

SPEAKING OF POWER

The "thickened" fuel that made flamethrowers and incendiary bombs more effective is now going to work for the power engineer. As a fuel igniter, it will bring a stoker, without kindling, from cold to operating steam pressure in half an hour. Developed by Esso for a large utility, the fuel igniter—diesel oil brought to a jellylike consistency with an aluminum soap—is expected to find wide use in the power-plant and railroad fields.

Any engineer who has ever checked grate bars or stoker iron, exposed to high temperatures for long periods, knows that cast iron has an annoying property known, logically enough, as "growth." Now along come metallurgists of Battelle Memorial Institute with a cast iron that does not warp or change dimensions when heated repeatedly to high temperature. This growth-resistant cast iron is high in silicon; minor amounts of copper and chromium are added in casting to make it oxidation resistant at high temperature.

As the first cold days bring thoughts of winter, cautious optimism prevails with respect to the fuel-oil situation. Demand looks to be about 7% higher than last year, but, if all goes well, supply should meet it. Remember, however,

Service

You touch the switch and the light comes on
With never a wink's delay
The filament glows and the darkening room
Is lighted as bright as day.

This is the stuff that can't be stored
It has to be made right now
This instant men and machines must work
For you, somewhere, somehow.

You need not know and you may not care
The "why" of the switch you flip
But the work of a thousand men is there
Right at your finger tip.

Nas helter-skelter nor hit-and-miss
But timed to so true a pace
That your clock keeps time as the very stars
Right there on your mantel place.

The power plant's work is little or big
As your use is great or small
But it's always there to serve your need
At a touch of the switch on the wall.

R S CLARK

that availability of fuel oil in any specific area depends on transportation and storage. It's a good idea to figure there will be "spot" shortages this winter as there were last, though probably fewer, and act accordingly.

Facing a power-supply deficit during industrial working hours in winter months, Cleveland Electric Illuminating Co hopes to balance supply and demand through a cooperative load-shift program. Asked to help are 350 large users (200-kw demand and over): their share—reducing load 15% during working hours by shifting part of operations to other hours or weekends. For its part, CEICO will (1) hold controllable power use in its own plants to off-peak hours (2) by agreement, reduce load of two largest industrial customers on short notice, when necessary (3) reduce voltage to extent practicable. Meanwhile CEICO presses a \$30,000-kw construction program.

Widely hailed as a revolutionary advance, continuous casting of steel has been announced jointly by Republic Steel Corp and Babcock & Wilcox Tube Co. In conventional steelmaking, the open-hearth furnace converts pig iron to steel, which is poured into ingot molds. After soaking, ingots are stripped, cleaned, and reduced by rolling to blooms, billets and other secondary shapes ready for further fabrication into finished products. Eliminating some of the costliest and most cumbersome mill equipment, the new method takes molten steel from the open hearth, and, in one continuous operation, forms billets, cools and cuts them to any desired length, ready for secondary fabrication. Savings of at least \$3.00 per ton are expected, with higher production.

Productivity continues to rise as our coal mines are more completely mechanized. Latest figures (1947) show that almost 60% of coal mined underground is mechanically loaded. This is one reason a U. S. miner can produce 5.2 tons of bituminous per shift, against 1.2 tons over the same period for his less well-equipped British counterpart.

Researchers of Sinclair Refining Co have discovered a rust inhibitor of such effectiveness and stability that less than three gallons added to 1000 bbl of a petroleum product at the refinery will provide protection to the point of final use. The material, known as RD-119, creates on metal surfaces an invisible polymolecular protective layer which prevents contact with air and moisture. Developed to protect pipelines against corrosion from petroleum products flowing through them, the lasting qualities of this inhibitor will provide the same protection for the customer's storage tanks, piping and oil-using equipment. It is expected that RD-119 will be licensed to other oil companies.

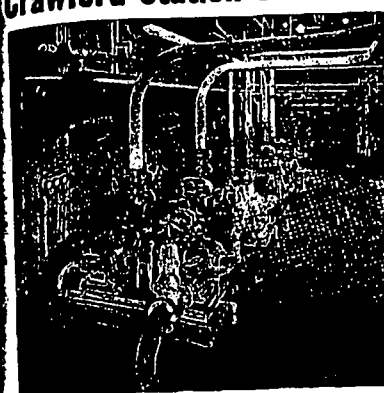
E A Roberts, of Carlsbad, N. M. tells about being called in by the local banker to have a look at the motor-driven adding machine back when such contrivances were new. Although they kept books for years in the old-fashioned way, the bookkeepers were now dependent on the machine. Against E A's better judgment, he was talked into trying to fix the machine to save the time it would take to send to headquarters for a service man. His doubts about his ability to fix such a complex device were relieved somewhat by the ease with which he was able to remove the cover and expose the working parts. But his newfound confidence took a shuddering dive when he ran across a sign that said, with obvious aptness, "DO NOT ALLOW THE VILLAGE TINKERER TO GO IN HERE WITH A SCREWDRIVER" . . .

THIS MONTH'S COVER

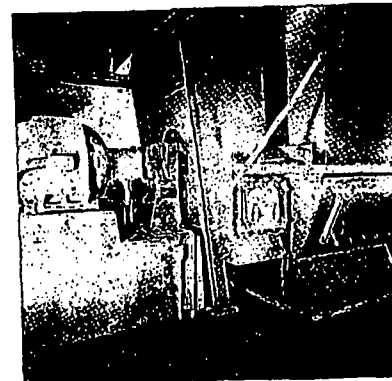
This interesting pattern of tubes caught McGraw-Hill photographer Syd Karson's eye in the course of a Powertown assignment in New York. He took the picture, left it to the editors to say just what his camera had recorded. Here's the dope:

The operator is inspecting the water-inlet end of four large vertical shell-and-tube ammonia condensers, part of the brewery's large refrigeration plant. The snub tubes shown (one in operator's hand) insert in the long "working" tubes of the condenser at the tube sheet, which is about a foot below the top of the shell. These snub tubes are perforated near the bottom to guide and distribute cooling water to the interior of the main tubes.

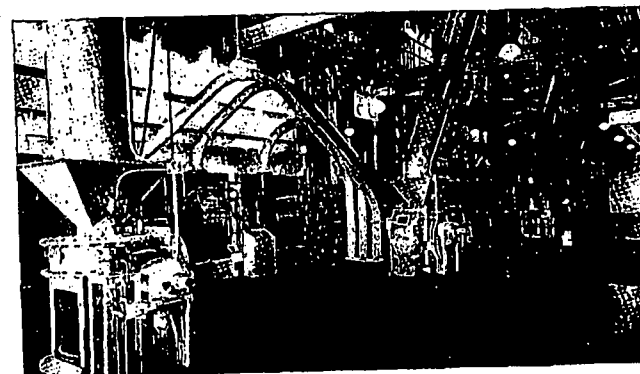
Crawford Station Unit No. 3 Continued from page 67



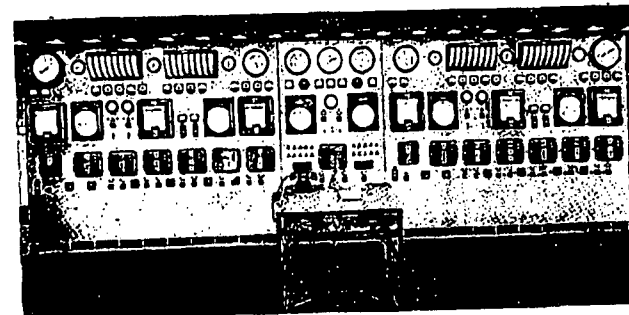
AUXILIARY PUMPS FOR ASH SLUICING, screen washing and house service are concentrated at one point in plant basement



ONE MOTOR-DRIVEN INDUCED-DRAFT FAN, located on upper level, serves each steam generator. Vanes control gas flow



PULVERIZER COAL FEEDERS are on operating floor. Each boiler has 3 burners in back and front walls



BOILER CONTROL PANEL for boilers No. 7 and 8 faces pulverizer feeders shown in picture above

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