

"What'ya think they're made of, rubber?"
muttered the chief to himself.



Marmaduke's Rubber Condenser Tubes

► "BILGEWATER ON ENGINEERS WITH STRAIT-JACKET MINDS!" roared Marmaduke Surfaceblow as I barged into O'Houlihan's Machine Shop and Engine Works last week. "If you don't have imagination and a natural savvy of machinery, then steer clear of power plants."

I had started to climb the rickety stairs to the old consulting engineer's office when I heard that familiar foghorn voice above the machine shop's clapping and squeaking leather belts. A letter from A W Shepherd of San Diego, California, had brought me here looking for some information.

Entering the machine shop, I saw Marmy surrounded by O'Houlihan, Pete Jacobs, the foreman, and some machinists in greasy overalls. O'Houlihan was checking a blueprint and measuring a large half-machined casting. Then he shook his bald head sadly—evidently

the job had been spoiled. But Marmaduke kept sounding off, so I walked inside and listened.

"Here's what I mean," bellowed Marmy, paying no attention to O'Houlihan's headache. "Back in 1916 I was maintenance foreman at the Pacific Gas & Electric Co in San Francisco. We had several large condensers of 6000 tubes apiece. About 400 tubes had been leaking in one condenser, so they were plugged from both ends with tapered brass plugs. My job was to retube that condenser."

"Chief engineer Jake Drummerhouser was on edge because the plant couldn't supply enough power as it was, so he wanted that retubing job done in record time. And he made it clear that nothing was to prevent smooth sailing once the new tubes arrived and we shut down."

"I dozed out a schedule and drilled

my men so every move would count when we finally got the new tubes. Each man practiced a job on a small scrap condenser until he could do his part with his eyes closed. After several weeks the long boxes arrived. I had them stowed near the condenser so they'd be handy.

"Jake gave me the green light a few days later. We were to shut down and start retubing on Sunday morning. We'd work around the clock until that condenser was buttoned up. To make things interesting, I promised my boys a clam bake, with all the beer they could drink, if we made knots."

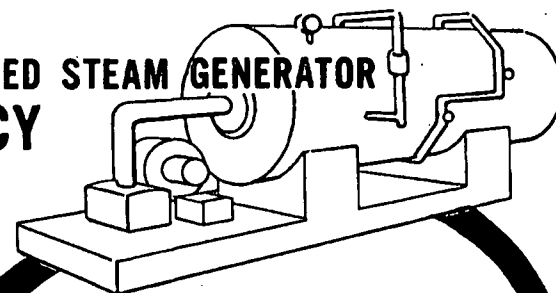
"Soon as the condenser was cut out my gang heaved to like an old time Navy bucket brigade. They spun those one-inch nuts off the water-box cover studs so fast the threads smoked. Nuts were dropping to the floor-plates like a hailstorm rounding Cape Horn. In no time we hoisted the water box cover out of the way and started roaming out the old tubes."

"My plan was to have each new tube guided in by following an old tube as we pulled it out. The new tubes were 1-in. Admiralty bronze, 20 ft long. But the first new tube didn't quite reach the opposite tube sheet. That scuttled the works."

"Maybe she's a short one that got into the shipment," someone reasoned. But the next tube didn't reach either. A quick check showed everyone of those 6000 tubes 3 inches short.

(Continued on page 222)

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