



US00D895792S

(12) **United States Design Patent** (10) **Patent No.:** **US D895,792 S**
Ho (45) **Date of Patent:** **** Sep. 8, 2020**

(54) **DETACHABLE PLUNGER SYRINGE**

(71) Applicant: **Stephen S Ho**, Houston, TX (US)

(72) Inventor: **Stephen S Ho**, Houston, TX (US)

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

(21) Appl. No.: **29/727,232**

(22) Filed: **Mar. 9, 2020**

(51) **LOC (12) Cl.** **24-02**

(52) **U.S. Cl.**
USPC **D24/112**

(58) **Field of Classification Search**
USPC D24/112–115, 108, 133, 130, 127;
606/181, 185; 604/264, 272, 187, 181,
604/184, 227

(Continued)

(56) **References Cited**

U.S. PATENT DOCUMENTS

D419,671 S * 1/2000 Jansen D24/112
6,936,034 B2 * 8/2005 Watkins A61M 5/3243
359/441

(Continued)

Primary Examiner — David G Muller

(74) *Attorney, Agent, or Firm* — Whittaker Law Firm;
Malcolm E. Whittaker

(57) **CLAIM**

The ornamental design for a detachable plunger syringe, as shown and described.

DESCRIPTION

FIG. 1 illustrates a perspective view of a detachable plunger syringe.

FIG. 2 illustrates a partially exploded perspective view of the detachable plunger syringe.

FIG. 3 illustrates an exploded perspective view of the detachable plunger syringe.

FIG. 4 illustrates a front view of the detachable plunger syringe.

FIG. 5 illustrates a right side view of the detachable plunger syringe. The left side view is a mirror image.

FIG. 6 illustrates a rear view of the detachable plunger syringe.

FIG. 7 illustrates a top view of the detachable plunger syringe.

FIG. 8 illustrates a bottom view of the detachable plunger syringe.

FIG. 9 illustrates a front view of a reservoir barrel of the detachable plunger syringe. The rear view is a mirror image.

FIG. 10 illustrates a right side view of the reservoir barrel of the detachable plunger syringe. The left side view is a mirror image of the right side view of the reservoir barrel of the detachable plunger syringe.

FIG. 11 illustrates a bottom view of the reservoir barrel of the detachable plunger syringe.

FIG. 12 illustrates a top view of the reservoir barrel of the detachable plunger syringe.

FIG. 13 illustrates a front view of a plunger of the detachable plunger syringe. The rear view is a mirror image.

FIG. 14 illustrates a right side view of the plunger of the detachable plunger syringe. The left side view is a mirror image.

FIG. 15 illustrates a top view of the plunger of the detachable plunger syringe.

FIG. 16 illustrates a bottom view of the plunger of the detachable plunger syringe.

FIG. 17 illustrates a front view of a nut of the detachable plunger syringe. The rear view, the left view, and the right view are mirror images.

FIG. 18 illustrates a top view of the nut of the detachable plunger syringe.

FIG. 19 illustrates a bottom view of the nut of the detachable plunger syringe.

FIG. 20 illustrates a front view of a fitting of the detachable plunger syringe. FIG. 20 also illustrates three clips used to temporarily immobilize the fitting during cell collection.

FIG. 21 illustrates a right view of the fitting of the detachable plunger syringe.

FIG. 22 illustrates a rear view of the fitting of the detachable plunger syringe.

(Continued)

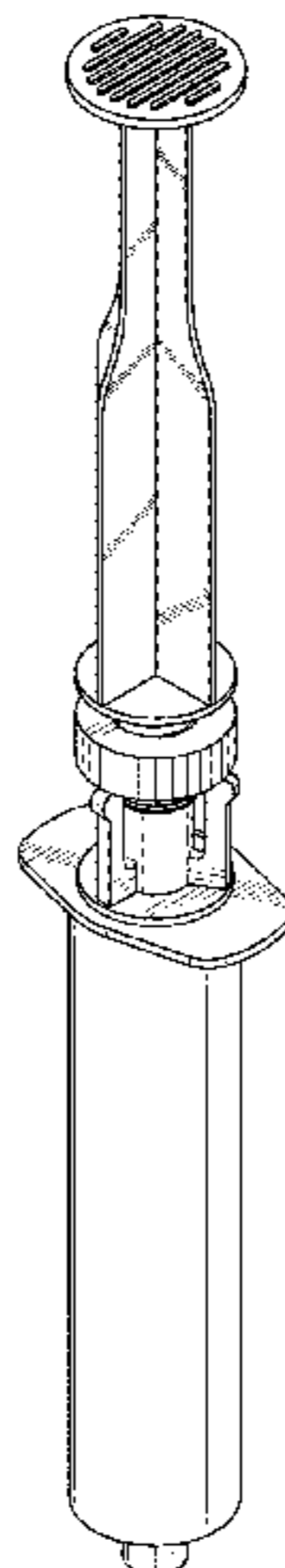


FIG. 23 illustrates a top view of the fitting of the detachable plunger syringe.

FIG. 24 illustrates a bottom view of the fitting of the detachable plunger syringe. FIG. 24 also illustrates the three clips used to temporarily immobilize the fitting during cell collection.

FIG. 25 illustrates a front view of a seal of the detachable plunger syringe. The rear view, the left side view, and the right side views are each a mirror image of the front view of the detachable plunger syringe.

FIG. 26 illustrates a bottom view of the seal of the detachable plunger syringe; and,

FIG. 27 illustrates a top view of the seal of the detachable plunger syringe.

The broken line showing of parts of the drawings is included for the purpose of illustrating use and environment and forms no part of the claimed design.

1 Claim, 7 Drawing Sheets

(58) **Field of Classification Search**

CPC A61M 5/178; A61M 3/00; A61M 5/20;
A61M 5/31; A61M 5/3146; A61M
5/3129; A61M 5/3148; A61M 5/315
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D609,333	S	*	2/2010	Holmes	.....	D24/114
D667,950	S	*	9/2012	Hyun	.....	D24/130
8,337,468	B1	*	12/2012	Reis	.....	A61M 5/3257 604/198
D729,931	S	*	5/2015	Takeuchi	.....	D24/114
D739,524	S	*	9/2015	Zemel	.....	D24/114
D741,476	S	*	10/2015	Hiraoka	.....	D24/114
D865,947	S	*	11/2019	Khalaj	.....	D24/114
D876,620	S	*	2/2020	Ho	.....	D24/112
D877,894	S	*	3/2020	Ho	.....	D24/112
D880,692	S	*	4/2020	Momose	.....	D24/130
D889,639	S	*	7/2020	Johnson	.....	D24/114

* cited by examiner

FIG. 1

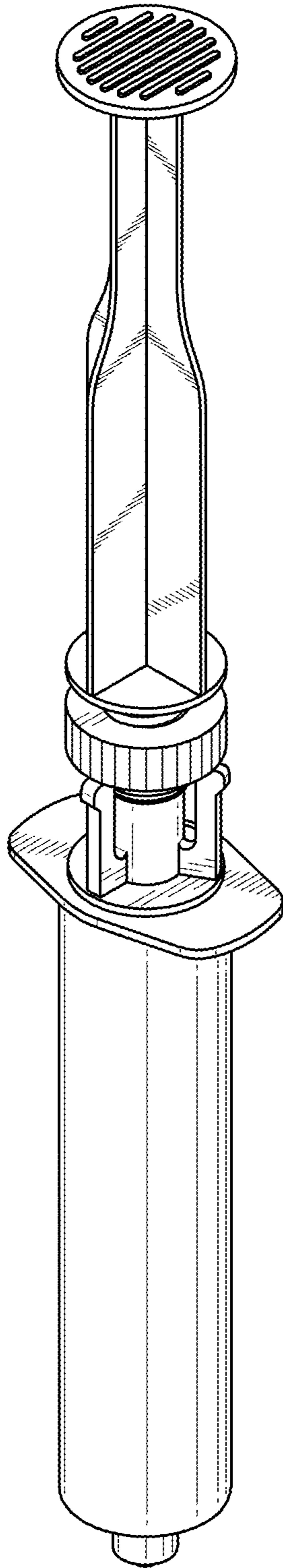
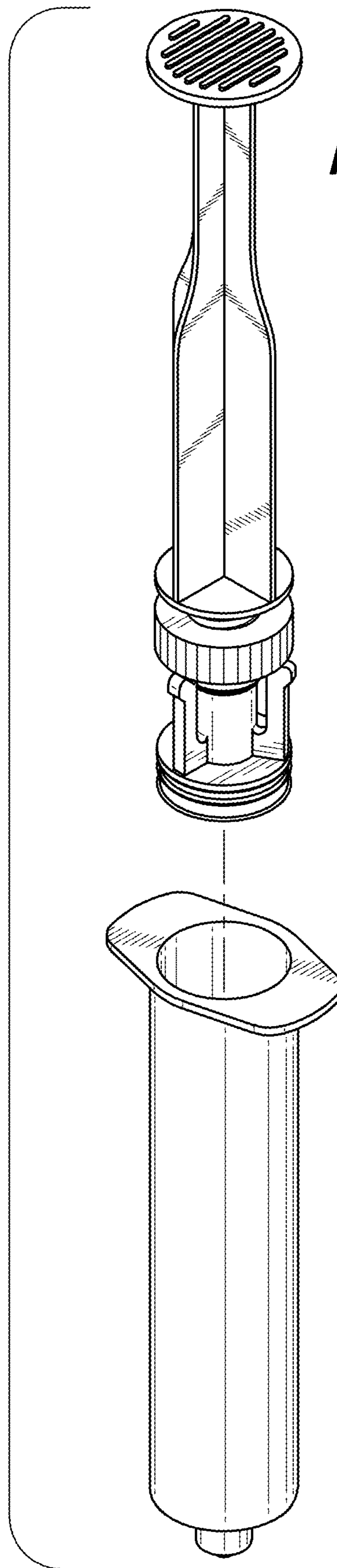


FIG. 2



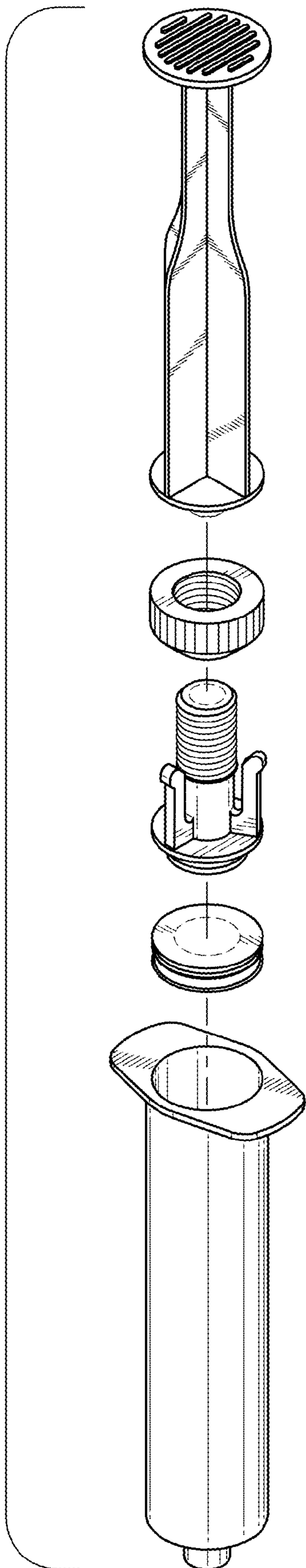


FIG. 3

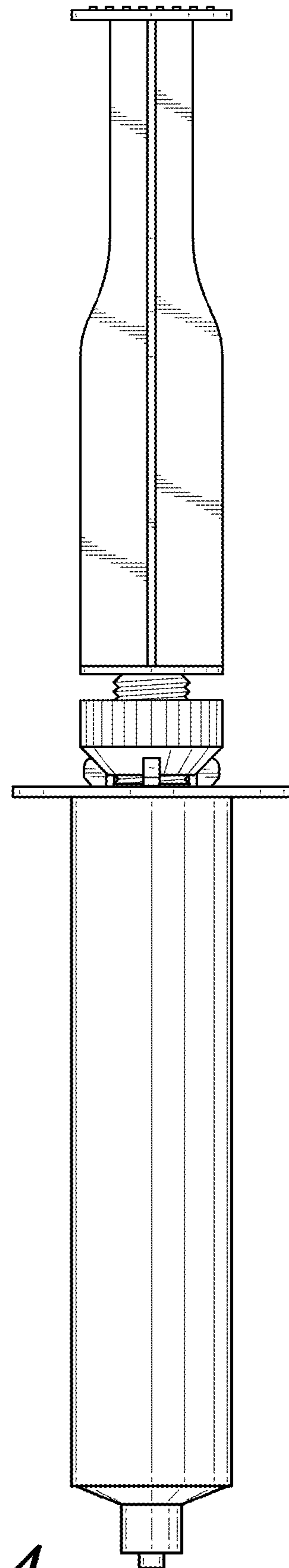


FIG. 4

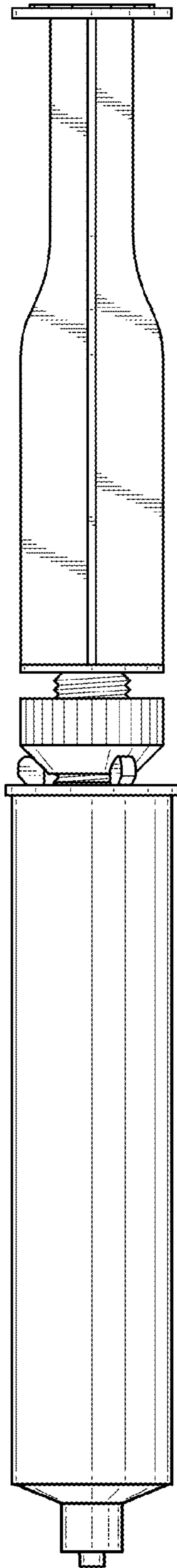


FIG. 5

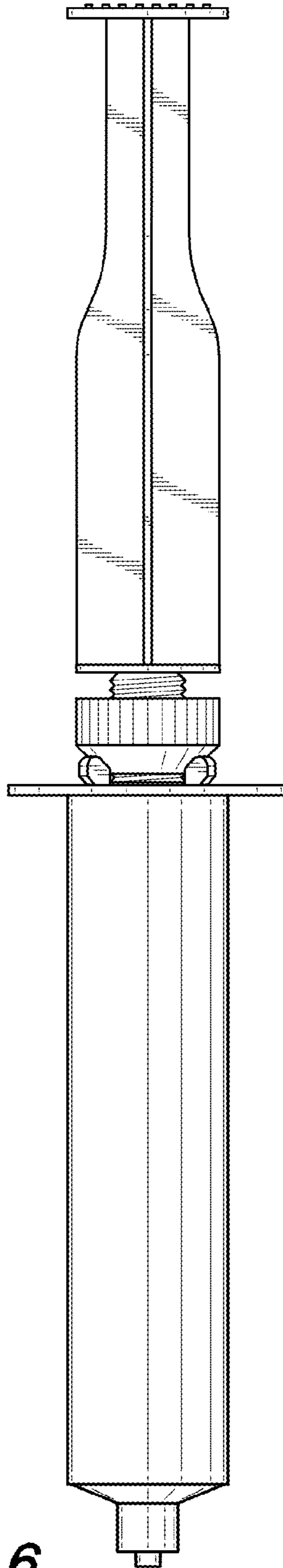


FIG. 6

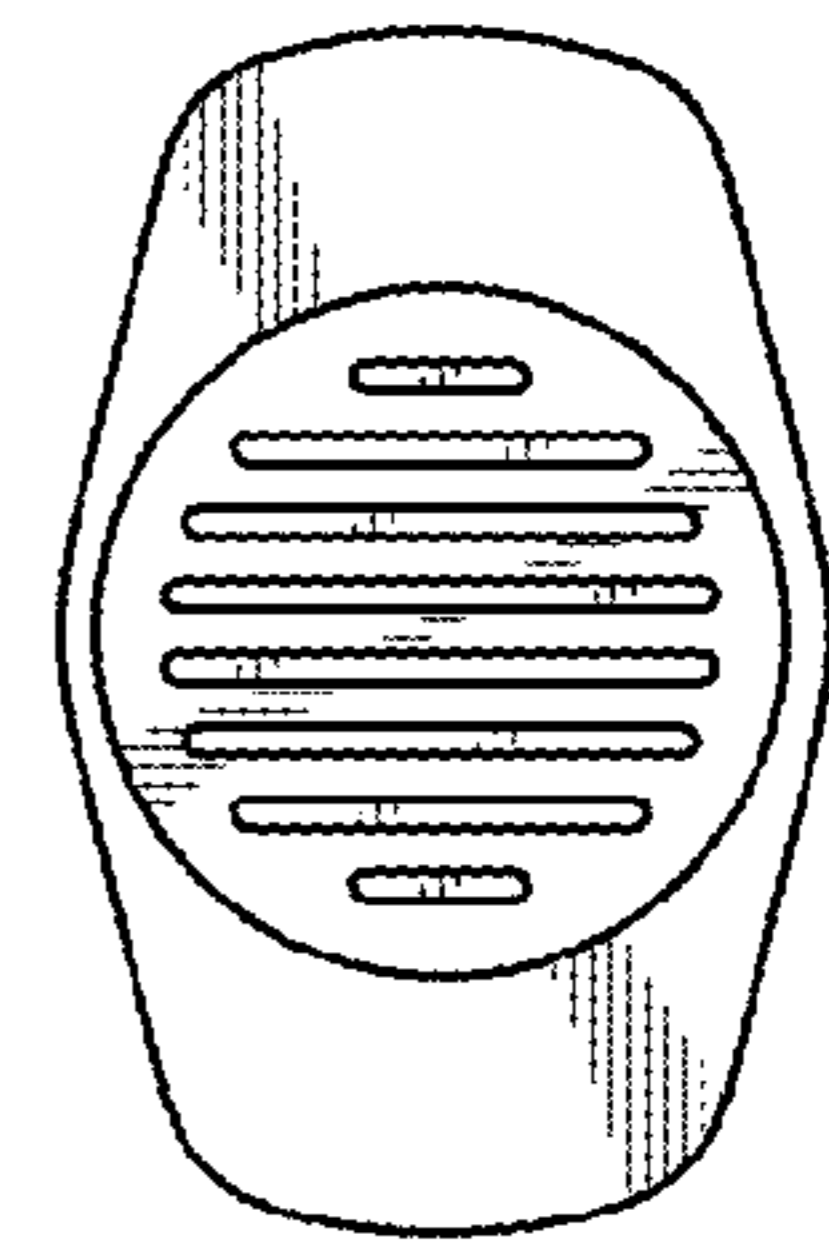


FIG. 7

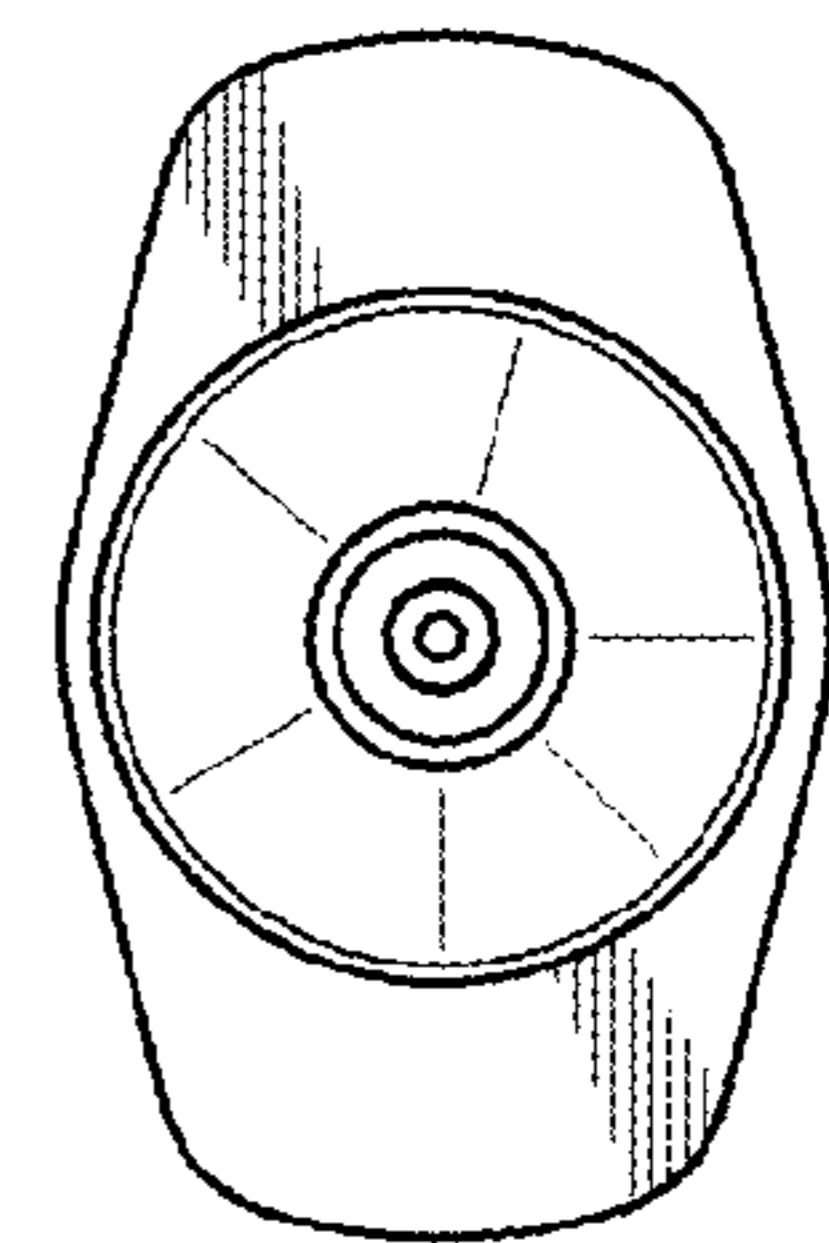


FIG. 8

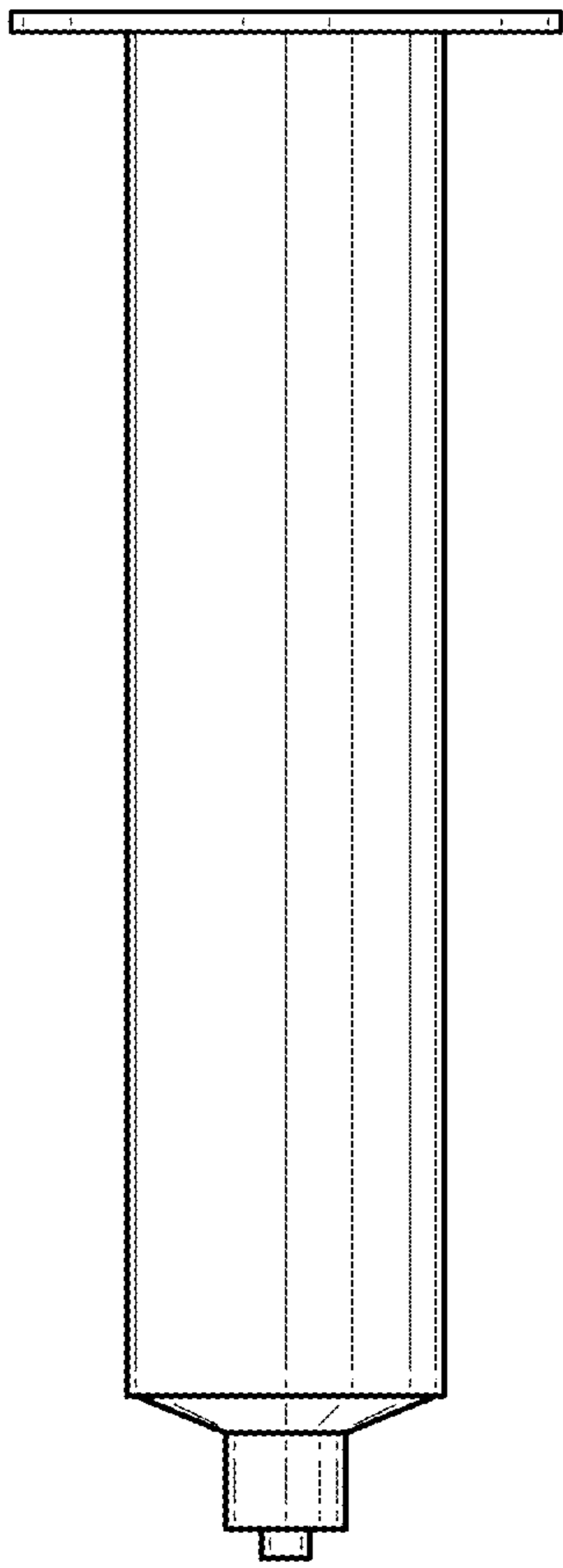


FIG. 9

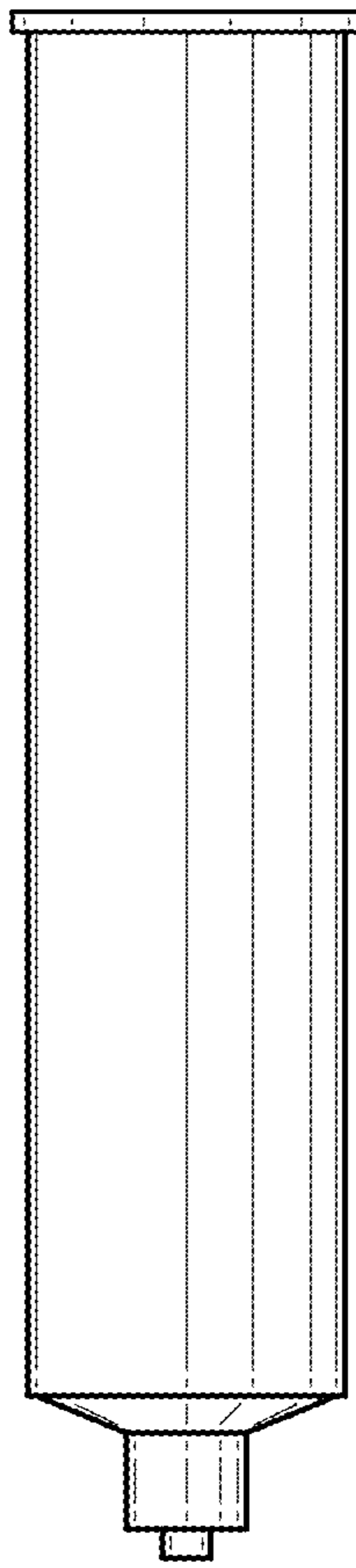


FIG. 10

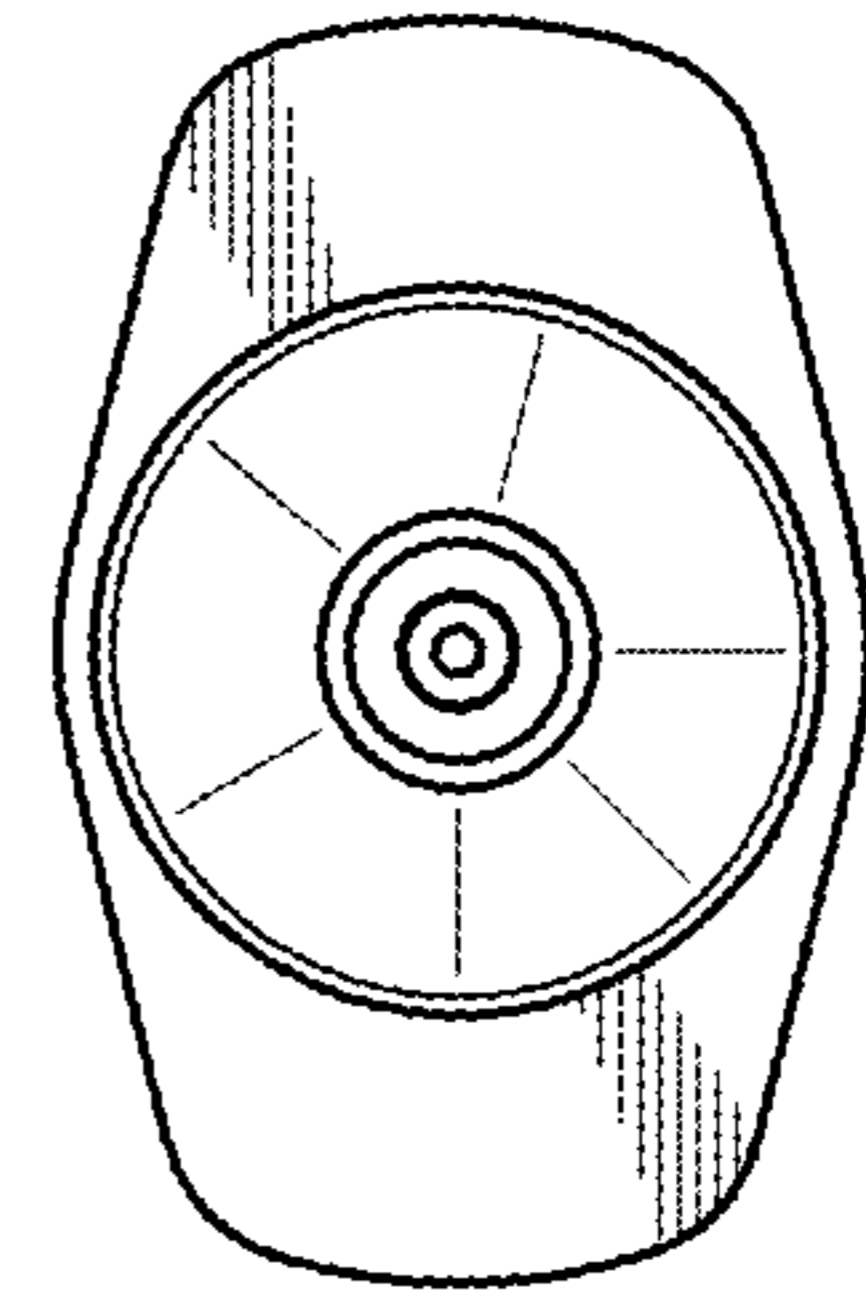


FIG. 11

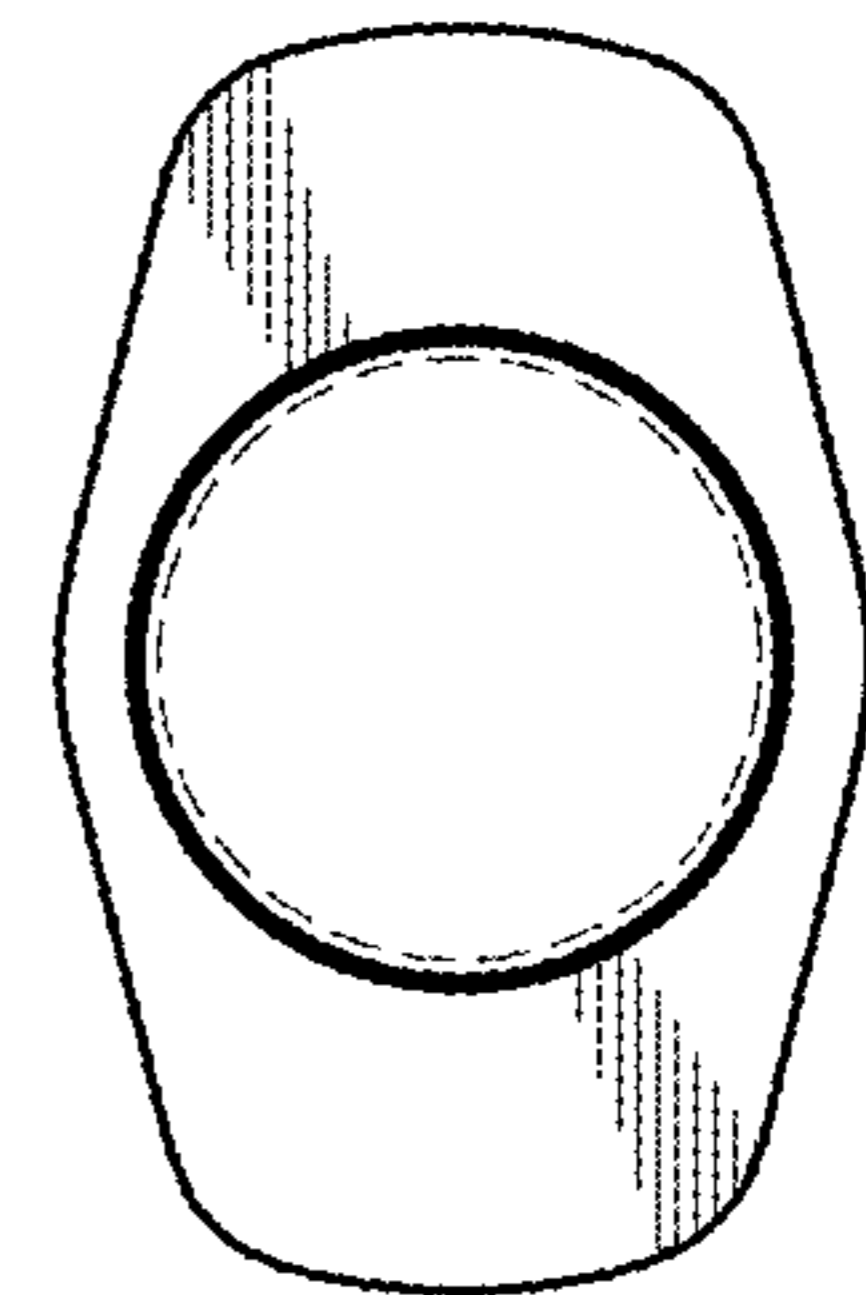


FIG. 12

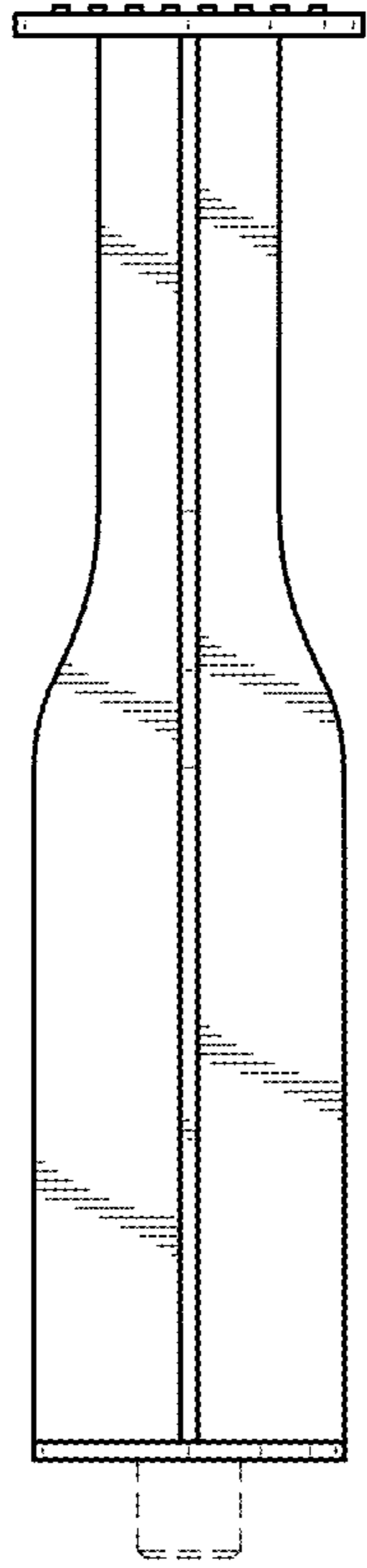


FIG. 13

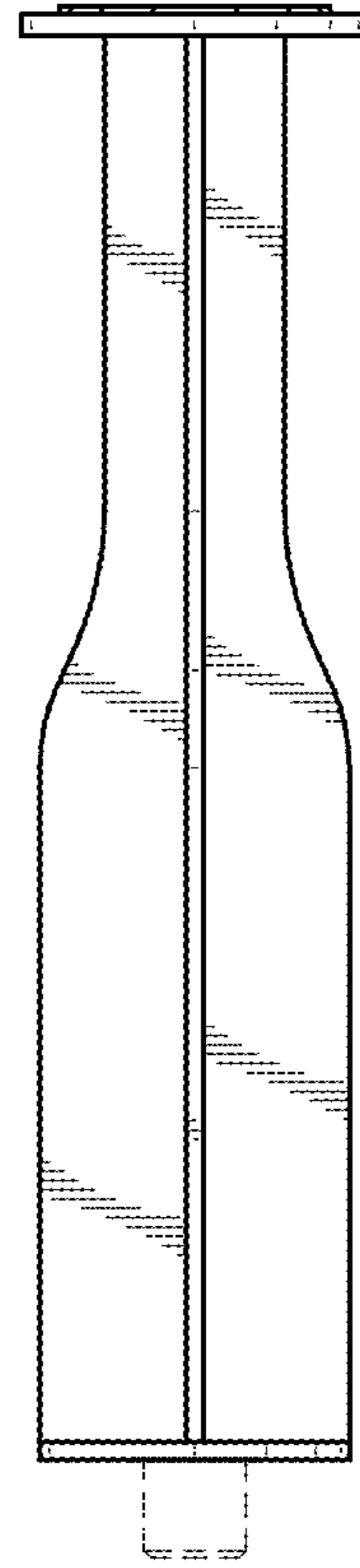


FIG. 14

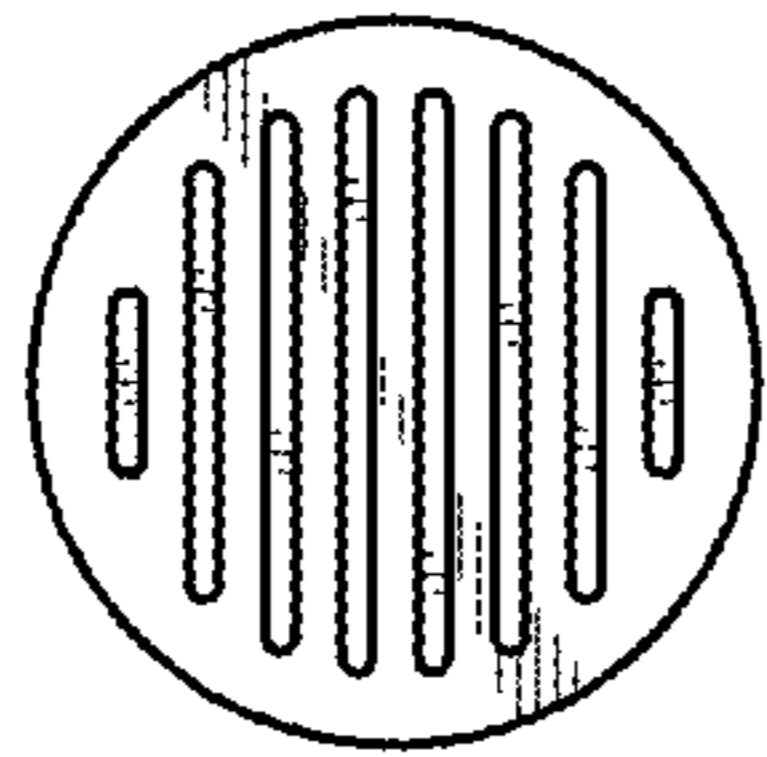


FIG. 15

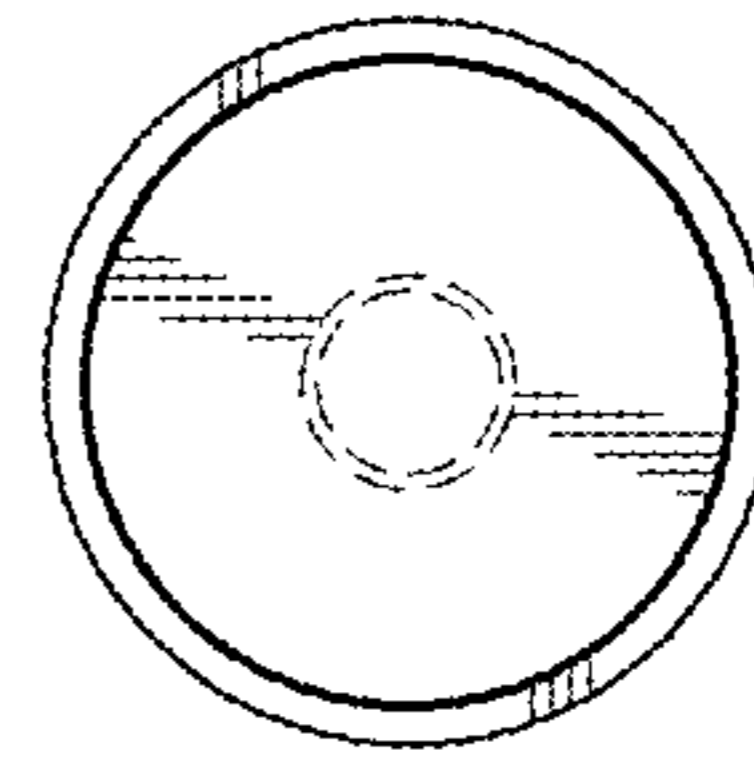


FIG. 16

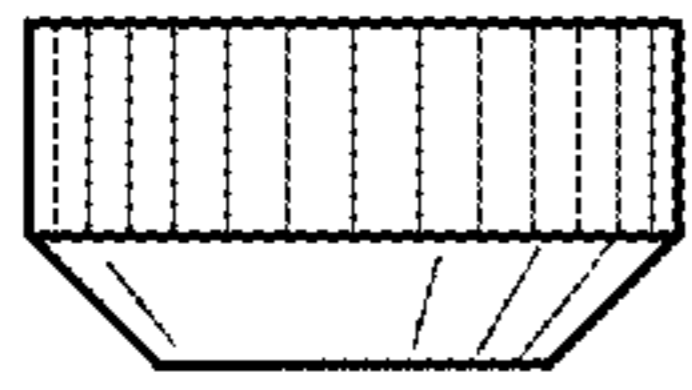


FIG. 17

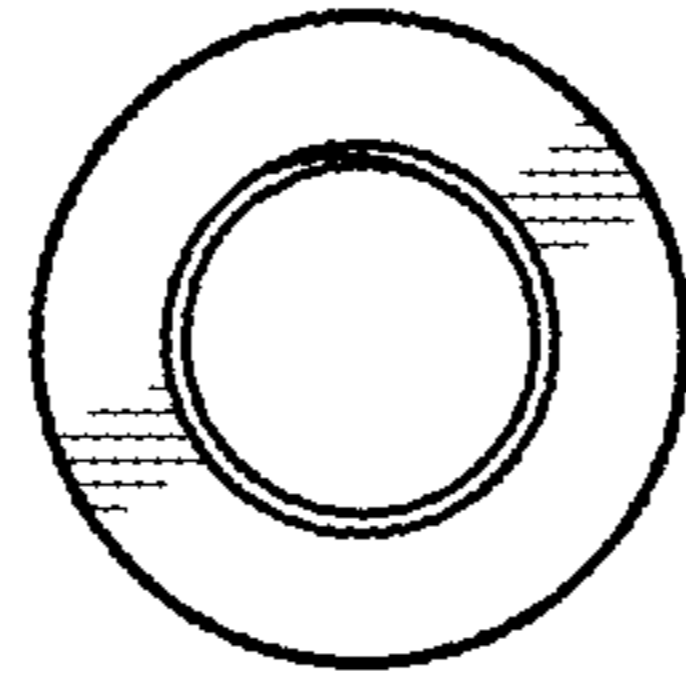


FIG. 18

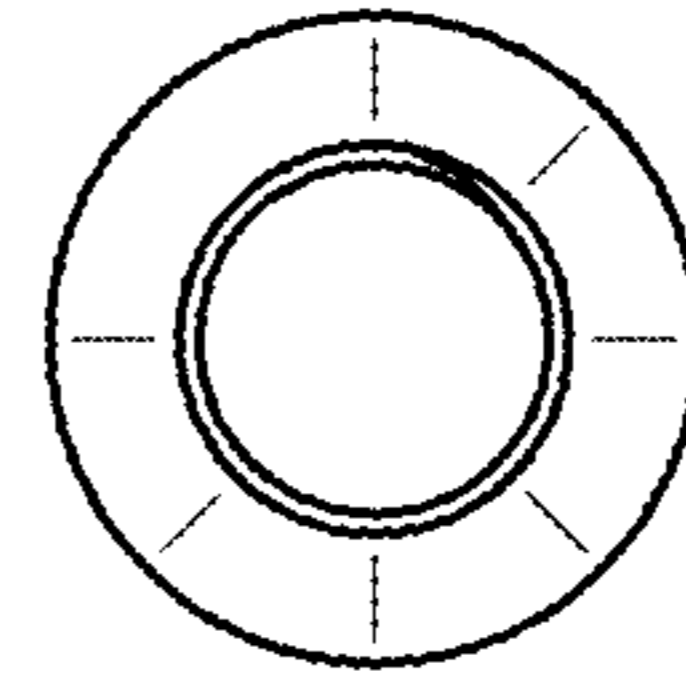


FIG. 19

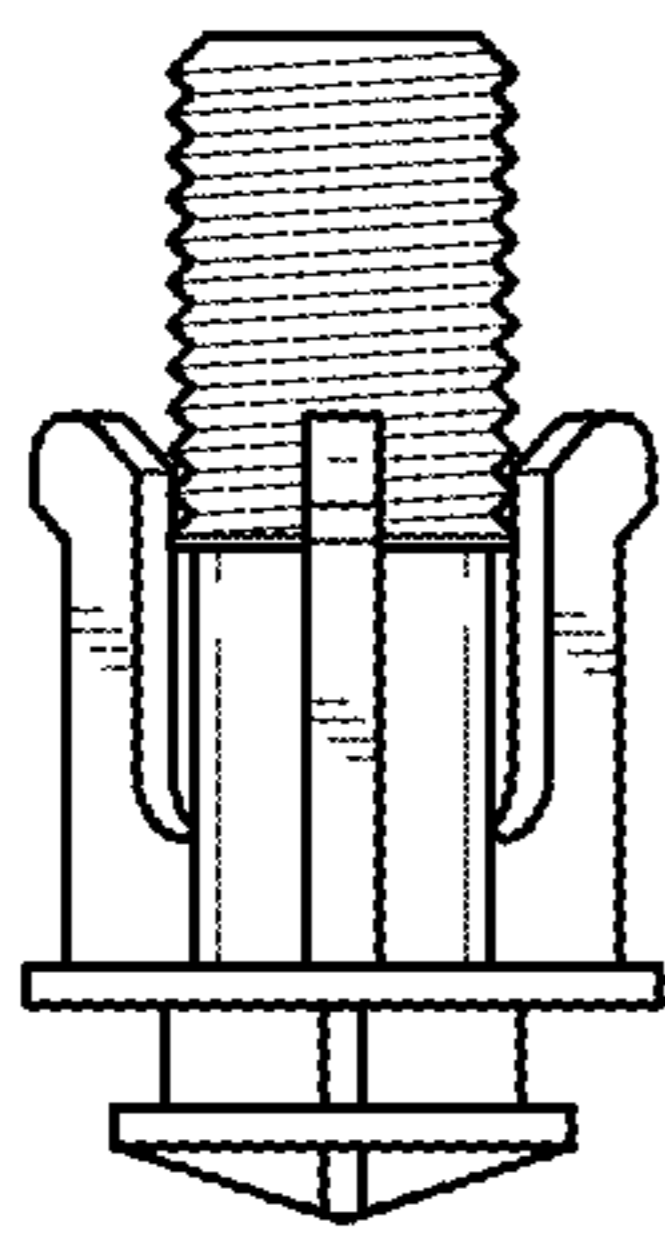


FIG. 20

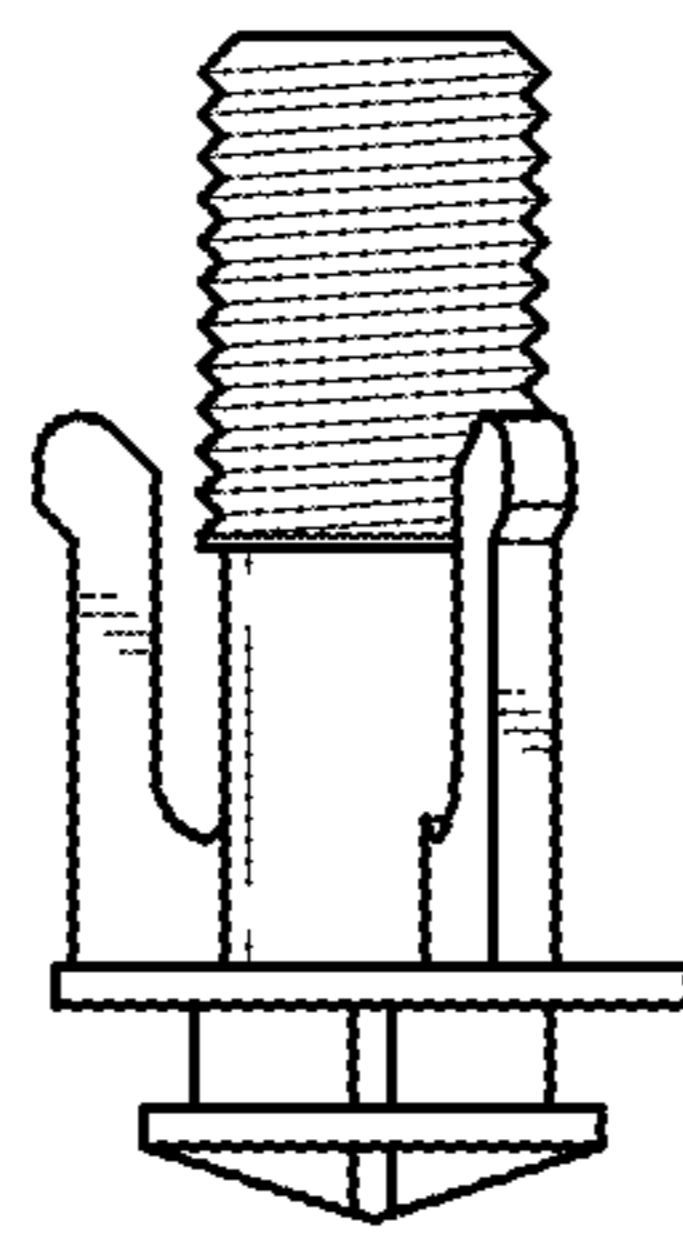


FIG. 21

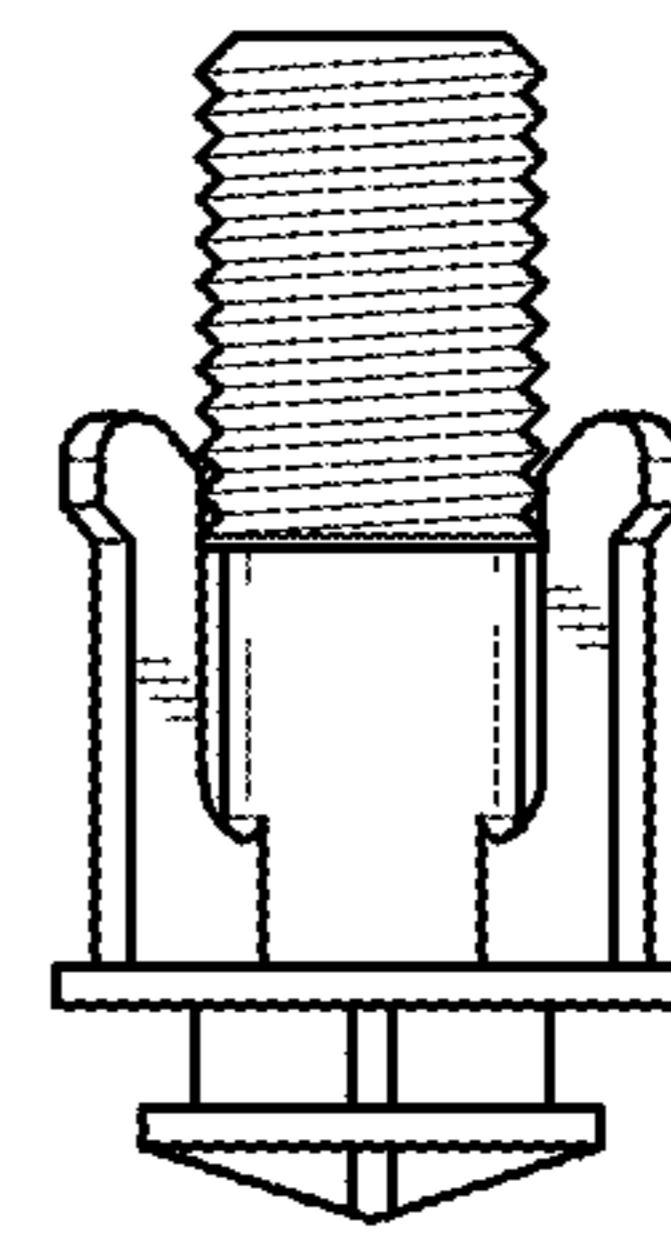


FIG. 22

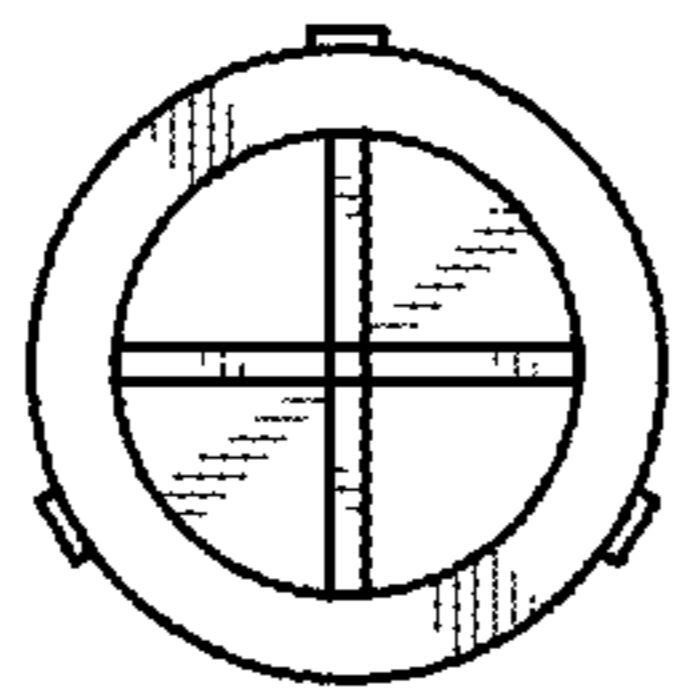


FIG. 23

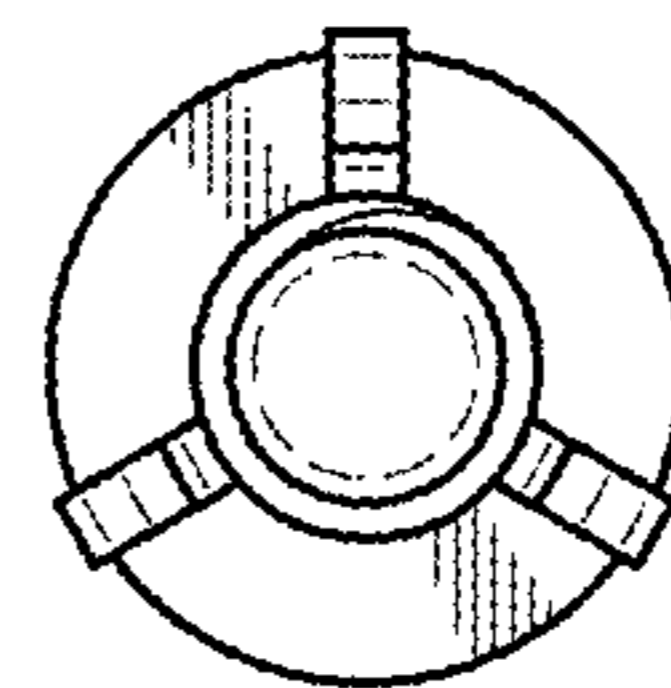


FIG. 24

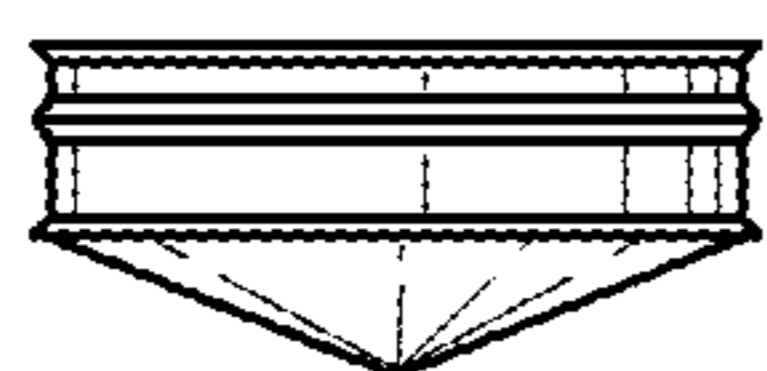


FIG. 25

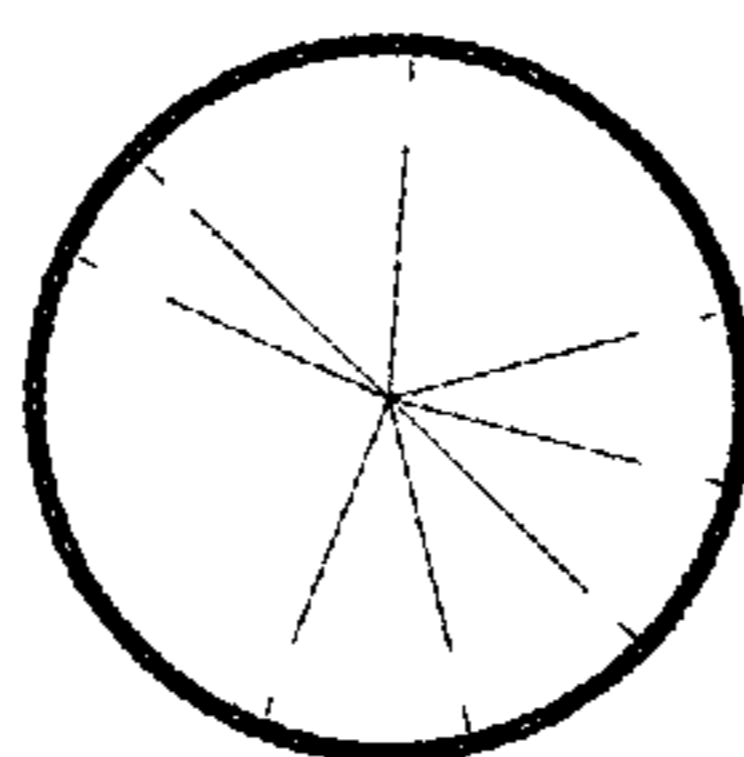


FIG. 26

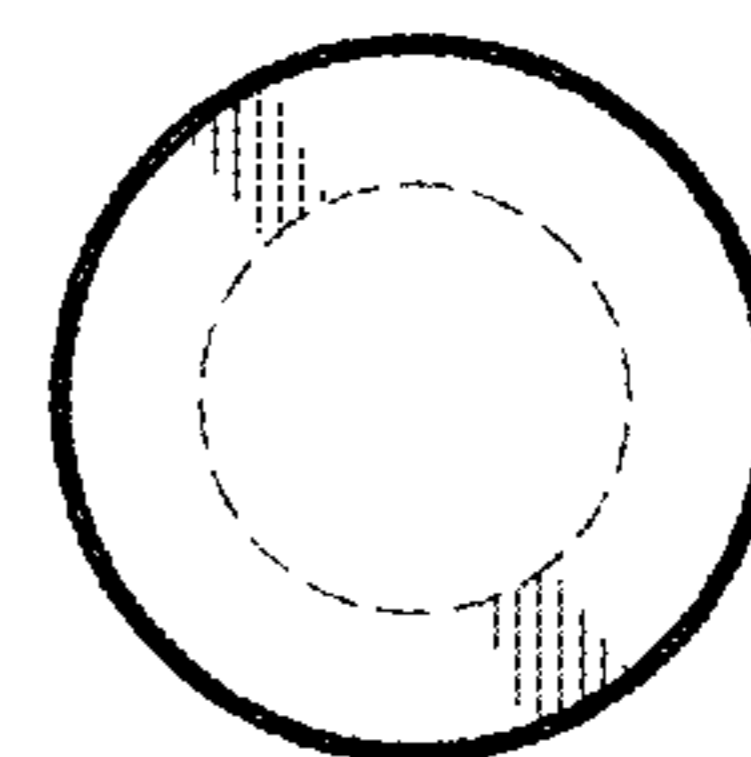


FIG. 27