

COSMOPOLITAN CHRONICLE

True tales from the annals of history, archaeology, construction, and restoration of the Casa de Bandini and Cosmopolitan Hotel.
Old Town San Diego State Historic Park

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Challenges

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In a previous issue, challenges from the past were suggested. One of them was “turn 50,000 adobe bricks by hand.” In order to do that, well, “there’s a lot to this.”

First you need a lot of “good” adobe soil. Soil in a most basic breakdown is comprised of 3 main components: sand, which is 2 to .05 millimeters, silt, .05 to .002 millimeters, and clay, less than .002 millimeters. “Good” adobe soil is considered to have a content of about 20% to 30% clay. This is not to say all adobe structures have been made with this percentage, some have been found to contain as little as 3% clay. Experts today are a little baffled on how that was possible, but lab tests confirm it is.

The adobe soil used in the Casa de Bandini contains a high percentage of “fines” both clay, and silt. 50,000 bricks would require the soil of about half a football field excavated about a foot deep. Originally, it is highly unlikely the site of the Casa de Bandini, or the plaza would have been completely flat as they are

today. There would have been a slight slope upward toward Presidio hill. When rivers flood, they deposit silt, and the San Diego River has a well documented history of flooding. So, it is most likely “the spoils” i.e., soil removed, from the building site and to flatten the plaza were used to make the brick, in addition to slightly lowering the plaza elevation. The plaza then would also become a perfect place to sun dry bricks, as in 1827 there were no trees on the plaza.

After finding enough soil, you need shovels. Although shovels are one of the more common tools, in 1827 they were very valuable, and you would have 3 main choices. Wooden blade, have a blacksmith make you metal blades, or import them from England, Spain, or the East coast. Until the late 18th century, only wooden shovels were manufactured in the U.S., but they were individually made by smiths, an expensive and time consuming process. Captain John Ames founded the Ames Shovel Company in Massachusetts, in 1774. His company, now Ames True Temper, is the oldest continuous company in the U.S. He used a water-powered trip hammer to form the blades, which were then fitted with local hardwood handles. The company went national in 1803.



Trip Hammer

It could be argued that the shovel is the most important tool in U.S. history. All gardeners and farmers must have one. They were used to lay the tracks and build tunnels for the railroads, and the early locomotives couldn’t move unless someone was shoveling wood or coal into the boilers. They were used in mining, and stoking steam powered engines and boilers, which drove sawmills, and heated factories. Shovels are used by the military to build fortifications. They are needed to build roads, lay pipes, fill sandbags for levies, free stuck vehicles, and move snow. Captain John Ames couldn’t have chosen a more important tool to make.

