



# Lloyd's Register of Shipping,

95, Bothwell Street, Glasgow, C.2.

13th October, 1938.

Reference

Dear Sir,

With regard to the Secretary's (London) letter in respect of broad flanged "Differdinger" Sections for welded bed plates, I know of no open hearth plant where these particular sections are rolled. The S.A. Ougree - Marihay, however, have developed a different type of section for the construction of welded girders which is shown in Fig.1. The rolled ribs on the flanges form a suitable Vee for welding when in contact with the chamfered edges of the web portion and facilitate the production of a sound butt welded joint. Messrs. Burmeister & Wain could possibly submit their proposal to this firm with advantage.

I cannot appreciate the impossibility of obtaining the "Differdinger" sections in Open Hearth Steel as, even should the firm have no such furnaces, it is not difficult to obtain Open Hearth Steel Ingots from another source for this particular proposition, and I suggest that this latter possibility be submitted also to Messrs. Burmeister & Wain for consideration as I cannot support the acceptance of "Thomas" (Basic Bessemer) Steel for the following reasons;

(a)

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(a) In past years the substitution of basic Bessemer Steel for Open Hearth Steel in the Steelworks has been discovered by the premature failure of the material during subsequent fabrication.

(b) Mr. F.W. Harbord, a leading British Metallurgist, in a paper before the Iron & Steel Institute on the "Basic Bessemer Process. Some considerations of its possibilities in England", gave as one of the reasons for discontinuing its manufacture, the greater control of the operation in Open Hearth practice ensuring a more reliable product.

To quote his own words:

"The basic Bessemer process is not subject to the same analytical control during the operation, and for such purposes as boiler plates, ship plates and low carbon steel required for many purposes our engineers decline to use it. In the Author's opinion this decision of our engineers is justified".

(c) The recent collapse of the electrically welded vehicular and passenger Hasselt Bridge in Belgium, constructed of "Thomas Steel", inspires little confidence in the use of this material for welded structures even if stresses are low.

(d) This week I was informed that, at a local mill rolling continental ingots into steel bars, trouble had arisen through large deep seated blowholes not being welded up during rolling. On shearing the bars, cavities were discovered in the centre of the/



the material and it was disconcerting to find them anywhere in the upper half of the ingot. The Sulphur print, Fig.2 shews the nature and extent of a typical defect.

I am, Dear Sir,

Yours faithfully,

*William B. Lewis*

The Secretary,

GLASGOW.



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