

Francisco, that these sketches are copies of illustrations in Joshua Hendy's catalogue of hydraulic mining machinery. Not having seen this catalogue, and acting on good faith that the sketches supplied me were original, they were published with the intention of affording information to those engaged in that branch of mining of the different appliances used.

Island Block Extended Company.—This company's claim is on Miller's Flat, opposite the head of the Island Block Company's ground. The first paddock was opened out alongside the Clutha River, which gives good prospects of the property being a valuable one; but as the whole of the original capital was absorbed before the gold was struck, it was for some time a question whether the company could continue working. The original capital being £10,000, a new issue was made of 5,000 shares at 10s. each, this giving sufficient capital to test the ground. This company has a right of water from the Minzion Burn, and have constructed a water-race for about six miles, and thence about a mile of steel pipes of 13in. in diameter, of $\frac{1}{2}$ in., Nos. 10 and 12 B. W. G., double rivetted. The intake end of the pipe is 800ft. above the level of the workings; but the full head of water is not utilised; only about 500ft. of head is used. The quantity of water in the Minzion Burn is very little in dry weather. A reservoir has been partially constructed at the mouth of a narrow gorge having a wide flat above it, which will make a capital place for storing water when the work is completed. With this reservoir it is anticipated that the workings can be carried on continuously with one elevator. The ground is from 35ft. to 40ft. in depth, and the profits on working during the past year is said to be about £1,100.

Edie and Kirkpatrick.—These men are still working a claim at the Horse-shoe Bend, alongside the Clutha River. They take their water from the Tally Burn, and bring it across the Clutha River in a wrought-iron pipe 11in. in diameter, suspended on wire rope. The working is entirely confined to hydraulic-sluicing, there being sufficient fall to carry their tail-races into the river. This is said to be a fairly payable claim. About six men are steadily employed.

Hercules Company.—When the hydraulic-elevating was first commenced in this company's claim the yield of gold was extremely good, but as the ground got worked back into the flat it became poorer, or at least, did not pay so well. This might be to some extent accounted for by the whole of the top material having run away level free, and the comparatively small quantity of wash-drift to elevate before getting on to the rich auriferous drift on the bed-rock. There does not appear to have been any attempt to run off any of the top material since this company commenced operations; everything appears to be put through the elevator. Where so grand a supply of water can be got from the Teviot River, by the construction of a dam at the Dismal Swamp, the company should utilise this to its fullest extent, and use a large supply of water, with wide sluice-boxes, and run all the top material off before commencing elevating. It may be asserted that there is not sufficient gold in the top stuff to pay by itself for working; but even this is questionable, as the extra quantity of material that could be operated on by concentrating the whole of the available water in one channel would make far poorer ground pay than by the present method. On the same flat, adjoining the Hercules Company's claim, there is another claim belonging to the Hercules Company No. 2. Each company has a separate supply of water from the Teviot River. In order to run off the top material, these two companies ought to combine and use the whole of the water in one channel, even if they should do so day about. Far more work could be done in one day with double the quantity of water than could be done by either company using its own water continuously. There is also a large quantity of stones amongst top-drift that could be removed before the hydraulic-elevators were used. At present the stones are allowed to stop amongst the drift-ground until the whole of the material is washed away to the bed-rock. Neither of the Hercules Companies have been a financial success during the last year, but it is probable another run or lead of gold will be found nearer the foot of the terrace.

Roxburgh Amalgamated Company.—This company, in order to get a permanent supply of water, had to construct a dam in the gorge in the Teviot River, at the lower end of the Dismal Swamp. This is one of the best sites for a storage-reservoir there is in Otago. As a large number of water-rights are held from the Teviot River, all these were to some extent affected by the construction of this dam. A case was brought before the Supreme Court during last year, and the priority of the different water-rights are now well understood. Any one having prior rights to the Roxburgh Amalgamated Company have to be supplied before they can take any; and this means that a certain number of sluice-heads must always be allowed to flow down the bed of the river from the reservoir. The manager of this company, Mr. Peters, informed me the different water-rights were now determined in the following order of priority:—

Name of Grantee.	Number of Sluice-heads Granted.	Name of Grantee.	Number of Sluice-heads Granted.
Hercules Company	23	Hercules No. 2 Company	12
Carlow and party	6	Roxburgh Amalgamated	20
Roxburgh water-race	14	Hercules No. 2 Company	5
Roxburgh Amalgamated Company ...	16	Roxburgh Amalgamated Company...	50

It will be seen from this that there are water-rights granted to the extent of fifty-nine sluice-heads, which have to be supplied before the Hercules No. 2 Company can lift any water, and ninety-six sluice-heads before the Roxburgh Amalgamated Company could get any of their last water-right. It would seem that the whole of these grantees are interested to some extent in the construction of a storage-reservoir; but the Roxburgh Amalgamated Company, holding water-rights for eighty-six sluice-heads (of which quantity they have an inferior right for fifty sluice-heads), they are by far the most interested in its construction. It is stated that an accurate survey has been