

POWER

AUGUST, 1944

VOLUME 88, NUMBER 8

A CROSS-INDEX OF SUBJECTS FOR THE MONTH

PLANT OPERATING METHODS, MAINTENANCE AND SAFETY

STEAM GENERATION, FUELS, FIRING AND COMBUSTION

TURBINES, ENGINES, AUXILIARIES, HYDRO POWER

DIESELS, GAS ENGINES AND ACCESSORIES

AIR CONDITIONING AND REFRIGERATION

ELECTRICAL EQUIPMENT, ELEVATORS

PIPING, VALVES AND SPECIALTIES

TRANSMISSION, LUBRICATION

STEAM SERVICES, HEATING

INSTRUMENTS, CONTROLS

PUMPS, COMPRESSORS

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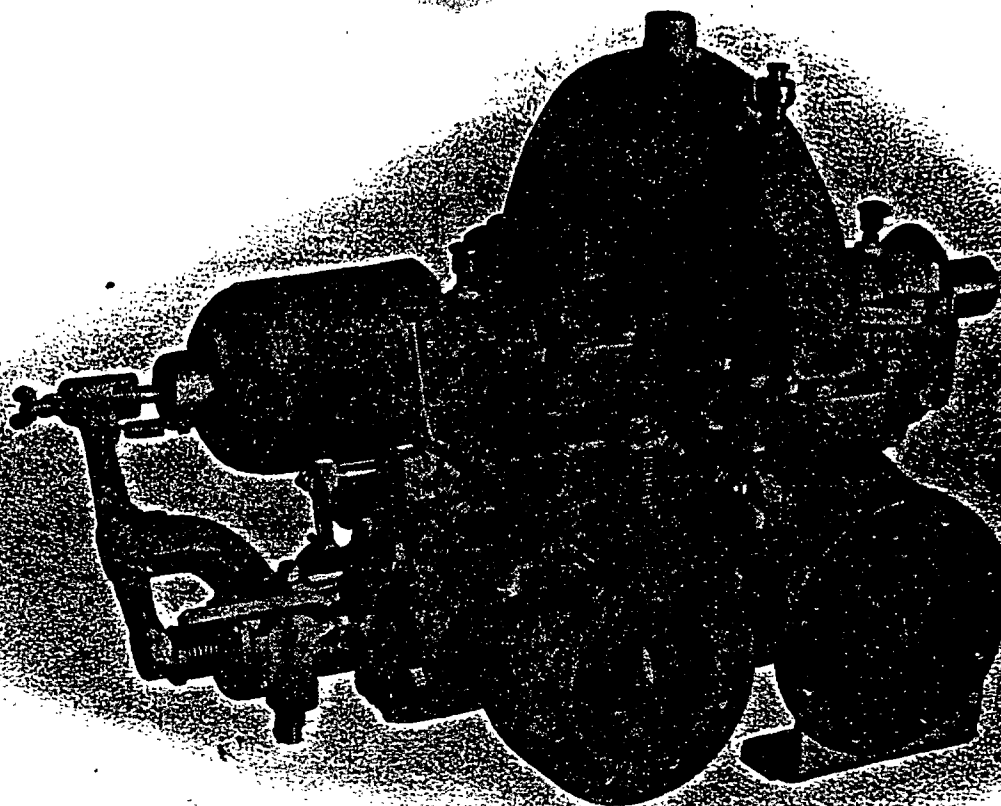
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PLAINTIFF'S
EXHIBIT

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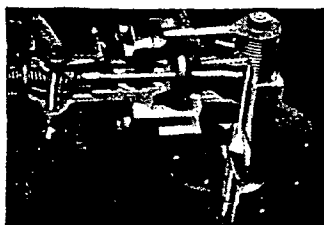
THE TURBINE WITH

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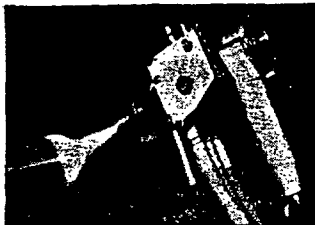


Steam turbines are expected to perform—and do, in all probability—for longer periods, with less attention than any other type of power drive. To meet these severe service demands, Westinghouse offers a complete line of Type C General Purpose Turbines with "built-in protection" against overspeed . . . steam leakage . . . explosion . . . unbalance.

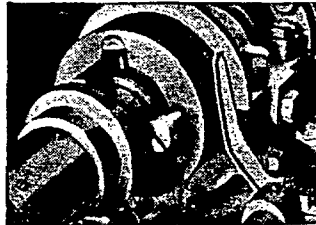
Built-in protection is typical of the plus features of Westinghouse General Purpose Turbines . . . features that result in extra reliability, extra safety, and economy in operation. Competent engineering help in application problems and a nationwide maintenance service are as near as your telephone. Westinghouse Electric & Mfg. Co., Box 868, Pittsburgh 30



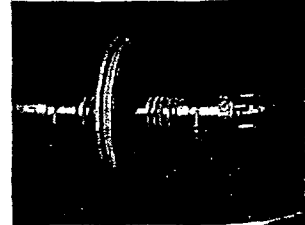
DUAL PROTECTION—During normal operation the turbine speed is controlled by the centrifugal-weight governor, or a regulator. If for any reason this control should fail, the overspeed trip device takes charge—simultaneously closing the butterfly valve and the governor valve when speed reaches 10 per cent above normal.



SHAFT PROTECTION—to prevent steam leakage and consequent oil contamination resulting from rust-cut carbon gland segments, shaft is sprayed with a generous thickness of high chrome-nickel steel at the two gland zones. Shaft is grooved, undercut and knurled to provide a permanent anchor for the sprayed metal. After spraying, entire shaft is finish-ground.



EXPLOSION PROTECTION—The only possible place a spark can occur in a turbine is on the overspeed trip lever. In applications where the turbine must operate in an explosive atmosphere, a sparkless overspeed trip lever with an insert of a special Westinghouse-developed plastic, Micarta, is used.



ROTOR PROTECTION—to insure smooth operation, the rotor must serve its original shape and balance in service. Placed in the Westinghouse-developed machine, the rotor is then with corrosion-resistant paint to insure maintenance of original shape and balance. Particularly important in stand-by or intermittent operation.

EASY TO INSPECT
continually split
to lower half
NO SOFT PACK
bushings have
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off . . . minimiz
Governor val
stems are hig

CORROSION AN
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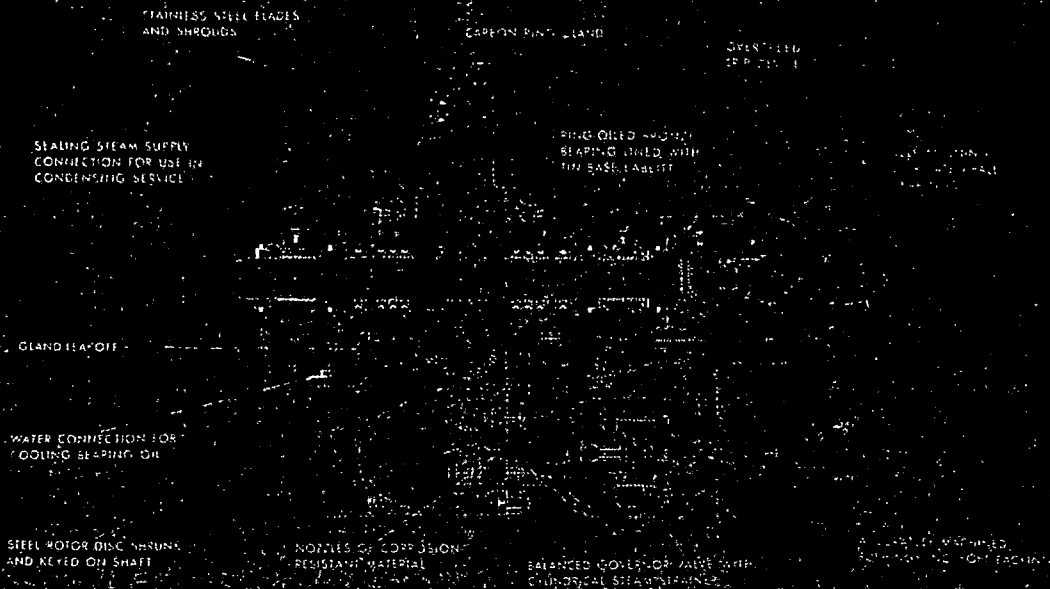


Westinghouse
PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE

Steam Headquarters

Built-in

PROTECTION



DESIGN FEATURES

EASY TO INSPECT . . . by removing cover of horizontally split casing. All pipe connections are made lower half of casing.

SOFT PACKING . . . for valve stems. Nickel-iron rings have sufficient clearance for free movement of valve stems. Each stem has intermediate leak-minimizes leakage of steam into engine room. Governor valve and cage, butterfly valve and valve are highly resistant to corrosion and erosion.

CORROSION AND EROSION-RESISTANT NOZZLES . . . main proportions permanently. Passages are accurately drilled and reamed on a special machine holds proportions precisely to design specifications—insures highest nozzle efficiency.

POSITIVE LUBRICATION . . . assured by ring-oiled bronze bearings lined with tin-base babbitt. Either bearing may be removed by unbolting bearing cover.

EFFICIENT CARBON GLANDS . . . held around the shaft by stainless steel garter springs, control steam leakage at points where the rotor shaft extends through the casing. A leak-off at each gland minimizes leakage past the outer ring.

EACH TURBINE FACTORY TESTED . . . by a running trial with steam for adjusting governor, setting overspeed trip, checking smoothness of operation, testing glands and steam joints.

J-50447

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PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE

