

No. 39577, F. V. Raymond (3 figures, 6 claims).—Relates to the removal by scoops of the top layers of peat over the gum-bearing soils.

No. 39732, C. Suttie (3 figures, 7 claims).—Consists of the use of a spiral chamber for the separation of solid contents, such as wood and gum particles, from the soil and the grading into different sizes.

No. 40127, F. V. Raymond (2 figures, 4 claims).—Consists of means to prevent the slime water from the screening apparatus, in the working of swamps by bucket dredge, from returning to the paddock.

No. 39927, W. R. Cockburn and F. Jenkins (3 figures, 1 claim).—Consists of a semi-cylindrical screen of fine mesh, in which is rotated a spiral wiper or brush of the same diameter as the internal diameter of the screen, said wiper or brush being mounted on a central shaft supported in bearings in or above the screen.

No. 40128, F. V. Raymond (17 figures, 19 claims).—Consists of treating the gum-bearing soils in a vessel flume or chute the bottom of which may be plain or perforated, with a frame or set of frames arranged crossways in which are slats, bars, heavy wire, or the like, the surfaces of said rifles being either plain, or roughened, or uneven.

No. 40505, V. Silich and N. Silich (2 figures, 3 claims).—Consists of a vessel container made narrower at the top than at the bottom, having a horizontal shaft mounted on bearings across its top carrying at its inner end a bevel gear-wheel set to mesh with a bevel gear-wheel carried on upper end of a central vertical shaft, said vertical shaft being centrally placed within said vessel or container and having fixed to it at its lower end two horizontal stirrers working slightly above a screen or sieve placed just off or above the perforated bottom of said vessel. In use the dirty water and fine soil passes out through the bottom, while the gum pieces and other material too large to escape are retained on the screen.

A note of warning must be sounded, however, in regard to gum cleaning and washing machines in general. Very little provision has been made so far by some of the patentees for the saving of gum-dust, which constitutes a very appreciable percentage of the gum content of the soils treated. In the case of one plant of which great things were expected the gum content of the soil treated was ascertained after very careful tests, and it was found that the residue run to waste as useless contained a gum content of almost one-third that of the original sample in other words, one-third of the gum in the shape of fine dust was entirely lost.

KAURI-GUM EXPORTS.

For the year ended 31st March, 1919, the export was 2,338 tons, of the value of £152,299. During the last four years the average yearly output has been 4,198 tons, of the value of £263,388; whilst for the previous four years the average annual export was 8,187 tons, of the value of £460,890.

It was only to be expected that there should be a great falling-off in the export so long as the war continued, but it is doubtful whether the old figures will be again attained unless better methods of production are introduced. But this subject I deal with more fully in another portion of this report.

The following table gives particulars of the exports for the last twelve years:—

Particulars of Kauri-gum exported from New Zealand from 1908 to 31st March, 1919, inclusive.

Country to which exported.	1908.		1909.		1910.		1911.		1912.		1913.	
	Tons.	£	Tons.	£	Tons.	£	Tons.	£	Tons.	£	Tons.	£
United States of America	2,855	215,291	5,127	375,126	4,149	263,375	3,514	209,216	3,894	232,566	3,995	308,456
United Kingdom	1,799	123,011	2,290	140,235	3,253	151,319	2,378	130,767	2,468	114,640	3,390	187,547
Germany ..	667	23,841	639	24,111	913	28,016	1,442	34,062	1,053	32,964	833	27,880
Canada ..	21	1,646	24	2,555	66	7,687	9	1,061	40	3,370	62	4,618
Australia ..	155	6,458	149	8,576	66	4,465	75	2,559	39	2,487	80	3,933
Belgium ..	22	1,572	17	1,770	29	1,899	78	3,990	123	5,088	126	5,120
France ..	10	875	1	85	19	1,656	75	5,774	37	3,037	45	3,995
Austria-Hungary	1	104	1	68	124	3,011	131	3,968	159	4,611	112	2,617
Russia ..	..	..	..	..	15	1,976	80	1,859	2	184	53	1,725
Netherlands ..	..	..	..	..	6	133	55	1,206	42	974	60	2,495
Sweden ..	..	..	2	172	30	720	35	803	35	952	15	420
Italy ..	..	..	..	..	23	779	15	417	15	410	9	300
Japan ..	..	..	..	..	..	..	..	25	1	22	..	..
Hong Kong ..	..	..	..	..	..	..	..	..	..	..	..	..
Argentina ..	..	..	..	..	..	8	..	..	..	..	..	..
Totals ..	5,530	372,798	8,250	552,698	8,693	465,044	7,587	395,707	7,908	401,305	8,780	549,106

Country to which exported.	1914.		1915.		1st January to 31st March, 1916.		1st April, 1916, to 31st March, 1917.		1st April, 1917, to 31st March, 1918.		1st April, 1918, to 31st March, 1919.	
	Tons.	£	Tons.	£	Tons.	£	Tons.	£	Tons.	£	Tons.	£
United States of America	4,531	316,200	3,312	222,856	974	60,010	3,158	218,214	2,316	164,516	1,371	81,914
United Kingdom	3,335	148,370	1,172	48,585	336	13,548	1,484	68,378	363	13,982	346	19,977
Germany ..	373	21,193	..	..	..	..	..	..	..	..	..	..
Canada ..	70	2,114	56	4,550	118	8,972	133	7,718	1,929	124,271	572	45,588
Australia ..	19	1,720	9	594	5	314	29	1,982	18	1,577	49	4,820
Belgium ..	34	1,519	..	..	..	..	..	..	..	..	..	..
France ..	42	3,599	5	430	..	..	..	..	..	..	..	..
Austria-Hungary	14	329	..	..	..	..	..	..	..	..	..	..
Russia ..	3	225	21	2,118	..	..	50	3,440	..	..	..	..
Netherlands ..	8	664	..	..	..	..	..	..	..	..	..	..
Sweden ..	20	560	..	..	..	..	..	..	..	..	..	..
Italy ..	23	855	..	..	..	..	..	..	..	..	..	..
Japan ..	1	96	..	..	..	..	..	..	10	506	..	..
Hong Kong ..	..	..	..	..	..	..	8	539	..	..	..	..
Argentina ..	..	..	..	..	..	..	..	..	..	..	..	..
Totals ..	8,473	497,444	4,575	279,133	1,433	82,844	4,862	300,271	4,636	304,852	2,338	152,299