

and published in the "Philosophical Transactions" for that year. The results of those experiments give what is called the relative volume of steam; that is, the ratio which its volume bears to that of an equal weight of water at the temperature of greatest density, 39° 1 Fah.; but in the following table of comparison, each of those relative volumes is divided by 62·425, the weight of a cubic foot of water at 39° 1 in lbs., so as to give the volume of one lb. of steam in cubic feet. The numbers of the experiments are the same as in the original paper; those made at temperatures below 212° being numbered from 1 to 9, and those made at temperatures above 212° from 1' to 14'.

No. of Experiment.	Temperature Fahrenheit.	Volume of 1 lb. of Steam in Cubic Feet.	
		By Theory.	By exper.
1.	136·77	132·20	132·60
2.	155·33	85·10	85·41
3.	159·36	77·64	78·86
4.	170·92	60·16	59·62
5.	171·48	59·43	59·51
6.	174·92	55·13	55·07
7.	182·30	47·28	48·87
8.	188·30	41·81	42·03
9.	197·78	33·94	34·43
1'.	242·90	15·61	15·11
2'.	244·82	14·77	14·55
3'.	245·22	14·67	14·30
4'.	255·50	12·39	12·17
5'.	263·14	10·96	10·40
6'.	567·21	10·29	10·18
7'.	269·20	9·977	9·703
8'.	274·76	9·158	9·361
9'.	273·30	9·367	8·702
10'.	279·42	8·539	8·249
11'.	282·58	8·145	7·964
12'.	287·25	7·603	7·340
13'.	292·53	7·041	6·938
14'.	288·25	7·494	7·201

DISCHARGE OF WATER OVER WEIRS.

TABLE,—containing the Quantities of Water, in cubic feet, that will be discharged over a Weir per minute for every inch in its breadth, when the depth of the Water from the surface to the top edge of the wasteboard do not exceed eighteen inches.

Depth of the Water in inches.	Cubic feet per minute, according to Du Buat's formula.	Cubic feet per minute, according to experiments made in Scotland	Depth of the Water in inches.	Cubic feet per minute, according to Du Buat's formula.	Cubic feet per minute, according to experiments made in Scotland
1	0·403	0·428	10	12·748	13·535
2	1·140	1·211	11	14·707	15·632
3	2·095	2·226	12	16·758	17·805
4	3·225	3·427	13	18·895	20·076
5	4·507	4·789	14	21·117	22·437
6	5·925	6·295	15	23·419	24·883
7	7·466	7·933	16	24·800	27·413
8	9·122	9·692	17	28·258	30·024
9	11·884	10·564	18	30·786	32·710

NUMBER OF PLANTS TO THE ACRE.

The following table shows the number of plants to the acre, at any of the distances mentioned:

Dist. Apart.	No. of Plants.	Dist. Apart.	No. of Plants.
1 foot.....	43,560	5 feet.....	1,742
1½ "	19,360	6 "	1,210
2 "	10,890	9 "	537
2½ "	6,969	12 "	362
3 "	4,840	15 "	193
4 "	2,722	18 "	134

Statistical Information.

Exports and Imports of Canada.

The *Canadian Quarterly Review* furnishes a table of imports and exports of Canada for the last 14½ years, differing very slightly from the tables we furnished in the last No. of the *Journal*. Our estimate of the annual average excess of imports over exports for the last 14 years was nearly \$9-000,000; the *Review* gives it for 14½ years at an annual average of \$8,623,162. It concludes with the following summary:

"The above table of imports and exports shows, first, that for the first 6 months of 1861, after adding to the exports \$750,000 for short returns, we have imported \$11,148,280 more than we have exported. Second, that we have in 1½ years bought \$125,035,879 more than we have sold. That the interest that would accrue on those over-importations at the rate of 6 per cent, paid annually would be \$48 100,331. Of those over-importations we have paid the Americans \$36,611,388 in gold, moreover, we have paid them in lumber and timber, which is the same as gold to us, \$14,000,000, in round numbers, making \$50,000,000 for products we could, and would, wish sound legislation have produced ourselves."

The Largest English Farm.

The largest farm in England consists of three thousand acres, and belongs to a man with the Yankee name of Samuel Jones. In its cultivation he follows the "four course" system, the whole extent of the farm being divided into four great crops—750 acres to wheat, 750 to barley and oats, 750 to seeds beans, peas etc., and 750 to roots. His live stock is valued as follows: Sheep, \$35,000; horses, \$15,000; bullocks, \$12,000; pigs, \$2,500. The oil cake purchased annually amounts to \$20,000 and artificial fertilizers about \$8,000. The entire cost of manure, in various forms used, annually costs about \$25,000. Sheep are claimed to be the most profitable stock he keeps, from which he realizes about \$20,000 a year. His income from the whole farm, though not stated can be little less than \$50,000 per annum.—*Germantown Telegraph*.

Grand Trunk Railway.

This is said to be the largest railway in the world, extending from Portland to Quebec and the river Du Loup, east, to Sarnia, at the foot of Lake