

GRINDSTONES.

OCCURRENCE.

Grindstones of domestic manufacture are obtained from the sandstone deposits which extend along the shores of Lake Erie for some distance east and west of Cleveland, Ohio, and as far inland as Marietta, and on Lake Huron above Detroit, Michigan. In Mineral Resources for 1886 the methods of manufacture and use are given in detail, together with a tabular statement of the several varieties, foreign or domestic, that occur, with their special uses. Five varieties are produced in the United States—four in Ohio and one in Michigan. The four in Ohio are: (1) Berea, fine sharp grit, used specially for sharpening edge tools; (2) Amherst, soft loose grit, for edge tools and saws; (3) Independence, coarse sharp grit, for grinding springs and files and for dry grinding of castings; (4) Massillon, also coarse sharp grit, for large edge tools, springs, files, and dry castings. The Huron (Michigan) stone has a fine sharp grit, and is used for sharpening edge tools when a very fine edge is required.

PRODUCTION.

The value of the grindstones made in the United States in 1898 amounted to \$489,769, about one-third more than that of 1897 and the highest figure reached in any year since 1885. The value of the grindstone production from 1880 to 1885 ranged from \$500,000 to \$700,000 per year. These figures were not obtained from a canvass of all the producers, but were largely estimates. The more accurate statements of subsequent years indicate that the estimated production from 1880 to 1885 was larger than that actually obtained, and it is probable that the grindstone production in 1898 was as large as that of any year in our history.

In making their reports of production to the Survey, some manufacturers use the ton as a unit of measurement and others state the number of grindstones made and sold, and until 1898 no separation of quantity was attempted. Last year the manufacturers who stated the number of grindstones sold reported a product aggregating 11,715 pieces, valued at \$99,767. The product reported by weight amounted to 31,639 short tons, valued at \$390,002. Reporting the imports of grindstones, the Bureau of Statistics of the Treasury Department also limits the statements to the value, no figures relating to quantities having been published since 1883. The value of the grindstones imported during the decade ending December 31, 1898, has averaged 15 per cent of the domestic product. During this period the greatest value for the domestic product was in 1898. The year of next largest production was in 1891, when a total of \$476,113 was reported. The

value of the imports reached the highest figure (\$66,195) in 1896. The smallest domestic product was in 1895, the value in that year amounting to only \$205,768, and the year of least value of the imports was in 1891, when it amounted to \$21,028.

In the following table is shown the value of grindstones produced in the United States since 1880:

Value of grindstones produced in the United States, 1880 to 1898.

Year.	Value.	Year.	Value.
1880.....	\$500,000	1890.....	\$450,000
1881.....	500,000	1891.....	476,113
1882.....	700,000	1892.....	272,244
1883.....	600,000	1893.....	338,787
1884.....	570,000	1894.....	223,214
1885.....	500,000	1895.....	205,768
1886.....	250,000	1896.....	326,826
1887.....	224,400	1897.....	368,058
1888.....	281,800	1898.....	489,769
1889.....	439,587		

PULPSTONE.

The manufacture of paper from wood pulp has called for a stone suited to the grinding of wood pulp, resulting in the production in 1898 of 296 tons of "pulp" stones, valued at \$10,619.

IMPORTS.

The amount and value of grindstones imported into the United States since 1868 are as follows:

Grindstones imported and entered for consumption in the United States, 1868 to 1898, inclusive.

Year ending—	Finished.		Unfinished or rough.		Total value.
	Quantity.	Value.	Quantity.	Value.	
	<i>Long tons.</i>		<i>Long tons.</i>		
June 30, 1868		\$25,640		\$35,215	\$60,855
1869		15,878		99,715	115,593
1870		29,161		96,444	125,605
1871	385	43,781	3,957.15	60,935	104,716
1872	1,202	13,453	10,774.80	100,494	113,947
1873	1,437	17,033	8,376.84	94,900	111,933
1874	1,443	18,485	7,721.44	87,525	106,010
1875	1,373	17,642	7,656.17	90,172	107,814
1876	1,681	20,262	6,079.34	69,927	90,189
1877	1,245	18,546	4,979.75	58,575	77,121
1878	1,463	21,688	3,669.41	46,441	68,129
1879	1,603	24,904	4,584.16	52,343	77,247
1880	1,573	24,375	4,578.59	51,899	76,274
1881	2,064	30,288	5,044.71	56,840	87,128
1882	1,705	30,286	5,945.61	66,939	97,225
1883	1,755	28,055	6,945.63	77,797	105,852
1884					^a 86,286
1885					50,579
Dec. 31, 1886					39,149
1887					50,312
1888					51,755
1889					57,720
1890					45,115
1891					21,028
1892					61,052
1893					59,569
1894					52,688
1895					54,276
1896					66,195
1897					49,496
1898					62,973

^a Since 1884 classed as finished or unfinished.

CANADIAN PRODUCTION.

The Geological Survey of Canada gives the following statement of the production of grindstones in the Dominion since 1886:

Production of grindstones in Canada since 1886.

Calendar year.	Quantity.	Value.
	<i>Short tons.</i>	
1886.....	4,000	\$46,545
1887.....	5,292	64,008
1888.....	5,764	51,129
1889.....	3,404	30,863
1890.....	4,884	42,340
1891.....	4,479	42,587
1892.....	5,283	51,187
1893.....	4,600	38,379
1894.....	3,757	32,717
1895.....	3,475	31,932
1896.....	3,663	32,810
1897.....	4,572	42,340
1898.....	39,465