

**PNEUMATIC
PULVERIZER**

**Machine to Take the Place of
Stamp Mill.**

Last week THE MINER published a short description of a device known as the pneumatic pulverizer, designed to do the work of a stamp mill. Its first public test was given at Seattle last week. The Mining Record of that city devotes much space to the subject. It says that more than 200 mining men from all over the Northwest were present at the time, and manifested much satisfaction over the results attained.

The great distinguishing feature of the pneumatic pulverizer is that substances are powdered by being shot against each other at a terrific velocity by means of opposing jets of steam or compressed air. At a pressure of 100 pounds to the square inch superheated steam or compressed air is allowed to escape through two three-eighth-inch nozzles, directly opposed to each other and separated by an intervening space of some eight inches. The jets of air or steam then pass respectively into and through two funnel shaped apertures that gradually reduce to a five-eighth-inch diameter at the inner opening. The inner openings are three inches apart, terminating in a bowl shaped cavity. After being reduced to the size of peas in an ordinary rock crusher the material to be pulverized is fed, from two hoppers, into an enclosed space surrounding the ends of the nozzles and funnels.

Here the suction of the two powerful jets of steam or air catches the material, and, drawing it into the end of the funnels, forces it in two compact streams of solid substance, through the five-eighth-inch orifices to meet each other midway in the bowl-shaped receptacle. The velocity of each stream of material is 3,000 feet per second, a speed equal to, or greater even, than a Mauser bullet. This terrific impact reduces the material to a powder finer than wheat flour.

A pneumatic elevator, a vacuum stack, removes this powder as fast as it is produced, carrying it to bins, from which it can be drawn off through gates or chutes. The suction of the pneumatic elevator is so regulated that it will carry away only powdered particles, coarser particles falling back to again be fed into the machine by a simple device. After being reduced to powder, ores are then treated as in other reduction processes.

The pneumatic pulverizer works equally well with superheated steam or compressed air. Wherever a water power exists one or more of these machines can be operated successfully. The machine does not weigh more than an upright piano. It can be taken apart, the heaviest piece weighing but 42 pounds; hence it can be taken anywhere that a mule or a man can carry a small pack. The advantages of the pneumatic pulverizer over stamp mills and other machines may be enumerated as follows:

They can be taken anywhere on the shoulders of men or pack mules.

They require no special foundation for, there being not a particle of jar or strain, they operate equally well resting on the bare earth or on thin boards.

The first cost is less than one-half the cost of stamp or other mills of equal capacity.

The expense of operating the new machine is less than 50 per cent of the cost of operating stamp mills.

Vexed Question of Mining Taxation.

The vexed question of the valuation and taxation of mining property has come again, this time in New Jersey. The assessors of Sussex county in that state

have been for several years trying to raise the valuation of the property of the New Jersey Zinc company in the township of Hardiston; but their arbitrary increases have been set aside by the courts, chiefly because there is no statutory provision in that state for the valuing or taxing minerals underground. This year the matter has been fought over again, the county assessors, the state board of taxation and the company all taking part. Finally a compromise was reached by which the valuation of the company's mines was increased by \$420,000, or about 50 per cent. This still leaves the question in a very unsatisfactory state. The valuation is a purely arbitrary one, and in New Jersey, as in many other states, no one seems able to determine the just or rational basis on which mining property should be valued for taxation purposes.—Engineering and Mining Journal.

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