

become the basis of the present manufacture of pencils. It was the admixture of fine clay with the purified graphite; it not only restored to the graphite the necessary consistency, without materially diminishing the writing qualities, but also any degree of hardness or softness, a result that could not be obtained from the pure Borrowdale. The German black lead has been used for a century past in the manufacture of crucibles and for small furnaces for assayers and chemists, while the finest varieties of graphite for pencils have been furnished from Cumberland and Siberia. The Ceylon and German, as likewise the Ticonderoga graphite furnish the sole material for crucibles. All other localities yield materials for lusters, lubricators and other purposes. Argillaceous matters are not prejudicial to the manufacture of crucibles; but the presence of carbonate of lime is very objectionable, since the lime forms a fusible compound at the great heat to which the crucibles are exposed, and the object is defeated.

The German Bavarian crucibles, which stood in high estimation for centuries past, are composed of very impure materials, not half of their constituents containing black lead; while the American crucible, first introduced in the United States by that pioneer, JOSEPH DIXON, contains nearly three parts of black lead and one part clay. He began manufacturing the black lead crucibles in 1837, and drove the triangular pots out of this market. This firm consumes at the present day more plumbago than any other one concern in the world. Their crucibles are now introduced all over the civilized world, where the precious metals, steel, or alloys, as brass, German silver, are made or melted. They consume 40 tons of it per week; they procure their supplies principally from Ceylon and Ticonderoga, in New York. The consumption of crucibles for pyro-chemical operations is very considerable; I saw last year, in Pittsburgh, in one establishment, 200 large black lead crucibles, in the furnaces at the same time; considering the number of ten or twelve crucible manufactories in the United States, the amount of plumbago consumed in the country cannot be less than 10,000 tons per annum. This quantity of graphite is not used up for the manufacture of crucibles alone, a very large amount is wanted for the lustre, so-called British or Mexican lustre, which forms a very considerable branch of industry; there are no less than fifty manufacturers of lustre in the United States, of which DIXON & CO. put up 150 gross, or 20,000 packages of the lustre per day. Large establishments exist in Philadelphia, Boston, Cleveland, and in New York, so that we may compute the amount manufactured in the U. S. at 1,000 gross per day.

In conclusion, a few remarks on the great American locality of graphite situated at Ticonderoga, may give an idea of the extent to which this branch of industry is now carried on. The mining property of the American Graphite Company is comprised in the Artiljur and Joes Mountains, at Ticonderoga, on Lake Champlain, and at Warrensburgh, on Lake George; the latter contains veins of the granular or compact graphite, which, after having been purified, furnishes excellent pencil lead, while the Ticonderoga mines have only the foliated graphite containing disseminated carbonate of lime, which requires to be concentrated by proper machinery. This is done in the most practical manner, so that from five to ten tons per day are forwarded ready for crucible-makers. Not less than 150 veins or deposits have already been discovered; some of them have been worked to the depth of several hundred feet; parallel veins are constantly discovered at a distance of 12 feet.—*American Journal of Mining.*

— Mr. E. A. C. Pew has purchased 1,400 acres of Peat land, in the County of Welland, for a joint stock Company about being organized. It is to be called the Ontario Peat Company. It is stated that Peat can be manufactured and put on the bank of the Welland Canal for \$1 per ton.

THE NEW MINING ACT.

We give below the most important clauses of the new Act relating to mining, now before the Legislature of Ontario.

3. All Royalties, Taxes or Duties which by any patent or patents heretofore issued, are reserved, imposed or made payable upon, or in respect of any ores or minerals extracted from the lands granted by such patents, and lying within this Province, are hereby repealed and abandoned, and such lands, ores, and minerals shall henceforth be free and exempt from every such Royalty, Tax or Duty.

4. All reservations of gold and silver mines contained in any patent or patents heretofore issued, granting in fee simple any land or lands situate within this Province, are hereby rescinded and made void, and all such mines in or upon any such lands shall henceforth be deemed to have been granted in fee simple as part of such lands, to the subsequent and present proprietors or owners thereof in fee simple.

5. No reservation or exception of gold, silver, iron, copper, or other mines or minerals, shall hereafter be inserted in any patent from the Crown granting any lands in the Province known as mining lands.

6. Any person or persons may explore for mines or minerals in any unsold Crown lands, surveyed or unsurveyed, not in the actual use or occupation of the Crown or of any public Department, and not under lease or license from the Crown or the Commissioner of Crown Lands, and not for the time being marked or staked out and occupied as hereinafter mentioned.

7. Crown Lands supposed to contain mines or minerals may be sold as mining lands, or may, when situate within any mining division, be occupied and worked as "Mining Claims," under miners' licenses, as hereinafter provided.

8. Such lands, so sold when situate in unsurveyed territory, or in townships surveyed in sections, shall be sold in blocks to be called "Mining Locations."

9. Mining Locations under this Act shall conform to the following requirements:

1st. In the unsurveyed lands in the Territory to the north or north-west of the River Mattawa, Lake Nipissing and the French River (and which includes the territory bordering with Lakes Superior and Huron, and the River St. Mary), every regular Mining Location shall be rectangular in shape, eighty chains in length by forty in width, containing three hundred and twenty acres, and the bearings of the outlines of each location shall be due north and south, and due east and west astronomically, the length to be run north and south.

2nd. When a Mining Location in the unsurveyed lands in the territory aforesaid borders upon a lake or river, an allowance of one chain in width shall be reserved along the margin of such lake or river, and the width of the location shall front on said road.

3rd. In the Townships in said territory surveyed, or hereafter to be surveyed in sections, every Mining Location, after such survey, shall consist of half of a section, divided by a line run north and south, except when the section borders on a lake or river, when the section shall be divided north and south, or east and west, whichever will give the narrowest frontage on such lake or river.

4th. In all patents for such Mining Locations in the territory aforesaid, there shall be a reservation for roads of five per cent. of the quantity of land professed to be granted.

5th. In the unsurveyed lands not situate within the limits of the territory aforesaid, Mining Locations shall be, as may be defined by any Order in Council hereafter to be made.

10. Mining Locations in unsurveyed territory shall be surveyed by a Provincial Land Surveyor, and be connected with some known point in previous surveys (so that the tract may be laid down

on the office maps of the territory in the Crown Lands Department), at the cost of the applicants, who shall be required to furnish with their application the surveyor's plan, field notes and descriptions thereof, showing a survey in accordance with this Act, and to the satisfaction of the Commissioner of Crown Lands.

Section 12 provides that patents shall contain a reservation of pine trees; 13, that mining divisions may be declared by Order in Council; 14, that an Inspector shall be appointed for each division, with power to settle disputes as to claims, &c., summarily; 16, that the Inspector shall issue miner's licenses; 17, that a miner's license shall be in force one year, have only one person's name therein, and not be transferable, but may be renewed; 19, that the licensee shall have the right to stake out and work one mining claim.

20. Each mining claim shall be of the following dimensions, viz:

For any one person, two hundred feet along a vein or lode, by one hundred feet at each side thereof, measuring from the centre of the vein or lode.

Companies of two or more persons, who each hold a miner's license, may take out and work additional feet along a vein or lode by the above width in the proportion of one hundred additional feet in length to every additional miner, not to exceed one thousand feet in length altogether, and work the claim jointly.

21. Mining claims shall be laid out, as far as possible, uniformly, and in quadrilateral and rectangular shapes; measurements of all mining claims shall be horizontal; and the ground included in every such claim shall be deemed to be bounded under the surface by lines vertical with the horizon.

22. A mining claim shall be deemed to be forfeited and abandoned, and to be open to occupation by any licensee, or subject to any sale made by the Crown, when the same shall have remained unworked for the space of two weeks, unless sickness or other reasonable cause to the satisfaction of the Inspector for the division be shown, or in case the licensee has neglected or failed to comply with the requirements of this Act, and the regulations to be made under it, or has not regularly renewed his license.

23. No person shall occupy at the same time more than one mining claim on Crown Lands, except in the cases hereinafter provided for of registration of claims rendered temporarily unworkable.

25. The discoverer of any new mine shall be entitled to two mining claims of the area prescribed by this Act, or by any regulation which may be issued under it and in force when such discovery may be made: provided that such discovery shall have been immediately reported to the Inspector of the division; and any one not immediately reporting such a discovery, shall not be allowed to mine on any Crown Lands for one year.

26. No person shall be considered the discoverer of a new quartz mine, unless the place of the alleged discovery shall be distant, if on a known vein or lode, at least three miles from the nearest known mine on the same vein or lode, at least one mile at right angles from the course of the nearest known vein or lode.

30. Any person occupying a mining claim on Crown Lands, which, in consequence of excess of water or other unavoidable reasons satisfactory to the Inspector for the division, cannot then be worked, may, upon payment of one dollar, register his right to such claim in the office of the Inspector for the division, in a book to be kept for that purpose, and may then proceed to work elsewhere; but in case such person do not return and occupy the claim so registered, within two weeks after the surrounding claim or claims have been