

PRODUCTION OF ABRASIVES

Official Report on Whet, Pulp, Grind, Buhr and Mill Stones.

Abrasive materials are, as a whole, but little understood, although they are in one sense among the most important of the mineral products, says Dr. Joseph Hyde Pratt in "Mineral Resources of the United States, 1901," now in press, United States Geological Survey. The principal abrasives fall into three general groups: Those which occur as rock formations, and are cut and manufactured directly into the form desired, while retaining their original rock structure and appearance, as grindstones, whetstones, etc.; those which occur as a constituent of either a rock or a vein, and have to be mechanically separated and cleaned, as corundum, emery and garnet; artificial abrasives, as carborundum, crushed steel and artificial corundum.

The use of abrasives is growing with the increase of our manufacturing industries. The total value of natural abrasives produced in the United States in 1901 was \$1,194,572, as compared with \$1,208,073 for 1900.

OILSTONES AND WHETSTONES.

In the United States, rocks suitable for making whetstones are found in nearly all the states east of the Mississippi, and in a number of those to the west of that river; but the supply is obtained from Arkansas, Indiana, Ohio, New York, Vermont and New Hampshire.

The Arkansas whetstone quarries are in Garland and Saline counties—the principal ones being on Quarry or Whetstone mountain, near Hot Springs, Garland county. The sandstones of Orange county, Indiana, furnish a whetstone known as the Hindostan or Orange stone, which is quarried in Frenchlick and Northwest townships. In Kentucky, the Caron Stone company is quarrying to a limited extent a waterstone from Hardin county. In Ohio, at Berea, Euclid and Chagrin Falls, in Cuyahoga county, and at Grafton, in Lorain county, whetstones and oilstones are produced. In Cortlandt county, near Labrador lake, in New York, the Labrador stone is quarried for whetstones. In Haverhill township, Grafton county, New Hampshire, and near Lamoyille, Orleans county, Vermont, are the quarries for the celebrated Indian Pond, White Mountain and Lamoyille scythe-stones. The production of oilstones, whetstones, etc., in 1901 amounted to \$158,300; the imports were valued at \$64,655, and the exports were in excess of the imports.

GRINDSTONES.

The production of grindstones in the United States is almost entirely from Ohio and Michigan. The principal grindstone district in Ohio is included in Lorain, Cuyahoga and Summit counties, with Cleveland as a center, the largest grindstone quarries and manufacturing plants being within twenty-five miles of Cleveland. The quarries in southern Ohio are along the Ohio river, west of Marietta, and inland northwest of that city. A few quarries are in West Virginia, across the river from Marietta. The Michigan quarries are on the shores of Lake Huron, about ninety miles north of Port Huron, near Grindstone City. In South Dakota are located the quarries of the Edgemont Stone company, near Edgemont, on the line of the Burlington and Missouri River railway.

PULPSTONES.

Since paper began to be manufactured from wheat pulp, there has been a demand for a stone suited to the grinding of wheat to a pulp. The main supply of pulpstones has been imported from Newcastle-upon-Tyne, England. Various attempts to find a stone in this country suitable to this purpose have been made; and the stones from the new quarries of the Tippecanoe Pulp and Grindstone company, at Empire, Ohio, has proved to be well adapted to the manufacture of pulps. In 1901 there was a very large increase in the production of pulpstones over that of any previous year, the total production amounting to 860 tons, valued at \$18,800, as compared with 553 tons, valued at \$12,495, produced in 1900, and with 288 tons, valued at \$8,712, in 1899.

The total value of the production of all kinds of grindstones in 1901 was \$580,703, a decrease of \$129,323 from the production of 1900, which was \$710,026. Grindstones continue to be imported into the United States, and they come from Newcastle-upon-Tyne, in England, from Edinborough, Scotland, and from Bavaria. The imports in 1901 amounted to \$88,971, as compared with \$92,581 in 1900.

The total export of grindstones from this country is now greater than the import.

BUHRSTONES AND MILLSTONES.

Millstones are found in various localities in the United States. The New York millstone quarries are located in a belt of sandstone and conglomerate on the Shawangunk mountains, extending across the towns of Rochester, Marbletown, Wararsing, Gardener, New Paltz, in Ulster county, and the product is known as "Esopus" stone. In Pennsylvania the quarries are located in Lancaster county, and the millstones are known as "Turkey Hill" and "Cocalico," the former being found on Turkey hill, near Bowmansville, and the other near Durlach and Lincoln. In Virginia quarries have been opened on Brush mountain, in the vicinity of Price's Fork, Montgomery county, and the stone is known as the "Brush Mountain" stone. The places just mentioned were the only ones at which millstones were quarried during 1901, and there was an increasing production from each of them. Millstones were formerly obtained from Moore county, North Carolina, and from the Berea Grit, at Peninsula, Ohio.

A good many buhrstones are still imported from France, Belgium and Germany, and they are considered more satisfactory than the American stones. The production of millstones in 1901 amounted to \$57,179, as compared with \$32,858 in 1900 and with \$28,115 in 1899. The value of the imports of millstones and buhrstones in 1901 was \$42,187, as compared with \$28,304 in 1900.

Rich Gravel on Beaver Creek.

Parties just down from up Grande Ronde river report quite an excitement was caused a few days ago by a very rich strata of gravel having been struck in the Buzzini placer mine, on Beaver creek. This mine contains some 3000 acres of ground, and is considered by those who profess to know, among the most valuable in eastern Oregon. Mr. Buzzini is contemplating the purchase of an elevator, such as the one lately brought to Camp Carson, and is in correspondence with parties in San Fran-

cisco in regard to it, and also in regard to the purchase of the mine.—La Grande Chronicle.

For Sale.

Two prospects lying between the Crown Point and the California mines, Cable Cove district; ore assay, \$15. They will be sold right. Apply to T. Costello, Cableville, Ore.

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