

[54] HEAT EXCHANGER

4,343,626 8/1982 Reise et al. .... 165/162

[75] Inventor: Masafumi Fukumoto, Amagasaki, Japan

FOREIGN PATENT DOCUMENTS

[73] Assignee: Nisshin Chemical Industry Co., Ltd., Amagasaki, Japan

2100485 7/1971 Fed. Rep. of Germany ..... 165/163  
2734060 2/1979 Fed. Rep. of Germany ..... 165/163  
3016781 11/1981 Fed. Rep. of Germany ..... 165/163  
122457 9/1979 Japan ..... 165/162  
2075172 11/1981 United Kingdom ..... 165/163

[\*\*] Term: 14 Years

Primary Examiner—Catherine E. Kemper  
Attorney, Agent, or Firm—Gabriel P. Katona

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[57] CLAIM

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[52] U.S. Cl. .... D23/136

The ornamental design for a heat exchanger, as shown and described.

[58] Field of Search ..... D23/136; 165/162, 163, 165/157

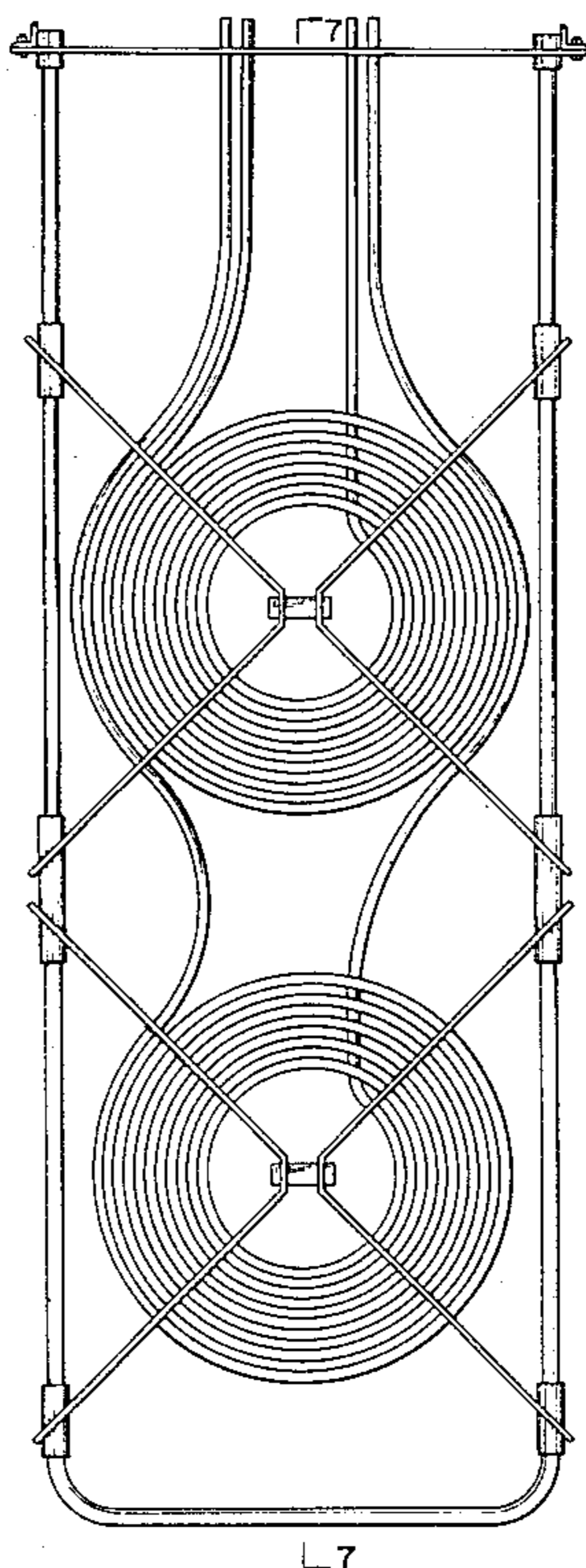
DESCRIPTION

[56] References Cited

U.S. PATENT DOCUMENTS

3,117,623 1/1964 Griebisch ..... 165/163  
3,496,997 2/1970 Weber ..... 165/163  
3,742,567 7/1973 Kaelin ..... 165/162 X  
4,030,540 6/1977 Roma ..... 165/162 X  
4,167,211 9/1979 Haller ..... 165/162 X  
4,190,104 2/1980 Frei ..... 165/162  
4,271,900 6/1981 Reitz ..... 165/162

FIG. 1 is a front elevational view of a heat exchanger, showing my new design;  
FIG. 2 is a rear elevational view thereof;  
FIG. 3 is a left side elevational view thereof;  
FIG. 4 is a right side elevational view thereof;  
FIG. 5 is a top plan view thereof;  
FIG. 6 is a bottom plan view thereof;  
FIG. 7 is a sectional view taken along line 7—7 of FIG. 1.



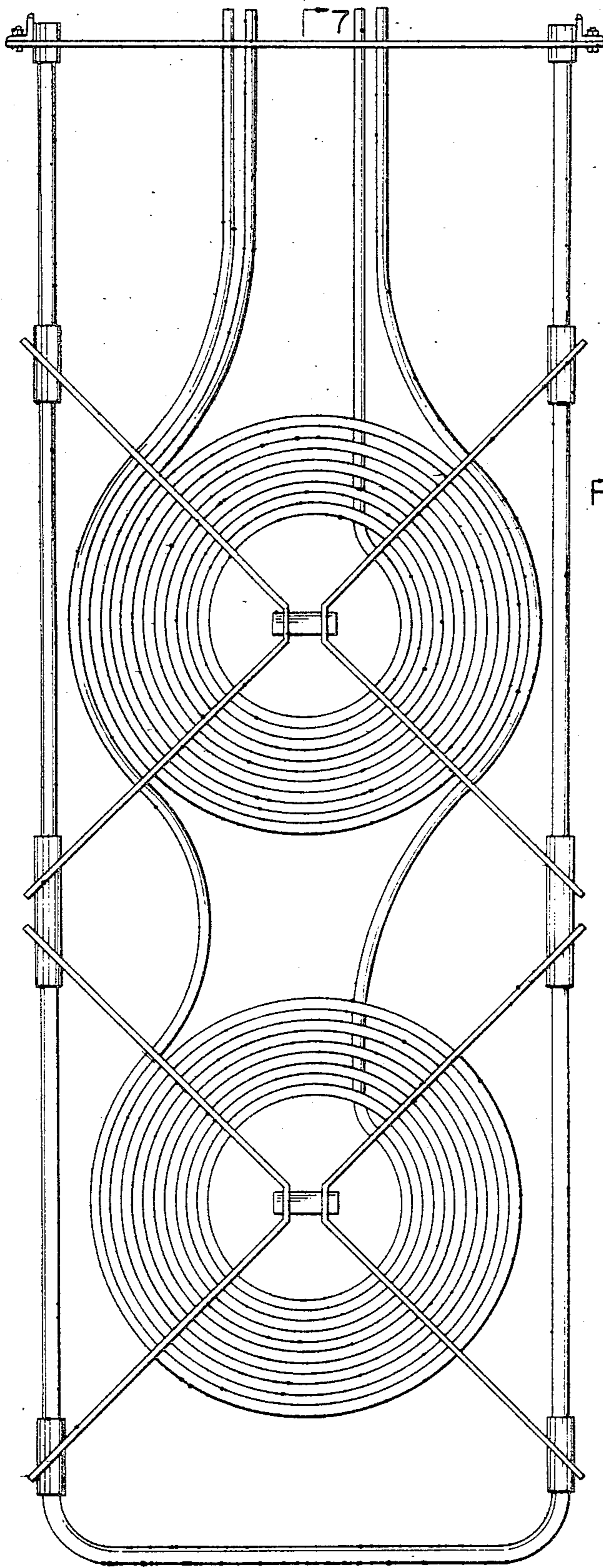


Fig 1

L7

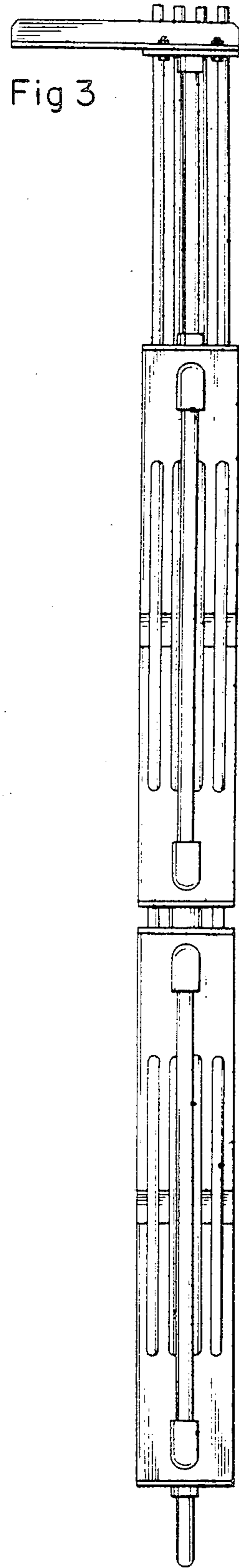


Fig 3

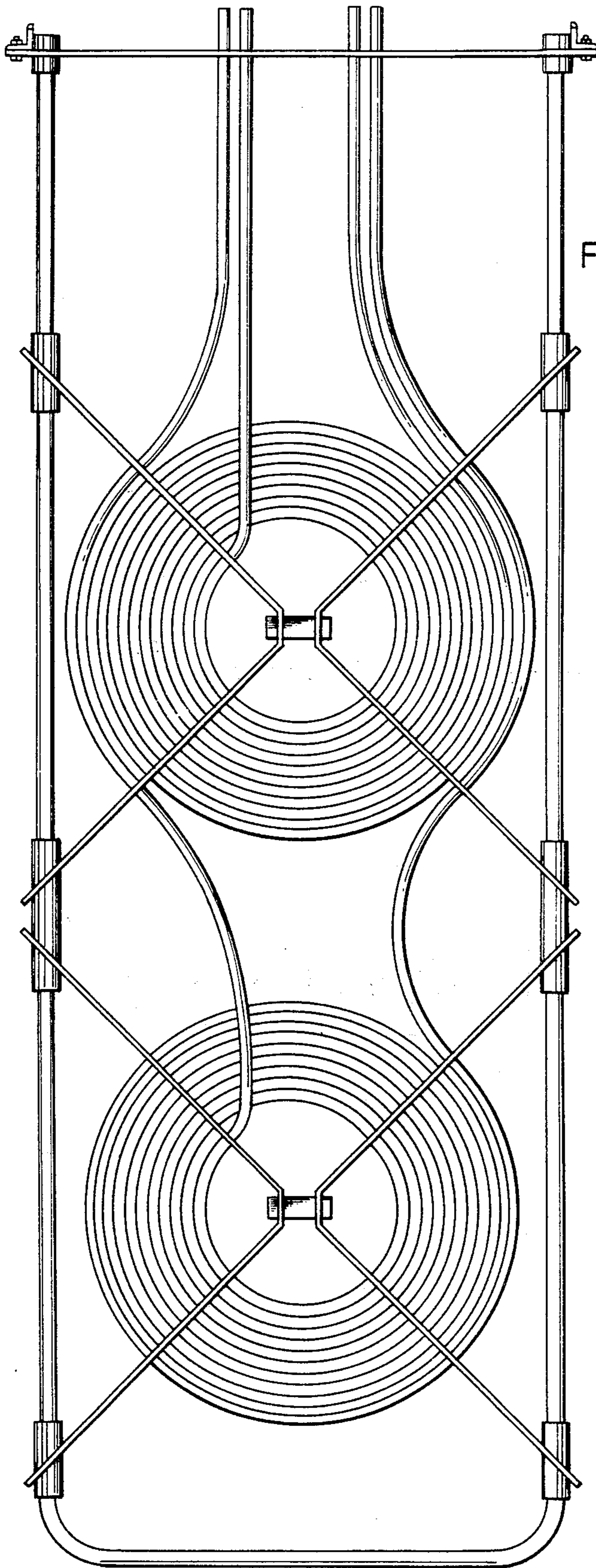


Fig 2

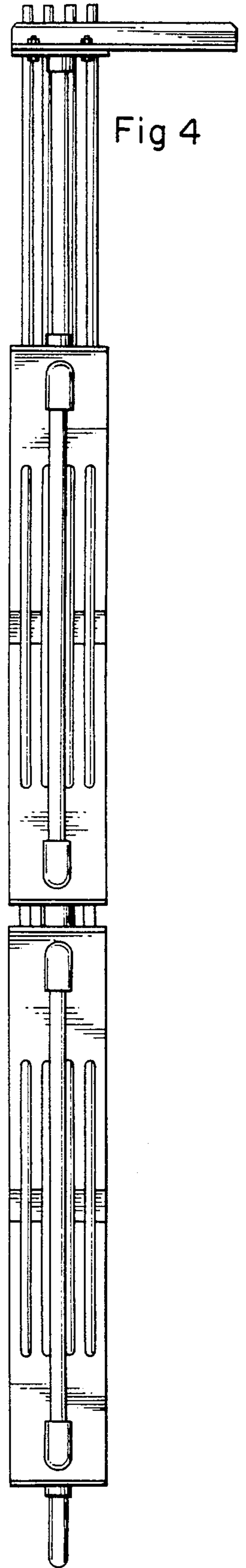


Fig 4

Fig 5

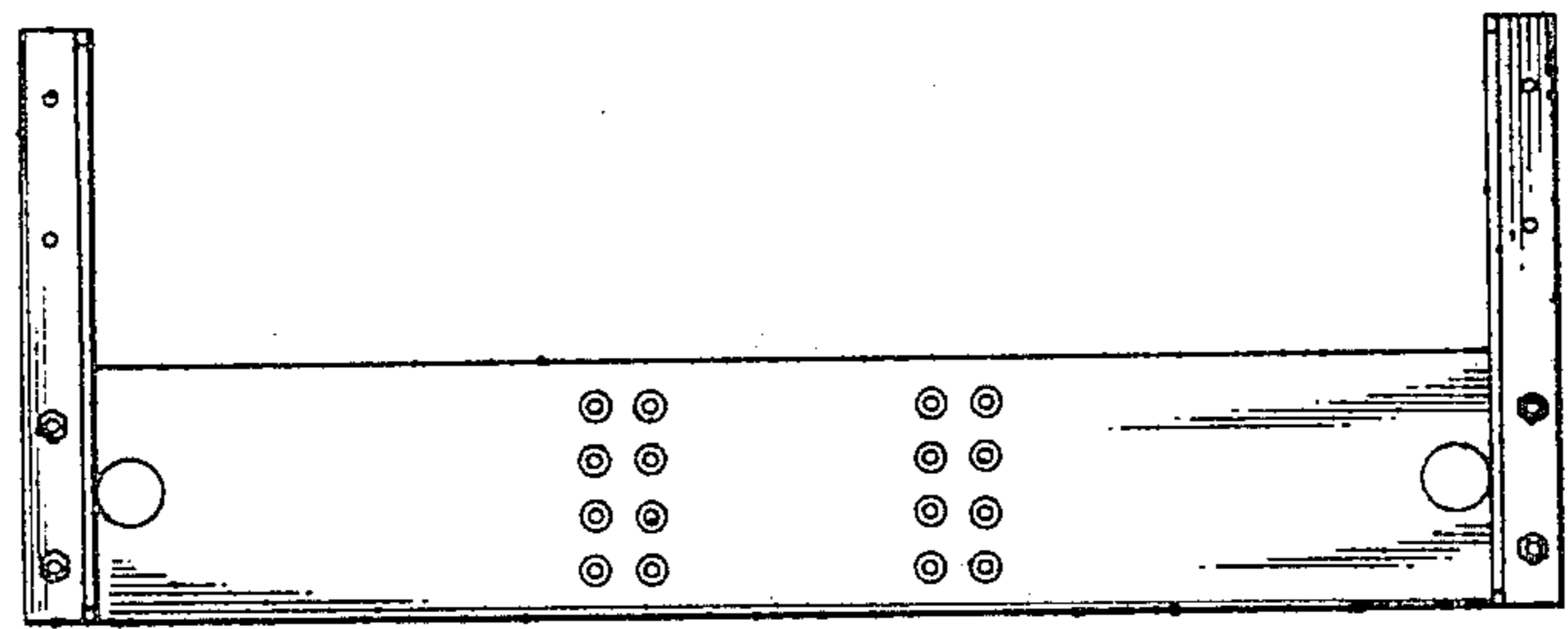
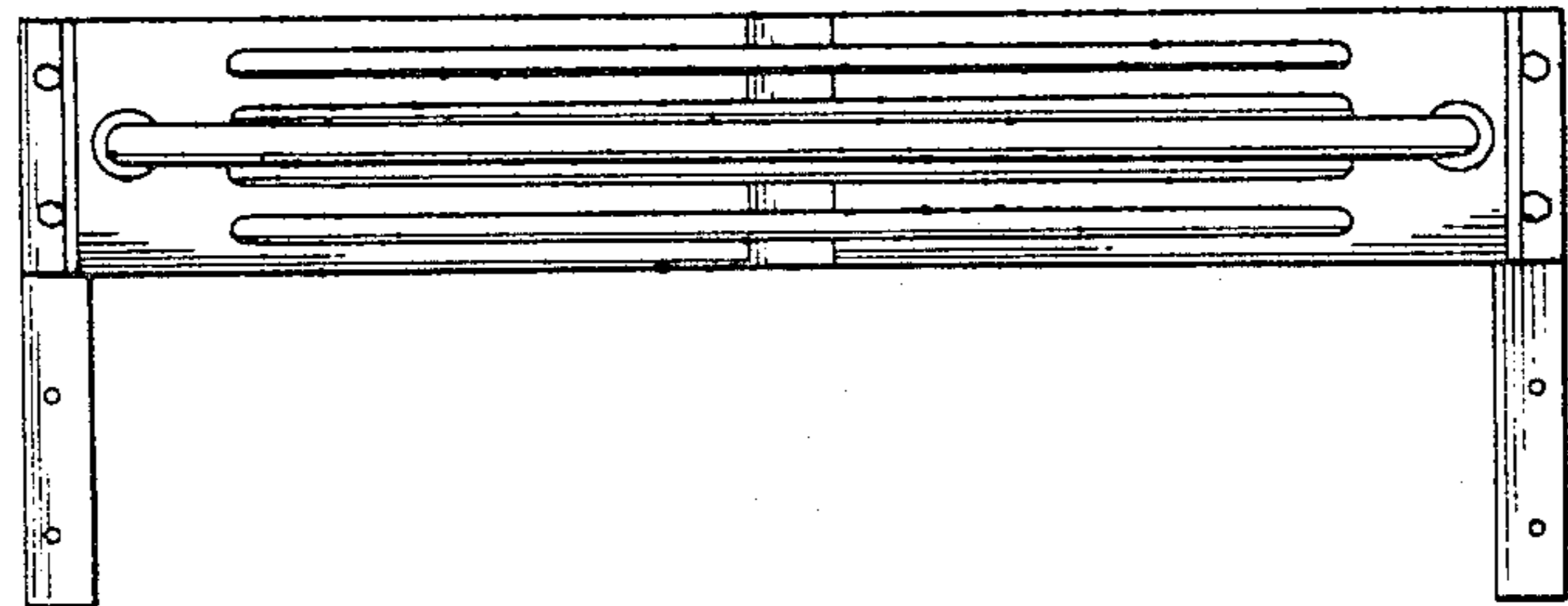


Fig 6



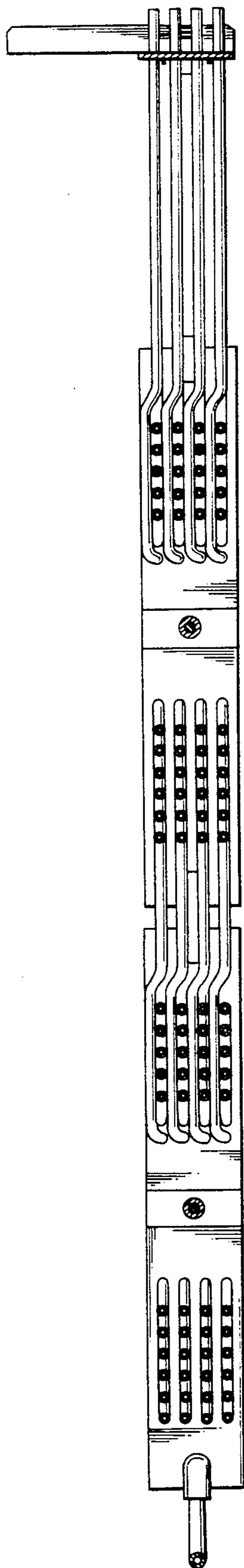


Fig 7

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