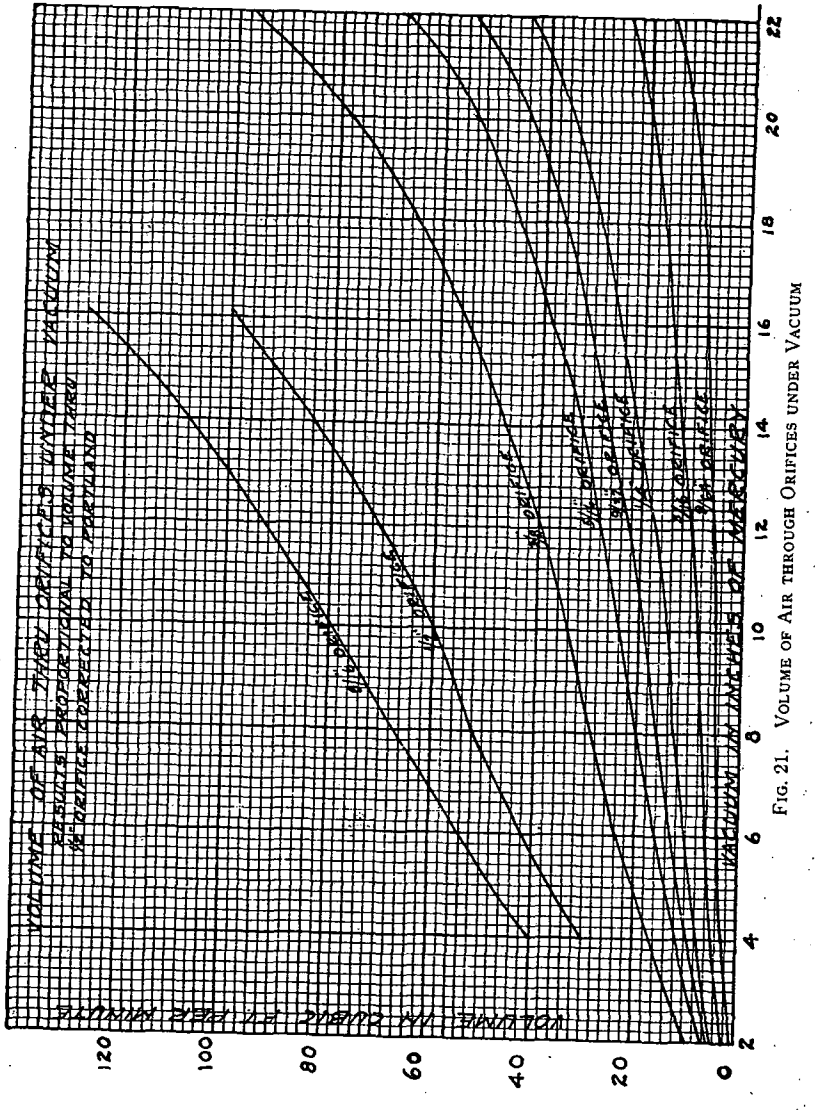

FIG. 21. VOLUME OF AIR THROUGH ORIFICES UNDER VACUUM

pump is maintaining a vacuum of 8 in. of mercury and handling air through a standard orifice corresponding to the air capacity of the pump as previously mentioned.

TABLE 68. TWO PUMP ONE MOTOR RETURN LINE SYSTEM VACUUM PUMPS

Capacity Sq. Ft. of Direct Radiation	Capacity G. P. M.	Pressure at Pump	Motor H. P.
6000	9	10	¾
6000	9	15	1
8000	12	10	1
8000	12	15	1½
12,000	18	10	1
12,000	18	15	1½
18,000	27	10	1½
18,000	27	15	2
30,000	45	10	2
30,000	45	15	3

TABLE 69. TWO PUMP TWO MOTOR RETURN LINE SYSTEM VACUUM PUMPS

Capacity Sq. Ft. of Direct Radiation	Capacity G. P. M.	Pressure at Pump	Motor H. P.	
			Air	Water
6000	9	10	½	¾
6000	9	15	½	¾
8000	12	10	½	¾
8000	12	15	½	1
12,000	18	10	¾	¾
12,000	18	15	¾	1
18,000	27	10	¾	1
18,000	27	15	¾	2
25,000	38	10	1	1½
25,000	38	15	1	2
30,000	45	10	1	1½
30,000	45	15	1	2

The capacities given in Table 70 are for pumps having water cylinder with the length of stroke equal to the diameter of the water piston.

The capacities for pumps of a greater or less length of stroke may be found by use of the last two columns in this table as follows:

Divide the stroke by the piston diameter and find the corresponding ratio in the column headed stroke bore. The capacity factor opposite this in the last column is then multiplied by the capacity given in the table to give the capacity of the pump in question.

PROPORTIONING OF STEAM END OF RECIPROCATING VACUUM PUMPS

In proportioning the steam cylinder of the pump the following formula will give results which are safe to use.

$$A_s \times \frac{P_b}{3} \doteq A_w \times \left(\frac{V}{2} + P_d\right)$$