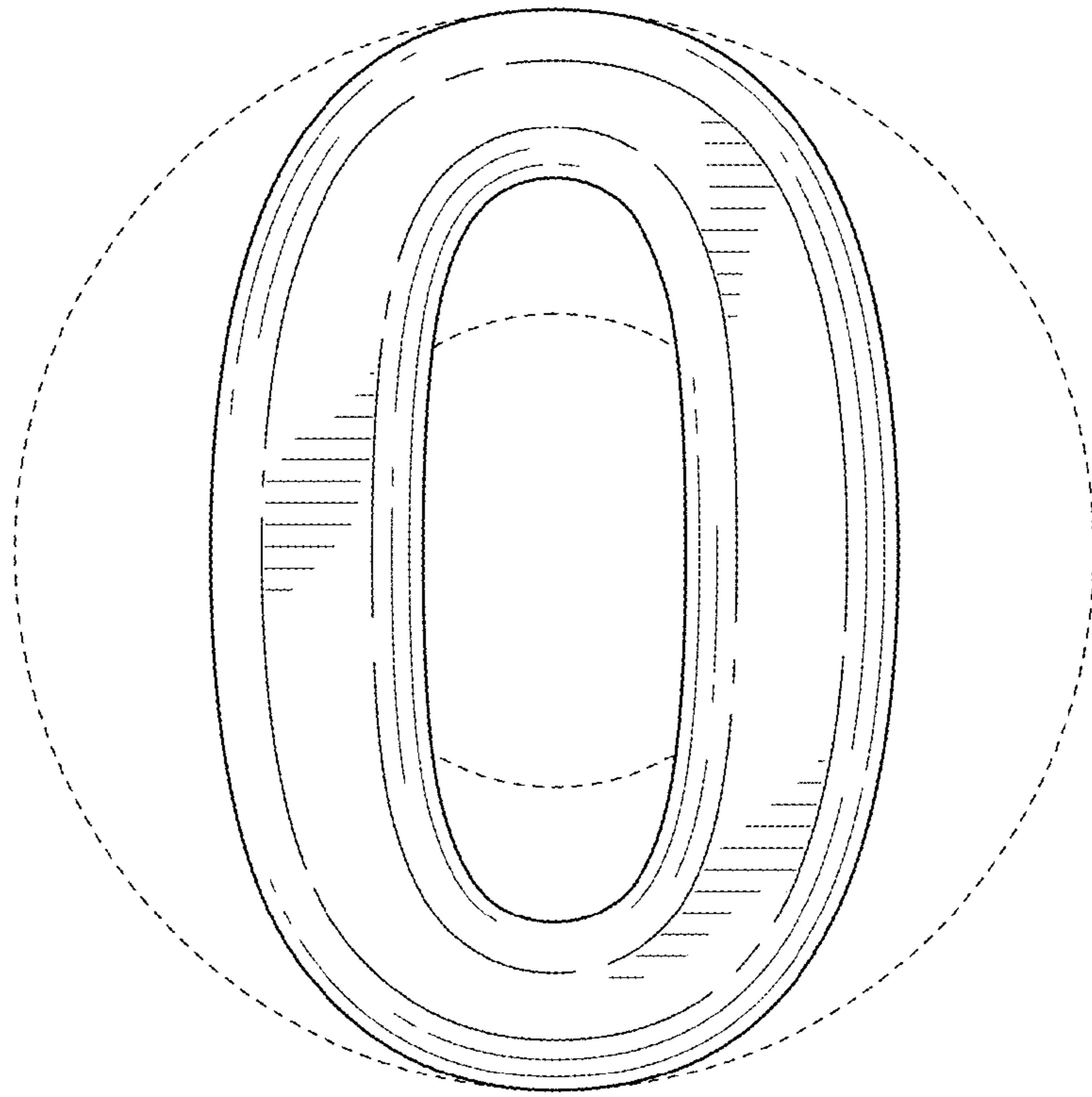


FIG. 74

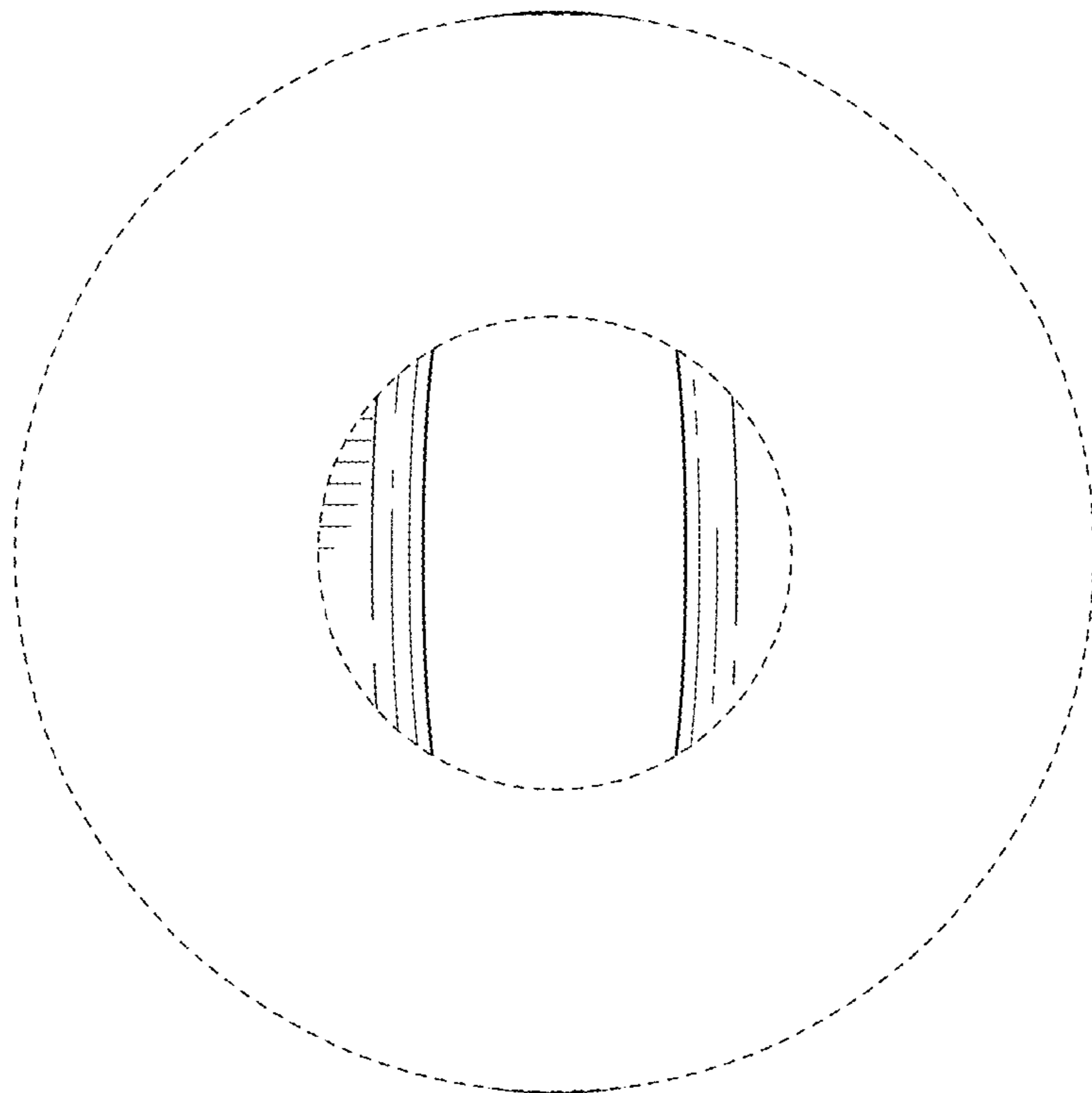


FIG. 75

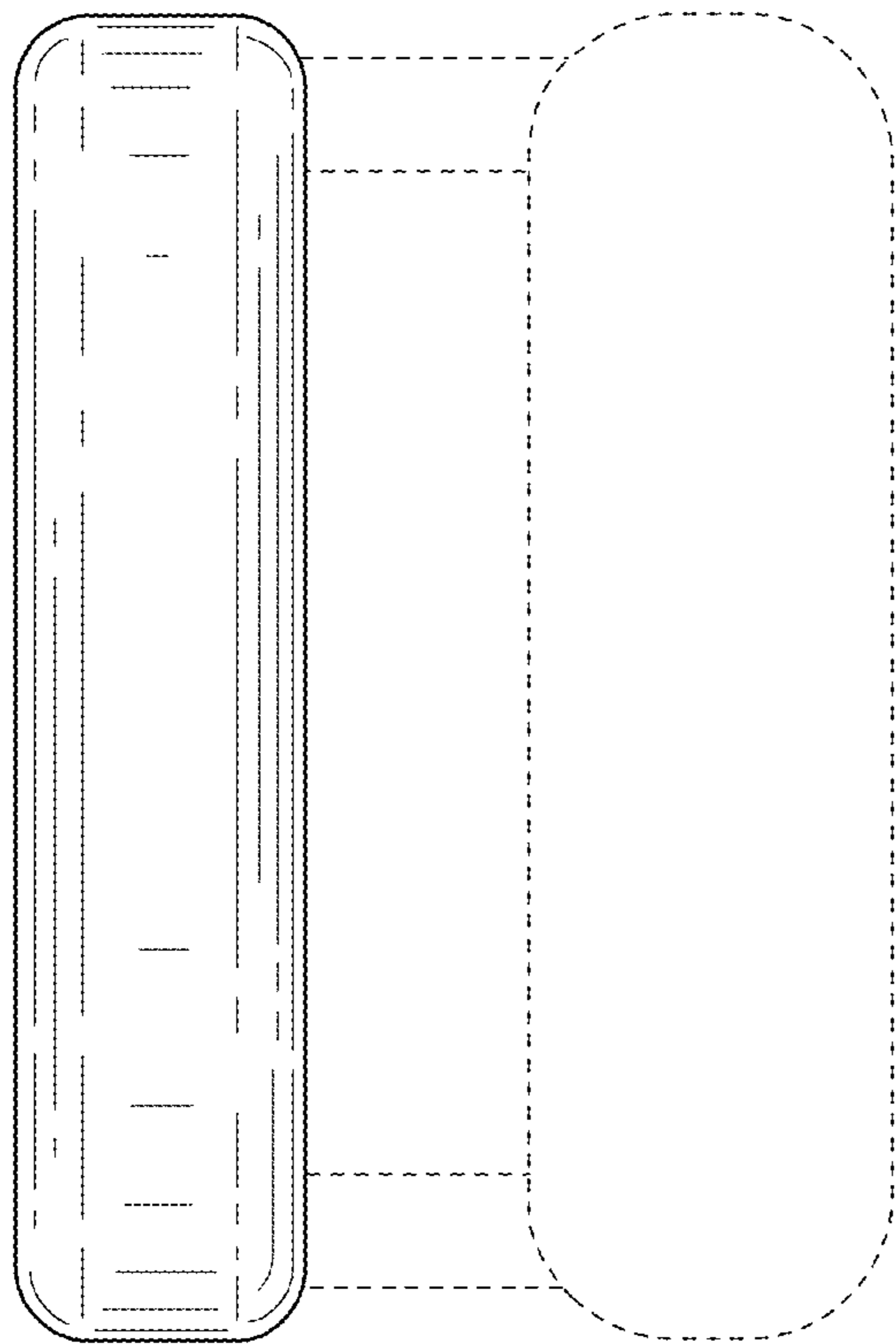


FIG. 76

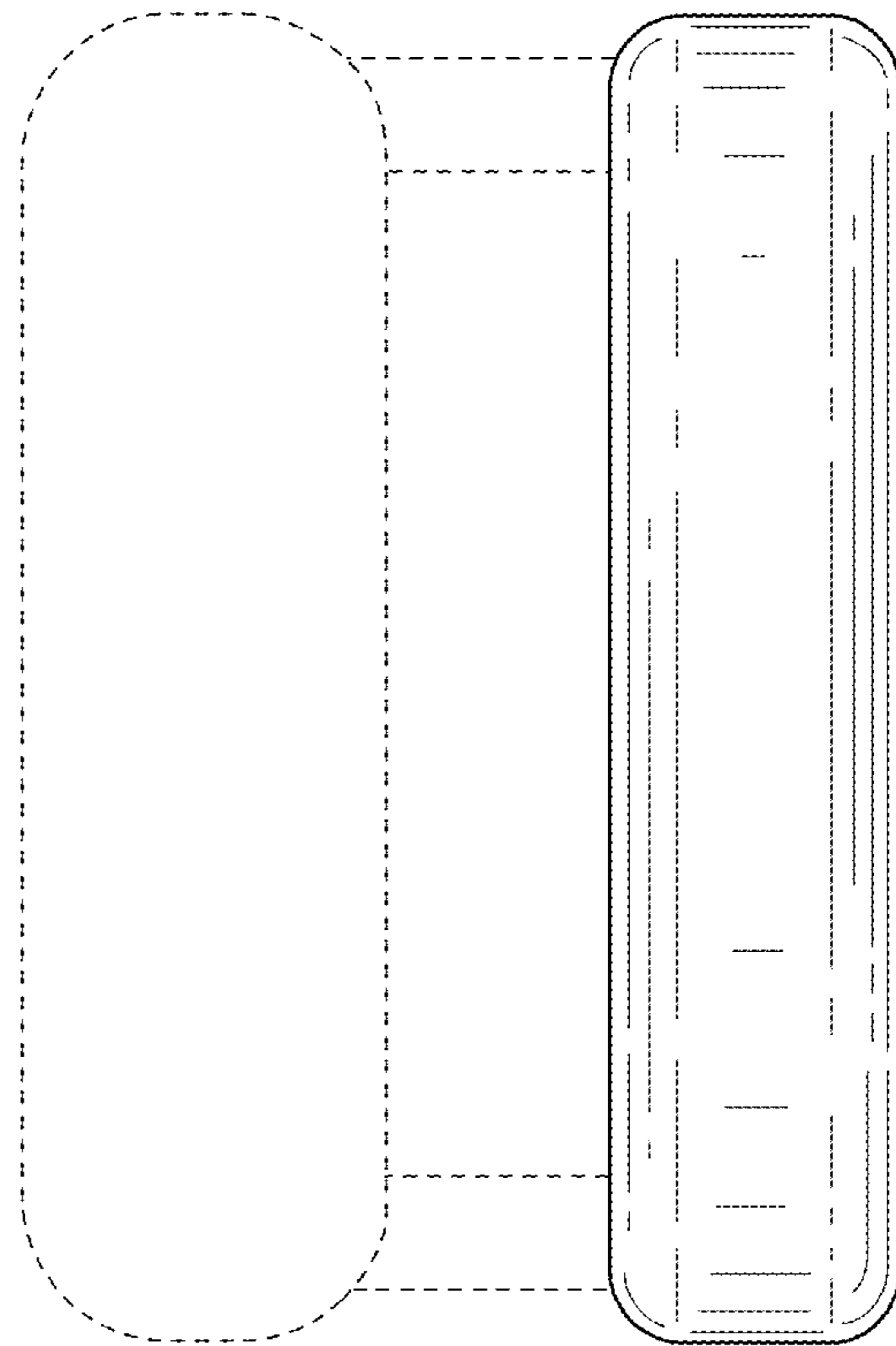


FIG. 77

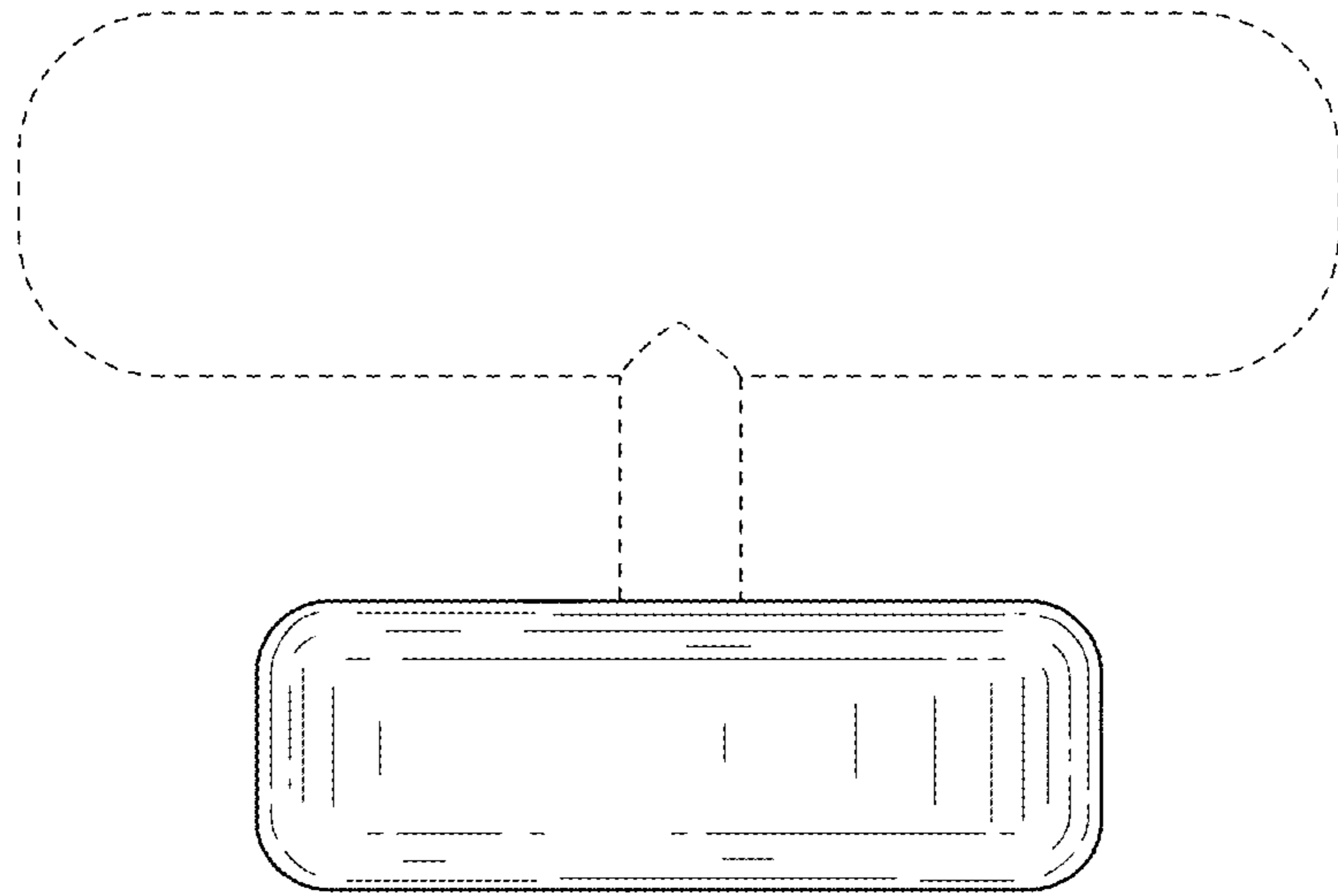


FIG. 78

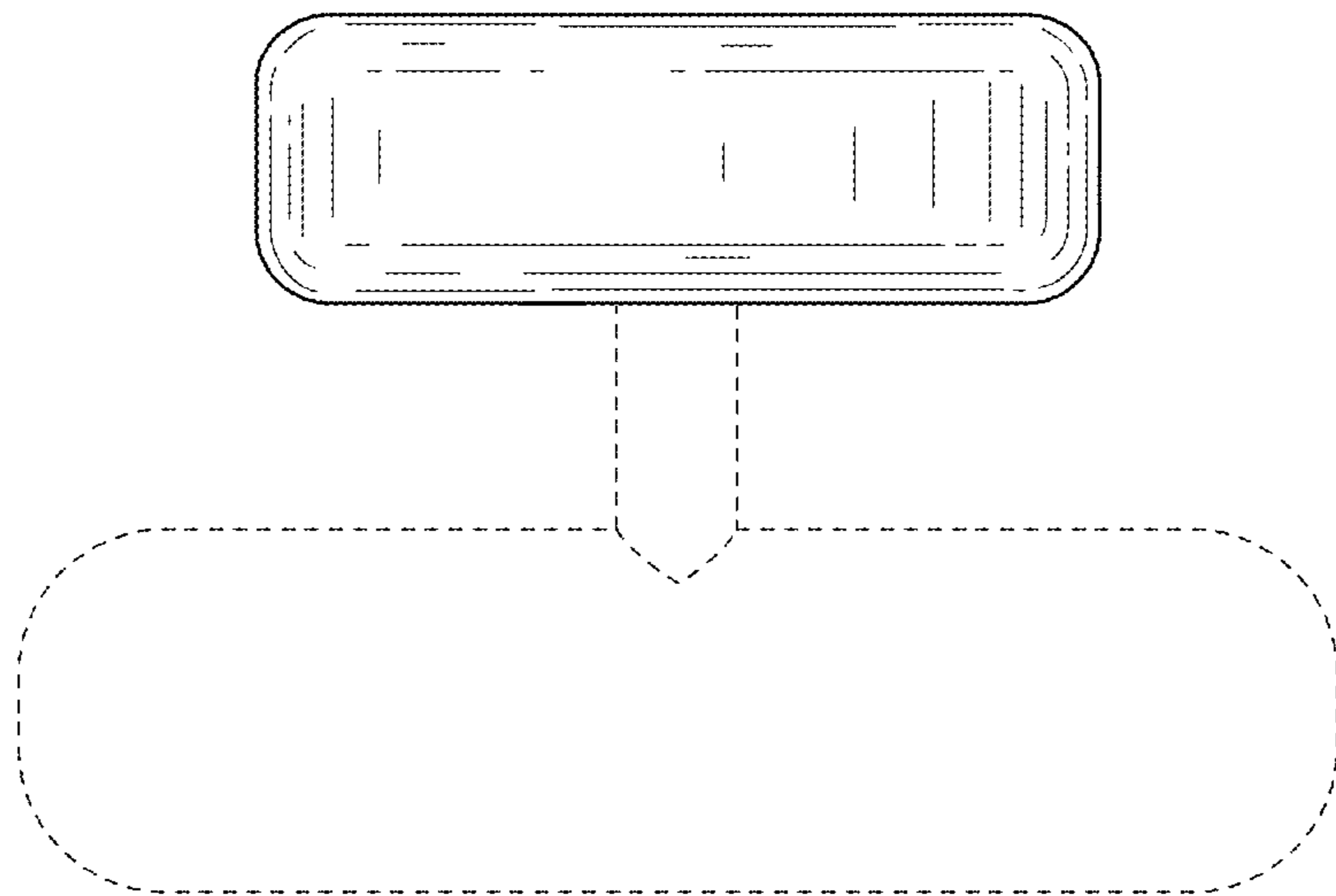


FIG. 79

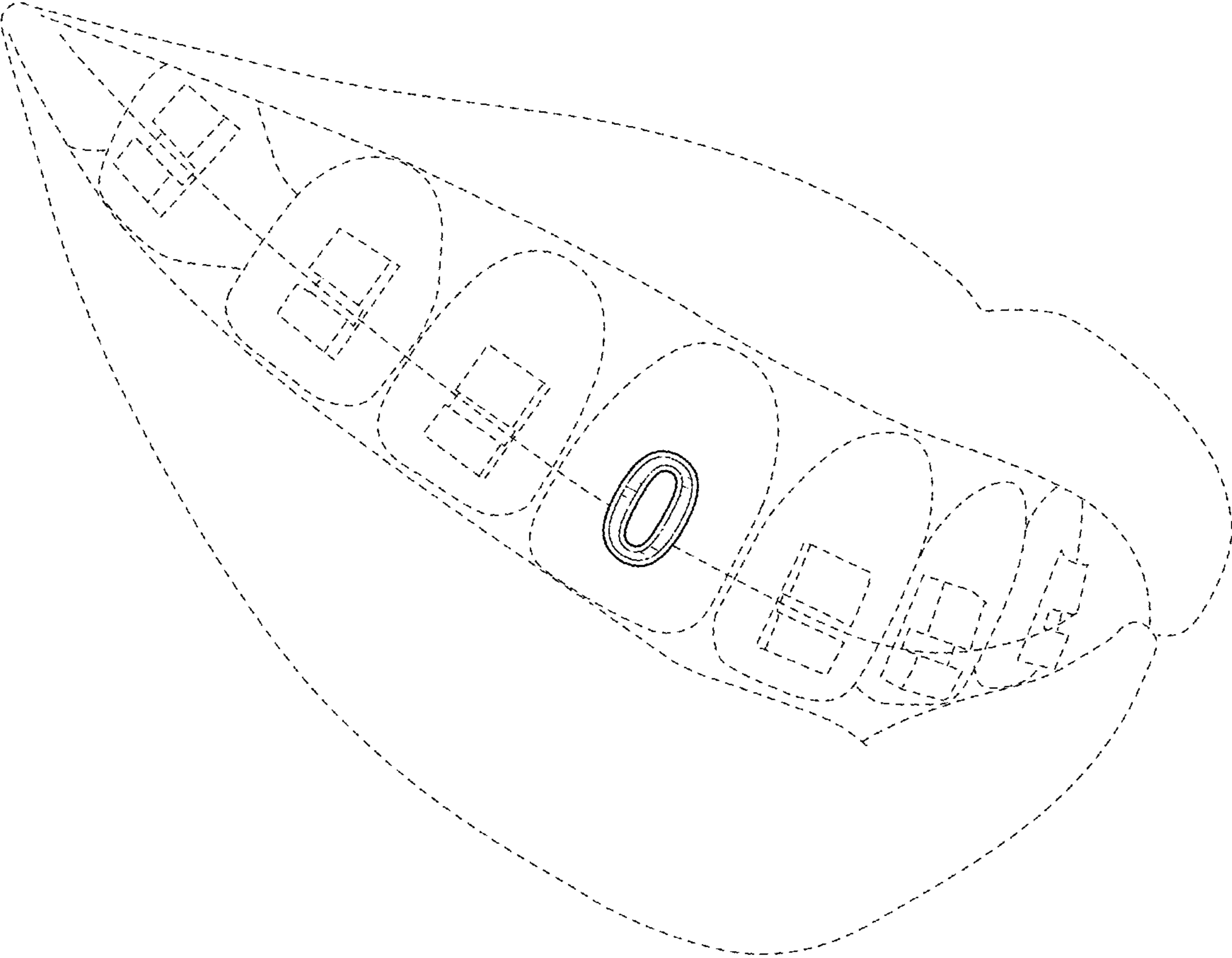


FIG. 80