

## A Cruise on a Modern Ram.

By J. A. GUTHRIE.



SHORT descriptive narrative of the cruise of the United States ram *Katahdin*, the "only nautical engine of war of its class in the navies of the world," might prove both interesting and instructive to your readers. Of course, to those unacquainted with naval architecture, and such as have their own ideas about the heavy armoured battleships and cruisers, the assertion that we possess the only complete ram, and one, too, capable of weathering storms, would seem paraphrastic; but an investigation and careful examination of the accompanying illustrations will convince the doubting public of the facts of the case. The cruise, an account of which has never been published before, is an actual record of the experience of those on board. To come to essentials, we will commence where the ship first essayed her career only a short time since.

About two years ago, a peculiar type of war vessel was launched at Bath, Maine, and christened *Katahdin*, after a well-known mountain located in the northern section of that State. It is an aboriginal name, significant and characteristic, as its meaning relates to electric phenomena observed on the summit by the natives. The Indians supposed an enormous creature, with winged claws, dwelt thereon, feasted on human flesh, and emitted fire and smoke from its mouth. They superstitiously venerated this abode of their demure god, and offered propitiatory

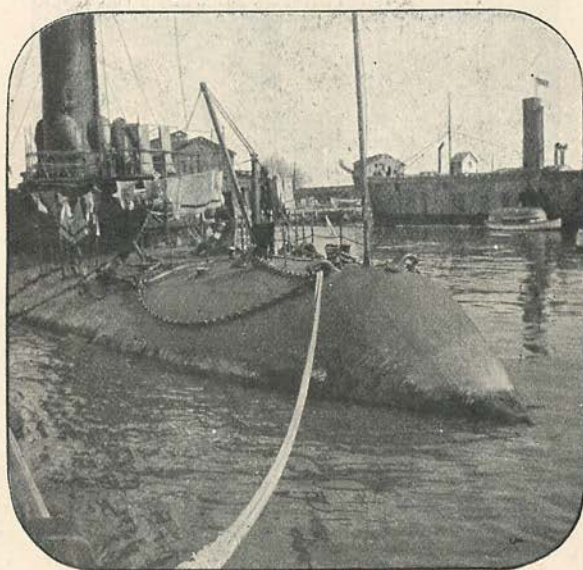
sacrifices; for, according to their traditional religion, this was absolutely necessary to ward off evil, and shield them from harm and danger. Historic Mount Katahdin was not renowned in American classics as an Olympus or Parnassus, yet it does seem quaintly apposite that such a name, so rich in Indian lore, should be selected for a most destructive war machine, deadly and terrific in attack, swift, strong, and enduring.

In order to comprehend what a ram really is, and by analogy compare this recent addition to our navy with other warships, a brief description may be opportune,

so we can understand its qualifications for cruising on the high seas, and its fighting share in the dreadful havoc of war.

The arched armoured deck rising some 5ft. above the water-line forms a protective covering and ironclad roof the entire length and breadth of the ship, varying in thickness 2in. on the crown, gradually increasing to 6in., and fashioned into a cutting

edge at or below the water-line as the case may be. The water-line depends upon whether the ship is trimmed for actual warfare or not. When ready for action the trimming tanks are full of water, but otherwise are kept empty. Besides the armoured deck there is a submerged armour belt backed by several feet of solid oak entirely surrounding the ship, as also the air passages, steam and smoke outlets are one and all armoured some distance above the crown of the deck.



THE RAM "KATAHDIN" IN DOCK—WITH RAM AT SURFACE OF WATER. [Photo. From a]

The conning-tower being of supreme importance, and the objective point in an engagement, is consequently protected with the thickest armour, 18in. steel plate. From it all communications must be preserved, the engines, steering gear, etc., operated and controlled. Here the commanding officer is stationed, and directs the manœuvres—it is the pilot-house as well as the central station for orders to all parts of the vessel. In a fight it is consequently exposed to the furious and concentrated fire of an enemy who seeks to disable it, and therefore we must expect to receive many telling blows; but if no penetration is made, the inmates are comfortably safe, as ample provision exists to guard against violent jarring and concussion, such as cellulose padding lining the inner walls, and extra holding down bolts outside.

The dimensions of the ram *Katahdin* are 250ft. length and 40ft. 6in. beam; the average draught is about 16ft. 6in., producing a displacement of over 2,100 tons. From the measurements, and reckoning the speed at 15 knots an hour, the striking force may be calculated enormously powerful in foot-tons, and it is estimated with nice and exact certainty that a violent blow thus dealt would drive entirely through one of our unprotected cruisers.

The principle upon which the *Katahdin* was constructed and designed embodied the one idea in its conception—a powerful ram as an engine of destruction; exposed above the water surface as little as possible; strength, celerity, and ready obedience to her steering apparatus. To attain this end, everything in conflict with that view was sacrificed, notably in the weight of her armament, as her battery consists of only four six-pound guns to chase off torpedo-boats approaching too near, and to repel boarders. Ramming being the main force and the purpose of her plan, provision was made to resist and lessen the

tremendous concussion incident thereon, her frame being laid in such a manner, making the most numerous and heaviest run fore and aft, converging at each end and bound together forward into an amalgamation with the solid casting that represents the ram proper. Her boilers and engines are braced by a wedge system that prevents their displacement, and doubly provided with extra braces holding them down when the shock reaches that part

of the ship. In fact, every possible care is taken to prevent any detachable article from being moved or overturned at the critical moment.

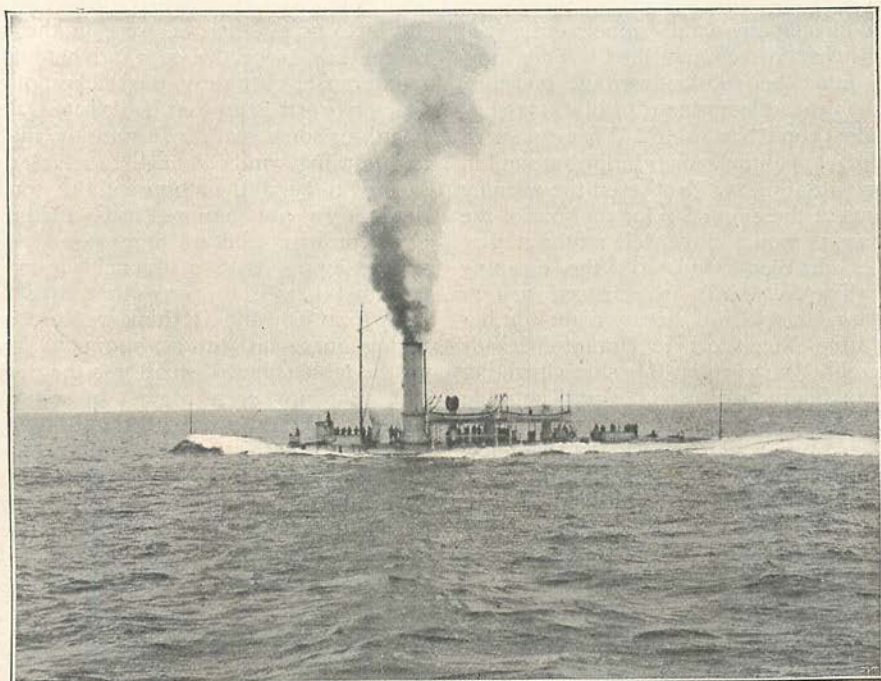
But what becomes of the officers and working crew, and how are they supplied with fresh air in this sunken iron nondescript as she rushes through the waters in search of an unwary enemy? The ventilating system and supply of fresh air are

necessarily imperfect, but to remedy this deficiency, lofty ventilators tower above, and refresh and purify the air between the decks. When the semi-submersion for cruising occurs, all hatches, dead-lights, and other means of communication with the external atmosphere are closed, water-tight, hermetically sealed, as it were, and the high shafts must supply breathing air to the living quarters, carry off the foul, and renew the requisite quantity of fresh. There are two of these shafts, armoured some distance up, situated immediately aft of amidships. Each is a double tube, the outer 5ft. 6in., the inner 3ft. 6in. diameter. The pure air gravitates down the outer tube, while the vitiated escapes through the inner, which projects above the top of the outer. The descending air is distributed by secondary conduits all throughout the ship, supplying the place of the already used and contaminated air, which is pumped out by steam fans, which constantly vibrate.

This system of artificial supply does not exactly replace atmospheric inhalation to



THE ARMOUR'D DECK, AFT—WITH FIRST OFFICER.  
From a Photo.



From a]

RAM AT FULL SPEED, STEAMING WITH THE WIND.

[Photo.

those confined between decks, because, firstly, rarefaction produces condensation of moisture on all metallic surfaces; secondly, disagreeably perceptible in going from one compartment to another on opening and shutting a water-tight door leading therefrom, one often feels a sudden change in pressure upon the drums of one's ears, evidenced by the sharp click, which is oftentimes painful. Still, sanitary science was consulted and made tributary to preserve the health and respiration of the men who are to manage and fight this leviathan of the deep.

To ram a vessel in a storm amid the howling winds and surging billows will certainly disconcert those on board—unless the ram immediately sinks her adversary; and this is a new departure in marine warfare. It is a singular fact demonstrated by this cruise, that a marked difference exists between a ram and the ordinary warship in encountering and driving through high, rough seas; yet, shaped as she is, there is practically no rolling, no pitching, no combination corkscrew motion, the terror of the victims of *mal-de-mer*; but plunging straight ahead, ignoring the mighty seas that threaten to overwhelm her, like a great, strong, and stout whale, full of lusty life, she bucks her way regardless of the immense weight of thundering water encircling and poured in torrents

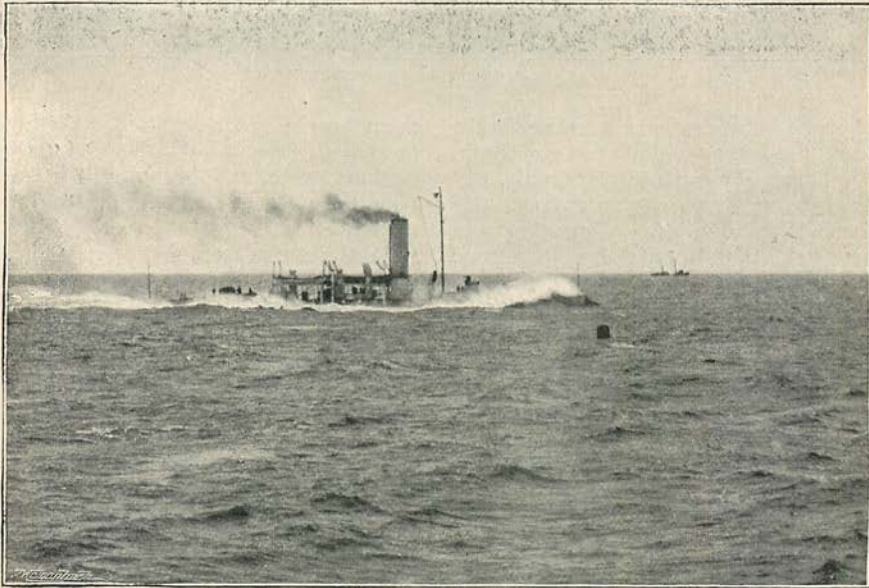
upon her in every direction. Well may the furious seas splash with all the force born of a raging storm, and beat angrily upon a skin built to resist the most improved modern ordnance.

Imagine this sea monster some black, tempestuous, and rainy night, accompanied by terrific peals of thunder and vivid flashes of lightning, away off from land—some hundreds of miles of ocean intervening—suddenly coming through the sea at full speed upon the flank of an unsuspecting enemy. Who would direct the shot to check her devastating career, or what projectile could pierce her slippery armour-coat amidst this tumultuous tempest? The chances are the enemy's shot, if she were perceived by the search-light, would be wide of the mark, and if she should be accidentally hit, would ricochet into the sea. Perhaps the advantage of steaming through the trough of the sea during a storm is not generally understood and appreciated, but it has been one of the axioms of seafaring men that no vessel could live in the trough, as they express it, and now we find there is an exception to the rule. The formidableness of this seaworthy ram under these conditions can be better illustrated and exemplified after a personal experience on board in stormy weather.

The *Katahdin* is coated entirely with a

dull green paint, which renders her almost invisible on a cloudy night; quite so, if all the running lights are extinguished. Then how terrible must be this monstrous, invisible, and living projectile hurled with all its massiveness against some battleship! What can guard against this appalling danger lurking around in the Stygian darkness? Not even the warning pulsations of the engines; for the roar of the mighty waves would drown all minor noises, and the whistling wind still the escaping steam. The *Katahdin* experienced one of these dark, dreary, and stormy nights on her voyage from New York to Hampton Roads last March. We were on this ship altogether forty-eight hours; owing to the impenetrable darkness we lost our reckoning and parted our tiller ropes, which occasioned the delay. While repairing these in the storm, and keeping ourselves up in the wind as best we could by constant use of the engines, we drifted to the south of the Capes at the mouth of the Chesapeake Bay, and there it

was we discovered what little difference it was to us whether we were in the trough of the sea or headed to; and here too we found ourselves right in the thickest of one of the very worst gales that had visited the seaboard for some years. Despite the high seas and howling winds, strange to relate, no one seemed to heed the storm without, for below decks it was not supposed to be anything out of the ordinary; but we were soon afterwards made aware that a French tramp had pounded herself to pieces not many miles away from us; and to think we were quietly taking our soup without so much as a rack on the table; and so small was the degree of roll, that not even a glass of water overturned. Words are inadequate to convey an idea of this novel and exhilarating experience at sea in a ram of this calibre, in a fearful tempest without knowing it, without feeling the rocking motion or the jars of the great mountains of seething and foaming water that the high winds lashed into fury.



From a

THE RAM ROUNDING THE LAST BUOY ON TRIAL TRIP.

[Photo.]