JOSEPH E. GARAFANT, VICE PRESIDENT FREDERICK D. HERBERT, PRESIDENT WALTER J. TRAEMER, TREASURER

LIGHTHOUSES
Nov 31 8 36 AM '38

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KEARFOTT ENGINEERING CO. INC.

ENCLOSURE RECEIVED

117 LIBERTY STREET
NEW YORK

CABLE ADDRESS KEARFOTT

November 30, 1938

ALL QUOTATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AND ARE F.O.B. SHIPPING POINT UNLESS OTHERWISE SPECIFIED. ALL CONTRACTS AND AGREEMENTS ARE CONTINGENT UPON OCCURRENCES BEYOND OUR CONTROL.

Bureau of Lighthouses
Department of Commerce
Washington, D. C.

Attention Mr. R. R. Tinkham, Chief Engineer

Gentlemen:

We must apologize for not taking more rapid action in response to your letter of November 3rd.

We are attaching herewith print of our drawing KS-846.

Inspection of the plans of the Cleveland Ledge Lighthouse would indicate that the windows on the entrance floor are to be fixed and on the sleeping room floor outswinging.

We believe the method of making a galvanized iron angle subframe, which can be successfully set into the poured concrete, offers a very good solution for securing these bronze framed windows, as they will be put up very much as those are on shipboard. The frames can either be fastened by bolts as shown or can be countersunk for flat head machine screws, which probably would make the task of painting and cleaning very much easier.

Will you please note the construction of the fixed windows ? The normal muntins are all good size, but we have backed up each vertical muntin with a bronze tee.

As far as the outswinging casements are concerned, the double cross meeting bar is of very sturdy construction.

In these windows we use only extruded naval bronze which is good for about 55,000 lbs. tensile and as there is no corrosion, as there would be in similar steel sections, the windows should keep their strength indefinitely.

We believe the idea of glazing these windows with heat treated glass, such as the Pittsburgh Plate Glass Company's "Herculite", would be a very good idea. One-quarter inch (1/4") thick "Herculite" is roughly equal to 1" plain plate, and it,

of course, has the advantage of not flying in case it is broken. We have had considerable experience with heat treated glass in pilot house windows and are of the opinion that it bears out the manufacturer's claims. It is quite flexible, and as such a window is not entirely a rigid structure, this glass will adjust itself to slight variations of plane or deflection in the sash structure under heavy loads.

We have, in some notable cases as on the S.S. NORMANDIE, built windows that were guaranteed to stand 25 lbs. to the square inch, which load was expected if a wave came over the bow and rolled aft against the deck house front. As a 100-mile-an-hour gale will load up a surface to approximately 50 lbs. per square foot, or a little over 1/3 lbs. per square inch, we think that the construction shown will be amply able to take care of any such load or the impact of flying sea birds.

We could, of course, furnish the glavanized iron angle subframe shown or that can be installed by the general contractor. If we furnish the frames, we would drill and tap them to match the windows and would put removable braces in the corners, so that they would retain their shape during installation.

If there is any further information that we can give you, we, of course, will be delighted to give it to you.

Yours very truly,

KEARFOTT ENGINEERING CO.INC.

W L Kraemer

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W. L. Kraemer
Treasurer