## 1889. NEW ZEALAND.

## MINING MACHINERY AND TREATMENT OF ORES IN AUSTRALIAN COLONIES.

REPORTS ON MINING MACHINERY EXHIBITED AT THE MELBOURNE EXHIBITION. ON MINING, AND PLANTS FOR THE REDUCTION AND TREATMENT OF ORES, IN THE AUSTRALASIAN COLONIES. ON PROCESSES ADOPTED IN AMERICA FOR TREATMENT OF AURIFEROUS AND ARGENTIFEROUS ORES.

Presented to both Houses of the General Assembly by Command of His Excellency.

## CONTENTS.

	PAGE	<u>{</u>	PAGE
Crushing and Pulverising Machinery	1-10	Rock-drills—continued.	
Stamps	1	Rand Drill Company's Rock-drills	31
Position of the Cam-shaft	2	The Little Giant	31
Curve of the Cams	3	The Slugger	31
Order in which Stamps should fall	3	The Economizer	32
Stamps in the Mortar	3	Sharpening and Tempering Drill-steels	32
Grating or Screens	3-6	Instructions for running the Rand Rock-	
Huntingdon Centrifugal-roller Quartz-mill	3	drills	32
Cyclone or Wall Rolls	5	Naylor and Thornton Drill	33
Bryan Roller Quartz-mill	5	Electric Drill	33
Globe Crushing-mill	6	Water-auger 33	
Rock-breakers required	7	To fix Machine	34
Marsden's Fine Crusher or Pulveriser	7	To fix Machine	34
Blake-Marsden Stone-breaker or Ore-crusher	7	To extract Cores	35
Dodge Rock-breaker	8	when water is struck	35
Giant Rock-breaker	8	To draw the Tubes	35
Dodge Pulveriser and Granulator	9	Fixing and working Jumping-motion	35
Ore-concentrators	10	Cutters	35
Description of Improved Form of Frue Concen-		Price-list	35
	10		6 - 43
trator	11	Babcock and Wilcox Boiler	36
Rules for Proper Consistency of Pulp	12	Description	36
Price, Weight, Water, and Capacity	12	Erection	37
Additional Remarks and Explanations	13-16	Advantages claimed by the Makers	37
Triumph Ore-concentrator	16-24	1. Thin Heating-surface in Boiler	37
Directions for setting up and operating	17	2. Joints removed from the Fire	37
Timber and Bolts for Foundation-frame	17	3. Large Draught-area	37
Directions for operating	18	4. Complete Combustion	37
McNeil's Gold-amalgamator and Ore-concen-		5. Thorough Absorption of Heat	37
trator	18	6. Efficient Circulation of Water	38
Watson and Denny's Grinding-and-amalgamat-		7. Quick Steaming	38
ing Pans	20	8. Dryness of Steam	38
Fixing the Classifier	21	9. Steadiness of Water-level	38
General Description	22	10. Freedom for Expansion	38
Molloy's Hydrogen-amalgam Pan	22	11. Safety from Explosions	38
Watson and Denny Concentrator	24	12. Durability	38
General Description	24	13. Accessibility for Cleaning	38
Newbery and Vautin Chlorination Process	24-26	14. Least Loss of Effect from Dust	38
Hedley's Patent Electric Ore and Metal Con-		15. Ease of Transportation	38
verter	26 - 30	16. Repairs	38
Rock-drills	30–35	17. Capacity	38
Eclipse	30	Walther and Co.'s Water-tube Boilers	39
Tripod	30	Description of Boilers	39
Shaft-columns	30	Prices	39