

the Sunrise Company is working a lode on Advance Peak which is over 5,000ft. above the sea-level, and covered with snow for six months in the year. To enable the mine to be worked without intermission this company has erected sheds so that the workings can be carried on in the winter months. At the head of Lake Wakatipu mining operations were again commenced by tributaries in the Invincible Mine, but it is not yet known whether they will make it pay or not. At White Reef, on the Old Man Range, the workings are still carried on at a profit, and at the Rough Ridge some good stone was crushed last year. The claims at the latter place have recently been formed into a large company with English capital. In the Nenthorn district new discoveries of auriferous lodes have been made, which are attracting the attention of those interested in mining as being a field for the investment of capital. Some trial-crushings have been made from some of the claims, which gave satisfactory results.

Although the returns from the quartz-workings generally have not come up to the expectations for the past year, there are reasonable grounds to believe that this branch of mining, which is the only permanent gold-mining in the colony, will, with improved machinery and appliances for treating the ore, and also by the employment of capital, yet develop into an industry giving profitable employment to a large population.

The yield of gold from the alluvial workings shows an increase in all districts, which is principally due to the improved appliances for working the ground, and also in some measure to the fact of a new field, the Mahakipawa, having been opened in May last year. In this place rich deposits of auriferous wash-drift have been found on some of the terraces, also in several of the claims in the creek-bed, and gold is now being traced down the creek into a large flat known as Cullen's Freehold. The extent of payable ground in this flat has not yet been determined. Extensive enterprises in alluvial mining, involving in each case a large expenditure, are in hand in the Otago District, amongst which may be mentioned the Gabriel's Gully and Blue Spur Consolidated Gold-mining Company, at Tuapeka; the Island Block Gold-mining Company, in the valley of the Molyneux; J. R. Perry's company (Hercules), near Roxburgh; and John Ewing's, at Tinker's. All of these are making arrangements to carry on very extensive hydraulic sluicing operations, the top material being sluiced off to such a depth as to allow of sufficient fall for the tailings, whilst the bottom material is lifted on the hydraulic elevating system. Messrs. Perry and Ewing are going to use steel pipes: the former is manufacturing them on the ground, and Mr. Ewing intends to follow the same course as soon as the plates which have been ordered from England come to hand.

DREDGING-PLANT.

A number of dredges have been at work on the Molyneux River for years, some of which have been very successful. The Wellman dredger referred to in last annual report was refitted with a 12in. dredging-pipe and placed in the Manuhierikia River, near its junction with the Molyneux. After working satisfactorily for a few weeks a flood occurred and sank it in deep water; it has not been recovered since. The pontoon, or barge, on which the machinery was placed was too small to resist the current of water in the river. A new bucket-dredge has been placed on the Big Beach, Shotover River, but it is not yet known whether this one will be successful or not.

A Wellman dredger has been in operation for some time at Waipapa, Otago, on the ocean-beach, and is said to be working satisfactorily. Another of these dredgers is in course of erection at the Saltwater Beach, south of Hokitika, and considerable interest is taken by those having beach claims in this locality in watching whether it will come up to expectations. The Ball dredger brought out from England by Mr. Brooke-Smith, which is somewhat on the same principle as the Wellman, was erected at the Five-mile Beach, below Okarito; but the pontoon for carrying the machinery was far too small to be of any utility for dredging. The dredging-pipes—7in. in diameter—were also found too small to work the ground at a profit. It, however, proved that the beach contained sufficient gold to pay for working if suitable machinery were employed.

At the Saltwater Lagoon, between the Grey and Teremakau Rivers, Mr. S. Brown, of Wellington, is constructing a large dredge with washing appliances different from any other in the colony. The dredging is to be done with a Cataract pump similar to that used in dredging the harbour at New York, and also during former times in dredging the Sacramento River, California, for gold. The washing appliances separate the large stones and fine shingle from the sand by using gratings, the material being again assorted by a travelling rake-belt, whilst the sand is discharged on to washing-tables, the latter being constructed in a similar manner to those now used for working the black-sand leads. On the Back Beach lead, three miles north of Greymouth, Mr. Joseph Taylor has constructed a dredge somewhat like the Wellman; but, instead of having the machinery on a pontoon, it is erected on a travelling frame set on wheels resting on iron rails, which enables the machinery to be moved back as each paddock is taken out. It has now been working for some time, and is said to answer satisfactorily. A large bucket-dredge has recently been constructed and erected in a small lagoon between the Waimangaroa and Ngakawau Rivers; but all the alterations found necessary are not yet completed. The washing appliances are of a new design, by Messrs. Kincaid and McQueen, of Dunedin; they consist of small circular convex tables covered with copper plate, with a semicircular gutter round the periphery, discharging on the outside.

A large area of ground is held in special claims on the ocean-beaches along the West Coast, from the Kowhai Bluff, north of Karamea, to Jackson's Bay, comprising in the aggregate 4,688 acres. The owners of these claims are merely holding them at the present time, waiting to see the different dredges now in course of erection in full operation, in order to satisfy themselves as to the best plant to use. There is sufficient known about the auriferous beaches on the West Coast to infer that they will pay for working with suitable appliances. The commencement of a new system of mining and introduction of a new class of machinery will have the effect of untrammelling the mind of those who have hitherto followed the pursuits of a digger's life, from old ideas and preconceived notions regarding the method of working the ground, and are likely to be the means of other