itate the separation of the solids from the oil and to retain the oil for a considerable period of time to assure the complete separation of the solids. At the completion of the process the waste is retained in the basket and the oil discharged from the bottom of the container.

The basket has a capacity for holding 50 gals. of waste and is capable of clarifying 400 gals. of oil per hour. When in continuous operation it is only necessary to clean the basket every other day.

Service Tests of Enduro On the Firebox Plate

The Republic Steel Corporation, Youngstown, Ohio, has on exhibit a pair of 3/4-in. side-sheets of Enduro Type A, a high chromium iron, which were installed in Locomotive No. 631, on the Nickel Plate June 6, 1928. Engine No. 633 on the same division and in the same service had a pair of ordinary steel sheets that were removed on account of bad corrugation and cracking on the fire side of the plate at the staybolt holes. Both locomotives ran nearly the same mileage. The Enduro plates were in good condition at the end of the mileage, but some cracks were made during the re-driving of staybolts on Class 3 repairs. These cracks were similar to those that often occur when re-driving staybolts in ordinary steel plates that have been in service.

Investigation shows that both ordinary steel and Enduro A are more brittle at room temperatures after they have been in service than when installed. This brittleness is not in evidence if the plates are warmed up (around 212 deg. F.) when re-driving bolts. The following table shows the date obtained in the service tests and examination of the plates after removal. The plates were sand-blasted after removal to remove dirt, scale, etc.

Comparison of Enduro A and Steel Firebox Plates After Service Test

Engine Nos
Side sheets Enduro A Regular steel
Type
In service
Feedwater heater Worthington Elesco
Stoker Duplex Duplex
Staybolts
Washout period1,200 miles1,200 miles
Mileage on plates69,49269,398
Cause of removal Cracked on redriving of Corrugation; 56 staybolt
staybolts. holes showed cracks in
plate.
About 1-16 inch scale ad-
Condition of water side. Scale falls off plate in hering. Grooving about
hot zone when washing 1-16 inch deep along
out. No corrosion or mud ring. Strain lines

strain lines on the sur-

tace.

arourd

plate

in the

These plates were under as nearly the same conditions of service as is possible when in different locomotives, having the same mileage, on the same division and in the same class of service. The carbon steel plate was deteriorated sufficiently to cause removal. The Enduro plate was good as far as resistance to corrosion, cracking and corrosion, but six small cracks (¼-in. to ½-in. long) and one longer crack (2½-in. long) were caused by redriving the staybolts at shop temperature. The driving of the staybolts at room temperature was done in the nature of a test to determine if such procedure could be followed. It is evident that room temperature is not suitable for this operation. The manufacturers

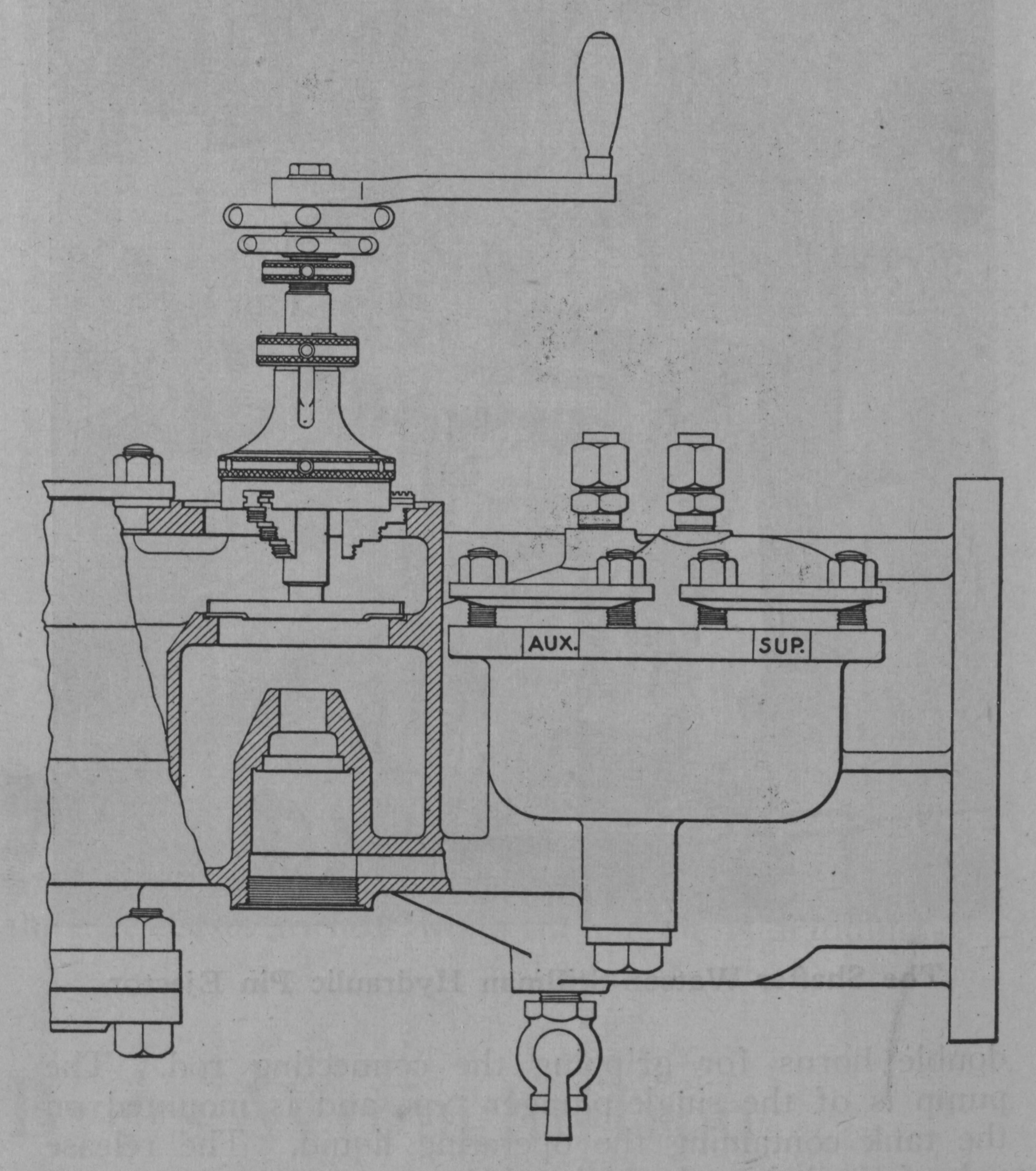
recommend a temperature near the boiling point of water when redriving staybolts.

The resistance of this material to heat and corrosion seems to have been demonstrated up to the point at which this test was stopped. Additional service tests are needed to prove this material fully. One peculiar and noticeable feature was noted in the inspection after washing out, and that was that the boiler scale fell off the plate in the hot spot in the sides. This undoubtedly kept the plate below the temperature at which bulging would occur. This is probably caused by the fact that the Enduro A has a lower expansion, with the same temperature rise, than ordinary steel.

Reseating Tools for Exhaust-Steam Injector

A SET of portable tools for reseating the valves of Elesco exhaust steam injectors, manufactured by the Leavitt Machine Company, Orange, Mass., and distributed by the Superheater Company, New York, is on exhibit at the booth of the former company. The set consists of a self-alining and self-centering universal chuck and a series of milling and recess cutters.

The tools can be set-up on the injector and the valves reseated while they are in place. It operates with a



The Leavitt Reseating Tools in Place on One of the Valves of the Elesco Exhaust Steam Injector

ratchet handle and is equipped with a micrometer feed. The cutters are non-chattering and are designed to produce a finished valve set that requires no hand grinding or lapping. The tool set is designed for refacing all of the seats on the injector.