

NOVA SCOTIA GOLD RETURNS.

The following mill returns have been reported to the Mines Office since our last statement:—

	Tons Crushed.	Yielding Oz. Dwt. Grs.			Totals Oz. Dwt. Grs.		
Sherbrooke District—							
Crow's Nest mill for month of June	45	19	..	..			
New Glasgow Co., for month of June	310	137	..	..			
McNaughton mill for month of June	100	57	..	..			
Total tons.....	455	213	..	..	213	..	..
Stormont District—							
J. A. Fraser, in April and May	330	79	10				
Griffin Gold Mining Co., in May.....	158	82	8				
J. C. McDonald, in April, May and June	251	261	15				
Richardson Gold M. Co.....	3610	493	..				
Total tons.....	4349	916	13		916	13	..
Caribou District—							
Moose River G. M. Co., in June	157	73	8	..			
Damas Tuquoy, in May and June (slate).....	1295	108	19	12			
Caribou G. M. Co., Jan., Feb. and March.....	231	250	1				
	1685	432	8	12	432	8	12
Wine Harbour—							
W. A. Adams, in May.....	155	59	1	..	59	1	..
Uniacke District—							
Jas. Thompson, in Feb., Mar., April and May.....	118	143	2	3	143	2	3
Waverley District—							
Tudor Gold Mining Co., in April, May and June.....	877	246	15	..	246	15	..
Lake Catcha District—							
John Anderson, in May and June.....	82	81	10	..	81	10	..
Cow Bay District—							
Thompson & Hill, on 30th June.....	40	57	6	..	57	6	..
Renfrew District—							
Pictou Development and M. Co., Oct., Nov. and Dec., '95, and Jan., Feb. and March, '96	457	309	8	..	309	8	..
Fifteen Mile Stream—							
New Egerton, April and May.....	1079	629	5	..	629	5	..
Brookfield District—							
Brookfield M. Association, June.....	452	385	..	..	385	..	..
Oldham District—							
Foster's Mill, Feb., March, April, May and June.....	32½	35	9	5	35	9	5
Total yield since our last returns					3508	17	20

EN PASSANT.

Within a few miles of Woking, Surrey, lives a man who fought in the Crimea, being wounded at Sebastopol; he went through the Indian Mutiny; he proceeded to South Africa, fought the Zulus, and had some bouts with the Boers. For £350 he purchased tracts of land (715,000 acres), including the site of the Johannesburg, the Crocodile region, known as the Limpopo district. Then came the Transvaal annexation in 1880. He was called upon to serve under President Kruger. He objected, and eventually his property was confiscated. But for this he would have been worth millions, instead of being an invalid in a work-house infirmary.

At the last meeting of the Leeds Association of Engineers, Mr. Wilson Hartnell, M.I. Mech. E., read a paper on "Flywheels and the Governing of Engines." Perfectly steady governing, he said, was impossible, because a governor could not act till the speed was varied, and even a nearly uniform speed could not be attained without the aid of a flywheel. As the usefulness of a flywheel depended upon its stored-up energy, and its cost chiefly on its weight, it was desirable to run its rim at the highest practicable speed, say never less than 3,000 ft. per minute. The most accurate governing had been obtained by flywheel power of twenty-five to thirty-five strokes or semi-revolutions, by correctly designing, fitting and setting the valve-gear; by the greatest care in designing and fitting the governor and its connections to the valve-gear, by ball-bearings; by auxiliary power to aid the governor, and in the compound engine by special setting of the valve-gear. Gas engines could be made to run quite as steadily as steam engines. With a flywheel power of thirty-five impulses, no flywheel power on the dynamo was necessary. Some of the best examples of gas engines for driving dynamos had over forty impulses of flywheel power. By the aid of powerful flywheels, special designing and great attention to details, the best steam engines

were now governed by a precision which some years ago would have been deemed impossible.

For some time interesting experiments in the use of peat in the manufacture of iron have been proceeding in Glasgow. The Peat Carbon Syndicate, Limited, whose chiefs have for a long time been experimenting with peat, have come to the conclusion that it can be turned to profitable account, and the result of their very thorough investigations points to the conclusion that it can be converted into charcoal at least equal in quality to that obtained from coke, and at a price that will enable it to compete with coal and coke. The charcoal is peculiarly adapted for smelting iron and making steel, and in that direction, the proprietors believe, its greatest commercial success will be achieved. It is a pure fuel, free from phosphorus and sulphur, and it contains considerably over 90 per cent. of carbon. In the blast furnace it bears a greater ore than charcoal from wood, and the syndicate claim that it will enable users to produce from Scotch or English ores iron or steel equal to the best Swedish at a price in addition very much lower. In converting one ton of dried peat into charcoal some 13,000 cubic feet of gas of sixteen and a-half sperm candles, and perfectly free from sulphur, is produced.

At a meeting of the Prussian Union of Boiler Inspectors a paper was read by Mr. G. Schneider which is abstracted by *The Colliery Guardian* (Dec. 20) as follows: "In June, 1894, three trials were made of the Schwartzkopf system of utilizing powdered coal as a boiler fuel. The boiler used was two-flued, the coaldust apparatus being fixed in front of one flue, the other being divided longitudinally by a partition, so that the hot gases traversed the length of the boiler three times before passing into the chimney. It rested on three cast-iron stools, had no special setting, and therefore the loss of heat by conduction and radiation was unusually high. The results of the experiment did not, therefore, give a sufficiently clear measure of the effectiveness of the fuel-supply apparatus. Three kinds of coaldust were used, of calorific values 7.3-5,