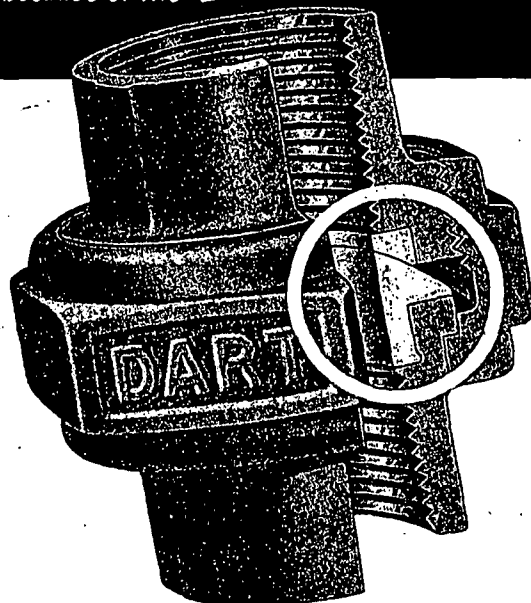


DARTS FIT TIGHT

because of the **GROUND BALL JOINT**



A TRUE BALL JOINT Spherical grinding finishes the seats of a Dart into a true ball joint with wide, true-bearing surfaces. Because of this feature, Darts are easily made tight without jamming... without damage to seats.

TWO BRONZE SEATS The special bronze alloy used for Dart seats has a high resistance to pitting, electrolysis and corrosion... means years of leakproof protection.

PRACTICALLY INDESTRUCTIBLE Both body and nut of a Dart are made of high-quality, air-refined malleable iron to give extra resistance to stress and stretching... extra years of life under toughest conditions.

EXTRA-HEAVY SHOULDERS And lastly, to withstand more years of wrench abuse, the shoulders of a Dart union are made stronger and heavier.

When you add up these features it is easy to see why Darts can be used again and again... why Darts will bring you more years of trouble-free service.

E. M. DART MANUFACTURING CO.
PROVIDENCE 3, RHODE ISLAND



When you add up these features it is easy to see why your customers will be happier... your profits greater... when you sell sturdy Dart unions.

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(Continued from page 176)

AJS should not overlook the possibility of the piston striking cylinder head. Some years back an air compressor in our plant operated very quietly a few minutes after starting up and then developed a metallic thump. The piston had been replaced some years previously, and the new piston was thicker than the one supplied by the manufacturer. As a result the clearance volume was reduced. By removing a valve at each end and inserting a piece of lead wire so it would be flattened between piston and cylinder head, clearance space was checked. The piston rod was turned in the crosshead nut until clearances were the same at both ends of stroke, then the locknut on the rod was tightened.—Howard T. Livingston, Los Angeles, Calif.

Procedure for Adjusting Valves

FROM INDICATOR CARDS shown, the engine needs valve adjustment. All events are late and, in addition, no compression is indicated in either cylinder.

Valves in both cylinders should be checked for wear or other defects. Starting with high-pressure side, wristplate should be set in midposition or line on line. These lines will be found on wristplate hub and stand. Steam valves with wristplate in this position should be lapped about 5/16 to 3/8 in. The exhaust valves should be set line on line, or negative lap. Place high-pressure side crank on top dead center, and give steam valve approximately 3/16 in. lead by rolling eccentric around shaft in direction of engine rotation. Crank should be set on bottom dead center. Give steam valve more lead about 1/4 in. for trial. Low-pressure side should be checked in the same way, allowing approximately 1/32 to 1/16 in. to lap and lead.

On taking indicator cards, if admission is late, advance eccentric to obtain proper point; if compression increases to an excessive amount with proper admission, reduce lap on exhaust valves by adjusting exhaust valve rods at wristplate.

AJS can solve his problem by following procedure outlined. I recommend checking with manufacturer as to exact lap and lead for engines of this type and size.—F. R. Haworth, Arlington, Mass.

Do Steam Valves Leak?

I AGREE WITH AJS that valves need adjustment. Release and compression take place too late, causing engine to pound on centers. Release end of di-

(Continued on page 214)

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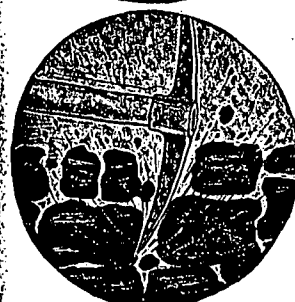
Better Coal Preparation for Greater Combustion Efficiency

WITH

AMERICAN SHREDDER RING CRUSHERS



= { **RAGGED FIRE BED**
EXCESSIVE CO₂
ASH-PIT LOSS



= { **EVEN FIRE BED**
UNIFORM COMBUSTION

Every pound of coal means more BTU's—more efficient heat, when Americans do the preparation job! ROM coal is reduced rapidly with exacting control of fines, uniform sizing and no oversize—at a cost of less than 1¢ a ton. The result: Americans pave the way for a loose, uniform firebed quickly responsive to sudden steam demands—without excessive ashpit drop or unnecessary CO's.

Shredder Ring

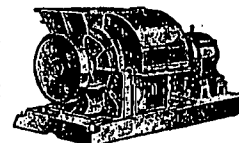


Patented manganese steel shredder rings, exclusive with American Rolling Ring Crushers, split the coal by impact rather than by crushing. Shown below is the rotor assembly, with its many rows of shredder rings. Each ring has twenty cutting edges—and revolves on individual shaft, free to deflect from tramp iron without damage.

Rotor Assembly



American Type "S" Rolling Ring Crusher, with heavy cast steel housing and sectional construction, secured at dust-tight machined joints with coupling bolts for easy access to crushing chamber.



Write for details on efficiency of coal preparation in power plants with American Crushers.

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