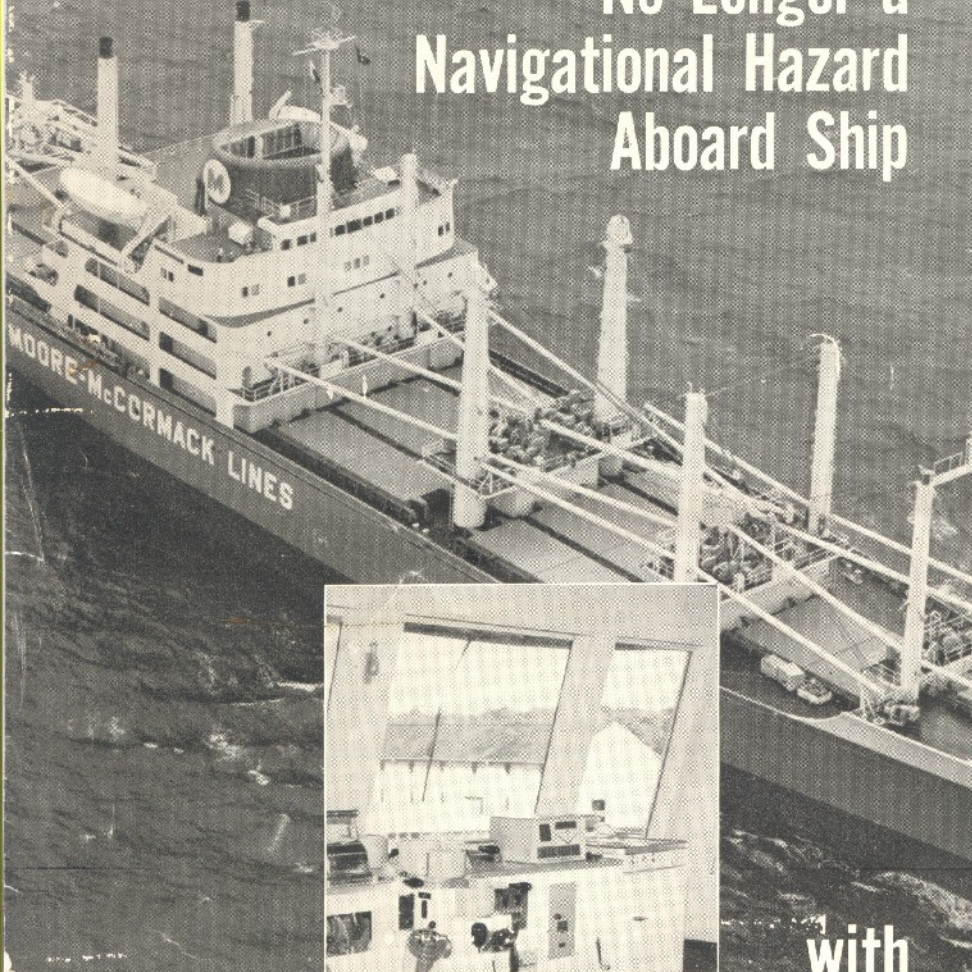


Iced and Fogged Windows No Longer a Navigational Hazard Aboard Ship



with
**ELECTRICALLY HEATED
MARINE WINDOWS**



MEN & POWER

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- A leading supplier of de-icing and de-fogging marine windows, Cornell-Carr Company of Monroe manufactures their electrically heated windows in complete assemblies, ready for installation in a ship's superstructure.

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- Modern lighting applications at the Engineering Laboratories of the Remington Office Machines Division of Sperry Rand Corporation, Norwalk, helps employees turn out better work.

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- Electric heat's close temperature control insures the proper functioning of the Gedney Electric Company's data processing equipment. This is just one of many important jobs electricity does at this organization.

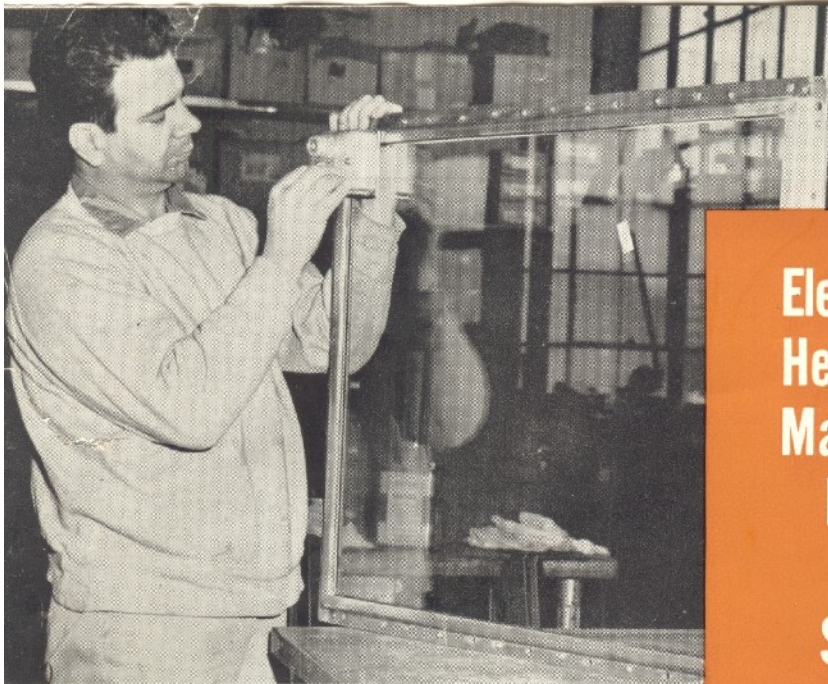
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**THE CONNECTICUT LIGHT
AND POWER COMPANY**

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TO _____



Cornell-Carr worker assembles the control unit on an electrically heated marine window.

Electric Heating Application Makes Possible FOG-FREE, ICE-FREE SHIP WINDOWS

By C. E. WRINN, *Industrial Sales Engineer*, Danbury

It was 1956 when Anton Cornell, Sr. and his son and son-in-law, George Carr, operating from a small garage in Trumbull, began experimenting with a new type of marine window — one that would be free from fog and ice. After three years of research and engineering collaboration with the Pittsburgh Plate Glass Company, Cornell-Carr fabricated its first electrically-heated marine window.

Soon afterward, the U. S. Navy awarded a contract for the new type window to be installed on a destroyer under construction at the naval shipyard in Philadelphia. The windows, tested aboard the destroyer under the severest weather conditions, were most satisfactory.

Now, the Cornell-Carr Company is the second largest manufacturer of heated glass. Today, wet and iced windows no longer need be feared as a navigational hazard. All naval vessels' pilot houses are now equipped with one or more electrically-heated windows, and 90 per cent of cargo and passenger ships have them.

HOW IT WORKS

The inside surface of the double glass windows is coated with a transparent, durable, electrically conductive film of relatively high electrical resistance. The glass panel is evenly heated by the uniform flow of electrical energy across the surface with no noticeable reduction in light transmission. Construction in a laminated form, similar to safety glass, assures that the electrically conductive film is protected from weather and other deteriorative agents.

Also, because the electrical current is insulated by glass, there is a minimum chance of short circuit and the complete elimination of the chance of electrical shock.

Electrical energy is supplied to the conducting film by means of bus bars located at opposite edges. The current then passes through the film from one bus bar to the other. The current input provides sufficient thermal energy to maintain an ice-free, frost-free, fog-free window. The heating is controlled by a specially designed control unit containing two hermetically sealed pre-set cycling thermostats, pilot light, cable connector and switch. The glass laminated panels can be heated by either AC or DC current and can be manufactured to various glass thicknesses.

Cornell-Carr's electrically heated windows are manufactured in complete assemblies ready for installation in the ship's superstructure by means of "through bolts". The window frames are made of corrosion-resistant steel, bronze or aluminum and the glass is glazed within the frame by special rubber channel gaskets which make it fully sealed against water penetration.

MANY APPLICATIONS

Applications for electrically heated windows, which have been in use about 10 years, can also be in observation towers . . . bulldozer, truck, crane and railway locomotive cabs . . . lighthouses and windows in any structure demanding good visibility under adverse weather conditions.

Besides electrically heated windows, Cornell-Carr also manufactures water-tight, weather-tight doors and frames and hollow metal joiner doors and frames for marine use.