

furnaces. Specular iron ore is the ore from which the excellent iron of Nova Scotia is extracted, and contains about 70% pure iron. The black brush ore of the Forest of Dean is a brown hæmatite and contains about 89% of the peroxide of iron, and yields most of the iron used in making tin plate. The most important British ore is the clay ironstone, clayband, and is found in great abundance in Staffordshire. Both this ore and the black band are found in layers which occur alternately with beds of coal, limestone, clay and shale, whence they are often spoken of as the ironstones of the coal measures, and the circumstance that the same pit or neighbouring pits will furnish the coal employed for

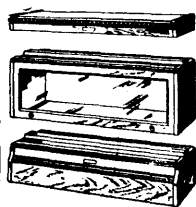
smelting the ore, the limestone used as a flux, and even the clay for making the fire-bricks for the furnace allows English iron to be produced at a price with which until lately other countries found it impossible to compete.

The difficulty of separating the "Fe," iron, from other substances with which it is associated in the ore is of course greater in proportion as these foreign matters are more numerous, thus when the iron is combined with oxygen only, as in the magnetic iron ore, the metal may be extracted at once in the form of malleable iron, by merely heating the ore in contact with carbon which combines with the oxygen. But in the clay ironstones the

earthy matter which is present renders such a process impracticable, and it is necessary to raise such ores to a much higher temperature in contact with lime to liquefy the clay so that it may be separated from the iron when the high temperature causes the iron to combine with the carbon of the fuel, forming cast iron from which the carbon is removed by a subsequent process in order to obtain wrought iron.

The ore to be smelted is broken up into lumps about twice the size of your fist, and in some cases it is found advantageous to prepare it for smelting by a preliminary process of calcining or roasting. For this purpose the ore is mixed with small coal and built up

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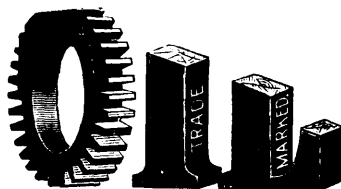
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## MANITOBA

The Government Crop Bulletin issued Dec. 12th, 1901, gives the following statistics for the year:

CROPS.		
ACRES.	AVERAGE YIELD.	TOTAL.
Wheat.....2,011,835	25.1 bus.	50,502,085 bus.
Oats.....689,951	40.3 "	27,796,588 "
Barley.....191,009	34.2 "	6,536,155 "
Potatoes.....24,429	196 "	4,797,433 "

### STOCK.

Number of stock in the Province, July 1, 1901:  
Horses.....142,080 Sheep.....22,960  
Cattle.....263,168 Pigs.....94,680  
Value of Dairy Products.....\$926,314

### 18,375 FARM LABORERS

Came from Eastern Canada to assist in the harvest fields of Manitoba in 1899—and the demand was not fully satisfied.

### MANITOBA FARMERS ARE PROSPEROUS.

Farmers erected, this year, farm buildings valued at one and one-half million dollars.

**MANITOBA LANDS**—For sale by the Provincial Government. Over 1,600,000 acres of choice land in all parts of the Province are now offered at from \$2.50 to \$5.50 per acre. Payments extend over nine years. **Special Attention** is directed to 500,000 acres along the line of the Manitoba and Northwestern Railway at \$3.50 and \$4.00 per acre.

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