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United States Patent [19]

Jones

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[54] **HIGH TEMPERATURE VACUUM HEATER SUPPORTING MECHANISM WITH CUP SHAPED SHIELD**

[76] Inventor: **William R. Jones**, P.O. Box 205, Telford, Pa. 18969

Primary Examiner—Tu Ba Hoang

[57] **ABSTRACT**

An electrical insulating and heating element support mechanism for a high temperature vacuum furnace having a support rod with an electrical insulating and support mechanism for connecting a heating element to the rod in an

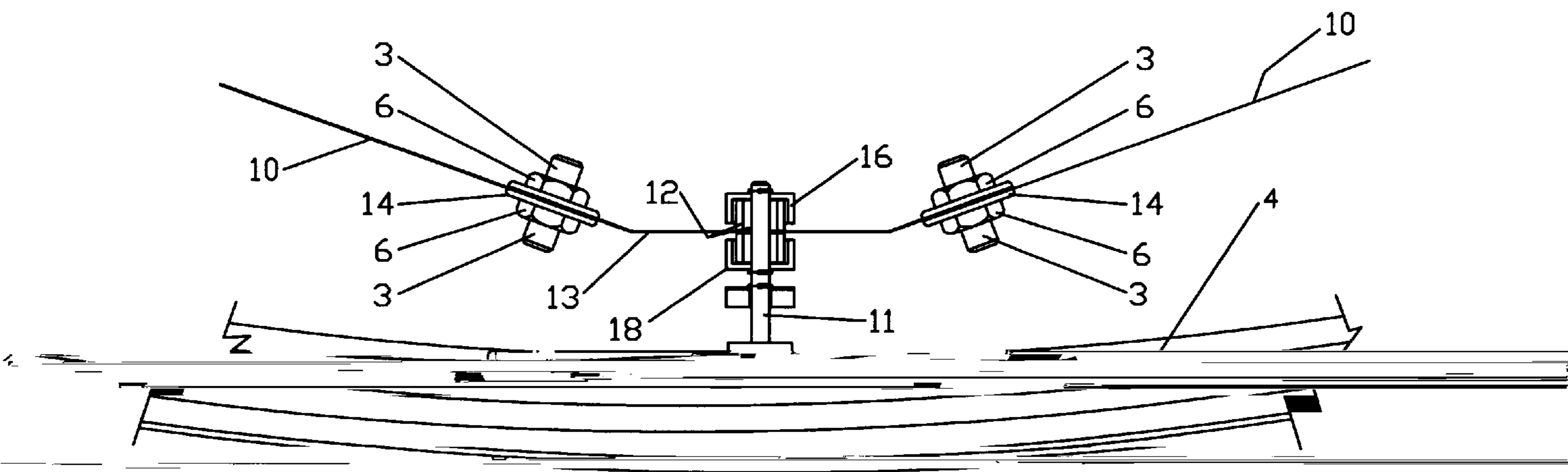


FIG. 1

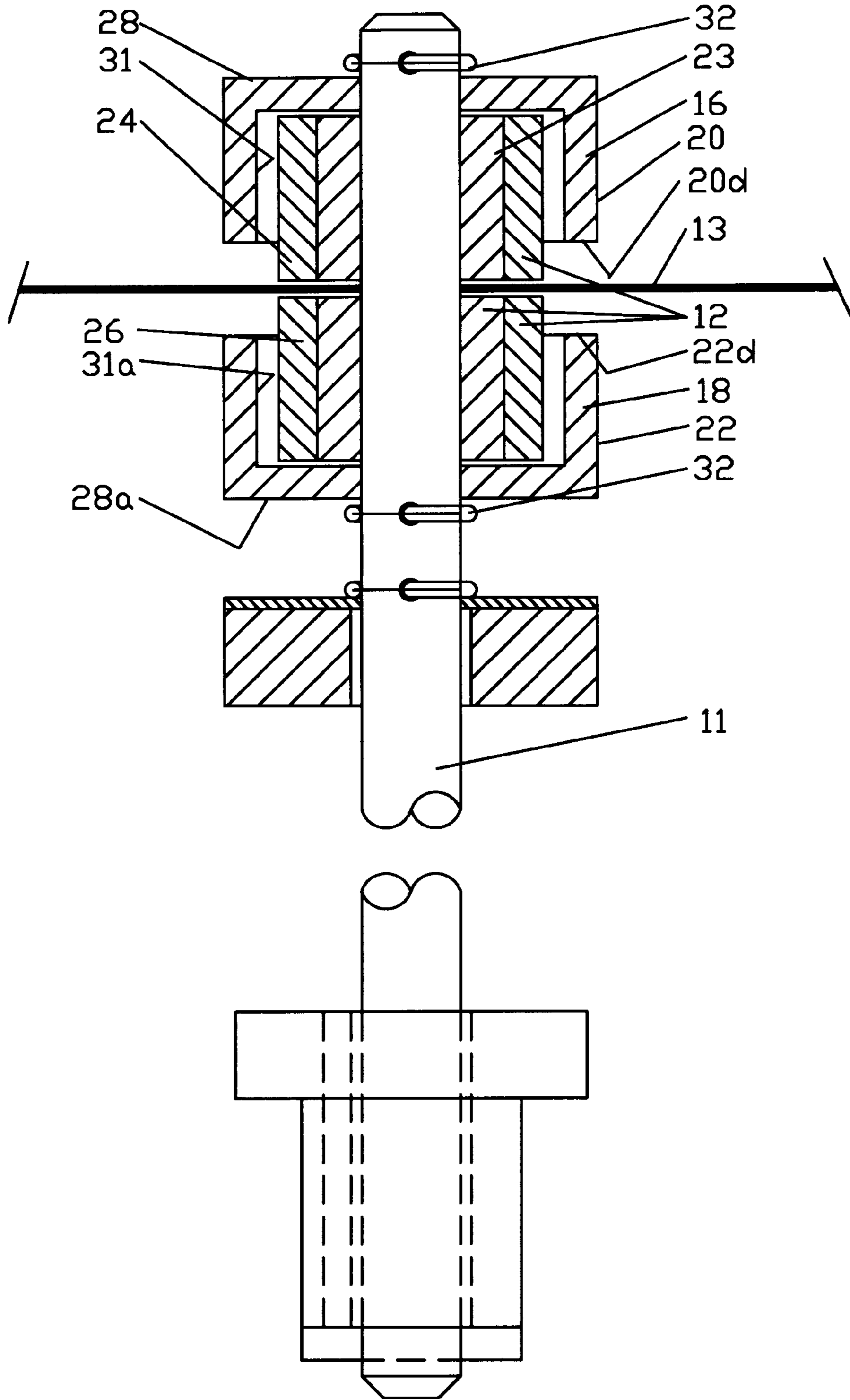


FIG. 2

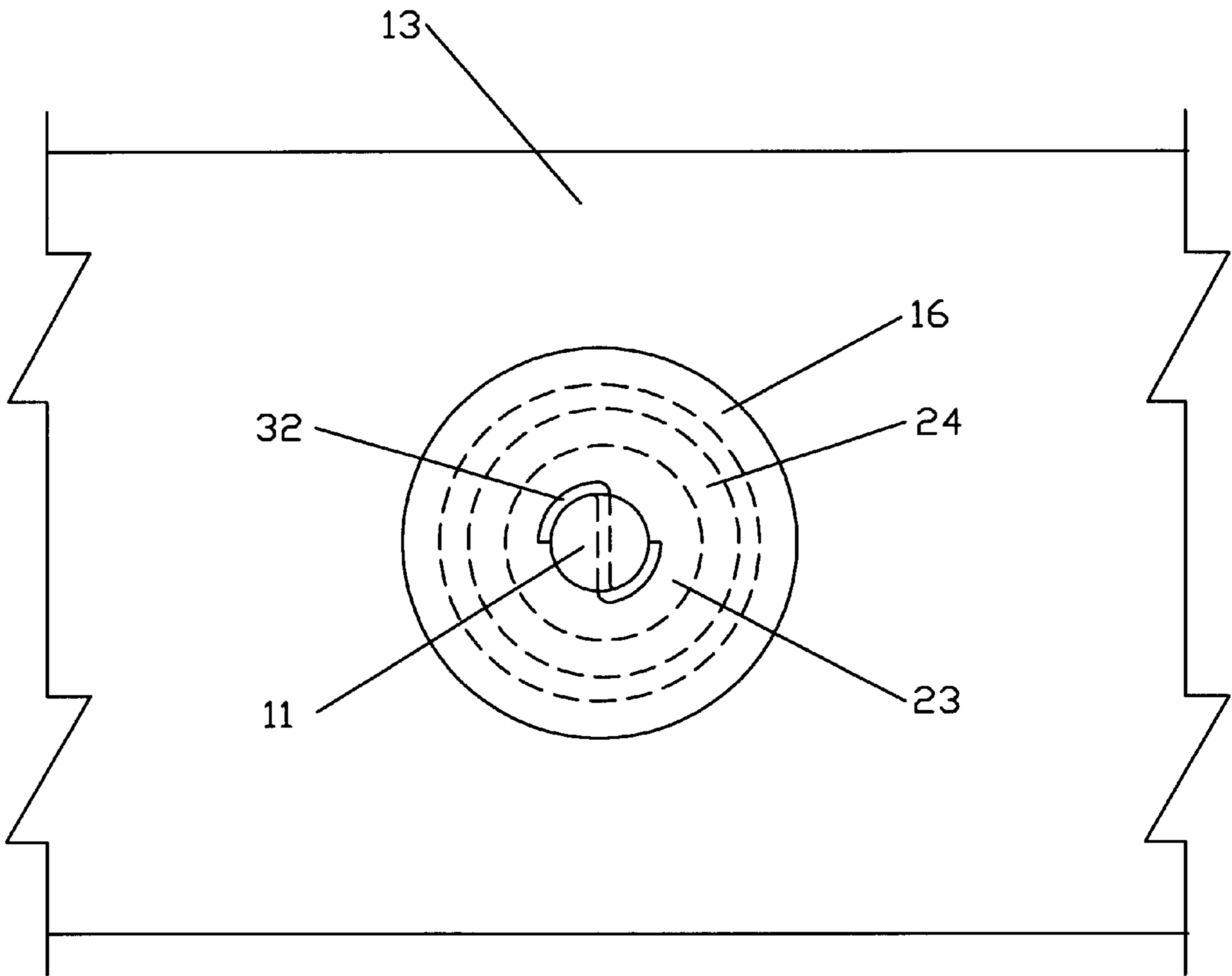


FIG. 2A

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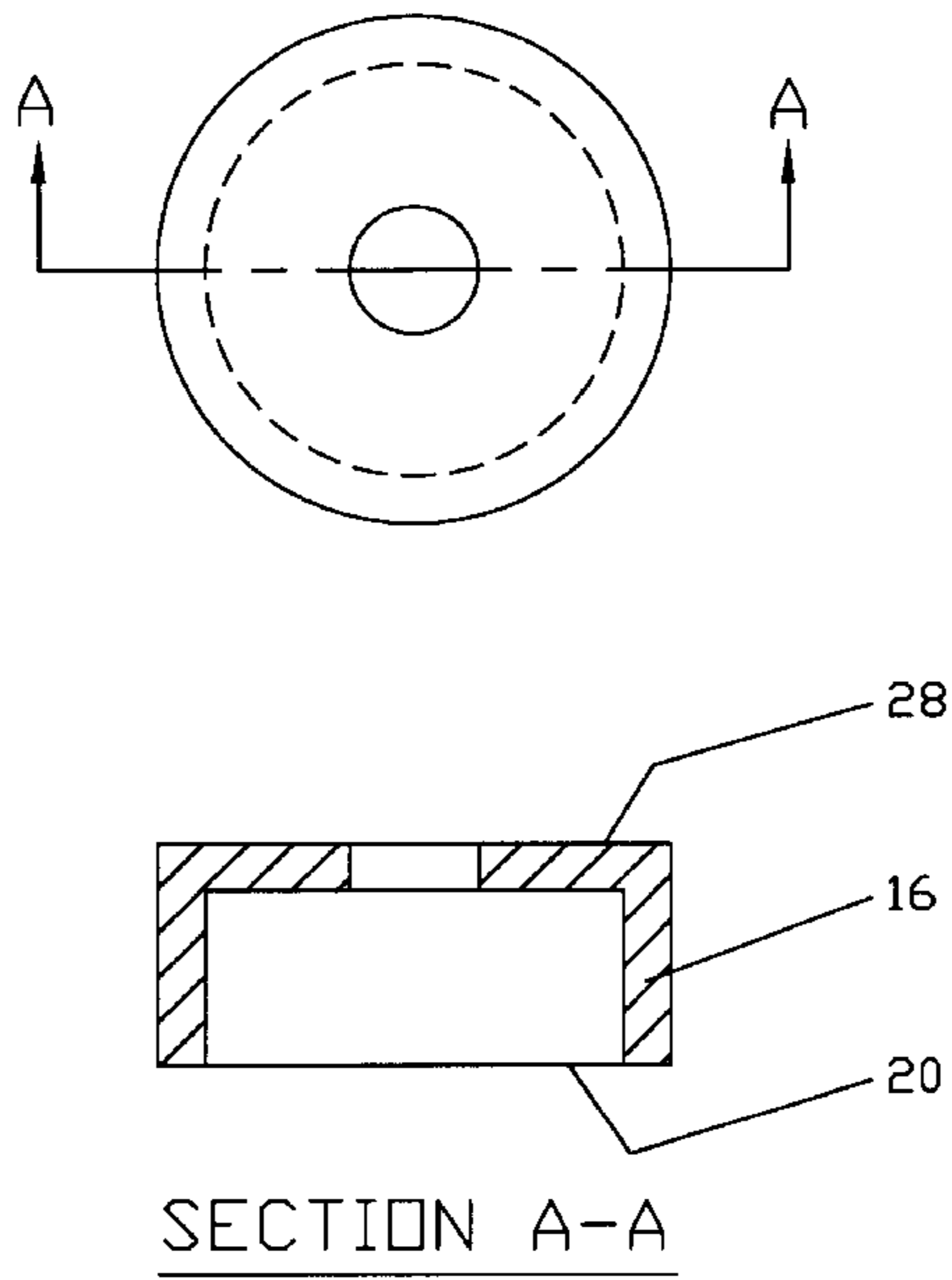
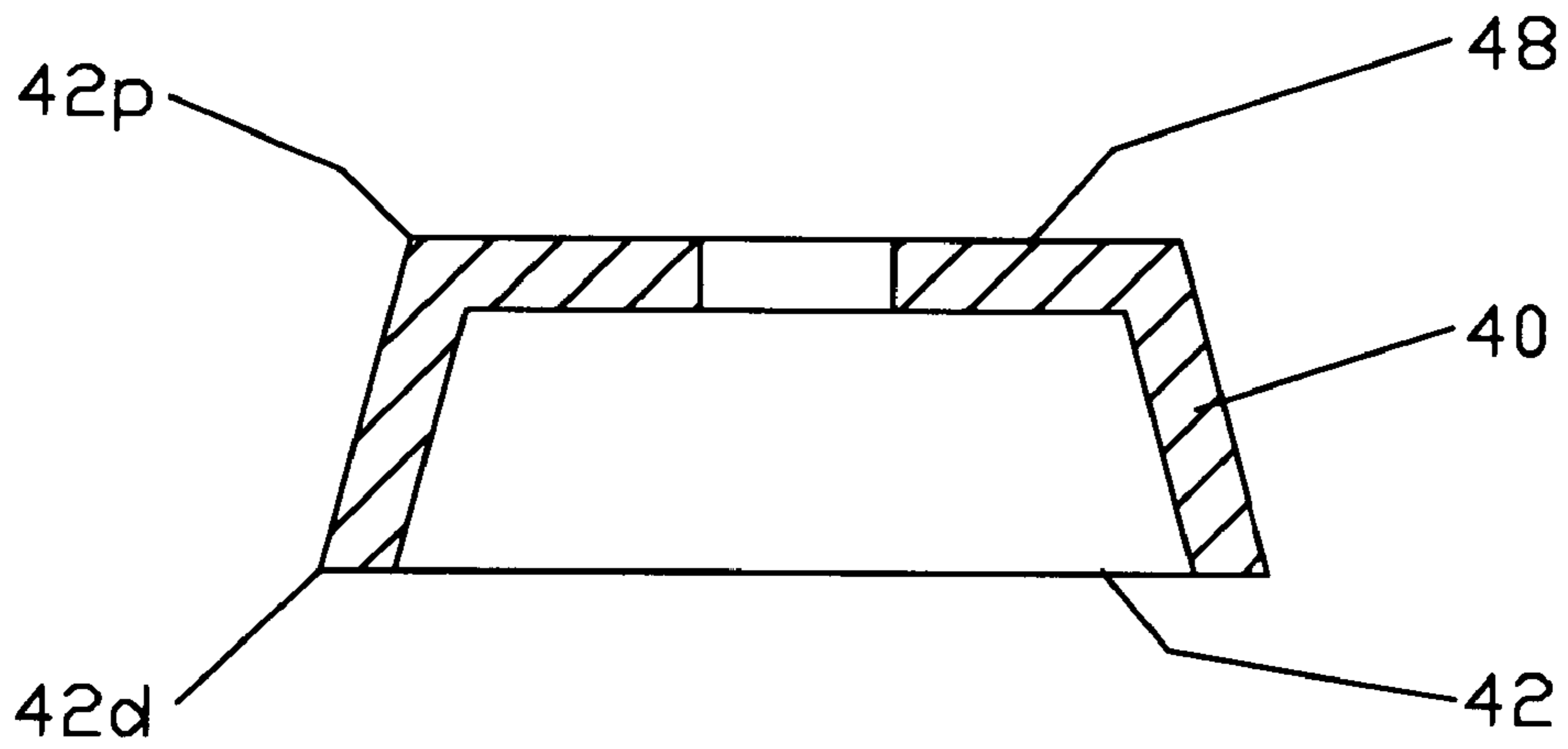
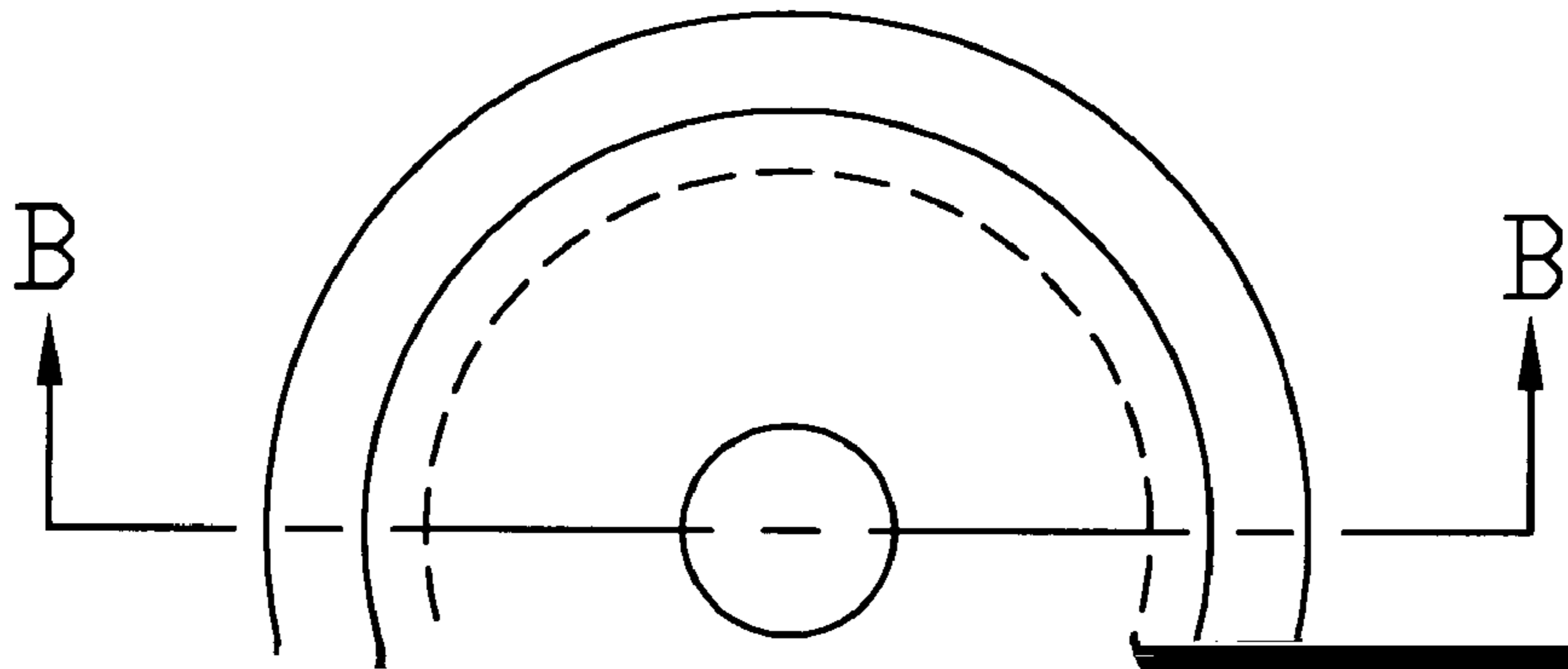


FIG. 3

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SECTION B-B

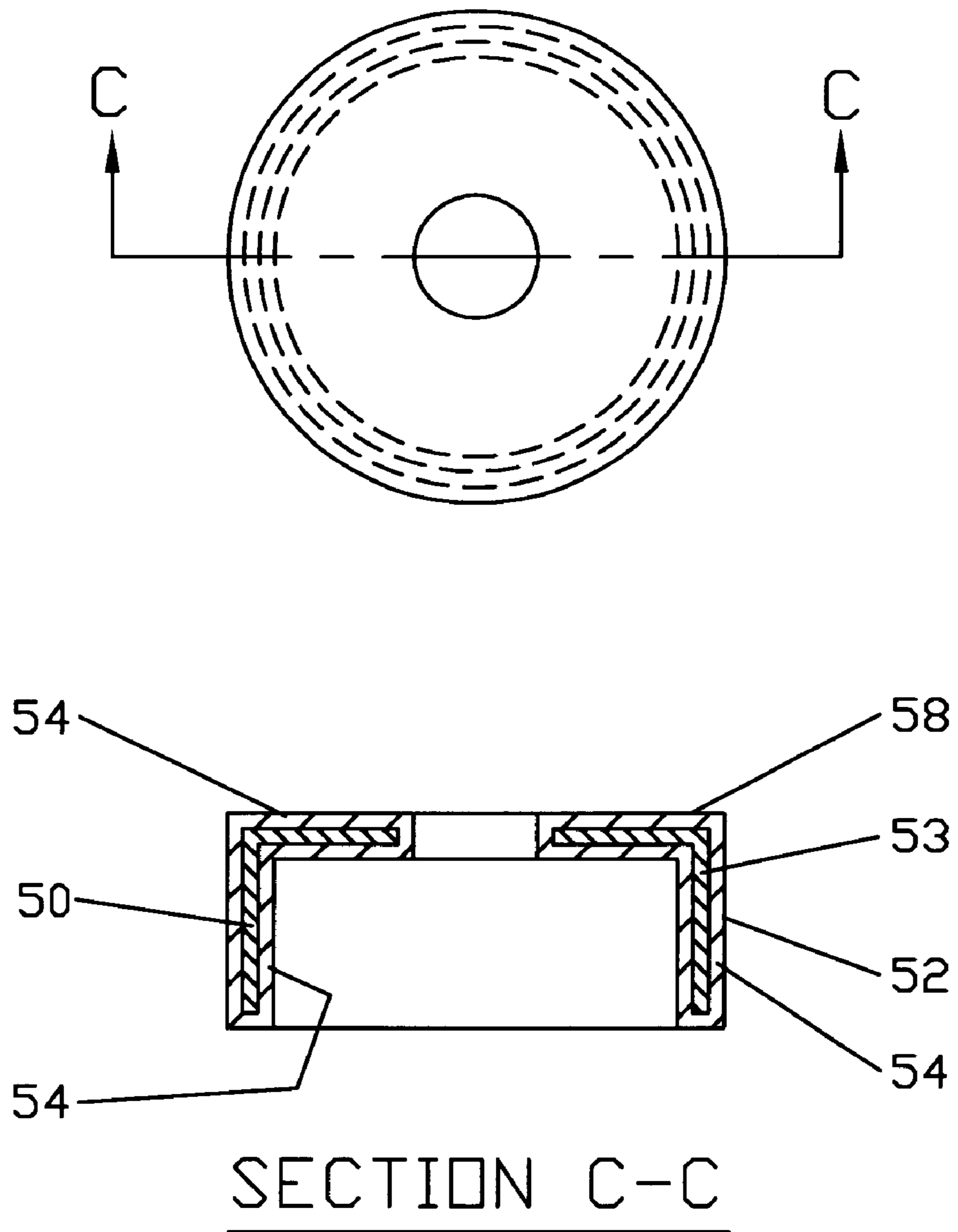
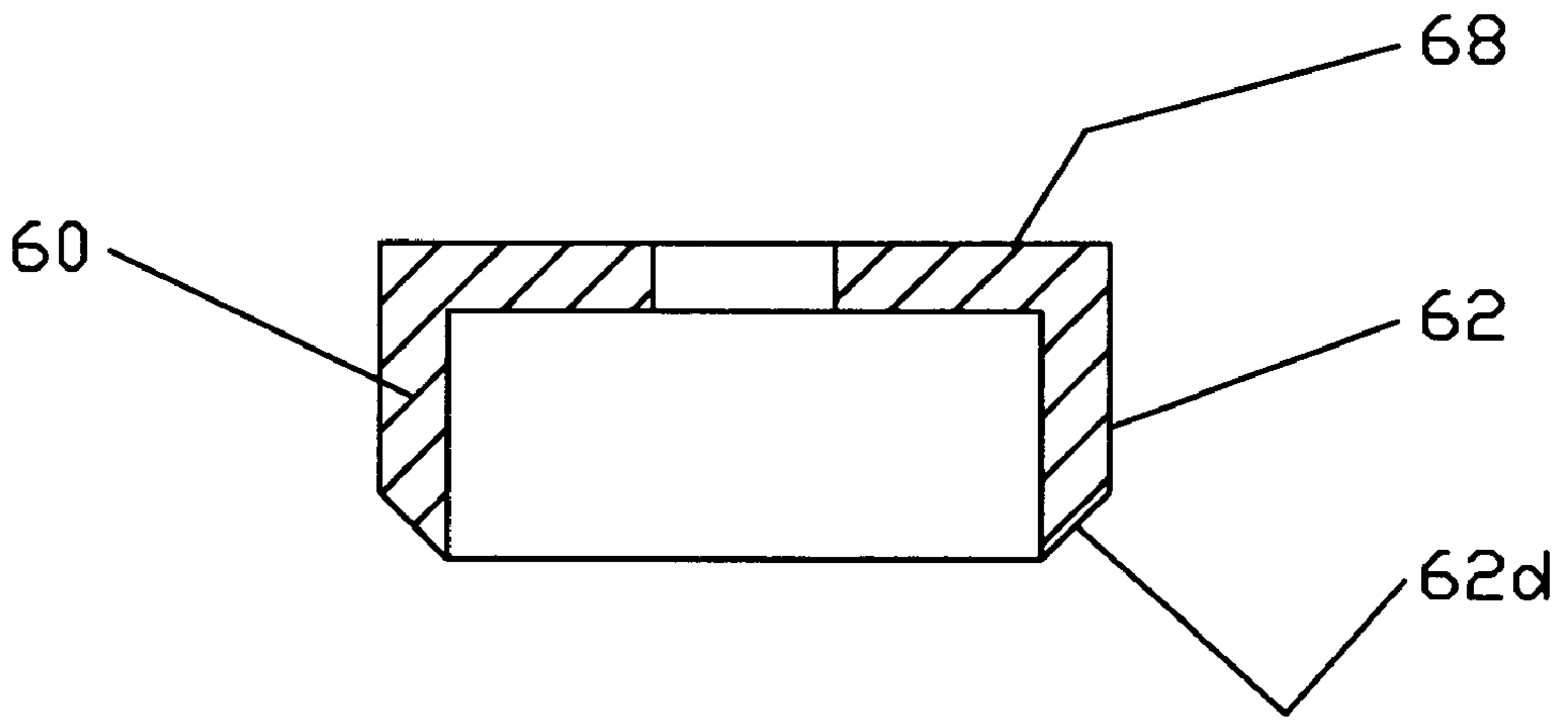
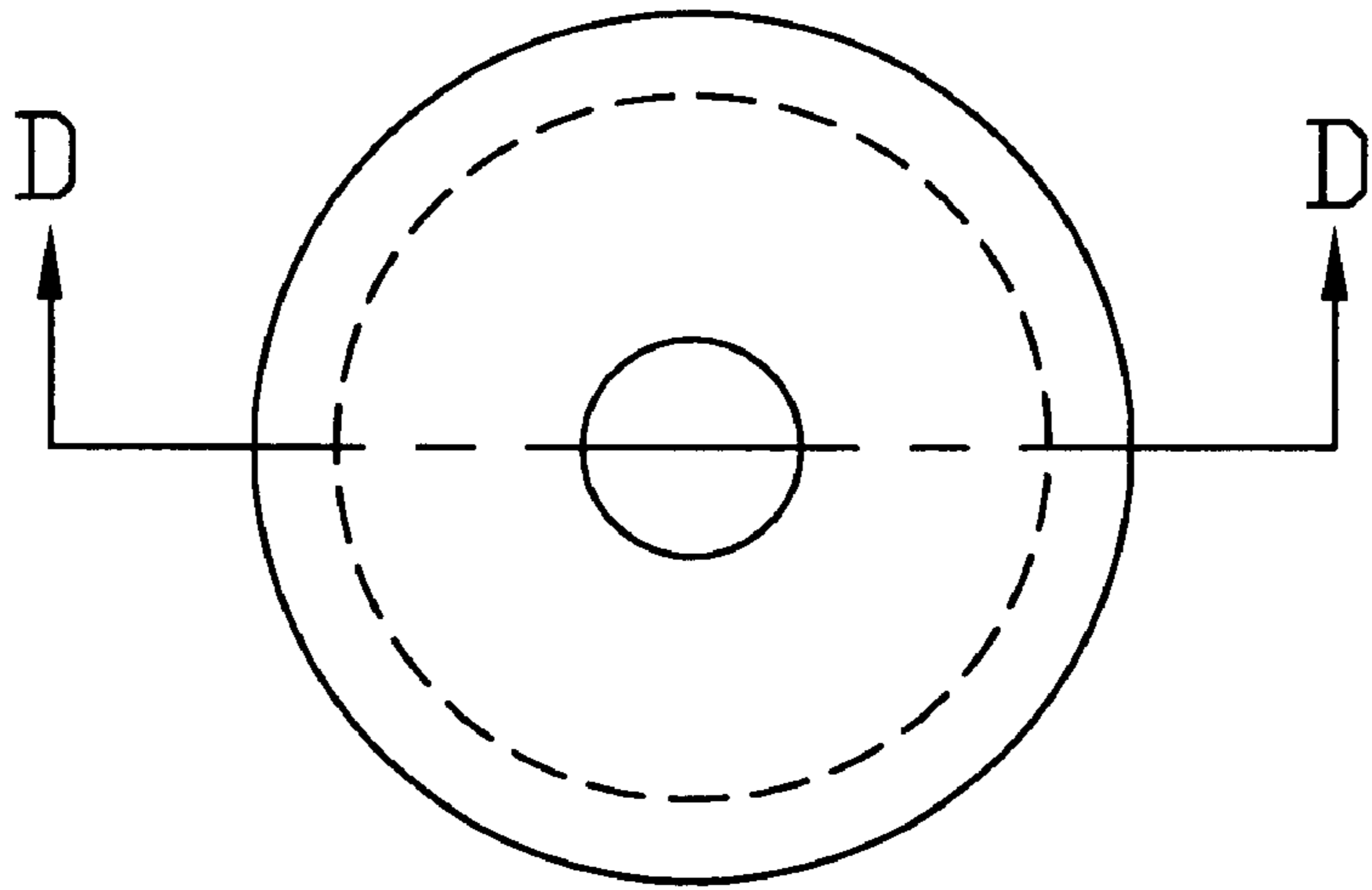
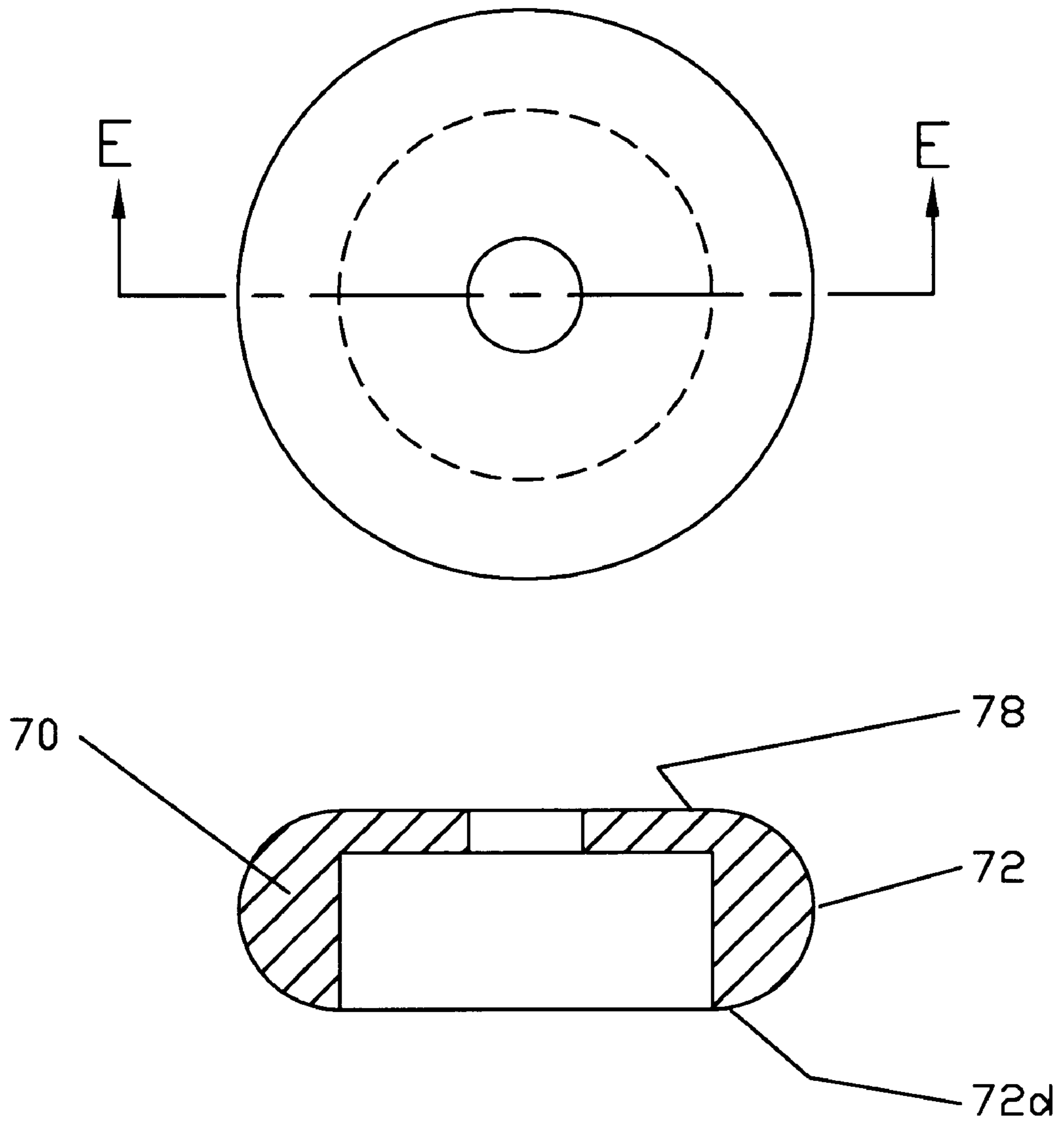


FIG. 5



SECTION D-D

FIG. 6



SECTION E-E

FIG. 7

HIGH TEMPERATURE VACUUM HEATER
SUPPORTING MECHANISM WITH CUP
SUPPORT MECHANISM

determined that the electrical insulator devices have an affinity for molybdenum trioxide (MO_3). It was also discovered that while the molybdenum shields intercepted the

FIELD OF THE INVENTION

This invention relates to heat treating furnaces that employ electric resistance heating elements and in

5 a buildup of MO_3 . On subsequent cycles the MO_3 is reduced to leave molybdenum on the insulator surfaces and such a molybdenum buildup conducts electricity. The invention in

according to another embodiment of my invention further illustrating a shield with a flared wall;

FIG. 5 top view and cross section a shield according to

example, a stabilizer bar **14** and a compensator bar **13** as shown in FIG. 1. Compensator bars **13** are contoured to provide a shape to the polygon, for example an octagon or

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said stabilizing means and heating element, said electrical insulating means having an insulator with an exterior surface, and at least one shield intended to limit the amount of undesirable deposition on said insulating means, the

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face and a wall spaced from and radially surrounding said curved distal surface.

6. The electrical insulating and heating element support mechanism in accordance with claim 5 wherein said wall is

shield having a cup wall with a proximal edge and a distal edge, said cup wall being spaced from but in close proximity

7. The electrical insulating and heating element support mechanism in accordance with claim 5 wherein said cup