The material is lifted into a sluice 3ft. in width, which has at the end a false bottom of perforated iron plates, having holes half an inch in diameter in the upper plates and $\frac{3}{8}$in. diameter in the lower plates. The fine material goes over a set of tables 100ft. in width and 17ft. in length, and the coarse gravel and stones go over the perforated plates, and are then dumped on the tailings-heap. The gold is very fine, and of the same character as that found on the sea-beach, and requires the same process to be adopted for saving it. When the company first commenced sluicing operations there was only 50ft. in width of tables; but it was found that this was not sufficient for the quantity of material that was passing over them, and an additional width of 50ft. was therefore added, which now seems to work very well. The whole of the plant was erected by Mr. Réné Proust, Mining Engineer, who has now been for the last five years engaged in the erection and working of plants of this description, and is therefore fully conversant with all the details. The plant at the Shamrock has been well constructed, and reflects the highest credit on Mr. Proust.

At the time of my visit to this claim in May last a large paddock had been taken out, and the manager, Mr. McGregor, afforded all information as to the quantity of gold that had been extracted. The hydraulic operation commenced on the 5th of February last, and up to the date of my visit, on 19th May last, about 1,124oz. of amalgam had been obtained, which, the manager stated, went about 1oz. retorted gold to every 4oz. amalgam. This would give about 281oz. gold, which would represent a value of about £1,096. Judging from the area of ground that had been worked it would not exceed 100 yards long by 33 yards wide and 10 yards deep. This would give about 33,000 cubic yards. The average yield of gold would be, therefore, about 3·36gr. to the cubic yard of material lifted. Although the actual number of working-days between the dates mentioned was seventy-four, on fifty-seven of these only were sluicing operations carried out, according to the daily return of amalgam, which was taken from the manager's book; and for a portion of this time there was only one shift of men employed. At the time of my visit there were fifteen men employed in connection with the head-race tables and stone-trucks and sluicing operations. Allowing that even this number of men had been employed for the whole of the time at an average wage of 10s. per day, this would only amount to £555, which would still leave £541 for material and interest on capital. It is also well known that there is always more expense in connection with opening out the first paddock than afterwards. This venture, with careful management, should prove a very good investment for those interested in it.

Cement Workings.—There are considerable areas on Addison's Flat and Charleston where the auriferous sand is so tightly cemented together with oxide of iron that it cannot be broken up in the ordinary process of sluicing sufficiently fine to liberate the gold it contains. This cemented sand has to be pounded up by small crushing batteries before the gold can be obtained. The following are the returns from the cement-crushing batteries for the year ending 31st March last:—

Name of Party and Locality.	Number of Tons crushed.	Yield of Amalgam.	Yield of Gold.	Value of Gold obtained.
		Oz.	Oz.	£
Addison's Flat—Venture Company	8,372	2,297	664	2,590
Charleston—				
P. Higgins	3,287	253	65	254
Dwyer and party	867	Not given.	92	359
William Fox	2,800	Not given.	52	203
James Birch	1,300	Not given.	45	176
Mullins and party	3,240	170	58½	318
Dublin City Company	1,750	540	139	545
Parsons, Woodhead, and party	1,100	350	114	445
Totals	22,416	...	1,229½	4,890

At Charleston there are a few parties carrying on sluicing operations, but complaints are made by the miners that the ground is gradually getting poorer; and, indeed, the persons who have hitherto earned their livelihood by having tables in the bed of the river for collecting the gold coming down in the muddy water state that very little is got from this method now, showing that either the actual miners are taking greater care to save the gold, or else it is not in the ground. There is, however, a large deposit of auriferous cemented sand, both on the Charleston Flat and on Brown's Terrace, which is likely to pay small wages for a long time to come by employing suitable crushing machinery to work it. It will be seen from the returns of the Venture Company at Addison's Flat, which is said to be paying very well, that the yield of gold is only 1dwt. 14gr. to the ton, while William Fox crushed 2,800 tons for 52oz. gold. This is equal to an average of 8·9gr. to the ton; but even with this small average cement can be made to pay small wages for working.

Grey Valley.

There is still a large number of miners in the Grey Valley on the different diggings, and a great many more would be employed were a good supply of water obtainable. In the early days a great deal of the ground paid for paddocking and driving out, but there is now very little ground left that will pay for working by this method. At Granville, the Duffers' Creek Company are working ground that was partially driven out in the early days, and now they are sluicing it by having a drainage tail-race with a well. The ground is sluiced down into this well by having the sluice-boxes in the bottom of the paddock for saving the gold, and allowing the tailings to go into a well. These