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RUBBER TUBING PUMP

John W. Weigl and Donald W. Stallings

January 3, 1950

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RUBBER TUBING PUMP*

By

John W. Weigl and Donald W. Stallings

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Although rubber tubing pumps appear to be used for gas circulation in a number of laboratories, it seems that each group has had to invent one for itself. For this reason, a brief description of a useful model is presented here.

Its mode of operation may be recognized from Figure 1. One after another, the four rollers at the corners of the square rotor compress a piece of rubber suction tubing, pushing the gas ahead of them, each roller blocking a new gas pocket before the last has been lifted off. The speed may be controlled from about 100-1500 cc/min by means of a set of step pulleys, as well as by adjustment of the hinged tubing race, and by changing the size of tubing used.

The main virtues of this type of circulating pump are the smooth flow and negligible hold-up, the lack of metal parts and lubricant in contact with the gas, its rugged construction and ability to withstand evacuation without leakage around shafts and bearings. It may be used for pushing or re-cycling gas, or for the well-controlled evacuation of a closed system to less than one millimeter pressure.

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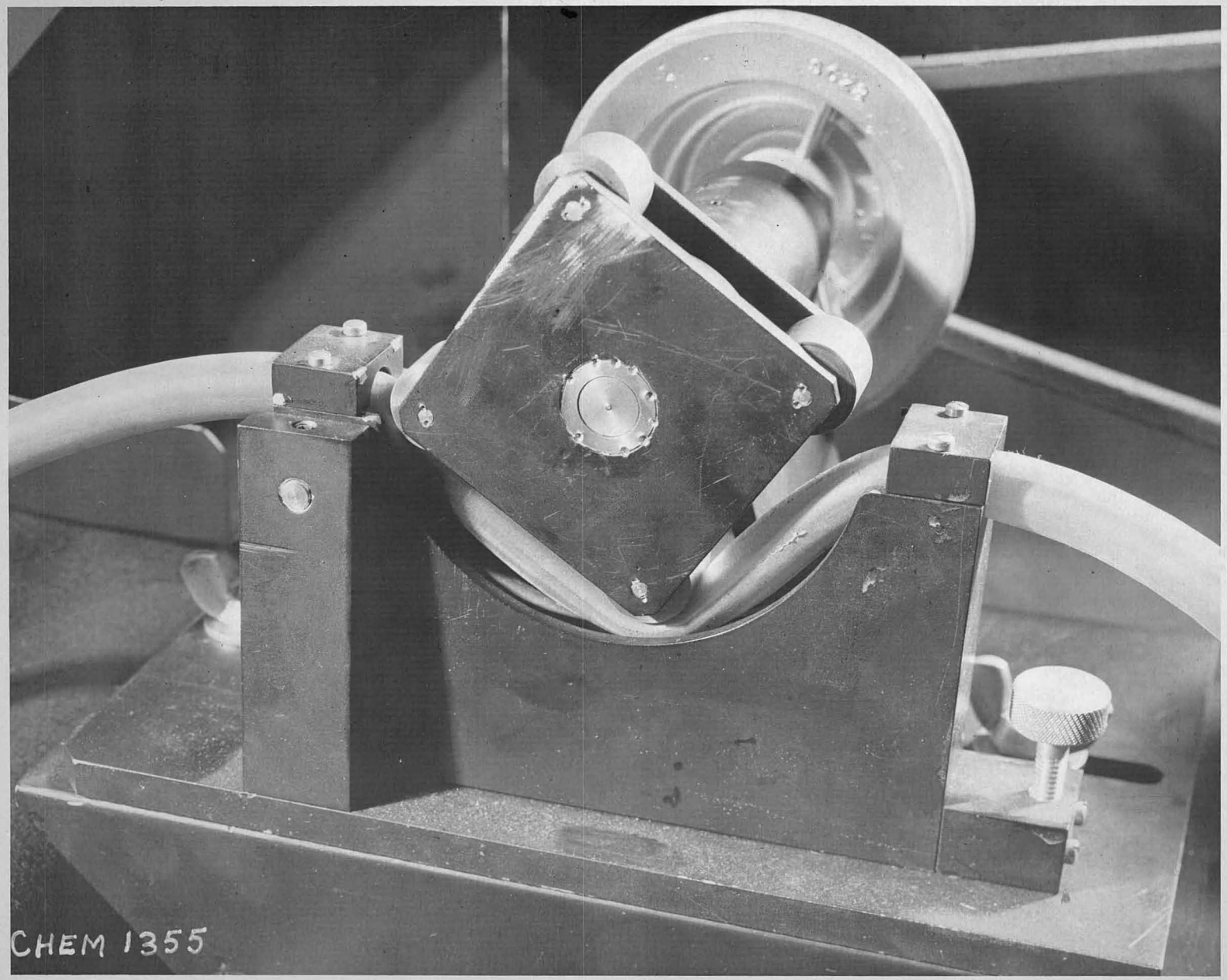

FIG. I

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