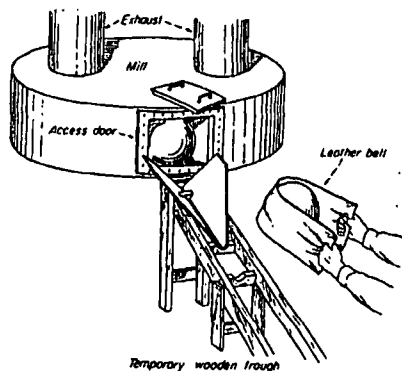


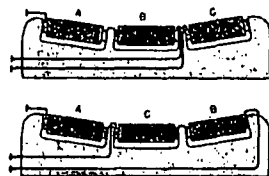
More PRACTICAL IDEAS



Removing Balls From Pulverizer Mill

BECAUSE REMOVAL DOOR on ball mill is not very large, weight of balls and close quarters make removing a tough job. We cut a piece of common belting 30

in. long by 8 in. wide with two slots for hand holes, as shown. Now balls are pulled out very easily to the trough. C W BENTLEY Clinton, Iowa



Longer Life for Conveyor Rollers

OUTER BEARING on roller C in top sketch runs dry because it is farthest from grease supply and grease must push upwards to completely lubricate the bearing. Trouble was grease squeezed out inner bearing without going through bearing to do a complete job.

We thought of turning roller C around end for end, but could not because shaft has a right-hand thread on one end and a left-hand thread on the other. But repairs were costly. It took about ten man-hours to repair one set of bearings whenever it ran dry and scored.

By switching rollers C and B as shown in lower sketch, both end bearings are greased from upper end. That also meant switching oil lines around as shown so grease reaches trouble spots first. We also considered that grease

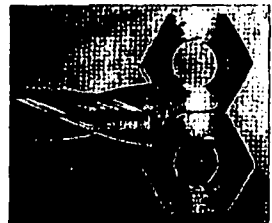
naturally works down to inner bearing after it is heated from work.

By making these changes, our maintenance labor is very much less and our roller bearings last a long time. LEO COLLEN Clinton, Iowa

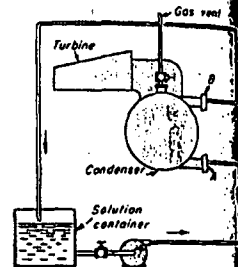
Gage for Grinding Drills

BEST DRILL-POINT ANGLE for twist drills is 118 degrees. Closer that cutting line approaches this angle, the better drill will cut. But few maintenance mechanics bother to use a drill gage. They usually estimate the angle by looking at it. As a result, their drills absorb a lot more power and energy to drive through the work than they should.

If you do have a drill gage, maintenance



men usually use it. One form of gage that can be used for maintenance drilling is two flat bars shown. Hold nuts so two flats are in contact. Then angle of 120 deg. is formed for gaging the drill point. Angle of 120 deg. is usually close to guessing. As photo shows, this angle here comes close to ideal as by space between gage and drill. Gage can be made a permanent addition to the tool box of a mechanic by soft-soldering the two flats together, making gage easier to use. C T BOWEN London, E.



Acid-Cleaning Heat Exchangers

IN ACID-CLEANING heat exchangers, surface parts are cleaned better than others. This is from concentration in inlet of heat exchanger that is higher (even though ever so slightly higher) than concentration at outlet. Then, the mechanical conditions of flow, such as eddy current and gas pockets cause variations in cleaning procedure.

To obtain uniform cleaning job, reverse the flow. Change piping (after passing acid for about half of tank time) from positions shown in sketch. Make pump discharge go to B and make condenser outlet at A. When pumping acid into B, have a fairly high vent (4 or 5 ft) so gas is removed without losing acid solution.

A RODRIGUEZ Mexico City, Mexico

Use No. 3 Lead

NO. 3 PENCILS don't make lead smears in filling out production and log sheets. This harder lead is also better since it doesn't break like the soft ones.

L FITZPATRICK Jefferson City, Mo. (Continued on page 130)

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