

THE LAUNCHING WAYS AND THE "OCEANIC" AFTER THE LAUNCH.

Building a 900ft. Liner.

Responsibilities and Anxieties—Errors of Calculation—From Mould-Loft to Slip—The Art of the Framebender—Building the Skeleton—Strength of the Modern Ship—Ensuring Safety—Launching a Liner—Has Finality been Reached?—Future Developments—Lessons of the Cunarders.

A VESSEL and all its human freight are constantly exposed to countless perils on the deep sea, though fortunately the risk of any one being encountered is extremely remote. But during the past few months the fact that these are ever present has been brought forcibly to mind. The burning of the Sardinia off Malta emphasised the terrors of fire; the Republic the perils of collision; the disablement of the Mauretania the dangers of contact with some lurking danger of the deep over which the captain has no control, while memory can recall the terrible outcome of fouling an iron rock-bound coast in the piling up of the Mohagan on the Manacles; impact with icebergs, explosion, disablement of machinery, and buffeting by angry seas. Of this category, however, the only two most dreaded are grounding and collision, the evil effects of which can be mitigated.

A Grave Responsibility.

Bearing in mind the multiplicity and variety of these dangers, it is obvious that in the construction of a modern vessel such as tears across the Atlantic at 25 knots and something per hour in fair weather and foul, not the slightest detail in construction must be left to chance. The designer must uncompromisingly balance one factor with another. Considering that the evolution of a floating palace entails pressing into service every calling, profession, and trade, for the work of each of which the designer is responsible, it will be seen that it is no light burden he bears upon his shoulders. From the moment the task is taken in hand, through the preliminary calculations and preparation of drawings to the preparation of the slip and laying of keel blocks, building, committal of the craft to her native element, and completion of her maiden trip, it is a period of intense anxiety to all concerned. Not until she has covered her first voyage and exhibited her moods and behaviour under varying conditions can the shipbuilder be said to breathe freely. The slightest error in the calculations may prove the ruin of the whole fabric, and despite the most unremitting care and skill, the best designer, in accordance with human liability to err, sometimes makes mistakes. Such a slip, however trivial it may appear, may easily spell financial disaster when it is remembered that a capital outlay of a million or so pounds is at stake.

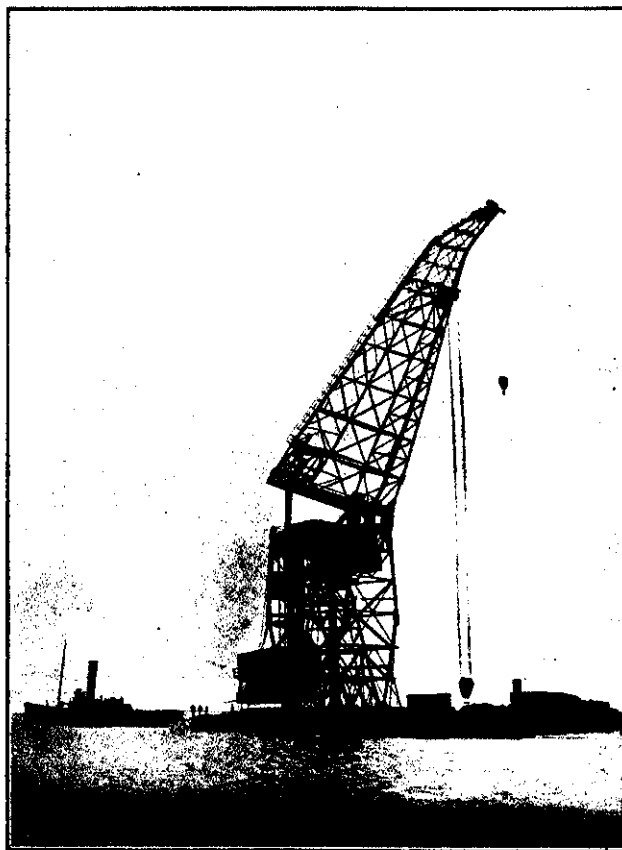
Birth of the Ship.

The mammoth liner of to-day is the product of evolution. But how rapid! In no other calling is progress so potently demonstrated. It was a daring step to discard the old wooden hull which had reigned supreme for so many centuries in favour of iron; which in turn gave way to steel; it was equally intrepid to supersede the paddle by the screw; while the recent substitution of the reciprocating steam engine by the turbine is possibly the most courageous undertaking of all. It was no mean achievement to jump from a small passenger turbine steamer to a gigantic turbine greyhound, despite the unqualified success of the former, for the prevailing conditions are so vastly different. Fortunately the shipbuilder is an optimist, and has the courage of his own conviction, so that he does not hesitate to give what may be familiarly termed

"new-fangled notions" a trial. In some cases such enterprise proves a failure, but 90 times out of a hundred the shipbuilders' initiative is completely justified by results.

The first step in the building of any liner is the elaboration of a general

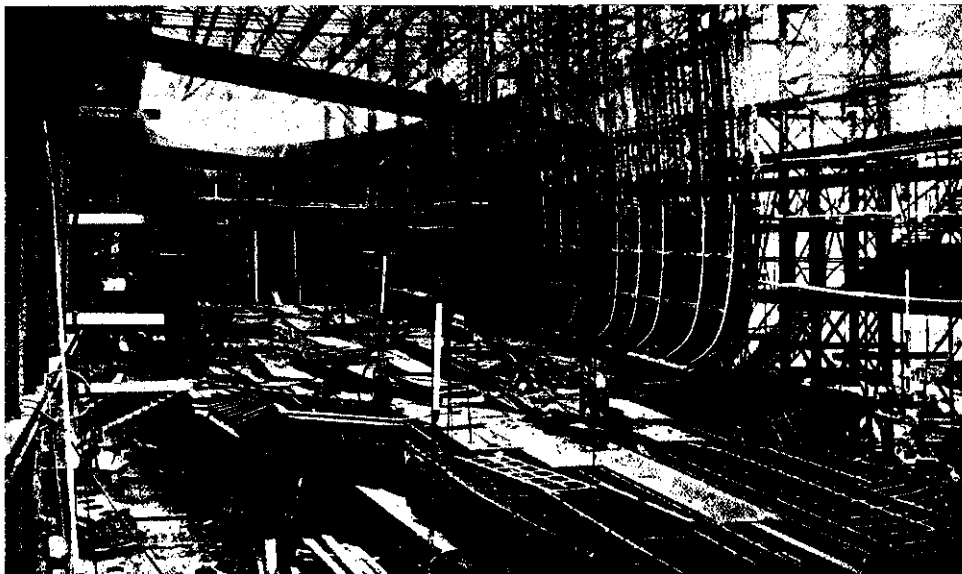
must be cut down to the finest limits. This is the reason why the latest Cunard liners bear a striking likeness to Hrodingnagian steam yachts. The machinery must be of high power and the internal embellishments, to catch the fickle public, of the most elaborate character. On



A FLOATING CRANE CAPABLE OF LIFTING WEIGHT UP TO 200 TONS.

scheme; that is to say, a comprehensive outline of the type, functions, and characteristics of the vessel desired. Into this question a multitude of factors enter. If speed and luxury are the two vital considerations, then the hull must have long fine lines, which are conducive to rapid travel through the water, and the provision of space beyond that requisite for passenger accommodation

the other hand, the vessel, though of huge proportions and high power, giving a moderate speed which can be maintained in all weathers, but which is not essentially dependent upon passenger traffic for its revenue, but can handle a huge cargo, follows its own special and distinctly different lines. This type is best evidenced in the White Star greyhounds, the tout-ensemble of which



BUILDING A 900 FT. LINER.
A mammoth liner in construction on the building slip.