NOTES ON THE STAMP MILL.

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The year 1849 was a memorable one on the Pacific coast of North America ; the discovery of auriferous sands of great richness attracted thousands to the wilds of California, and mining camps sprang into existence all over the country. Gradually the placers became exhausted, and when similar deposits were discovered on the Columbia in 1858, many Californians started off to try their luck in the new El Dorado.

It occurred to some Californian miners that what had been done by natural agency might also be accomplished by man, and the outcome of the idea was the application of the stamp mill to crushing gold quartz. Although successful on rich ores, the first mills were extremely crude and wasteful ; but experience and careful study of their defects have brought the process to its present efficiency.

It is not the purpose of the writer to trace the evolution of the stamp mill, which would be, truly, a somewhat laborious task, but rather to describe very briefly some features of modern mills and milling.

The series of operations for the extraction of gold in most modern stamp mills may be briefly stated as follows : The ore from the mine is crushed roughly, and fed automatically to the mortar of the stamp battery ; this is provided with amalgamated copper plates, which catch most of the free gold. The rest being carried by water escapes through a screen with the finely divided ore, where more of the free gold is caught on other amalgamated plates. From these plates the ore passes to concentrators, which separate most of the remaining gold and nearly all of the sulphides from the gangue. This last usually still contains some small quantity of gold, which may be extracted chemically, or allowed to run to waste.

In order that some idea of the equipments of a mill may be obtained, a few brief notes upon some of the more important machines are given :

CRUSHER.—The Blake, Dodge, Gates or Comet, are in general use. These are described fully in most works on the metallurgy of