



US00D323332S

# United States Patent [19]

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Ishii et al.

[45] Date of Patent: **\*\* Jan. 21, 1992**

[54] HANDLING ARM FOR BOATS FOR THERMAL TREATMENT OF SEMICONDUCTOR WAFERS

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[75] Inventors: **Katsumi Ishii, Fujino; Mitsuo Katoh, Sagamihara; Shingo Watanabe, Aikawa, all of Japan**

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*Attorney, Agent, or Firm*—Oblon, Spivak, McClelland, Maier & Neustadt

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

[21] Appl. No.: **301,992**

### [57] CLAIM

[22] Filed: **Jan. 25, 1989**

The ornamental design for a handling arm for boats for thermal treatment of semiconductor wafers, as shown and described.

### [30] Foreign Application Priority Data

Jul. 25, 1988 [JP] Japan ..... 63-29834

### DESCRIPTION

[52] U.S. Cl. .... **D15/199**

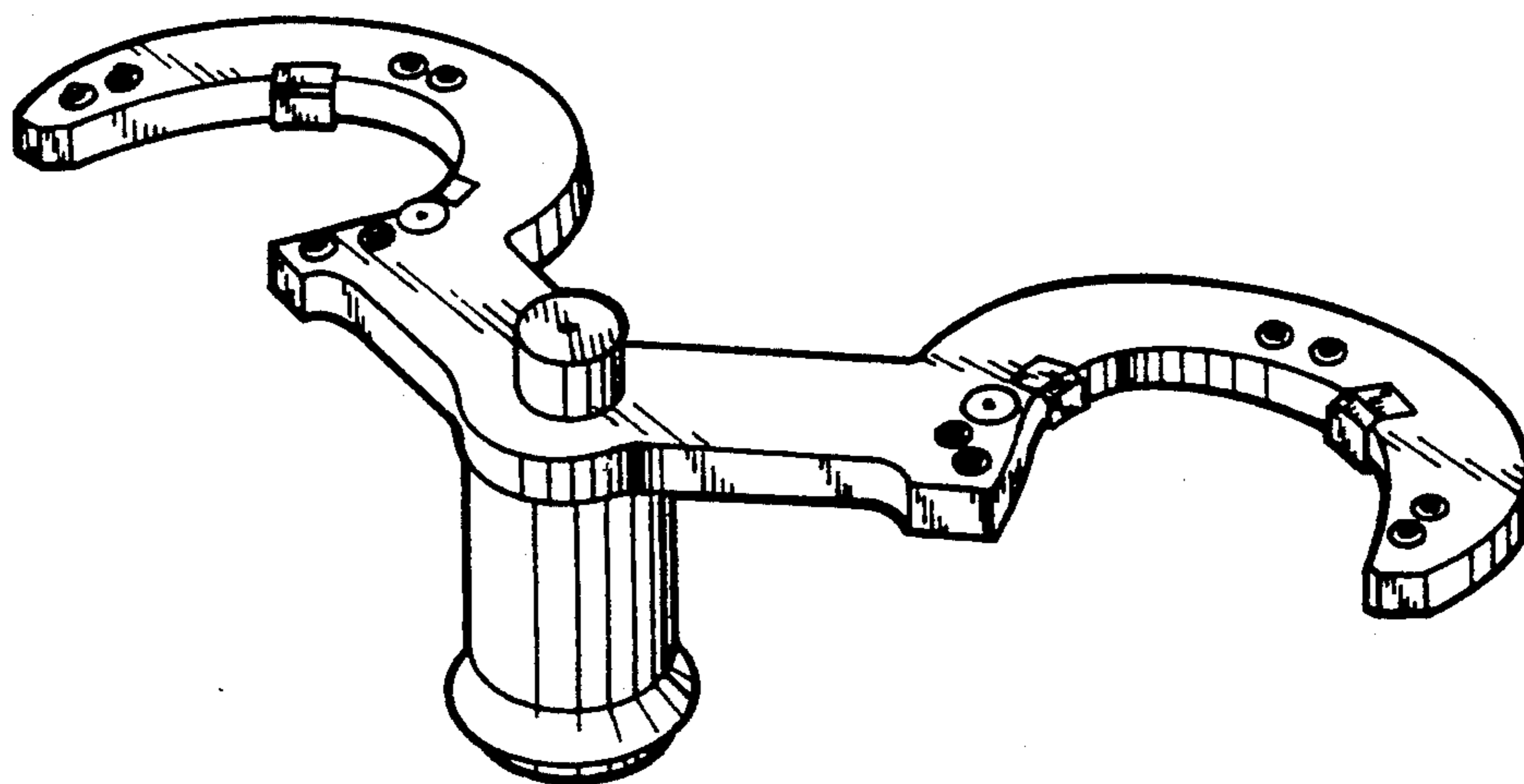
[58] Field of Search ..... D15/144, 199; 219/390, 219/411; 414/222, 225, 226, 443; 432/6, 153, 33, 239, 253, 258, 260, 261

FIG. 1 is a top, front and right side perspective view of a handling arm for boats for thermal treatment of semiconductor wafers showing our new design;  
FIG. 2 is a front elevational view;  
FIG. 3 is a left side elevational view;  
FIG. 4 is a top plan view;  
FIG. 5 is a bottom plan view; and  
FIG. 6 is a rear elevational view thereof.

### [56] References Cited

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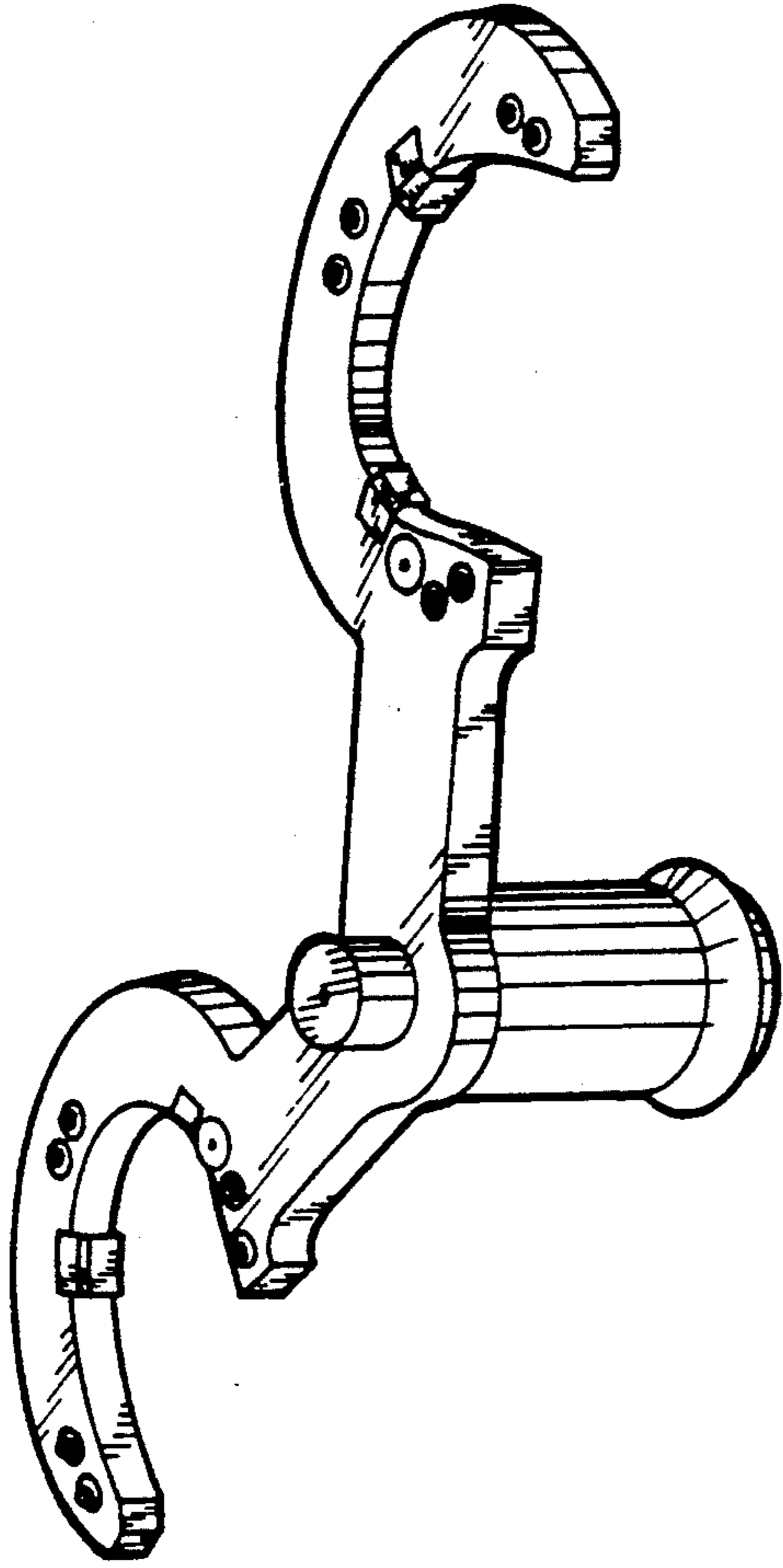


FIG. 1

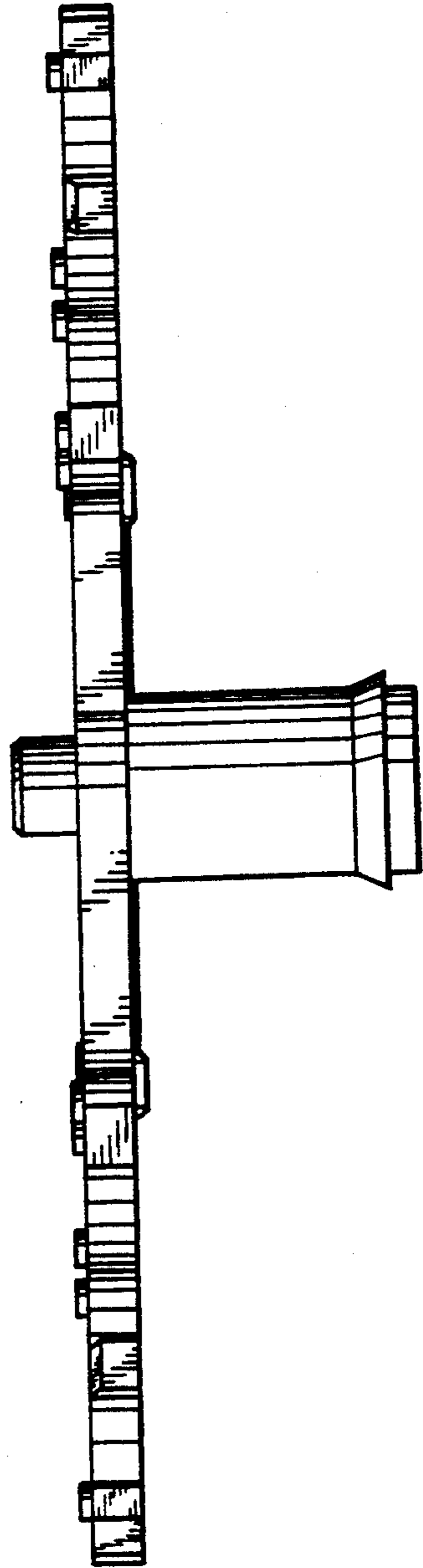


FIG. 2

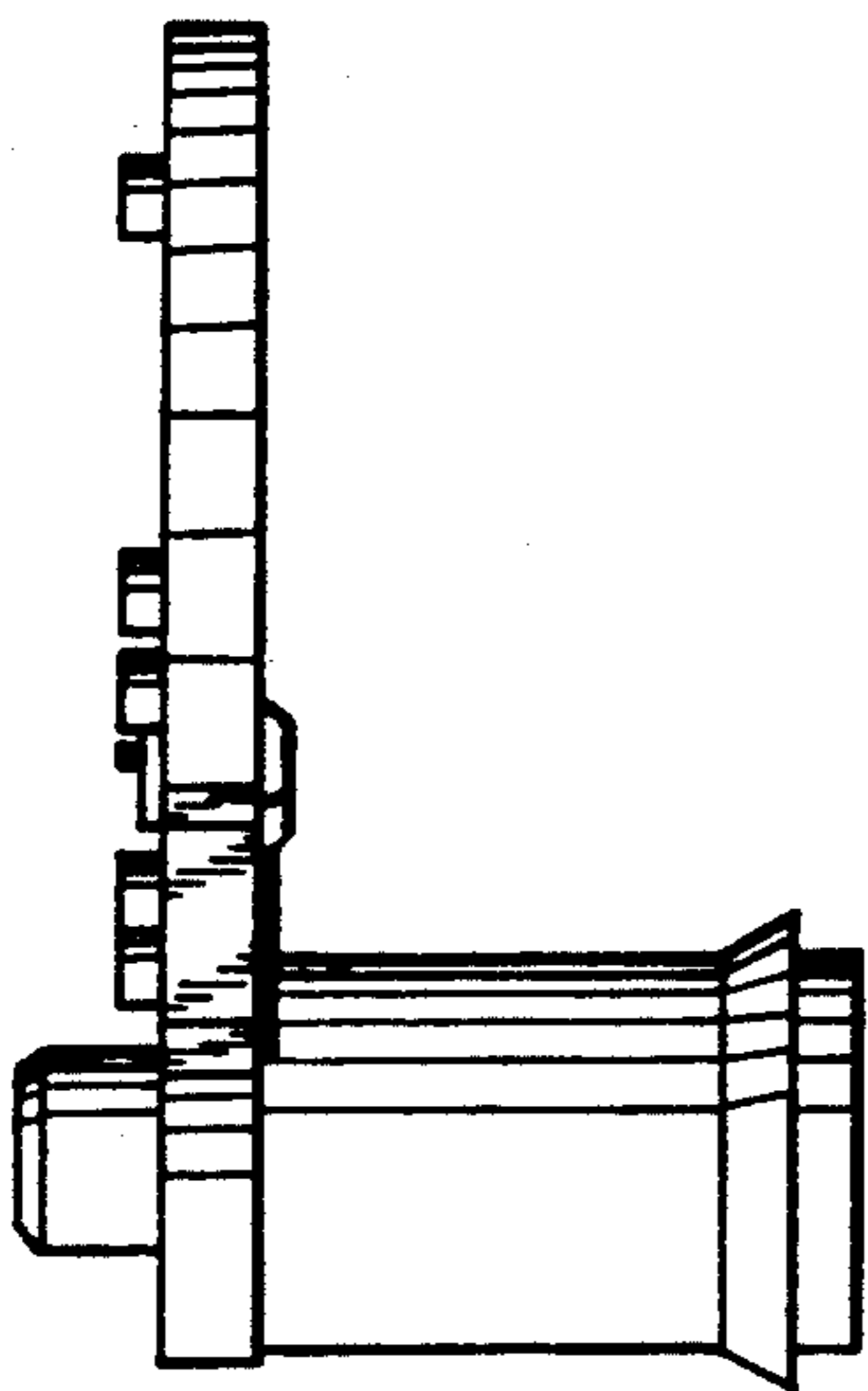


FIG. 3

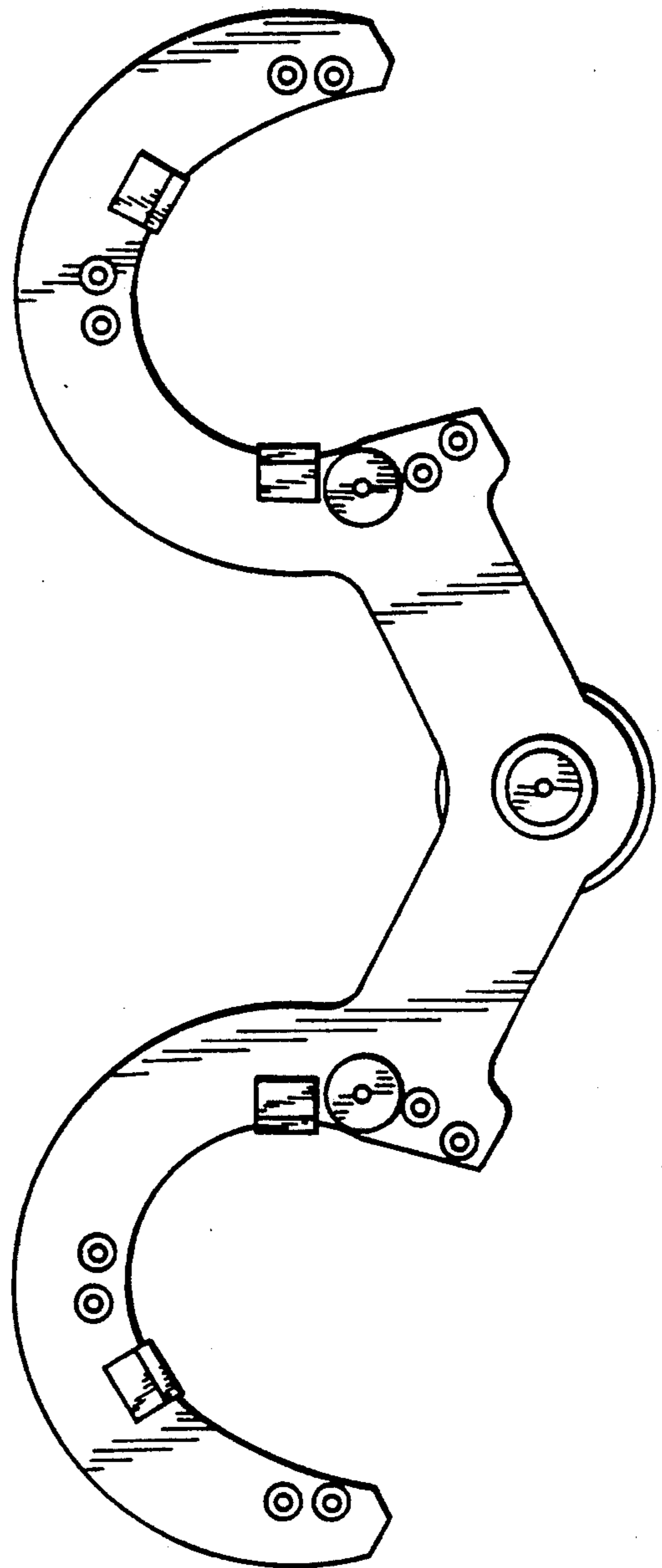


FIG. 4

FIG. 5

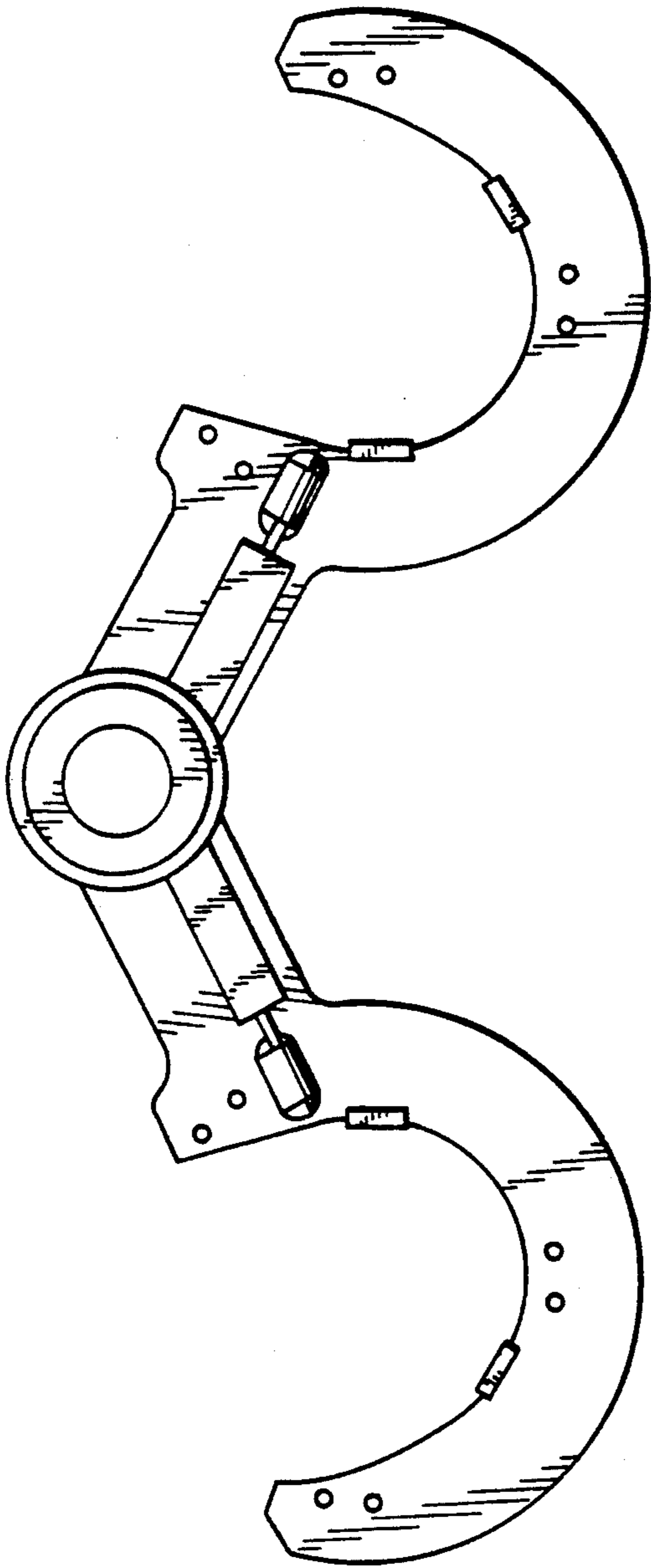


FIG. 6

