

# SPEAKING OF POWER

In publishing, odd things keep popping up, like the business-reply card from one of our Readers Service pages (similar to page 176A in this issue) which recently came in from Italy. In proper form, the writer requested manufacturers' literature reviewed in the same issue. All very normal except for the date—the card was from the July 1939 issue!

We'd give a lot to know how many hands that copy of Power passed through and where it went during the tempestuous years in Italy since 1939. We'll never learn, but of course we're honoring the card—assembling for the writer current literature similar to that reviewed in that issue of long ago.

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Speaking of turbines, the backlog of orders on industrial units (7500 kw and under) is beginning to disappear while the orders for central-station units continue to pile up. If you're thinking of expanding or modernizing industrial-power facilities, don't let the published and quoted deliveries on the big units discourage you—the time's as good as it is ever likely to be to put an industrial-turbine order on the books.

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## THE CHECKER

*Oh the Checker's life is the life for me,  
Unrestricted and full and free.  
Few are my tools and brief my creed,  
One red pencil is all I need.  
One big pencil and one fond dream,  
To drive that draftsman out the beam.  
This is my method, and this I do:  
Find one error, then follow through.*

*Find an arrowhead out of place,  
Add a rivet and change the space.  
Now, test the field misalignment,  
Make the assembly opposite hand,  
Double the scale if the detail's small,  
Let's be thorough and change it all.  
Uninhibited, wild and free—  
The Checker's life is the life for me.*

*These are the days of blood and steel,  
But in my heart is a high ideal.  
This is my ultimate aim and goal  
For which I freely would pledge my soul.  
Some time, somewhere may the chance  
be mine,  
To change the border and center line,  
To check all day, and along toward night  
Return a print that has NOTHING  
right!*

—R S Clark

Our good friend E A Roberts writes from Carlsbad, New Mexico, to tell of one Oscar Dubuque, who operated a small 300-kw hydro plant for the city. About 100 yards from the plant and six miles from town, Oscar lived with a cow, some chickens, and a little garden for which he had all the irrigation water he wanted. The plant just about ran itself, and in the doorway, tipped back in a chair, sat Oscar.

Right at his side he kept a .30-45 Krag rifle. It was sort of company and could be used to keep off stray coyotes, hawks or drunken cowboys. One night just before dusk when the load was building up, a big hawk sailed into the chicken yard and picked out a fat pullet that dawdled outside. The hawk flew over to a pole about two spans from the plant and settled on the crossarm to eat. That line was built of four bare wires three 12,470-volt phase lines and a grounded neutral for 4-wire 7200-volt service.

Mad as all get out, Oscar grabbed his Krag and shot quickly. All would have been well if he hadn't been a good shot; a lesser marksmen would have missed the whole works. Heading dead for the hawk, the bullet cut the neutral, the heavy wire whipped back in an arc that touched all wires, and the hawk took off in what looked like a photographer's flashlight, scared, but still hungry. Oscar wasn't exactly what you'd call scared—he was petrified. Juice off, phone and transmission lines burned down, and no help near. It turned out to be quite a job of fixing, and a lot of linemen as well as the hawk were hungry late that night.

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Through the changing fortunes of war and peace, Americans have always felt a warm spot in their hearts for the Finns—distinguished by their determination to pay their just debts of World War I and by their equally determined efforts to pay indemnities of World War II and to reconstruct their nation. These demands on industrial activity have created unprecedented needs for graduate engineers and architects—needs which the country's sole institute of technology (Teknillinen Korkeakoulu) is struggling to fulfill.

During the war, President Martti Levón writes, the institute was twice

severely bombed. The second bombing completely destroyed the library of about 80,000 volumes. Through chases and donations about 40,000 volumes have been restored, but problems of securing foreign funds make acquisition of technical literature and periodicals extremely difficult. Dr A E Mäkinen, of the American Friends Service Committee, is helping to call this to the attention of engineers in this country. If you have technical books or magazines you can spare, mark them for the Institute of Technology, Helsinki, and send them to the Legation of Finland, 2144 Wyoming Ave, N.W., Washington, D. C. Dr K T Jutila, Finnish Minister, will arrange for shipping to Finland.

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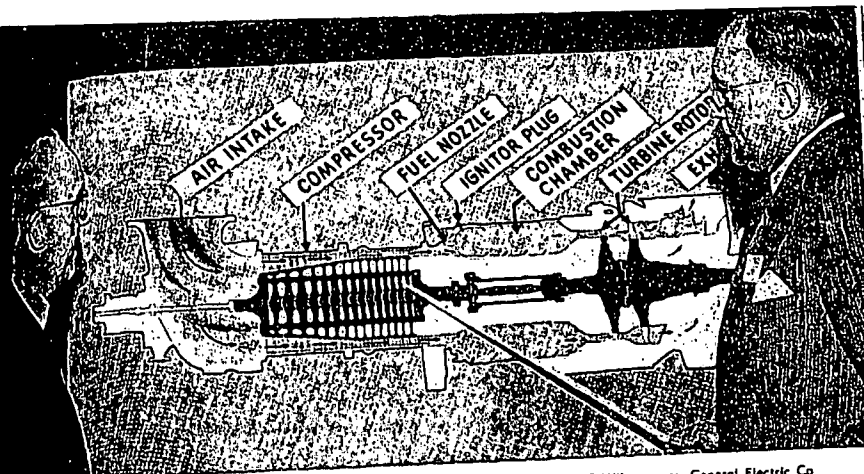
What will undoubtedly be the first gas turbine to operate on a U. S. utility system has been ordered from General Electric by Oklahoma Gas and Electric Co for installation in its Huey Station at Oklahoma City. Expected to be in operation by the summer of 1949, this 4000-kw 6700-rpm gas-fired unit (p 95) will drive a 3600-rpm generator feeding the transmission system. Heat in the turbine exhaust gas will be recovered to supplement existing feedwater-heating facilities, increasing net output of the station's steam turbines. The combined effect will be to increase the capacity of the station by about 5000 to 7000 kw, depending on ambient air temperature.

## THIS MONTH'S COVER

To those who think of water as something to drink, or perhaps to wash in, its importance as a cooling medium is hard to realize. Somewhere back in the dim past an inquiring soul stumbled to the fact that a given amount of water would do many times as much cooling work if allowed to evaporate. Modern cooling towers, such as these giants at Rupperts Brewery in New York, apply the evaporative cooling principle with high effectiveness, conserve water and, since water always costs something, if only pumping charges, save money.

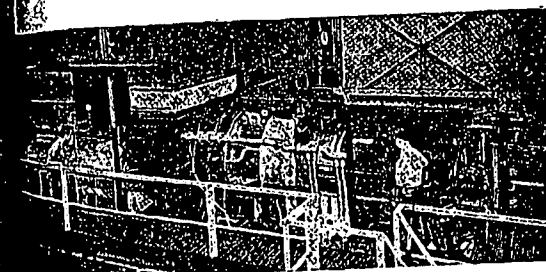
By the way, that dramatic diesel on the April cover was the work of Theodore Van Corp, McCraw-Hill artist previously mentioned in "This Month's Cover" for February.

POWER • May 1949



4800-Hp Gas Turbine Plant reviewed by R B McCall, pres, American Locomotive Co and C E Wilson, pres, General Electric Co

## 4800-Hp Gas Turbine on Trial Runs

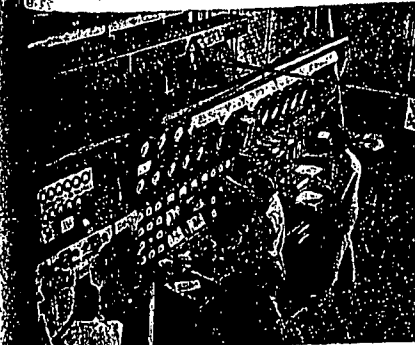


► THE LATEST GAS TURBINE to be shown in the flesh is the General Electric 4800-hp unit designed for locomotive application. It was unveiled at a meeting of the Railroad Executives Conference in Schenectady, New York. The unit, previously described in Power, August 1947, pp 68-70, has been under test since September 1947. Design predictions for the 1400-F 6700-rpm unit are being realized; the over-all thermal efficiency of the plant exceeds 17%, based on the lower heating value of bunker-C oil.

(Continued on page 98)

LOCOMOTIVE UNIT OPERATING on test bed shows, l to r, two of four dc generators, exhaust duct, turbine, combustion chambers, compressor, air inlet, controls

PART OF TEST BOARD setup used to determine gas turbine performance; for normal operation only gray panels are needed



TURBINE ROTOR ASSEMBLY is discussed by Ben Skrotzki, associate editor, POWER, and L R Lee, G-E gas turbine engineer

