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United States Patent [19]

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Bassett et al.

[45] Date of Patent: ****Sep. 24, 1996**

[54] **VIRTUAL REALITY VISUAL DISPLAY
HELMET**

FOREIGN PATENT DOCUMENTS

515175 11/1992 European Pat. Off. 345/8

[75] Inventors: **Bruce R. Bassett**, Sunnyvale; **Kenneth Pimentel**, Sausalito; **Peter A. Ronzani**, Los Gatos, all of Calif.

OTHER PUBLICATIONS

- Interavia, Sep. 1979, p. 874.
- VPL Research Inc. May 1991, p. 198.
- NASA Model, May 1991, p. 19.
- Sutherland, "A head-mounted three dimensional display," *Proceedings of the AFIPS Fall Joint Computer Conference*, 1968, pp. 757-764.
- Filer, Bibliography p. from "A Literature Review of Virtual Environment Display Systems," *A 3-D Virtual Environment Display System*, MS thesis, AFTT/GCS/ENG/89D-2, School of Eng., Air Force Inst. of Tech. (AU), Wright-Patterson AFB, OH, Dec. 1989.
- Starks, "Stereoscopic video and the quest for virtual reality: an annotated bibliography of selected topics," *SPIE: Stereo-scopic Displays & Applns II* 1991) 1457:327-342.
- Fisher et al., "Virtual Environment Display System," *ACM 1986 Workshop on Interactive 3D Graphics*, Oct. 23-24, Chapel Hill, NC.

[73] Assignee: **Virtual Research Systems, Inc.**, Santa Clara, Calif.

[**] Term: **14 Years**

[21] Appl. No.: **212,534**

[22] Filed: **Mar. 9, 1994**

Related U.S. Application Data

[62] Division of Ser. No. 919,486, Jul. 27, 1992, Pat. No. 5,321,416.

[52] U.S. Cl. **D14/124**

[58] Field of Search D14/124; D16/133, D16/900; D29/103, 104, 105; D21/13, 48; 273/433-438, 148 B, DIG. 28; 359/480, 431, 407, 630; 345/7, 8, 9, 905; 348/42, 53, 115, 838

(List continued on next page.)

[56] References Cited

U.S. PATENT DOCUMENTS

- D. 338,514 8/1993 Holmes D21/240
- 3,059,519 10/1962 Stanton .
- 4,231,117 11/1980 Aileo .
- 4,257,062 3/1981 Meredith .
- 4,446,480 5/1984 Breglia et al. .
- 4,706,117 11/1987 Schoolman 348/53
- 4,797,736 1/1989 Kloots et al. .
- 4,897,715 1/1990 Beamon .
- 4,902,116 2/1990 Ellis .
- 4,933,755 6/1990 Dahl et al. 348/53
- 4,942,628 7/1990 Freund .
- 4,952,024 8/1990 Gale .
- 4,961,626 10/1990 Fournier, Jr. .
- 4,982,278 1/1991 Dahl et al. .
- 5,039,035 8/1991 Fitzpatrick .
- 5,189,512 2/1993 Cameron et al. .
- 5,227,769 7/1993 Leksell et al. 345/8
- 5,276,471 1/1994 Yamauchi et al. 348/53 X

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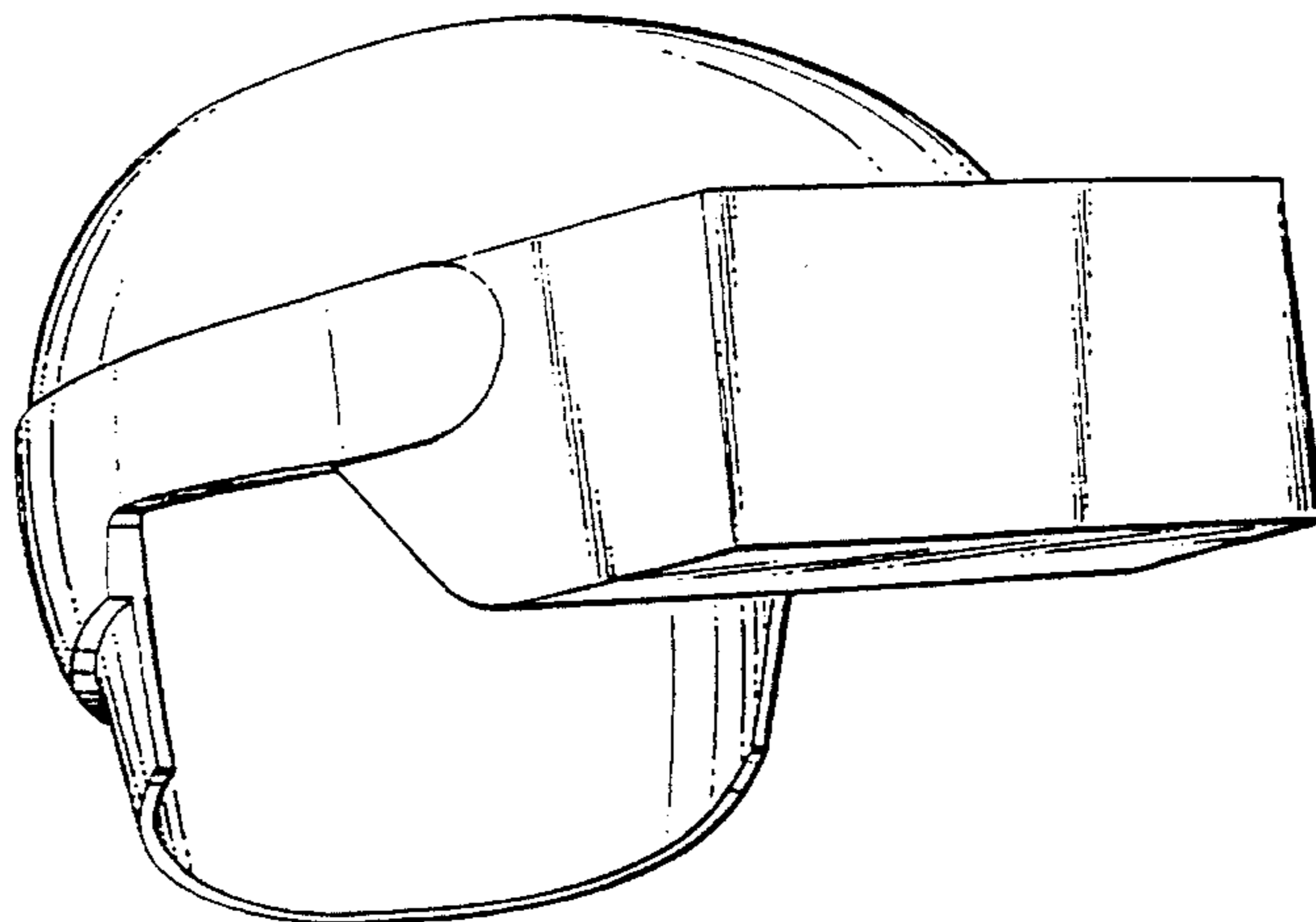
[57] CLAIM

The ornamental design for a virtual reality visual display helmet, as shown and described.

DESCRIPTION

FIG. 1 is a front perspective view of a virtual reality visual display helmet showing our new design;
FIG. 2 is a top plan view thereof;
FIG. 3 is a front elevational view thereof;
FIG. 4 is a left side elevational view thereof, the right side elevation view being a mirror image;
FIG. 5 is a rear elevational view thereof; and,
FIG. 6 is a bottom plan view thereof.

1 Claim, 2 Drawing Sheets



OTHER PUBLICATIONS

Fisher et al., "Virtual Interface Environment Workstations," *Proceedings of the Human Factors Society 32nd Annual Meeting*, Oct. 24-28, 1988, Anaheim, CA, pp. 91-95.

Fisher, "Virtual Environments, Personal Simulation & Telepresence," Oct. 1989, NASA Ames Research Center.

Unknown author, "3. Integrated Helmet Systems 'With Second Sensor'," *SPIE: Large-Screen-Projection, Avionic, and Helmet-Mounted Displays* (1991) 1456:111-123.

Burbridge et al., "Hardware Improvements to the Helmet Mounted Projector on the Visual Display Research Tool

(VDRT) at the Naval Training Systems Center," *SPIE: Helmet-Mounted Displays*(1989) 1116:52-60.

CAE Electronics LTD. product announcement, "Fiber-Optic Helmet Mounted Display," Saint-Laurent Quebec, Canada.

LEEP Systems, Inc. product announcement, "Cyberface II," Waltham, MA, Feb. 1992.

VPL Research product announcement, "RB2 Virtual Reality System," Redwood City, CA Mar. 1991.

Brill, "Facing Interface Issues," *Computer Graphics World* Apr. 1992, pp. 48-58.

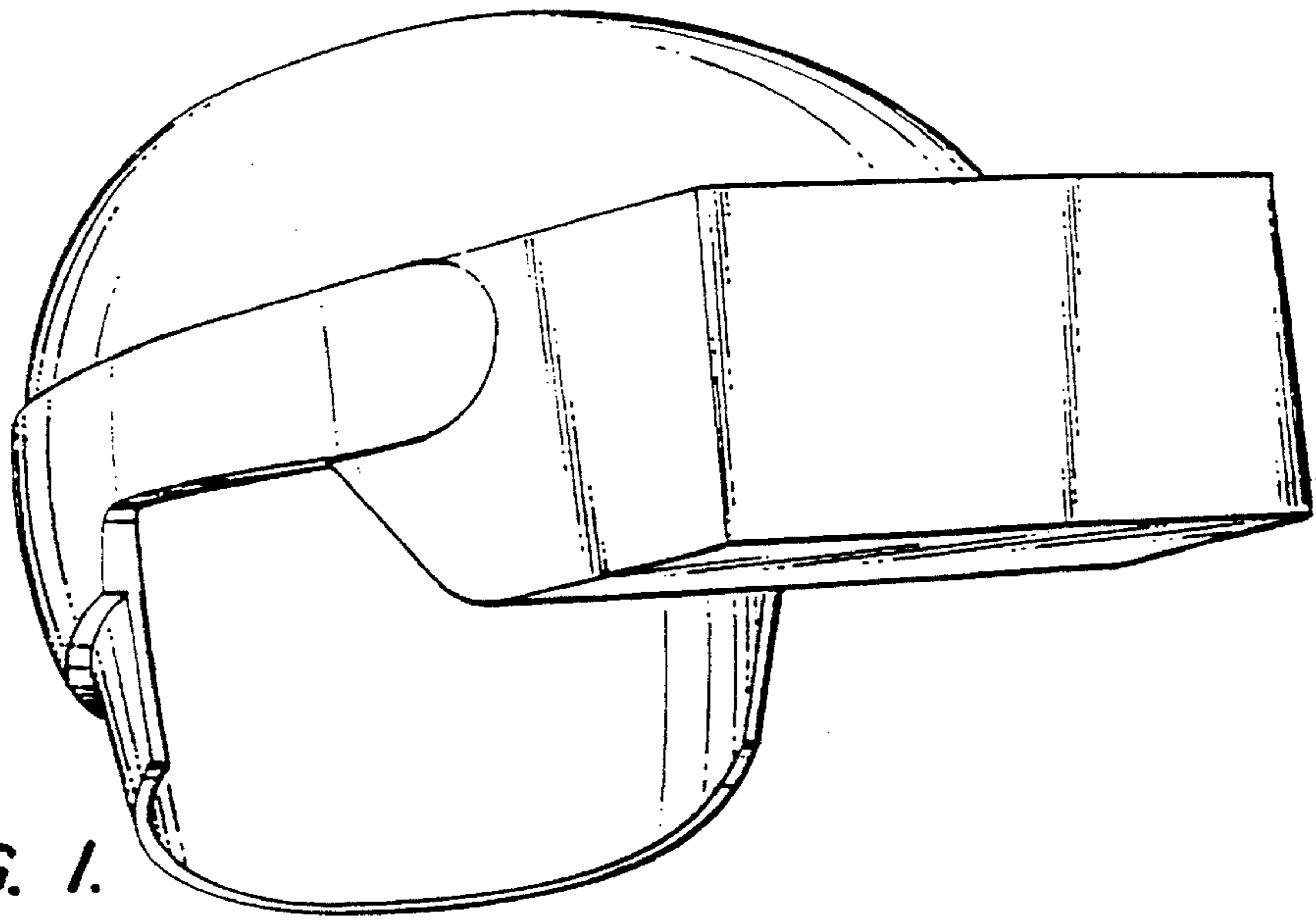


FIG. 1.

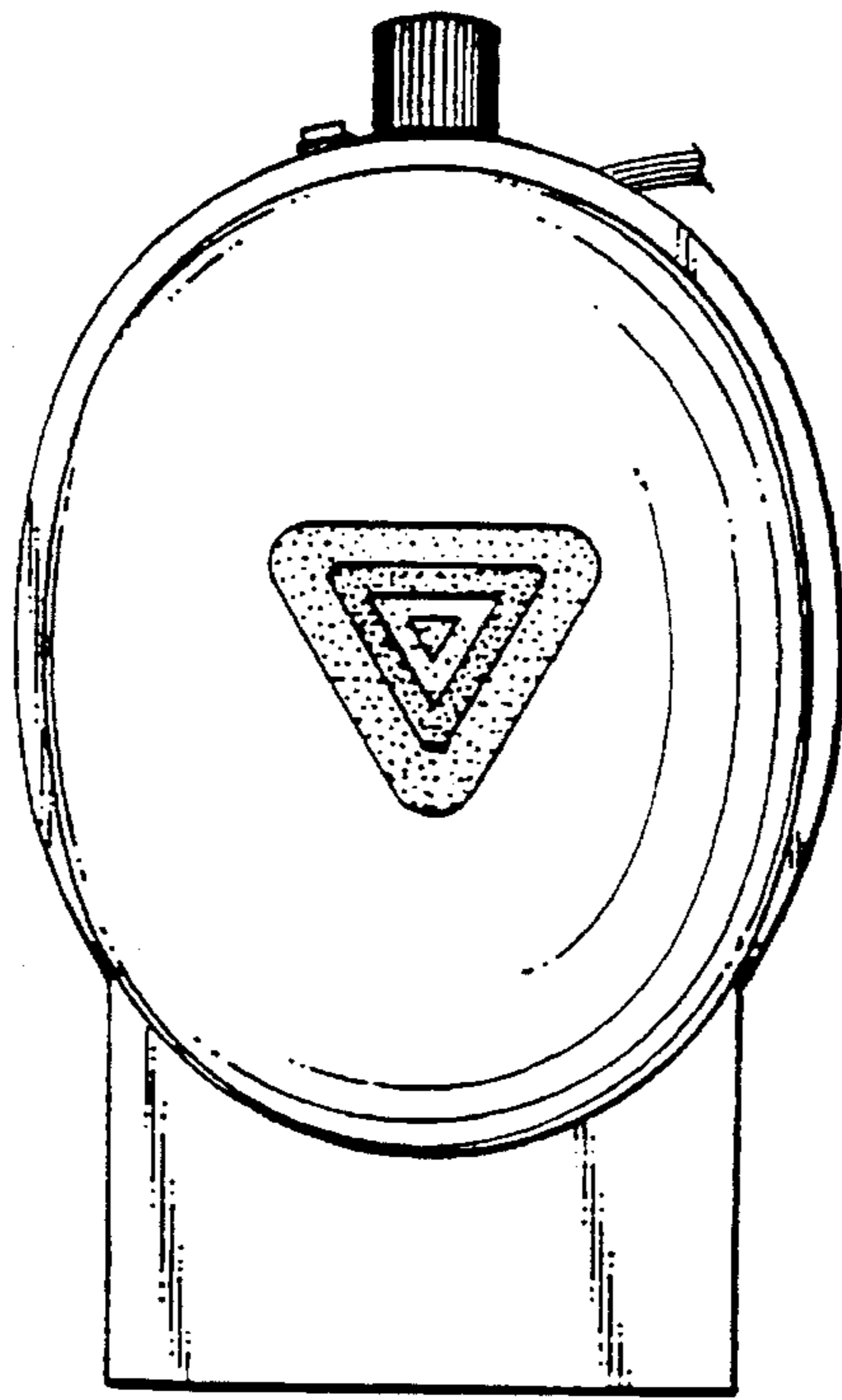


FIG. 2.

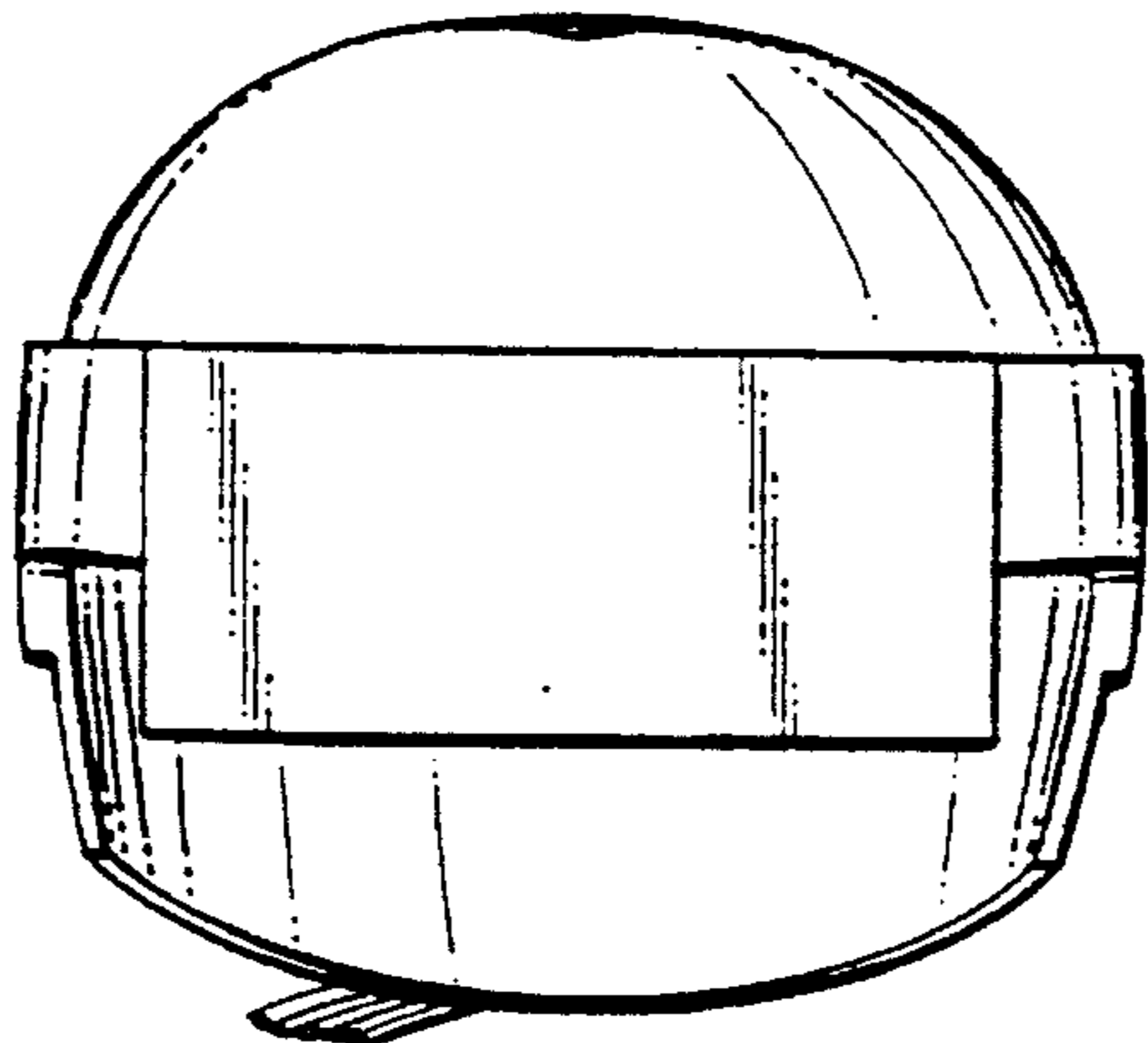


FIG. 3.

