

from the pans, in which all the clay does not remain long enough to be dissolved. Mr. Nelson admits he is losing fine gold.

G. Foreman's Dredge, Tapanui.—(25/8/96): This small dredge is working in the Tapanui Stream, a few miles above the Conical Hills coal-pit. It is the highest up the stream of the three dredges already started in this locality. The whole plant is certainly a long way behind the times. The length of boat is 35 ft., and width 15 ft. over all. The capacity of the buckets is 1 cubic foot each. The dredge is capable of dredging to a depth of 10 ft., and is being worked in two shifts daily, two men being in each shift. The engine is a Marshall, portable, of 5-horse power. The sluice-boxes are 25 ft. long and 18 in. wide, fitted with perforated plates and matting. The gold is very fine, and not unlike that found in the Molyneux.

G. McKenzie's Dredge, Tapanui.—(25/8/96): This is also a very small dredge. Dimensions: 40 ft. by 20 ft. by 4 ft. The buckets are of two sizes, and their capacity is from 1 to 2 cubic feet. The depth dredged is from 5 ft. to 7 ft. and 10 ft. The shallowest is the richest ground. The sluice-boxes are 20 ft. long by 2 ft. wide. Shaking tables discharge the stones at the end of the dredge. The cost of working the dredge is 10s. per day, and coal is the fuel used. The engine is portable, and of 8-horse power.

Patterson's Dredge, Tapanui.—(25/8/96): Length of dredge, 49 ft.; width, 19 ft.; and depth, 3 ft. 3 in. The depth of dredging is from 7 ft. to 14 ft., and the wash is generally 2 ft. thick; sometimes only a few inches rests on a "lias" bottom. The capacity of the buckets is 1 cubic foot. A portable Marshall engine, of 7-horse power, does the work. The sluice-boxes are 25 ft. by 18 in., with ripples and perforated plates. This little dredge is more shapely than either of the other two on this stream, and is much better equipped.

Electric Gold-dredging Company, Kawarau.—(18/9/96): The dredge has lately been removed from a short distance above the Bannockburn Bridge to a spot much higher up the river, and only a short distance below the gorge. The reason for shifting, the manager said, was that "the work was too heavy." Judging from the size of many of the stones in the wash forming the banks of the river, I can imagine what the bed of the stream is like in places, and therefore do not doubt his statement. There is, however, a splendid bottom to work from, and with care there should be no gold left behind. The dredge is 92 ft. long by 23 ft. from side to side. The capacity of the buckets is $2\frac{3}{4}$ ft. each, and the length of ladder 70 ft. from centre to centre; it is capable of dredging to a depth of 45 ft. The engines are by Marshall and Son, Gainsborough, and are 12-horse power nominal. The centrifugal pump is 10 in. in diameter. The washing-cylinder is $3\frac{1}{2}$ ft. in diameter, and the gold-saving tables are 18 ft. by 9 ft., covered with matting and sheets of expanded metal, which are said to answer the purpose of protecting the matting and saving the gold very well. There has been a suspicion for some time past that gold was being lost from the tail end of the cylinder with the shingle. In order to ascertain for certain if it were so a short box, with matting and longitudinal ripple-bars placed therein, was fitted at the end of the cylinder, and the result is the saving of 1 oz. of coarse gold per week. This is a proof that the cylinder is several feet too short. I think others have quite lately discovered the same mistake in the length of cylinders. The manager intends at an early date to make other improvements by fixing a "catch-all" immediately under the buckets after leaving the tumbler, since much of the sticky sandy bottom of the river in this locality adheres so much to the buckets as to be again cast into the river before they reach the water. The coarse gold found in this claim is, of course, lying in the bottom, and the loss of only a little bottom from time to time may be a serious loss of gold. No time should be lost to remove, by a water-jet or otherwise, all the sand from the buckets while passing over the "catch-all," and the saving so effected should be made known to others, so that they may do likewise. The manager showed me a few ounces of gold which he had obtained where the dredge is now working, and I consider it a splendid sample. I would class the bulk of it as coarse gold. Some of the pieces were angular and ragged, with quartz adhering, indicating that they had travelled only a short distance. This is a clue for prospectors for gold-bearing quartz reefs, which probably exist only a short distance up the Kawarau Gorge, and not far from the river.

REEFS.

Canada Reefs.—(15/4/96): The subsidised tunnel is now following what appears to be two well-defined walls of a lode, filled with laminated schist and small quartz veins. In places a little fine gold has been found by panning the *débris* found between the walls. The men are very hopeful of finding the lode within the distance to be subsidised by the Mines Department. When the tunnel has been driven to a perpendicular line from the crown of the hill immediately under the old workings it will, it is said, be 450 ft. below the floor of the old workings.

Donaldson Brothers' Quartz-mine, Macrae's.—(29/7/96): The stone is still being quarried out near the surface, and carted from the top of the hill to the battery in Deep Dell Creek. The wagon carries 5 tons at a time, and makes four or five trips per day when stone is wanted at the battery. There are ten stampers and a Huntington mill, all of which were in full swing at the time of my visit. The mill should be made to put through five times the quantity it is doing now. There is plenty of stone.

W. Walters, Barewood, Scottie's Gully.—(13/10/96): This mine is situated at the northern end of the Barewood line of reef, in the Museum Reserve, on the west side of the Taieri River, where so many claims have been held for some years past, and little done generally to develop them. Two of them have been worked spasmodically on too small a scale to succeed, so they are now idle. W. Walters, who at one time had the management of one of these mines, never lost faith in finding good payable stone on that line of reef (two miles and a half long). Therefore, when not working for the company, he spent much of his time prospecting, and eventually opened the mine at Scottie's Gully, where the underlay shaft is now down 90 ft. on a very promising body of stone from 3 ft. to 6 ft. thick. At the present level the lode has been followed about 60 ft. on