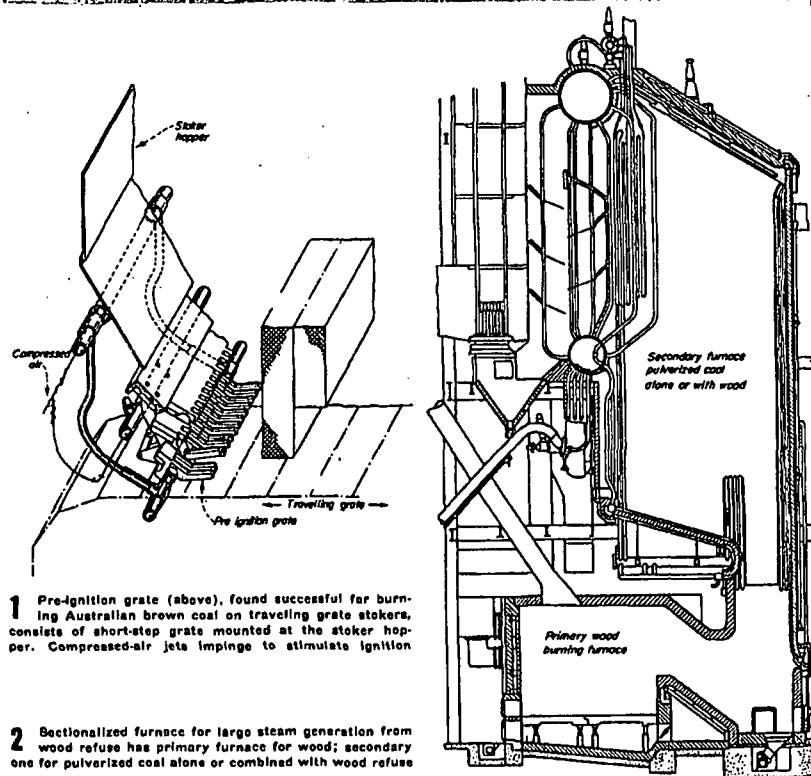


TECHNICAL BRIEFS

ENGINEERING DEVELOPMENTS HERE AND
ABROAD DIGESTED FOR BUSY POWER MEN



1 Pre-ignition grate (above), found successful for burning Australian brown coal on traveling grate stokers, consists of short-step grate mounted at the stoker hopper. Compressed-air jets impinge to stimulate ignition

2 Sectionalized furnace for large steam generation from wood refuse has primary furnace for wood; secondary one for pulverized coal alone or combined with wood refuse

FUEL BURNING
Use of Raw Brown Coal on Industrial Stokers, by I McC Stewart, J R Nicholson and H P Reinback, Australian National Committee, Fuel Economy Conference. Brown coal with moisture content of 65% has been successfully burned for many years in large central stations in State of Victoria, Australia. Recent severe shortage of black coals has made this brown coal a necessity in industrial boilers generating under

20,000 lb per hr of steam. Adapting existing stokers required considerable experimenting.

Spreader stokers had no ignition difficulties and the fear of heavy fly-ash emissions did not materialize. A gross grate rating of 600,000 Btu per sq ft per hr resulted from firing unscreened coal, 49% moisture, 2% ash, crushed to about 3-in. maximum size and possessing a high reactivity.

Single-retort underfeed stokers with

forced-draft fans can fire brown coal of 59% moisture by using (1) thick fuel beds (2) larger coal quantities per unit of boiler capacity—about three times normal bituminous feeds (3) close control of sizing—fines, $\frac{1}{8}$ in. and below, should not exceed 10% (4) larger feed screws or greater screw speed for increased feed rates.

Chain-grate stokers, largest single firing method in Victoria, experienced severe ignition troubles. A preignition



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