# ABRASIVE MATERIALS.

By EDWARD W. PARKER.

#### BUHRSTONES.

### PRODUCTION.

The use of buhrstones, or milistones, for flouring mills has almost entirely ceased. Mills for grinding the coarser cereals, paint ore, fertilizers, and cement rock continue to use the old-fashioned millstones, but this trade is comparatively limited, and the manufacture of millstones can hardly lay claim to existence as a separate industry. The value of the millstones produced in the United States has not amounted to \$30,000 in any year since 1889, and has exceeded \$25,000 only twice in that time-in 1897 and 1898-when the revival in other lines was reflected in a slight increase in the demand for millstones. The total value of the millstone production in 1898 amounted to \$25,934, distributed among 17 producers, an average of about \$1,500 each. Two of these producers in 1898 were in Virginia, 2 were in Pennsylvania, and 13 obtained their supply in Ulster County, New York. The stones are quarried from a quartz conglomerate rock, outcropping at several localities along the eastern slope of the Allegheny Mountains. The men engaged in the industry are generally individual and independent quarrymen who, upon receipt of an order for one or more stones, take one or two helpers, go to the hills and select a bowlder or blast out a piece of rock which will cut to the desired size. When finished, the stone or stones are hauled by wagon to the nearest rail or waterway shipping station, and no more work is done until other orders are received. The domestic product differs from the imported buhr, and when buhrstones were more generally used in flouring mills the imported French or Belgian buhr was considered superior to the domestic stone. For the coarser work now done by them the American stones seem to be as satisfactory as the foreign.

The millstone-making industry began to go down about twelve or fourteen years ago. Importations fell off very sharply in 1883 and 1884, and have amounted to as much as \$40,000 in only one year since 1884. In the fifteen years from 1868 to 1882, inclusive, the value of the buhrstones, rough and manufactured, imported into the United States

averaged \$84,680 a year. In 1883 the value dropped to \$73,685, and in the last fifteen years has averaged about \$30,000. The records of domestic production extend back only as far as 1880. In the five years 1880 to 1884, inclusive, the domestic product was valued at an average of \$170,000 a year. In the next five years, 1885 to 1889, it averaged only \$91,000 a year, while in the last nine years the average has been but a little over \$21,000 a year, that of 1898, \$25,934, being the

The production since 1880 and imports since 1868 are shown in the following tables:

Value of buhrstones produced in the United States from 1880 to 1898.

Year.	Value.	Year.	Value,	
1880	\$200,000	1890	\$23, 720	
1881	150,000	1891	16, 587	
1882	200,000	1892	23, 417	
1883	150,000	1893	16, 639	
1884	150,000	1894	13, 887	
1885	100,000	1895	22, 542	
1886	140,000	1896	22, 567	
1887	100,000	1897	25, 932	
1888	81,000	1898	25, 934	
1889	35, 155	ELECTRONIC STATE		

## IMPORTS.

The following table gives the value of buhrstones and millstones imported into the United States each year since 1868:

Value of buhrstones and millstones imported into the United States from 1868 to 1898.

Year ending—	Rough.	Made into mill- stones.	Total.
June 30, 1868	\$74, 224		\$74, 224
1869	57, 942	\$2,419	60, 361
1870	58, 601	2, 197	60, 898
1871	35, 406	3, 698	39, 104
1872	69, 062	5, 967	75, 029
1873	60, 463	8, 115	68, 578
1874	36, 540	43, 170	79, 710
1875	48,068	66, 991	115, 059
1876	37, 759	46, 328	84, 087
1877	60,857	23, 068	83, 925

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Value of buhrstones and millstones imported into the United States, etc.—Continued.

Year ending-	Rough.	Made into mill-stones.	Total.
June 30, 1878	\$87, 679	\$1,928	\$89,607
1879	101, 484	5, 088	106, 572
1880	120, 441	4,631	125, 072
1881	100, 417	3, 495	103, 912
1882	103, 287	747	104, 034
1883	73, 413	272	73, 685
1884	45, 837	263	46, 100
1885	35, 022	455	35, 477
Dec. 31, 1886	29, 273	662	29, 935
1887	23, 816	191	24, 007
1888	36, 523	705	37, 228
1889	40, 432	452	40, 884
1890	32, 892	1, 103	33, 995
1891	23, 997	42	24, 039
1892	33, 657	529	34, 186
1893	29, 532	729	30, 261
1894			a 18, 087
1895			20, 316
1896			26, 965
1897			22, 956
1898			22, 974

 $\alpha$  Not separately classified after 1893.