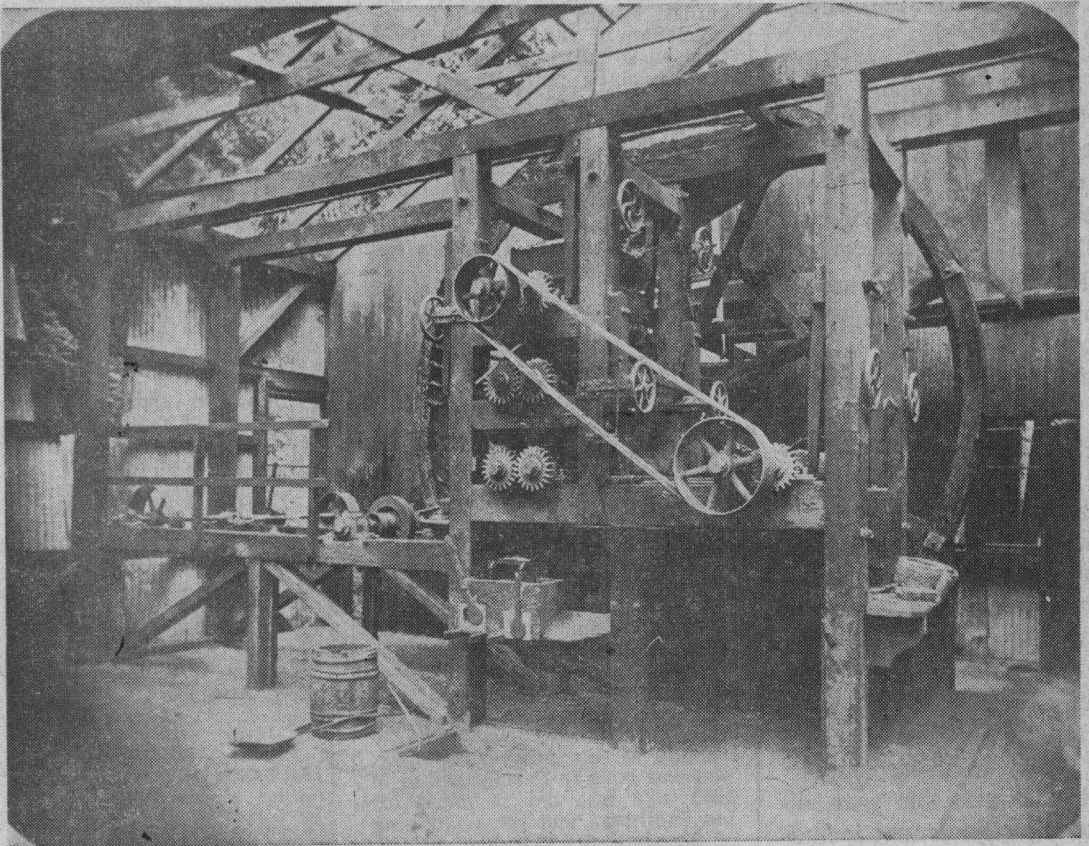


Santa Cruz Yesterdays

9/5/54



POWDER WORKS MACHINERY—CORNING MILL

(From the Preston Sawyer Collection)

Sawyer Preston
The California Powder Works, which brought fame to this area as a manufacturing center as far back as the middle sixties, was a result of the need for good blasting powder in the second decade of California gold mining activity.

Poor quality marked the powder reaching San Francisco by boat via Cape Horn, yet it often brought \$20 a keg. It was felt a better article could be manufactured here for one-tenth this amount. Accordingly a number of leading miners set about, in 1862, to find a site suitable for the erection of a powder works.

A location with the requisites of a handy harbor and business center, and an abundance of wood and water, was important to the success of the venture. After carefully considering several eligible places, the projectors selected a flat in the canyon of the San Lorenzo, about three miles above the city, where in all directions loomed dense forests of redwood, pine and hazel for kegs and fuel, and madrone, oak, alder and willow for charcoal.

"Powder Mill Flat"

The wisdom of this choice be-

came more apparent as time went on and "Powder Mill Flat" was long looked upon as the ideal location for the plant which cost its promoters \$100,000 in all, for machinery, dams, wharves, flumes, roads, etc. But California powder was in the market and California powder Works at Santa Cruz an established fact, as of July 16, 1864, date of the first invoice.

With the coming of the South Pacific Coast railroad in 1880 the old method of shipping by schooner was abandoned. A branch line built by the powder company connected with the SPC, over which shipments were made to all points west of the Mississippi.

In 1890, for example, normal capacity of the mills was 640 25-pound kegs per day, which had grown considerably by 1898, as noted last week. Nitrates, sulphur, saltpeter had to be imported, but the wood needed was bought here. At this time some \$10,000 was being spent annually on wood alone, welcome additional revenue for adjacent ranches.

This was converted to charcoal in retorts at the plant, to become

one of the components of black powder. Robert Wagner of this city, former powder works employee, retired powder man, gives the following details of black powder production:

Black Powder Process

Charcoal and sulphur was pulverized in iron cylinders, 3 feet in diameter and 6 feet long, containing iron marbles the size of golf balls, about a bucket full to a cylinder. This process continued for 24 hours.

After refining, nitrate of soda or saltpeter, sulphur, plus charcoal, was delivered to the wheel mills in proper weight percentage for blasting powder or sporting powder. Blasting powder was mixed under the wheels for 1½ hours; sporting powder and rifle powder from six to 10 hours. The wheel mills operated 24 hours a day. From here the powder was delivered to the pressing mills where it was pressed by hydraulic power into cakes 1½ inches thick and two feet square.

Next step in the process was performed in the corning mills, one of which is shown above. Here the cakes from the pressing mills were fed into the rollers and ground into grains from the size of peas down to dust and run through screens to separate the sizes.

In the glaze mill the product was thoroughly dried and polished, and sent to the packing department, where it was packed in either quarter or half kegs to go to the magazine (for storage) or to fill orders for mines, quarries, fuse mills or firecracker manufacturing concerns, etc.

The black powder department some 55 years ago consisted of a charcoal burner, four pulverizers, two refineries, 8 wheel mills, 2 press mills, 3 corning mills, glaze mill, a magazine and two packing houses.