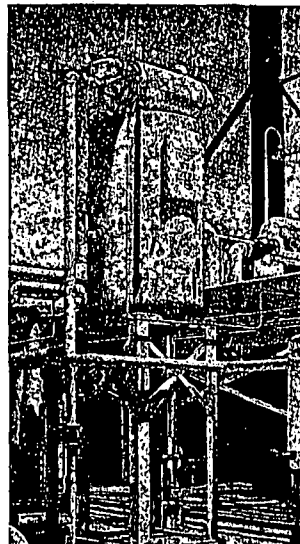


Texas Oil Refinery Solves a Feed Water Problem



CUTS BOILER REPAIRS TO MINIMUM WITH STICKLE FEED WATER HEATER

● To assure trouble-free boiler operation, this Texas oil refinery needed a dependable hourly supply of up to 50,000 pounds of preheated feed water, free of destructive oxygen and scale-forming substances. Selected for the job was the No. 6 Stickle Deaerating Feed Water Heater and Purifier, shown above.

Stickle heaters prevent corrosion of boilers, piping, steam lines and turbines by removing destructive oxygen and CO₂. Special type trays force water to flow irregularly in a thin film, depositing solids and releasing non-condensable gases. Trays cannot overflow—are easily removed for occasional cleaning. Open coils bring feed water into direct contact with steam—immediately transmit heat from steam to water—cutting fuel costs 10-15%. Condensed steam is not wasted. It provides one-sixth of boiler feed supply. Stickle feed water heaters are built in a variety of sizes. Capacities: 3,000 to 300,000 pounds per hour. Every installation is guaranteed.

Write for free 16-page Bulletin 117.

STICKLE STEAM SPECIALTIES COMPANY
2265 VALLEY AVENUE • INDIANAPOLIS 18, INDIANA



Differential and Boiler Return Systems • Open Float Steam Traps • Regulating and Reducing Valves • Open Coil Feed Water Heaters and Purifiers • Oil and Steam Separators • Temperature Controllers

STOCKPILING

Continued from page 214

as nearly level as possible and thoroughly compacted before placing material.

5. Side slopes of pile, space between piles, should be kept to a maximum of 25% so scraper can descend to the pile surface.

6. If space limitations require a pile of maximum height with minimum slope, then a crawler tractor with a dozer should be used to clean up the pile and seal side slopes.

7. Top of pile should have a minimum width of 50 ft for maneuvering.

8. Approach ramps are most satisfactory if they do not exceed 10%, a practical top limit of 25%.

9. Pile should be built as close as possible to point of coal loading and unloading to minimize haul.

Reclaiming coal with a scraper is most efficiently accomplished by loading the load directly into a drive hopper, but can be done in areas by a bulldozer or a clamshell crane of some kind.

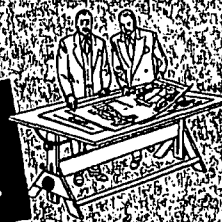
Most efficient method of stockpiling scrapers with coal to be stockpiled is the overhead hopper, as this gives a minimum pay load. If this isn't possible, coal should be deposited by conveyor in a relatively open area and scrapers can self-load.

If more than one type of coal is to be stockpiled in the same area, different types can be segregated by either using side-by-side piles, or stockpiling horizontal layers. Reclaiming horizontal layers is done in conventional manner while side-by-side piles may be reclaimed by downhill loading.

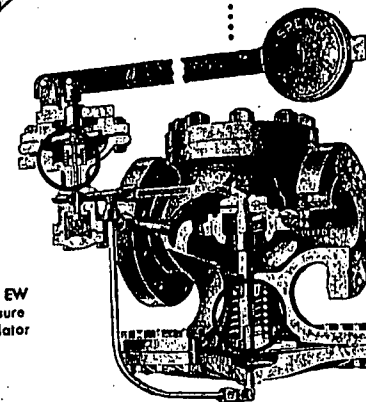
Auxiliary Dozer. General operating practice on large piles uses a crawler tractor with angle dozer along with 2-engine unit. The big machine, for safety's sake, should go no closer than one or two ft of the edge of the pile. Consequently, the angle dozer is used to dress the edges, clean up around drive-over hoppers, and knock down high piles of loose coal to facilitate scraper loading. Some installations where their coal demand is such that six-hour production of the 2-engine scraper is not enough to handle either stockpiling or reclaiming. During the remainder of the shift, a 2-engine driver is used as a bulldozer, cleaning up and dressing around the pile edges.

Two-engine principle became practical with postwar development of a heavy-duty torque converter and semi-automatic transmission. Since first tested in 1946, the same power train of engine, torque converter and semi-automatic transmission has been used in scrapers and trucks, with nearly 200 of the type

HOW SPENCE DESIGN...



...protects springs FOR LONGER LIFE



Type EW Pressure Regulator

A few other design features:

Spence

SPENCE ENGINEERING COMPANY, INC.

MADE IN NEW YORK

In the Spence Regulator, the springs are out of the path of the steam or other fluid flowing through the valve. They operate at low unit stresses for exceptionally long life. This is only one of the many Spence design features that assure dependable, accurate regulation year after year. That means less downtime, less time and money wasted on replacement of parts.

Spence makes a wide line of automatic regulating valves: Pressure, Temperature, Differential Pressure, Back Pressure, Pump Governor and many other types. Write for bulletin 100 giving full details.

SECO METAL SEATS AND DISCS—Durable SECO Metal resists wire drawing. More than twenty years of experience in thousands of installations has failed to produce a single case where SECO Metal has been cut by steam.

LARGE BALANCED METAL DIAPHRAGM—located in a cooled zone with a condensate seal above and below it. Never has to be replaced under normal conditions.

PACKLESS CONSTRUCTION—All Spence main valves and multiphase are built without stuffing boxes. This minimizes friction, reduces valve stem wear and eliminates time-consuming maintenance.