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Ensign Ralph Osborn, U. S. N.

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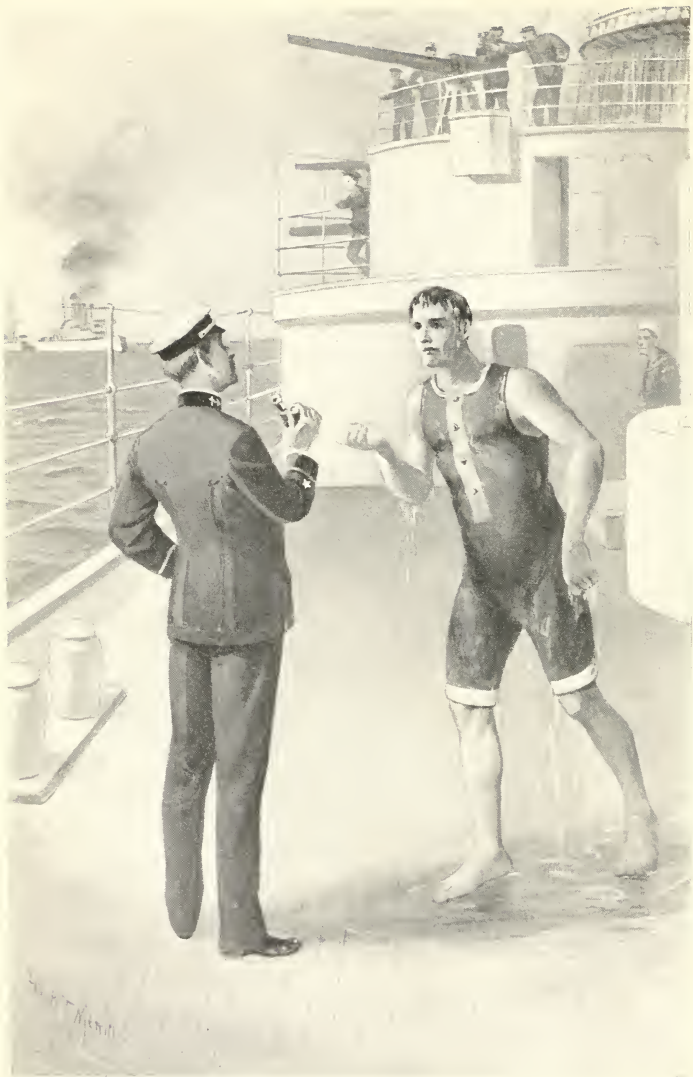
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“WHAT DO YOU MEAN BY COMING ABOARD THIS WARSHIP?”

ENSIGN RALPH OSBORN

The story of his trials
and triumphs in a battle-
ship's engine room

By

COMMANDER EDWARD L. BEACH, U. S. NAVY

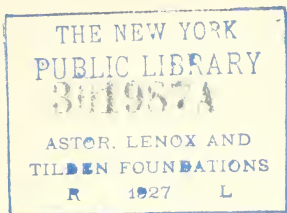
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ENSIGN RALPH OSBORN.

INTRODUCTION

IN this story, the third volume of the "Ralph Osborn" series, the life of the young officer aboard a battleship is graphically described. Ensign Osborn has finished his six years apprenticeship, four at Annapolis, and two aboard a gunboat; and now, as a commissioned officer, serves aboard a battleship.

Today our Naval Officers' time is chiefly devoted to mechanical matters. In naval warfare the coal shovel is of equal importance as the sword.

This story deals with the work in a battleship's engine and firerooms, work similar to that constantly being done by many young officers. It depicts the practical apprenticeship that naval officers undergo.

The "Ralph Osborn" series gives a faithful account of the making of a naval officer from the moment he enters the Annapolis Naval Academy to the time important responsibilities have developed upon him aboard a battleship.

EDWARD LATIMER BEACH,
Commander, United States Navy.

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Ensign Ralph Osborn, U. S. N.

CHAPTER I

RALPH OSBORN IS ORDERED TO ENGINE-ROOM DUTY

“**H**ERE you are, young gentlemen, and here are your long-looked-for commissions as ensigns. Bless me, in the old days when a midshipman received his ensign’s commission a ward-room was torn to pieces, but nowadays you criticize the grammar of your commission and grumble that you are not made lieutenants at once. Why, when I was on the *Lackawana* in eighteen hundred and ——”

“Hooray!” shouted Ralph Osborn. “Give me my commission, Mr. Moxley; never mind about the *Lackawana* for once.”

The scene was the ward-room mess of the U. S. S. *Northfield*, at anchor in the harbor of Manila. Two years previously Midshipmen Osborn, Himski and Bollup had joined the gunboat which had been cruising in Philippine waters. In the early part of this cruise Ralph Osborn had been captured and spent several months in a Filipino prison.

A midshipman spends four years at Annapolis

and then two years at sea, when he is entitled to his first commission, which Ralph and his friends were now to receive, having reached this goal in their naval career.

The executive officer, Mr. Moxley, had waddled into the *Northfield's* ward-room, his red face redder than ever, and his manner full of importance. The three commissions that he delivered were received with shouts of happiness from the newly-made ensigns, and however such events were celebrated in Mr. Moxley's younger days, there was no lack of enthusiasm on the part of Ralph Osborn and his comrades that night.

Ralph unrolled his commission and read it eagerly.

"Just listen to this, fellows," he cried; "here's what the President of the United States says of me:

"'Know ye, that reposing special trust and confidence in the patriotism, valor, fidelity and ability of Ralph Osborn, I have nominated and with the advice and consent of the Senate, do appoint him an ensign in the navy.' Now what do you think of that?"

"I have the same thing, Os," cried Bollup; "so has Himski — Oh, I'd like to break loose; this is what we've been working for. Hooray, I'm a real officer at last! Mr. Moxley, I expect you to be more careful about returning my salutes now that I'm holding a commission."

"All right, my boy," returned Mr. Moxley, smiling indulgently; "but yours wasn't the only commission received to-day. I received something for which I have waited thirty years and more—my commission as commander; you lads haven't been a dog-watch in the service and can't know the way I feel. I'm a commander at last!"

"Hooray for Commander Moxley," cried Bollup. "This is a glorious occasion; let's ask the captain to come down to have a cup of coffee with us."

"You all seem to be very happy," remarked Commander Pegfield, as he entered the mess room. "Strake and the doctor and the chief engineer act as if they too had received commissions; but Commander Moxley hasn't told you all of the news, an unimportant item of which is that I too received a commission—that of captain, and something far more interesting has happened since Mr. Moxley—I beg pardon, I mean Commander Moxley—left the quarter-deck. Orders have come detaching me from the *Northfield* and directing me to assume command of the battle-ship *Illinois* which leaves this week for New York via Suez Canal. Commander Moxley is ordered to command the *Northfield* and Ensigns Osborn, Himski and Bollup are detached from the *Northfield* and ordered to duty aboard the *Illinois*."

Captain Pegfield's news caused a veritable explosion of happiness. Commander Moxley was

speechless; the ambition of thirty years' service was at last gratified; he was finally in command.

The newly-made ensigns were wild with delight; but this last news that they were actually going home was utterly unexpected; it seemed too good to be true.

"Captain," said Ralph, after some of the excitement incident to this good news had subsided, "I have never had any engineering duty, and now that the old engineer corps has been abolished all line officers are required to be ready for engine-room work. I wonder if there won't be a chance for me to be assigned as one of the assistants of the chief engineer of the *Illinois*. I would like it ever so much."

"I'll remember that when we get aboard the *Illinois*, Osborn; perhaps there may be a vacancy below; we'll talk about this later on."

"If there is, I hope you'll get it, Os," exclaimed Bollup. "You're welcome to my share of the *Illinois'* oil, grease and bilge water. I want to be on clean decks with lots of cool, fresh air about me; I want to work with guns and torpedoes, not with piston-rods, cross-heads, pumps, boilers and dirty coal; there's no fun down below. You're in working clothes all of the time; scalding hot water from leaky steam pipe joints drops on your head and hands; you work in a temperature of from one hundred degrees to one hundred and

sixty or eighty ;—no, sir, give me the blue sky overhead, every time. I'll go below for my engine-room trick when I have to, but I'll never ask for it, and I'll get through with it as soon as ever I can."

"Everything in the navy is engineering these days," declared Ralph. "Line officers manage the engines of our war-ships and they must serve an apprenticeship before being ordered in charge of an engineer department. At the Naval Academy we were taught how to design engines, and sent in crowds to the engine rooms when we were on our practice cruises, where we went around with notebooks but had no responsibilities. I missed the biggest parts of two of my practice cruises and have had no chance for engine-room work aboard this ship. Young officers are sent to torpedo destroyers and to submarines where everything is machinery. I'm going in for torpedo boating some time and I'm going to have engine-room work beforehand. I'd make a pretty figure, wouldn't I, if I were suddenly ordered to a destroyer and the captain of it told me to take charge of ten thousand horse power machinery?"

"Quite right, young man," remarked Captain Pegfield. "I'll see what I can do for you aboard the *Illinois*."

Three days later, aboard the battle-ship *Illinois*,

Captain Pegfield was conversing with his executive officer, Lieutenant-Commander Hale.

"Now tell me about the engineer department," he said, after some talk; "something about the chief engineer and his assistants."

"Our chief is Commander Harker," replied Mr. Hale. "He was one of the old chief engineers who were made line officers when the engineer corps was abolished; he is over sixty years old and knows his business, but he is as sour and cross as ever an old man was. The law that converted the engineer officers into line officers requires that the older engineer officers should perform engineering duty only, and also that those officers reserved for engineering duty only should perform no sea duty after arriving at commander's rank; but old Harker was out here and has been ordered to go home on this ship; he insisted on going home on a mail steamer, but was turned down and nobody has had a civil word from him since."

"Who are the assistant engineers?"

"That's another sore point with the old man. We had three until recently, thoroughly competent men, but they have all been detached and ordered to line duty, and until you detail some of the young line officers for the engine room Chief Harker will have to get along with the three warrant machinists he has had for some time. I intended to ask you to choose one of the young men

you brought over from the *Northfield* for the engine room. We've been preparing for target practice and I wouldn't like to take any officer from one of the gun divisions; but the chief is making strong demands for at least one assistant and I hope you will give him one."

"I will. Send for him, please," directed the captain.

The chief engineer took many minutes in coming to the quarter-deck. Neither in his looks nor actions was there quick response to his captain's call. He was an old man of over sixty years. His face was seamed and furrowed by deep creases and its expression was harsh. A coarse, gray mustache stuck out almost straight from his upper lip, seemingly breathing defiance.

"You sent for me?" he asked in a surly tone, touching his cap.

"Oh, good-morning, chief," replied the captain. "I thought of detailing ——"

"Excuse me, sir," snarled the chief engineer; "my rank and title is commander and I expect to be addressed as such by everybody; and I'm forced to remind you that when I approached you I saluted you and that my salute was not returned."

"Excuse me, Commander Harker, for my mis-addressing you, and please accept this as your return salute." Captain Pegfield touched his cap. "Commander Harker, I hope you and I will be

good friends. I sent for you to tell you that Ensign Osborn will be detailed as your assistant."

"What does Ensign Osborn know about engineering? I don't want an ensign; I want somebody who knows the difference between a monkey-wrench and a rat-tailed file."

"Ensign Osborn is an Annapolis graduate and there studied engineering for several years. He will have practical work and responsibility under your direction and will gain the experience he lacks and needs. Part of your duties will be to see that Ensign Osborn receives practical instruction in the care and management of engines and boilers."

"I'll not have Ensign Osborn as my assistant. I'm a commander in the navy, not a school-teacher, and I'm not going to coddle any Annapolis graduate into the idea that he knows anything. Every Annapolis graduate that ever amounted to anything in engineering had first to forget everything he ever learned at Annapolis. That's the poorest school in the country, judging by its output," protested Commander Harker in a scolding, discontented manner.

"You are impolite, sir," said Captain Pegfield, sharply, turning abruptly from the chief engineer and walking away.

Shortly afterward, in obedience to a summons, Ralph reported to the executive officer.

“Osborn,” said Mr. Hale, “you are assigned to duty as assistant to the chief engineer. You will report to Commander Harker for orders. Whenever you want to go ashore you must receive the chief engineer’s permission before asking for mine; he will arrange the times when you may go—when there are but two engineer officers aboard the regulations require that one of them must at all times be aboard.”

“Very well, sir,” replied Ralph; “I will report to the chief engineer at once.”

He found Commander Harker in his stateroom.

“Mr. Harker,” he began, “I came ——”

“Do you know who I am?” interrupted Commander Harker, roughly.

“I asked for the chief engineer, sir, and was directed to this room.”

“I am a commander in the navy, sir, and I advise you to remember that fact when addressing me.”

“I beg your pardon, sir; I meant no slight. I am Ensign Osborn. I have been ordered to report to you for duty.”

“Have you, indeed! Then I advise you to go ahead and do your duty.”

“That is what I wish to do, sir, but I must get directions from you. I have studied engineering at the Naval Academy but have had no practical experience—that is what I expect to gain while serving under your orders.”

"Ensign Osborn," sneered Commander Harker, "the first assistant to the chief engineer of a great battle-ship is supposed to know his duty. If you have had no engineering experience you can't be my first assistant."

"I am ordered to report to you, sir, and I request you to give me directions as to what I am to do."

"I'll tell you what you are not to do, sir," retorted Commander Harker, in a menacing manner; "you're not to bother me! And you will give no orders of any nature or assume any authority in the engineer department; I don't propose to have any amateur engineer smash the machinery of this ship or blow up the boilers, and if you think I'm going to establish any kindergarten for your benefit you'll find yourself very much mistaken."

The chief engineer's tones were scornful; they vibrated with contempt. Intense anger surged through Ralph's mind and his eyes blazed. He had been two years out of the academy and had performed important duty aboard the *Northfield*; he felt the scornful abuse of Commander Harker was entirely unmerited and that he was not called upon to submit to it.

"You are insulting, sir!" he exclaimed, trying hard to restrain the wrathful feelings that were uppermost in his mind. "I shall ask

to be relieved from any official association with you!"

Ralph went directly to the executive's office. "Mr. Hale," he said, "I reported to the chief engineer for duty and he has told me my duty will be not to bother him, to exercise no authority in the engine room; and he informs me he will establish no kindergarten for my benefit. Under these circumstances I must request to have my present orders changed and to be ordered to deck duty."

The executive officer jumped from his chair. "We'll see the captain about this!" he indignantly exclaimed. "The chief engineer will learn that he isn't running this ship."

"Captain Pegfield," began Mr. Hale, as soon as he reached the captain's cabin, "in accordance with your orders I directed Mr. Osborn to report to the chief engineer for duty, which he did. Mr. Osborn, make the same statement to the captain which you just have to me."

Ralph did so without comment.

The captain touched a button; a marine entered.

"Orderly," said the captain, "direct Commander Harker to report to me here immediately."

The orderly returned in a couple of minutes, saluting, and said: "Sir, Commander Harker says he is busy and that he will report to you when it is more convenient for him to do so."

"Where was he? What was he doing?"

"In his room, writing a letter, sir."

"Very well, you may leave. Hale," continued the captain after the orderly had withdrawn, "repeat my order to the chief engineer, and tell him that if he disobeys it he is under arrest and that I shall prefer charges against him."

Mr. Hale left the cabin to obey the captain's order; entering the chief engineer's room, he said in a low, crisp tone: "The captain orders you to report to him instantly."

"I am a commander in the navy and I insist upon the consideration due my rank," replied Commander Harker, scowling.

"As a commander you ought to know what the captain's authority is and what your duties are, and the penalty of disobeying orders. If you do not instantly obey this order you are informed that you are under arrest, relieved of all duties, and that charges will be preferred against you."

Commander Harker needed no further admonition. He arose with alacrity and hastened to the cabin.

"Commander Harker," said Captain Pegfield, "by my order Ensign Osborn is assigned to engine-room duty as your assistant. You will immediately prescribe his duties."

"Captain Pegfield, I protest against a young man who has had no practical engineering experi-

ence being ordered as my assistant. You ought to be as much interested in the engines of this ship as I am and should know that whatever Mr. Osborn's theoretical knowledge is he is ignorant practically and no fit person to be entrusted with authority which will surely affect the efficiency of the machinery and might endanger the safety of the ship. I am a commander in the navy, sir, as well as chief engineer of this ship. The selection of my assistant should have been discussed with me; you have the appointing power but should have asked me who I wanted. I object to Mr. Osborn, and I wish to say I haven't been treated with the consideration due me."

"Commander Harker, your protest and objection are overruled. You may make them in writing if you choose, and I will forward them to the admiral with my comments. Mr. Osborn is detailed for engine-room duty, for instruction and for such work as you may give him. Furthermore, as half of the officers are required at all times to be on board, you cannot both be ashore at the same time."

"Do you mean to say that a commander in the navy must alternate with an ensign, sir?" asked Commander Harker in a blaze of indignation.

"I mean that when in port either the chief engineer or his assistant must be on board; the senior medical officer, who is a commander in

rank, and his assistant surgeon, who is of Mr. Osborn's rank, are under the same orders. So are the captain of marines and his second lieutenant."

"This is an indignity ; I protest, sir !"

"Your protest is not allowed. Do you understand my orders, sir ?"

"I do, but I consider them improper. I shall refer them to the admiral and I shall again ask for my detachment."

"Do so, but in the meantime you will obey my orders or else go into arrest. I will approve of your request for detachment because of your insubordinate attitude and improper language toward your captain. You may leave my cabin, sir."

CHAPTER II

COMMANDER HARKER DOES NOT IMPROVE

“THIS is a mix-up, Himski ; what am I to do ?” asked Ralph, later in the day. “I asked for engine-room duty—I wish I hadn’t—and am regarded by the chief engineer as an intolerable nuisance. What would you do ?”

“Why don’t you go to the chief engineer again and ask for orders? Just act as if nothing had happened, and then keep out of the old man’s way. I hear he’s as cross as Sam Patch, but that he’s all kinds of a good engineer. The best thing you can do, Os, is to get well acquainted with your job and after a while you’ll be useful. The old man is ugly but he hasn’t been treated right and there is some excuse for him.”

“That’s good talk, Himski ; I’ll tackle the chief again to-morrow.”

The next morning Ralph found Commander Harker in the engine room.

“What are your orders, sir ?” he asked saluting.

“Mr. Osborn, you will get paper and pencil and sketch the main engines and boilers, the piping and all the auxiliary machinery ; when you feel you know this department thoroughly, when you

are able to operate the boilers and machinery, can direct firemen, oilers, water tenders and machinists in their work, when you know enough to have charge of repairs and overhauling, I will give you responsible duties. In the meantime you will be careful to assume no authority whatever and will give no orders to anybody in this department."

"Very well, sir," replied Ralph. "I will obey your orders, but wish to say that I know much more about engineering than you give me credit." He then left and went to the engineer log-room, the office where the engineering accounts were kept.

"Have you a blue-print showing the arrangement of the machinery?" he inquired of a young man in the log-room.

"Are you Ensign Osborn?" asked a heavy-set man in the uniform of a warrant machinist.

"I am," was the reply.

"I am Mr. Hopkins, the warrant machinist on duty. The chief engineer says you are to give no orders here. You can't have anything out of this log-room without the chief's orders." Mr. Hopkins' tone was insolent; he took evident pleasure in the situation. He had for years been an enlisted man, and when, after the Spanish war had ended, the grade of "warrant machinist" had been established, he had slipped into it. Because of the arrogant airs he had assumed after donning an officer's uniform, and his harshness, he was

despised by the enlisted men of the ship. It was apparent that Commander Harker had talked to him of Ralph and Mr. Hopkins experienced pleasure in belittling an officer senior to him in rank.

By this time Ralph was thoroughly exasperated. He turned on Mr. Hopkins with anger and indignation, and said in emphatic tones: "Stand up when you address your superior officer, sir, stand up, I say! That's right. Now, Mr. Hopkins, let me tell you that no matter what your orders are from the chief engineer you'll give me the respect that my commission entitles me."

"The chief engineer says ——"

"I don't care to learn from you what the chief engineer says. Yeoman, give me that blue-print."

While Ralph was examining the drawing Mr. Hopkins hurriedly left the log-room, returning a moment later with Commander Harker.

"I'll have you know, sir," exclaimed the latter angrily, "that the orders of the warrant machinist on duty are my orders; you'll obey them as such. I delegate my authority to him and you will act accordingly; do you understand that, sir?"

"Commander Harker, I'll obey any legal order you give me but you haven't the power to delegate your authority. I'm a commissioned officer and you can't put me under the orders or authority of a warrant officer. I hardly imagine you'll refuse me permission to examine this blue-print."

The old chief engineer seemed to choke with rage ; he looked at Ralph with wrathful eyes, and then blurted out : “ The warrant machinist on duty is my representative ; you’ll be careful to give no orders in this department, sir.”

Ralph made no reply ; he turned his attention to the blue-print which was unrolled and on a high desk before him, but his mind was too disturbed to get any information from it ; the lines of the drawing danced before his eyes, conveying nothing to him.

The chief engineer and Mr. Hopkins left the log-room, and while Ralph was mentally deciding again to ask to be relieved from the intolerable position he was in, another man entered the room.

“ Good-morning, sir,” he said, addressing Ralph. “ I am Warrant Machinist Cooper ; you are Mr. Osborn, our new assistant engineer, are you not ? ”

Ralph eyed the newcomer ; he felt attracted to him at once. Mr. Cooper was a tall, heavy-built man, perhaps forty years old. Kindly blue eyes looked out from under shaggy brows. The expression of his face led one to believe he was an earnest, self-reliant man.

“ I thought I was your new assistant,” replied Ralph slowly, “ but,” he added bitterly, “ I am being made to feel I am your new nuisance.”

“ Oh, come now, don’t talk that way,” said the other kindly. “ I know the chief is cross, but he

feels he hasn't been treated right; before long you'll get on to things down here, and just as soon as you begin to show usefulness Chief Harker will use you right. And it won't take you long to get acquainted."

"Well, if anybody thinks I'm going to submit to being treated wrongly while I'm learning he'll be mistaken," returned Ralph, smarting under the recollection of the treatment he had received from Commander Harker and Mr. Hopkins. "There was a warrant machinist here a minute ago that is in need of a lesson in man-of-war politeness. Nobody will have any success in insulting me, no matter what the chief engineer's orders are."

"Of course not. That fellow Hopkins is a boot-lick—I've no use for him. I'm sorry he's the senior warrant machinist. He saw the chief was worried because the first assistant didn't happen to be an old-time engineer officer, and he's made matters worse by his talk. You'll find the rest of us warrant machinists are all right—we'll all be glad to help you whenever we can, Mr. Osborn."

"Thank you, Mr. Cooper; you make me feel a heap better; the chief engineer has jumped to the conclusion I know nothing whatever about steam engineering. At Annapolis we do a lot of book-work and besides that I've spent many hours in the shops working at lathes, drill presses, planers,

shapers and other machine tools. What I haven't had is real work or authority in an engine room. I could explain a duplex feed pump, but I would like to take it apart myself, overhaul it, make the necessary adjustments and assemble the parts and do the same with other mechanisms."

"You certainly have the right idea; even in heaving coal there's a right way to do it, though——"

"Then I want to learn it," interrupted Ralph eagerly. "I'd be willing to handle the shovel for the sake of learning all the tricks. The reason I asked for this duty was to get on to all the details—water tending, oiling the machinery and things like that. I feel sure that with the technical knowledge I have, after a few months' practical work I ought to be capable of usefulness."

"Indeed you will be, Mr. Osborn," exclaimed Mr. Cooper heartily. "Engineering is a combination of common sense and experience. You must learn to know a machine, what its use is, what it is capable of, and how to run it. After that you must know how to keep it in order. Now my advice to you is for a while to keep out of the chief's way; he's a real good old man but as violent as dynamite itself; and while you're getting acquainted with the machinery—just take one thing at a time—it will be a good idea for you to spend a watch in a bunker; not that there's

much high science in filling a bucket with coal, but later on, when you're in charge of a watch you'll know that the men in the bunkers are breathing coal dust, are getting their eyes full of it, and you'll have a fellow feeling for them. And you'll learn that a fireman who stands before a white hot fire for four hours ought never to be called on to work in his time off. I hope you'll let me help you if you think I can, Mr. Osborn, while you're getting hold."

"Thank you very much, Mr. Cooper; you've already made me feel much better about my work down here."

"Cooper," interrupted Warrant Machinist Hopkins, who had just entered the log-room, "you'd better go into the fire-room and get the forward boiler closed up; while you've loafing up here the men are loafing below. You better get on your job; when I'm in charge of the day's duty I don't need you in the log-room."

Dislike was manifested in Mr. Hopkins' tone; he took advantage of his having charge of the day's duty and therefore being for the time in immediate authority, to be disagreeable to his fellow warrant machinists.

"Osborn," continued Mr. Hopkins, in an offensive manner, "you'll give no orders in this department; but the chief engineer says that if you want any blue-prints ——"

“Stop right where you are, Mr. Hopkins,” angrily exclaimed Ralph. “When you address me you can call me ‘mister.’ I don’t like your manner. You will please bear in mind that you are my inferior officer and I’ll inform you, sir, that if you venture any disrespect I’ll haul you up before Captain Pegfield; it won’t take him long to teach you your place.”

Mr. Hopkins rushed out of the room, returning a moment later with Commander Harker. “You are disorganizing my department, sir,” the latter shouted passionately. “I’ll not have you threaten the engineer officer on duty. What have you to say for yourself, sir?”

“Nothing to you, sir, but plenty to Captain Pegfield if my conduct is called into question,” replied Ralph quietly.

“I’m running this department, sir; I’ll inform you again that you have no authority in it. Furthermore, you’ll be careful to treat the warrant machinists with respect. Their orders are my orders; if you have any fault to find with them you’ll come to me, sir.”

“Very well, sir. But I do not imagine you have ordered Mr. Hopkins to treat me insolently. I must request you to direct Mr. Hopkins to treat me with the respect due me as a commissioned officer.”

“I don’t need your advice, sir, and I warn you

not to threaten a warrant machinist," exploded the irate chief engineer.

"Commander Harker," returned Ralph, "however unkindly you may regard me I am well aware of the fact that you have not the power either to investigate my character or actions, or to punish me for any offense or shortcoming. It is only the captain who can do that, and I respectfully request you to report me to the captain for anything I have said or done that you consider is not right."

"Oh, you have a special pull with the captain, have you?" sneered Commander Harker.

"No, sir. But I'm sorry you have taken a prejudice against me. I intend to obey your orders, but whatever they are Mr. Hopkins must not imagine that they can put me under his authority, neither do they entitle him to treat me with disrespect."

"Indeed! We'll see about that. Mr. Hopkins, I'm going ashore this afternoon and you'll inspect the engine department and report everything secure at eight o'clock to the executive officer. I don't intend you shall do that, Mr. Osborn."

"Very well, sir," said Ralph; "have you any other orders or duty for me?"

Commander Harker did not reply but stalked out of the log-room. Ralph returned to his blueprint; but he found himself in no humor to study it so he soon left and went to the junior officers'

mess room where preparations were being made to serve lunch.

“Hello, Os, where are your dungarees?”¹ called out Bollup as he entered the mess room. “You’re a fine engineer, aren’t you, to be in clean white at half-past eleven in the morning. You don’t know how to get up an engineering reputation. I say, Os, the first thing you want to do is to get some dungarees on, then go down into a fire-room, stand before a furnace in a temperature of two hundred degrees till sweat is running out of every pore of your body, then go into a coal bunker and roll around in the coal dust for a few minutes; after this get into an engine-room bilge and see that grease and bilge water get mixed up with the coal dust on your clothes, hands, face and hair—and after all that go up on the quarter-deck where the captain and executive will see you, stopping at the chief’s room on your way; and don’t forget to have a piece of waste in your hand. Do that a few times and the chief will imagine he’s caught a prize and the captain and exec will think you’re a wonder. Follow my advice, Os, and in a week’s time you’ll be famous as the most efficient young engineer in the fleet.”

“All right, Tom,” replied Ralph smiling affectionately at his chum; “but suppose the snifting valve should refuse to snift, and that while I was

¹ Dungarees—working clothes.

ambling in the bunker or swimming in the bilge while the regurgitating valve should not regurgitate, what should I do?"

"Oh, just send for me; I'll fix them," laughed Bollup. "Say, Os, let's go ashore this afternoon; we're going to leave for Hongkong in a few days and I want to hit the beach once more before I leave Manila."

"I can't go to-day, Tom; you see either the chief engineer or his assistant must be aboard and the chief is going ashore to-day. Goodness only knows what might happen to the boilers or machinery if we both were ashore at the same time. I suppose we'll go on alternate days and I'll ask to go to-morrow. Can't you wait till then, Bol?"

"Sure. And we'll get Himski and several other of our mess to go with us. Then we'll rip the old town into small bits on our last visit to it."

CHAPTER III

THE *ILLINOIS* LEAVES FOR HONGKONG

“COMMANDER HARKER, I request your permission to go ashore this afternoon,” said Ralph the next morning.

“I have nothing to do with your shore going; you can see the executive officer about that.”

“Very well, sir; Mr. Hale’s orders were that I should ask you for permission when I wished to go ashore. I understand from what you say you have no objections.”

“I have none whatever. I wish you’d go ashore and stay ashore. But I happen to be going ashore myself this afternoon—don’t forget that when you speak to the executive officer.”

Burning with indignation Ralph left the chief engineer and went to the executive officer.

“May I have permission to go ashore, sir?” he asked. “The chief engineer has no objection, but he is going ashore himself.”

“You may not,” replied Mr. Hale, shortly. “You are the assistant engineer and must be on board when the chief is ashore. You needn’t ask again until you know the chief is to be aboard; one or the other of you must be aboard at all times

and Commander Harker will arrange the times when you can go ashore."

Mr. Hale's manner was forbidding and Ralph left him feeling very much injured. Going ashore when the ship was at anchor was a privilege enjoyed by all officers when not on duty, but it seemed to Ralph that between Commander Harker and Mr. Hale he was destined to be almost a prisoner on board. Ralph fully realized that if he made an official complaint to the captain the latter would require the chief engineer to let him go ashore on alternate days, but this would surely increase Commander Harker's dislike, something Ralph wished to avoid. He was genuinely anxious to become a practical engineer and he knew that an active animosity toward him on the part of the chief engineer would be a serious detriment. But he knew he was not being treated properly and his pride was hurt.

"Say, Os," remarked Bollup at lunch, "a gang of us are going ashore in the three o'clock boat. You'll be ready, of course?"

"I'm not going to-day," replied Ralph, tersely.

"Why not?" inquired Bollup, surprised and disappointed.

"The chief is going to-day so I must stay on board, Tom."

"But he went yesterday; it's your turn to-day, Os."

"We're not taking turns, Tom, and as the chief is going I can't, and so there's nothing more to be said about it."

"Well, I've something to say, and that is the chief engineer has all of his four hoofs in the trough," exclaimed Bollup indignantly; "every officer on board except the captain has to alternate with some other officer in going ashore; you're not going to stand for this, are you, Os?"

"Oh, don't worry, Tom; I guess things will turn out all right."

In the afternoon Ralph went to the log-room. "What do you want?" inquired Mr. Hopkins in a surly tone.

"Nothing from you except common ordinary civility," replied Ralph and addressing the engineer's yeoman he said, "Please let me have the boiler plan."

While Ralph was examining this, Commander Harker entered the log-room. "Mr. Hopkins," he said, "I am going ashore; as next senior to me you will make the routine inspection and report the engineer department to the executive officer at eight o'clock."

"Very well, captain," replied Mr. Hopkins. "I will see that all of your orders are carried out, sir."

Commander Harker's remark was a pointed slur at Ralph, for in matters of rank Ralph came next after the chief engineer. Ralph had no intention

of tamely submitting to the contemptuous treatment of Commander Harker; still he restrained the indignant words that were ready for utterance.

He studied the boiler plan, tracing out the feed pipes, bottom blow pipes, steam pipes, valves, and other boiler fittings. His purpose was by examining the drawings to become familiar with the general arrangement of the machinery and boilers, then afterward to spend much time in the engine and boiler rooms.

At eight o'clock that evening a number of officers came to Mr. Hale's office to make the required routine reports of their departments. Among them was Warrant Machinist Hopkins.

"The engineer department is secure, sir," reported Mr. Hopkins, saluting.

"Is it?" inquired the executive officer, directing a pair of severe gray eyes upon him. "But why do you report it? Isn't Mr. Osborn on board?"

"Yes, sir, but the chief's orders are that Mr. Osborn is to have no authority below, sir; the chief told me I was left senior on board and to make the eight o'clock report."

"The chief engineer is mistaken; you are not senior on board when Mr. Osborn is here. Messenger, tell Ensign Osborn he will always report the engineer department at eight when the chief engineer is ashore."

“But Commander Harker says——”

“That will do, Mr. Hopkins; you may leave,” and the warrant machinist left with every appearance of chagrin.

“I have inspected the engineer department; everything is secure, sir,” reported Ralph a few minutes later.

“Very well, Mr. Osborn. You had better disabuse Mr. Hopkins of the notion he’s senior in your department when the chief is ashore. He had no business to make the eight o’clock report to-night.”

“I’m afraid I’ll be a cause of trouble below, Mr. Hale; I asked for engine-room duty, but the chief engineer wants an experienced assistant and I don’t suit him. As this is the case I wish you would take me out of the engine room and assign me to deck duty.”

“I will do nothing of the kind. It’s the duty of the chief engineer to see that you get experience and there’ll be plenty of it below for you. It’s up to you to get acquainted with your department and to make your usefulness felt.”

“That was what I hoped to do, but the chief engineer regards me as a nuisance; this will make it hard for me to be of any use to him.”

“The chief engineer is not the captain of this ship, Mr. Osborn, and he is not running it. You have been regularly assigned as his assistant, so

there is no more to be said about the matter unless you have an official complaint to make. In that case you have my permission to see the captain."

The next morning Ralph was sent for by the chief engineer who was talking with Mr. Hopkins.

"Mr. Osborn," snarled Commander Harker, "I'll have you understand that Mr. Hopkins ranks next after me in seniority of my department; when I'm ashore he'll be in charge, give necessary orders, make the required reports and you'll be under his orders."

"You've sent for the wrong person, Commander Harker," retorted Ralph, calmly.

"What do you mean, sir?"

"I mean you'd better see the captain or executive officer about this. And I mean something more," continued Ralph with rising temper. "I mean your order is illegal as well as outrageous, and I deliberately refuse to obey it; you have not the power to put me under the orders of my juniors; you have repeatedly insulted me. I'll warn you now, sir, that I'll take no more insults from you! I request your permission to leave the ship to-day. Are you going to be aboard, sir?"

"It's none of your business what I'm going to do; and I advise you to be more careful of your manners to me," exclaimed Commander Harker.

"Unless you give me formal permission to leave the ship to-day, I shall report you to the captain

and ask him to appoint the times when I may leave."

"I'm going to be aboard to-day. I don't care what you do," shouted the chief engineer angrily. "You can go ashore for all I care!"

"Have you any orders for me to-day, sir?"

"No I haven't, except to accentuate what I've already told you." Commander Harker fairly trembled with rage as Ralph left him. The latter was far from comfortable in mind; he bitterly regretted he had asked for engine-room duty; he felt that perhaps if he had a frank talk with Captain Pegfield the latter would take him from the engine room, yet there was a feeling within him that made him hesitate to take such a step until it proved to be absolutely necessary. He well knew the obedience and respect due his immediate superior and that it was not the part of a young officer to find fault or complain until forced to do so by unjust treatment. He felt that if Commander Harker knew him better he would not be so intolerant; for he was far from being as ignorant in engineering as Commander Harker imagined. Ralph had graduated first in his class in engineering; he had made creditable drawings of boilers and different parts of machinery, had worked in the shops with all kinds of machine tools, he had actually designed machinery, and he believed that with practical experience in the

management of engines he would soon be a useful assistant engineer. But the attitude of the chief engineer made him feel that he would have but little chance for usefulness in the *Illinois'* engine room.

Ralph's pride was so hurt that he didn't care to discuss the matter even with Himski or Bollup and much less with the rollicking midshipmen who belonged to his mess.

In the afternoon after his last encounter with Commander Harker Ralph went ashore with Himski; they made some purchases, and several calls on army and navy people where they met many friends and had a jolly, sociable time. They returned to the ship in the eleven o'clock boat.

The next day the *Illinois* got up anchor and steamed away, bound first for Hongkong, then from there for home by way of the Mediterranean.

When the order "all hands up anchor" was given, Ralph was in the engine room. Soon he heard the clanging of bells, and watched admiringly the deft way the machinists operated levers and wheels. The engine room was hot, there was the smell of oil everywhere; there was noise of pumps and the hiss of escaping steam. Then the great engines began to turn, slowly at first, then with increasing speed. Men in dungarees with oil cans darted in and about the machinery, apparently oblivious to the imminent danger of

being crushed as they dodged the rapidly-moving connecting rods, cross-heads and revolving crank-pins.

The old chief engineer went about with joy in his face; energy, interest and happiness seemed to radiate from him; with his own hands he felt of different brasses to be satisfied they were not getting hot. He went from air-pump to circulating pump and looked critically at every part of the revolving machinery.

Ralph regarded with wonder the changed attitude of Commander Harker who was now going about with a happy, beaming face and an almost jovial manner.

“Everything is all right,” exclaimed Commander Harker, jubilantly, to Warrant Machinist Cooper. “The hard work you have done in overhauling the engines speaks for itself, Mr. Cooper. They run as noiselessly as sewing-machines; there isn’t a single cross-head or crank-pin that hammers, the condenser tubes are all tight, the feed-water is sweet and fresh and there isn’t a leaky steam joint in the department. I tell you it’s just happiness itself to work with such beautiful engines and have such results. We’ve all worked hard and this is our reward—and it’s all we’ll ever get; the people on deck never have any conception of the work done below by men of the engineer force.”

"We're all glad if you are pleased, chief," replied Mr. Cooper, gratification showing in his face; "you have personally ordered and directed every job, have watched us and encouraged us while we worked, have been down here every day for months, and if you're satisfied our men will be well repaid; that's all they want or expect; the men on deck know nothing of the work needed to repair engines and boilers for a long cruise. But, chief, I hear we are to run at high speed and if so we'll need some ordinary seamen sent down from deck to help pass coal in the bunkers; we're short-handed."

"I've arranged for that. I've seen the executive officer and we're to have thirty-six ordinary seamen from the deck, twelve to each steaming watch. The yeoman will make out lists of the names of these men; the first lot will come on at eight o'clock. I'll take a look into the fire-room now. I hope Mr. Hopkins has done as good work with the boilers as you have with the engines."

"Commander Harker seems to be very happy," remarked Ralph to Mr. Cooper.

"He has cause to be; did you ever see more perfect working engines? Shut your eyes, Mr. Osborn, and though of course you will hear a buzz, you would never imagine these big engines were revolving eighty times a minute; there isn't a thump anywhere. The chief has worked

hard for this; there hasn't a day passed but what he has spent all of his time below directing the work. There isn't a better engineer in the navy; he's a fine man, the chief is; he's a bit strong in his remarks at times and snaps us all up when we need it, but his heart is all right."

"I wish he would give me some regular duty but he is unwilling to do so. If I had some responsibility I am sure I would get hold of things, but from what Commander Harker says all he will permit me to do is to look on. A fellow never gets far by merely looking on; he ought first to have regular work, then responsibility."

"What kind of work would you be willing to do, Mr. Osborn?" asked Warrant Machinist Cooper, keenly.

"Anything at all; I'd be glad to work as a coal passer, as a fireman for a while; in fact I feel desperate. I must do some work down here or else give up the engine room, and I don't want to give up; it goes against my grain."

"All right; I'll take you at your word. I will be on watch in charge of the department for four hours and off eight. I have the first watch to-night, from eight o'clock until midnight. Suppose you come on watch with me. I'll give you something to do,—you might start at eight o'clock in a coal bunker. It isn't much of a trick to fill buckets with coal but if you start at that you

will begin at the bottom. Later I will arrange to station you on some fires; it isn't every man that makes a good fireman; there is much skill needed to handle a fire properly. After that you can learn how to pump feed-water into a boiler, then some time I'll give you an oiler's job for an hour or so. Whenever we stop for a few days we will tear the engines to pieces for adjustment and overhauling; that is where practical skill comes in. You can work with me on these jobs and I'm sure that in a few months the chief engineer will give you your own watch to stand."

"Thank you, Mr. Cooper. I'll be on hand at eight o'clock. You are kind; I'll begin by shoveling coal just like a coal passer."

CHAPTER IV

RALPH GOES TO WORK

AT eight o'clock that night Ensign Ralph Osborn, garbed in his dungaree working clothes and a canvas hat such as enlisted men wear in warm weather, entered the *Illinois'* after fire-room. His intention was for a while to do the same work as required of the firemen and coal passers.

A busy scene met his eyes; in front of the furnaces were men throwing shovelfuls of coal into white hot fires. The intense heat that radiated out of an open furnace seemed to shrivel the flesh of Ralph's face, though he was fully ten feet from it. He wondered that a fireman could stand two feet from such a fire, as one was doing, apparently looking intently into the furnace.

Ralph found a place directly under an opening where huge volumes of air were pumped into the fire-room. "I'll watch things for a while from here," he murmured aloud. "I had no idea it could be so hot anywhere."

"Will ye, me frind?" scornfully ejaculated a huge specimen of a man who stood near and had evidently overheard him. "An' do ye think that whin a landlubber from deck is sint below fer to

help pass coal he's a-goin' to stand fer four hours under the forced draft vintilator? Get busy, me frind, in that coal bunker; and remimber, if I speaks twict to ye the sicind toime 'twill be with me fist."

"Do you know who I am?"

"Av course I do. Ye be George Dewey hissilf, an' yer sint down here to pass coal an' are gettin' thirty-three cints ixtra per day. Now, George, there be yer bunker; get into it, me lad, an' fill thim coal buckets in a hurry."

It suddenly flashed over Ralph that the man imagined he was one of the extra hands sent down from the deck; indeed there was nothing in his appearance that showed he was anything else. The idea amused him, so, without making any reply, and actuated by a sudden impulse he quickly stepped to the side of the fire-room where he saw coal running out of a bunker. He seized a shovel and began to fill a bucket with coal; six or eight shovelfuls filled it. A couple of men seized the filled bucket and emptied it in front of one of the furnaces.

"Bear a hand with thim buckets, George!" shouted the man who had put him to work; "show yer gratitood to the gouvermint that's a-payin' ye thirty-three cints a day for worrukin'. Yer twenty-two dollars a month fer bein' an ordinary sayman is fer doin' nothin' at all at all. But

ye'll worruk hard whin yer in a fire-room under the orders av Dinnis McCarthy, chafe water tinder U. S. N., an' don't ye fergit it."

At the bunker door were a number of empty buckets and Ralph vigorously threw coal into them; it did not take long to fill the buckets, but empty buckets came back so quickly that he had no opportunity of stopping. The fire-room was everywhere hot but particularly so in the corner where Ralph was shoveling. He broke out into a violent perspiration. Soon his back commenced to ache; he grew tired and was disposed to stop.

Chief Water Tender Dennis McCarthy was keeping a watchful eye on him. "'Tain't as much fun as ye thought fer, be it, George? Just about ready to give it up and go back to yer ould job av sweepin' down the deck an' cleanin' spit kits, hey, George? 'Tain't one ordinary sayman in tin that can stomach this job down here, but stick it through an' I'll make a real man av ye, George."

Ralph had no intention of impersonating an ordinary seaman from deck nor of continuing to be unknown as an officer; yet there was something in the good-natured, half-contemptuous attitude of the chief water tender that attracted him, and he delayed disclosing the fact of his rank. After twenty minutes of steady shoveling Ralph felt as if he could do no more work, that he must rest. A respite now came, for every furnace had coal in

front of it and for a few moments none of the buckets were emptied.

The chief water tender was activity itself. He rushed from one thing to another and talked all the while, sometimes to himself, sometimes to a boiler, and sometimes to the firemen and coal passers.

“Biler M, yer a regular camel; niver hev I seed any biler take the water ye do; yer worrukin’ twict as hard as biler N; ye firemen on biler N ought to be ashamed av yersilves; yer doin’ no worruk at all at all. Ye’d better get busy an’ give me good hot fires or I’ll put George Dewey an’ his mates from deck on yer fires an’ set ye to shovelin’ coal. Murphy, ye miserable apology av an Irish spud, yer a disgrace to yer name; look at yer fire; it’s red instid av white; it’s cold an’ about to die out.”

McCarthy ran from furnace to furnace, throwing open each door for a moment, gazing critically at the fires, giving orders and admonition. He regarded the water in the gauge-glass, opened the test cocks, regulated the feed-pumps, and stirred the firemen of boiler N into activity. He was the life of the fire-room. On him depended the important duty of keeping water at the proper steaming level in the boilers and of keeping up the required steam pressure. In the fire-room were a continuous roar and buzz. Overhead the powerful forced draft

blower engines were pumping great quantities of air into the fire-room. The fire-room was sealed tight and the only place for the air to escape was through the furnaces; this burned up more coal, making more steam which gave the engines greater speed than if natural draft had been depended on.

The temperature of the fire-room averaged nearly one hundred and fifty degrees, while directly in front of the furnaces it was much more; but the firemen faced the open furnaces, apparently unmindful of the fierce heat as they fed the roaring flames.

The coal passers and men sent down from deck were doing the same kind of work that Ralph was; some digging coal out of the different bunkers, others dragging the filled buckets across the fire-room and emptying them in front of the furnaces.

Ralph's face was now as black as the coal he was shoveling; he about decided to stop for he felt he had learned as much as anybody ever could of how to fill coal buckets, when McCarthy called to him: "More coal, George; ye've had a breathin' spell, an' here's some empty buckets; get busy, me bye."

Ralph started to shovel when Warrant Machinist Cooper entered the fire-room.

"You have all of the extra men sent you from deck, have you, McCarthy?" he asked.

“Yis, Mister Cooper, I hev; an’ one extra, begorra. He’s over there at the port bunker, a-worrukin’ harder than iver he did afore, an’ I judge it’s comin’ hard to him but he’s stickin’ to his job. George Dewey I’ve named him, an’ I’m encouragin’ him not to disgrace his name.”

Mr. Cooper walked to where Ralph was so desperately shoveling, and in spite of the blackness of his face, recognized him. He went back to McCarthy and said, rather amused that the water tender did not realize Ralph was an officer: “I know that young fellow; don’t be too hard on him, McCarthy; he’ll hardly last the watch out; if he gets tired and wants to leave don’t stop him; he’s not on your list, he’s only a volunteer. But give him all he wants to do.”

“All right, Mr. Cooper,” replied McCarthy. “I’ll give him all he wants.

“Say, George,” remarked the water tender after Mr. Cooper had left, “the engineer on watch doesn’t think much av ye; he’s tould me he knows ye an’ that ye won’t last through the watch.”

Ralph made no reply but continued vigorously to shovel; and a peculiar determination shot into his mind, a resolution of sticking to the work until midnight when the watch would be relieved. Coupled with this was a bitter feeling that the chief engineer was determined he should be absolutely useless in the engineer department.

This put him in a contemptible position, galling to his pride. Nor was he willing that either Mr. Cooper or the water tender should afterward say he hadn't done as well as a coal passer was required to do. A picture of Mr. Hopkins' coarse, jeering face arose in his mind and Ralph felt that his determination was actually on trial. "If the chief engineer won't let me do an officer's work I'll show him and Mr. Hopkins and the rest of them that I can do a man's work," he resolved, and with renewed vigor he continued his shoveling. He knew that Commander Harker could not order him to do the work he was doing yet it was perfectly proper for him to do this for the purpose of gaining experience. With this feeling in his mind new strength seemed to come to Ralph's muscles. After shoveling steadily for a while Ralph again had a few minutes' rest; he stood under the ventilator reveling in the cool air coming down on top of him; after the severe physical work in the fierce heat the cool air felt delicious beyond description. The exquisite physical relief he now experienced seemed fully to compensate him for the severe toil that had preceded it.

"Yer doin' well, George, better than the other rookies from deck," remarked McCarthy; "some av thim hev played out already. But yer buckets be gittin' empty, so get busy, George."

Ralph returned to his shovel much freshened by

the few minutes' rest. Though tired he did not seem to become more so and he knew that severe as was this work, he could keep it up for four hours without becoming exhausted.

Some time after ten o'clock Commander Harker entered the fire-room. "Have you any trouble in keeping up steam pressure?" he asked McCarthy.

"None at all, sorr; we've good coal an' good firemen an' the bilers are tight; there beant a leaky tube or leaky joint in me two bilers; the firemen be quarrelin' fer coal an' the coal passers are kept busy; we couldn't hev kept up forced draft if yer hadn't got thim rookies from deck, chafe."

"How are the ordinary seamen doing, McCarthy?"

"As poorly as was to hev been ixpected, sorr, ixcept that rookie over in that port corner; just watch him a minut, chafe; he's a loikely lad an' takes naturally to a shovil—he'll make a good fireman in toime. I recommind ye hev his rate changed from ordinary sayman to coal passer; give him to me an' I'll make a man av him."

Commander Harker approached Ralph who was rapidly throwing shovelfuls of coal into waiting empty buckets. He filled a bucket and started to put coal into another one which was to his left and a little behind him, but as the coal left his shovel it caught the chief engineer in the pit of the stomach doubling him up. As there was consid-

erable momentum in Ralph's shoveling it struck the commander with some force, and our temporary coal passer was aghast.

"I beg your pardon, sir," he exclaimed, helping the chief engineer to get up. "I didn't know you were there."

"Of course you didn't; it's all right, no harm is done," replied Commander Harker, brushing the coal dust from his clothes. "Never mind me; go on with your work."

Ralph paid no more attention to the chief engineer but continued vigorously to fill his buckets, the chief engineer watching him. When all the buckets were filled Commander Harker patted him kindly on the back saying, "You are doing well, my boy; you have a strong arm and don't tire. I'd like to have you permanently in my department; you'll make a good fireman in time. If you would like to have your rate changed from ordinary seaman to coal passer let me know later and I'll ask the captain to do it."

Ralph gazed at Commander Harker with astonishment. "Can this be that violent old man who has so shamefully treated me?" was the unexpressed thought in his mind. In the chief engineer's eyes there was a kindly interest Ralph had never seen there before; he was amazed to learn there was a side to the old man's character he could not have imagined existed.



"YOU ARE DOING WELL, MY BOY;—"

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"Think it over, young man," added Commander Harker; "there are more chances of advancement in the fire-room than you'll ever find on deck. If you were rated coal passer and continued to work as hard as you have begun you would stand a good chance of being promoted to be fireman in a year's time."

Ralph did not answer but started again to shovel coal and the chief engineer left the fire-room.

At midnight the watch was relieved; a new set of men came into the fire-room, one of whom took the shovel Ralph had been using. As he was leaving the fire-room McCarthy stopped him.

"Ye've done well, George; be on hand with the watch at eight in the mornin'."

"I don't care to do any more coal passer work, McCarthy," said Ralph. "I only came here to see just exactly what you had to do. I am what you might call a volunteer; when I come here again I'll want you to show me how to fire."

"Well, George, ye sure hev yer nerve wid yer," rejoined McCarthy scornfully. "Did ye think that after passin' coal fer four hours I was a-goin' to put ye on the fires? Yer too ambitious, me frind; ye've done good worruk to-night, but a coal passer does months av sich worruk afore he is iver givin' a chanct to handle a slice-bar or devil's claw; but if ye come down regular I'll make a

fireman av ye in a year's toime ; an' some . . . passers are glad to get that rate after two years' service."

Ralph left the fire-room and made preparations for a hot bath. In the tub with the water as hot as he could bear it, a glow of peace and comfort came over him. Every muscle of his tired body seemed grateful.

After his bath he went to the room he occupied with Himski and turned into his bunk tired but not discontented ; for he felt he had done some useful work even if it were only a coal passer's.

CHAPTER V

THE *ILLINOIS* ANCHORS AT HONGKONG

“**H**OLY smoke, Os, where on earth have you been?” ejaculated Bollup the next morning to Ralph, as the young men were at their breakfast of bacon, eggs, toast and coffee.

“What’s the matter with me?” inquired Ralph.

“Why, your eyes are positively black; you look as though you had spent the night in a coal bunker.”

“Oh, I was working last night; while you were doing nothing I was helping to shove thirteen thousand tons of steel through the water at a speed of fourteen knots an hour.”

“What were you doing?”

“Learning my job, Tom. I’ve got lots to learn below before I can be of any use; I must know by actual experience just what is required of an enlisted man’s strength and intelligence before I can properly direct him; there is no use in expecting too much of a fireman or coal passer, and the best way I can learn what may reasonably be expected of an enlisted man is to do his work for a short time.”

“Look here, Os, if that old Snarleyow of a chief

engineer has been making a coal passer of you it's high time for you to kick. Don't you stand for it, Os; the captain would never permit that wild tempered old man to mistreat you."

Bollup's honest face fairly glowed with indignation.

"Don't worry, Tom," replied Ralph; "if Commander Harker should order me to do a coal passer's work I would most certainly object. But if I want to know how a coal passer feels after a four hours' watch there's no objection to my finding out by doing his work, is there?"

"No, but you're a chump for working like a coal passer if you don't have to, Os; you don't mean that you actually spent four hours passing coal in a hot fire-room, do you?"

"That's what I mean, Tom."

"Well, how do you feel and what valuable thing did you learn?"

"I feel like thunder! My back and arms are lame. I'm stiff all over. I learned that after working last night for four hours in that hot fire-room I'm in the humor for resting to-day. I'm sorry for those poor fellows who worked as hard as I did and must do that same work day after day for years. And I learned that our firemen and coal passers are doing harder work below than I ever did in my life. There isn't much brain power required to fill a bucket with coal but those fellows

that enlist as coal passers and stick to their jobs, who don't try to get transferred to the deck or get out of their watches by working the sick list, show a good deal of character and determination; they have my respect and will receive my consideration when I am in authority."

"Oh, pshaw—don't get sentimental, Os, and don't slobber over a set of firemen; if you tell them they're martyrs they'll all believe you. There isn't one of them but who would rather be an ensign than a fireman; we've got to have men to shovel coal and they are well paid for it. But what does Snarleyow think of your working as a coal passer?"

"Do you mean the chief engineer?"

"Yes, I mean that same vicious-tempered old brute."

"You are rather strong in your description of him, Tom."

"There's a yarn going about that he is shamefully abusing you. I wish he would try his abuse on me once; I'd probably face a general court martial but I'd have the satisfaction of telling the old villain what I thought of him. But what does he think of your coal passer work, Os?"

"He doesn't know anything about it and I don't intend he shall. I hope to get on with the old man better than I have; up to date we haven't found out each other's good points."

"Hello—there goes eight bells and I'm due on the bridge," exclaimed Bollup. "I want to advise you to buck old Snarleyow; buck him for all you're worth," and with this sage advice Bollup got up from the table and left the mess room.

A midshipman named Cullen came hurriedly into the room; his face was red from suppressed excitement and he addressed Ralph in a most belligerent manner.

"Osborn, I want you to know that I'm caterer of this mess and I'm running it; you'd better realize right away that rank doesn't count in this mess room and just at present I'm in charge and what I say goes."

"Indeed," rejoined Ralph, coolly. "I imagine the navy regulations are superior to any 'say so' of yours, and by the regulations the senior officer of a mess is in prescribed authority. Ensign Winthrop happens to be senior officer here. The caterer's job, Cullen, is to look out for the grub, collect mess bills, keep mess accounts and see that the mess servants keep the quarters clean. That's what your authority is and that's all it is. In other matters concerning the mess you have just one vote and no more."

"I'm glad you know I have authority to keep the quarters clean," replied Cullen, angrily, "and I want you to understand once for all that you haven't the right to dirty them up. And you'd

better realize that everybody in this mess, ensigns and midshipmen, are on the same footing."

"What in the world is the matter with you, Cullen?" exclaimed Ralph, astonished at the savage manner of the midshipman. At the Naval Academy Cullen had earned the reputation of being quarrelsome, but Ralph had never had any trouble with him; the latter had been one class behind Ralph, but they had hardly known each other at Annapolis.

"I'll tell you what's the matter with me, Osborn; the matter is that I am not as much behind you in rank and authority as you think I am. And another thing is you think you're savey and I'm wooden; we've had a nice comfortable mess here and you've come in and have acted as if you were a superior being which I don't propose to stand. And now I'll come down to brass tacks,—I've taken trouble and pleasure in keeping our quarters clean; this morning I went into the bath room and I found it in a perfectly filthy condition; there was dirt on the floor; the bath tub looked as if a coal passer had been wallowing in it. On a chair was a dungaree suit, filthy with coal dust. I saw the name Osborn on the suit and I don't mind saying I took considerable pleasure in throwing it overboard through the port-hole."

"Indeed," remarked Ralph, with difficulty restraining his temper. "After I put on my

working suit last night I slipped twenty dollars in the coat pocket. I intended to pay my mess bill with it. I'll trouble you for that twenty dollars, Cullen."

"You'll have a lot of trouble in getting it from me, Mister Osborn," shouted Cullen, passionately. "I'm not as easy as all that. I don't believe there were any twenty dollars in your pocket; you won't make money out of me in any such snide way as that, Mister Osborn!"

Ralph jumped from his chair thoroughly enraged, and ran at Cullen. He drove his clenched fists repeatedly into Cullen's face; the latter tried to protect himself but in an instant lay stretched out on the deck; he was no match, physically, for Ralph, nor was he at all expecting the savage onslaught which so suddenly overwhelmed him.

Several of the midshipmen were at the mess table when this happened; they jumped up to separate Ralph and Cullen. "Hold on to yourself, Os; this is no place for fighting," cried Himski, who had just come in. Cullen arose slowly and with flaming face hurried out of the mess room.

"Look here, Osborn, this is no place for a row. I object to our quarters being used for such a purpose," exclaimed Midshipman Featherstone.

"You had better first object to your friend accusing me of being a cheat and a swindler," replied Ralph, hotly. "And I'll warn you to be careful

of what you say to me." Ralph left the room accompanied by Himski, to whom he related all that had occurred.

"The man must be crazy," he concluded. "I hardly know Cullen, and the few days I have been aboard this ship he has been so offish in his manner that we have hardly spoken to each other. But I had nothing against him; I was amazed when he started at me this morning. I could see that he was angry but couldn't imagine at first where I had given offense. I ought not to have left the bath room mussed up as I did last night, but I never thought about it. I was too tired to think of anything after passing coal for four hours."

"What are you going to do about your working suit with the twenty dollars in it, Os?"

"I don't know. I haven't thought that far yet. I think Cullen should be made to pay that back to me."

"Of course he should. But it will be hard for him to do it. I've heard he supports his mother out of his pay, so I imagine twenty dollars is a lot of money to him."

"Well, I won't make a point of the twenty dollars; I shouldn't have left my dungarees in the wash-room and Cullen had no occasion to imagine there was any money in them. But I pasted him a good one and I'm glad of it. I'll never speak

to him again unless he apologizes to me for what he said. Now I must go and shift into a working suit and go below. I made a great mistake in asking for engine-room duty, at least aboard this ship; the chief engineer has conceived a violent dislike for me and treats me shamefully. He's got to let up or I'll report him to the captain; he isn't giving me any show at all; and there is a bootlicking warrant machinist named Hopkins that old Harker has talked to about me; Hopkins thinks that because the chief doesn't like me he can lord it over me—he'll get a big surprise before many days."

Ralph went into the engine room in a very discontented mood but soon became interested in a task he had imposed upon himself. "I'll trace the steam from the place it enters the engine room," he reflected, "through the different steam pipes, valves and cylinders, and follow each step until it finally is discharged into the condenser where it is converted from steam into water, again to be pumped into the boilers."

Ralph spent some time crawling over cylinders and pipes, talking to himself. He had examined the drawings carefully, knew what to look for and about where to find the different accessories of the engine; none of this was difficult for him.

"What are you doing here?" suddenly demanded Commander Harker in a harsh, fault-

finding tone, meeting Ralph at the foot of the engine-room ladder.

"I am getting acquainted with these engines, sir."

"You'll be careful to give no orders in this department, sir," snapped Commander Harker, in caustic accents.

"You have told me that repeatedly, sir; there is no occasion for your manner to be so brutal."

"Do you question my authority, sir?" fairly shouted the chief engineer, with flaming anger.

"I have not and I do not in your capacity as chief engineer, but I warn you that you have shamefully abused me and you've got to stop it, sir. I'll submit to no more abuse from you."

There were spirit and determination in Ralph's bearing; his voice rang clear and strong. Commander Harker seemed astonished; he regarded Ralph for a moment; then without replying, he turned and walked away. Ralph continued his investigations.

"Mr. Cooper," he asked, "does this wheel operate the throttle valve?"

"Yes, Mr. Osborn; this puts steam on the engine, and this lever works the reversing mechanism; with the throttle open and this lever up as it is at present, the engines will go ahead; with the lever down the engines will go astern; and with the lever amidship the engine

will stop; you'll soon learn how to handle the engines."

Ralph spent the morning in the engine room, examining different appliances, locating pipes, valves and a multitude of connections. He watched the tireless piston-rods move up and down in the cylinders. In spite of his indignant feelings toward the chief engineer he felt a glow of admiration for the skill that had put these mighty machines in such perfect adjustment. Hundreds of tons of steel about him were in rapid motion, piston-rods, connecting-rods, cross-heads and crank-pins, each part doing its appointed work noiselessly and with precision. Machinists and oilers ran about, each man perfectly drilled in his own duties. Ralph knew that these great engines were built up of thousands of parts and that perfect working meant that each part fitted exactly in its own place; if any one part were neglected the whole engine would be faulty. Besides the necessary mechanical perfection it was essential that the men of the engineer's force should all know their particular duties, some to attend machines, others to manage boilers; and for it all the chief engineer was responsible.

"The chief engineer must have a lot to worry him," remarked Ralph to Mr. Cooper. "I suppose he thinks of me as an addition to his troubles. He's taking it for granted that I can be of no

help to him—he thinks I know nothing about boilers and machinery. As a matter of fact I've spent years studying engineering; all I need to be of real assistance is a certain amount of practical experience. If he'd give me half a chance I could be of some use to him right away and every day I'd grow more useful—but he won't give me that chance; every time he looks at me he gets into a temper."

"I hope you'll make allowances for that temper, Mr. Osborn," responded Mr. Cooper. "Commander Harker is naturally one of the kindest hearted men in the world, but he has taken his duty hard since his three assistants were detached; he has seen to every detail himself; he is an old man and has been working day and night in these hot engine rooms till he's about used up. You see there were orders to hurry the overhauling, so the chief engineer felt the responsibility was all his, he having had no commissioned assistants to bear part of the load. He's a cracking good engineer, but he's about all in. I expect to see him break down any day. You have only seen him at his worst, Mr. Osborn. I know he has been unkind to you, but you are young enough to make allowances for that."

"I wish he'd let me do something for him," exclaimed Ralph, "but he won't even give me the chance to prove I know something. I feel

quite familiar with everything down here, valves, cylinders, pistons, cross-heads, crank shafts, pump mechanisms, and so on. Now that I am with machinery again much comes back to me; I know I could design and make a working drawing of anything down here. I realize now what I've heard so often that engineering is a combination of mathematics, experience and common sense; but the chief engineer dismisses me with the idea that I'm ignorant and a nuisance. I'll make all reasonable allowance for his age and for his being nervous, but I'll not stand for any insults or imposition; I draw the line there."

During the following two days Ralph spent the mornings in the engine room, familiarizing himself with the details of the various mechanisms; in the afternoon he always took a brisk walk on the quarter-deck, later occupying himself with engineering text-books. He did not see much of his messmates—there were a dozen of them—except at meal time. They were all busily occupied during the day, standing watch, drilling their gun crews, and working navigation. At mess table the talk was devoted entirely to ship matters; for the time being these young gentlemen took no interest in general literature, world events, or social matters. They were all absorbed in the little world that immediately surrounded them.

"Say, Os," exclaimed Bollup, on entering the

mess room for lunch on the third day out from Manila, "I busted all over myself in my navigation work to-day; we are nearing Hongkong, but great Caesar's ghost! When I plotted my position on the chart I found the ship was square on top of the highest peak of the Himalaya Mountains. How is old Snarleyow this morning? I've been hoping you caught him wandering in the engine-room bilge and socked it to him good and plenty."

"What's the matter with your nav, Tom?" inquired Ralph.

"Oh, nothing special except it's all wrong. I'm tired of standing watch half the night, drilling all day long, and working navigation when I'm supposed to be resting."

"I've a regular snap," rejoined Ralph. "I loaf around the engine room for an hour or so in the morning, walk, read and have a good time in the afternoon, and at ten o'clock turn in for a whole night's rest. I'm having a jolly time."

"I should say you were," returned Bollup. "Say, fellows, wouldn't you think Osborn would be ashamed of himself? While we are working ourselves thin Os is working the government. Why, if even the chaplain or second lieutenant of marines did as little as he does they'd be ashamed to show their faces; but he's perfectly brazen about it. I wish I were on engine-room duty," added

Bollup, enviously. "I wish I could change with you."

"Hooray for you, Bollup; you're my true friend," shouted Ralph, laughing. "I'm going to Mr. Hale and tell him you want to shift duties with me," and Ralph started to run out of the mess room.

Bollup grabbed him. "Hold on, Os," he cried. "I've changed my mind. I'd resign sooner than serve under old Snarleyow."

Except to Himski Ralph had purposely avoided talking to his messmates of his treatment by the chief engineer, but the nature of it was well understood by all of them. Ralph had their warm sympathy with much impracticable advice, also loud, emphatic statements as to what they would do if they were in his place.

The next morning the *Illinois* anchored in the harbor of Hongkong and at noon everybody not on duty was planning to go ashore.

"Will you be able to come to-day, Os?" asked Himski.

"I shall ask the chief engineer after lunch if he's going; if he goes to-day I shall ask to go tomorrow. I intend to have my shore-going privileges definitely defined and settled."

At one o'clock Ralph went to the chief engineer's room. "Commander Harker," he began, "I request you to inform me when I may go ashore."

The "Illinois" Anchors at Hongkong 73

"I don't care when you go ashore. You are of no use in the engineer department and it doesn't make a particle of difference to me when you go,—and the matter doesn't interest me."

"I am forbidden to go except when you are to be aboard. I request you to inform me when you intend to remain on board."

"I refuse to discuss the matter with you, sir, except to say that I shall probably be ashore every afternoon and evening while we are in Hongkong."

Ralph left the chief engineer, going to his room where he wrote an official letter to the captain, as follows :

"SIR :-

"I have received orders from the executive officer that when in port I am not to ask for leave to go ashore except on days the chief engineer will be aboard ship. The latter has informed me that he expects to be ashore every afternoon and evening while the ship is at Hongkong. Under these circumstances I have to request you to regulate my shore-going privileges."

Ralph returned to Commander Harker's room and handed him the letter saying, "Here is an official letter to the captain, sir, which I request you to forward."

The chief engineer read the letter ; then with

an exclamation of impatience he tossed it into his waste-basket.

Hot anger shot through Ralph at this contemptuous treatment. "I shall report you to the captain, sir," he exclaimed, with difficulty restraining himself. He left the chief engineer and went directly to the captain's cabin.

"Orderly," he said to the marine at the captain's door, "ask Captain Pegfield if Mr. Osborn may see him."

"Sir, the captain says to come in," announced the orderly a moment later.

"Captain," said Ralph, "I have a complaint to make against the chief engineer."

"Very well; I will send for Commander Harker so that he'll hear your report."

Commander Harker soon entered carrying the letter Ralph had last seen in the waste-basket, which the chief engineer now handed to Captain Pegfield.

"What is your complaint, Mr. Osborn?" demanded the captain.

Ralph hesitated; the chief engineer looked haggard and worn; the words of Mr. Cooper came back to him. Ralph was determined to defend his rights and was filled with resentment at the treatment he had received; yet in spite of this a feeling of pity for the old chief engineer came over him.

"What is it, Mr. Osborn?" inquired the captain.

"I request to be relieved from engine-room duty, sir."

"On what ground?"

"The chief engineer has no work for me; he will be pleased to have me relieved from his authority."

"The chief engineer has orders concerning you which he will obey; your request is refused," returned the captain emphatically. "Have you anything further to request?"

"Yes, sir; that you will act immediately upon the letter you have which I gave to Commander Harker."

The captain read the letter carefully. "Have you any comments to make on this letter, sir?" he demanded of the chief engineer.

"I have none, except to say that I do not intend to lower my rank of commander by alternating with an ensign."

"Very well, sir," returned the captain in rasping accents. "The regulations require that the captain shall regulate the times when officers may go ashore. Commander Harker, hereafter, when in port, you may leave the ship on odd numbered days of the month; you will remain aboard even numbered days. Mr. Osborn, you may leave the ship on even numbered days and will remain aboard on odd numbered days."

“Have you any further orders, sir?” was all the chief said to this ultimatum.

“Not at present,” replied the captain. Commander Harker and Ralph left the cabin.

For many weeks that followed, with but one exception, the chief engineer never spoke to Ralph nor apparently saw him. He gave his first assistant no orders or instruction; as far as the chief engineer was concerned Ensign Osborn did not exist, so Ralph came to believe. “But I’ll force him to realize I’m of some account,” was the young man’s indignant determination.

CHAPTER VI

AN ATTACK AND A RESCUE

THE *Illinois* anchored in Hongkong harbor on the fourth day of the month, which by Captain Pegfield's order was one of Ralph's shore-going days. He left the ship in the three o'clock launch; those of his mess not on duty had left at one o'clock, and before two a large liberty party of the enlisted men had been sent ashore.

Ralph had never before been in Hongkong, so his going ashore had no particular purpose beyond meeting Himski and Bollup and seeing the town with them. It was all very interesting to him. The streets were filled with Chinese coolies, some dragging two-wheeled rickshaws, others shouldering sedan chairs, trotting along apparently unmindful of the heavy weights they were carrying.

"None of the people here seem to walk," thought Ralph, "and these coolies are just like horses; it's hard to realize they are really human beings."

The large liberty party from the *Illinois* caused brisk business for the rickshaw men that afternoon. Each bluejacket had promptly hired a rickshaw

and the men were having lots of fun over the novelty of riding in baby carriages drawn by Chinamen.

While Ralph was walking along the main business street of Hongkong, interested in the hilarity of the sailormen, a rickshaw came alongside and stopped just ahead of him. Chief Water Tender Dennis McCarthy hopped hurriedly out of it, ran up to Ralph and seized him by the arm; with much evident concern he cried, "Don't ye do it, George Dewey; don't ye niver do it. Ye'll regret it all the days av yer loife."

"Hello, McCarthy!" exclaimed Ralph. "What on earth's the matter with you?"

"George, me bye, I wouldn't hev thought it av ye. Here ye be, a good American lad, throwin' away yer birthright fer a mess av potash; I had hopes av ye, George; ye passed coal right well fer me t'other night. I hoped ye'd be sint down from deck permanintly; I'll make a good fireman av ye, George, in a few months; but ye've sold yer blue-jacket clothes an' hev dressed up in a white cottin suit and cork helmet an' yer goin' to desert. 'Tain't right, George. I thought ye had more stayin' power in ye. Suppose things be a bit oncomfortable aboard ship, I'm sure ye've got the nerve to stand it. George, don't ye know that if ye desert ye lose yer birthright as an American citizen? Ye can niver vote; ye'll put a blot on

yersilf that only an act av Congress can remove. George, if ye'll only come back with me I'll put ye on the fires immejitly; ye can get yer rate changed to coal passer an' in a few months I'll promise ye'll be as good a fireman as there is aboard ship. 'Tis a sad thing yer contemplatin' doin', George Dewey."

Ralph listened to the warm-hearted chief water tender partly with amusement but also with keen appreciation. He instantly realized that McCarthy imagined he was an enlisted man of the deck force intending to desert. He was about to speak to the chief water tender when Warrant Machinist Cooper approached. On seeing Ralph he saluted him and then in a friendly way said: "I'm glad you got ashore, Mr. Osborn. I knew there was a mix-up on that question and I'm pleased it has come out all right."

McCarthy looked at Mr. Cooper with bulging eyes; then he regarded Ralph with bewildered gaze. Finally he said, "Excuse me, Mr. Cooper, but would ye moind explainin' to me why ye touched yer cap to this ordinary sayman, an' why ye call him mister?"

"You are not masquerading, are you, Mr. Osborn?" inquired Mr. Cooper.

"Not intentionally, Cooper. The night I passed coal for McCarthy he took it for granted I was a rookie from deck, and I was too busy with my coal

buckets to undeceive him ; I hadn't thought about it until a minute ago when McCarthy came up to me."

"McCarthy," said Mr. Cooper, "this is Ensign Osborn, the first assistant engineer of our department."

The chief water tender was sadly embarrassed. "I beg yer pardon, sorr," he stammered. "I'm nothin' but a muddle-headed Irish mucker."

"You're a man I want for a friend, McCarthy," cried Ralph, happily. "You thought I was going wrong and your big heart was sorry and wanted to save me. Thank you, McCarthy, for your kind words and advice ; I'm going to accept your proposition and I'll hold you to your promise."

"Beggin' yer pardon, sorr, I don't know what ye mane."

"McCarthy, you promised that if I'd go back to the ship and not desert you would make a good fireman of me."

"Yer a gintleman, sorr ; 'tain't fit that ye should do a fireman's worruk or that a chafe water tinder should be tachin' an officer."

"I'll still remain the gentleman, McCarthy, and I'll be a better officer for knowing exactly what a fireman's work is."

"Sorr, if ye rally mane it, I'll tache ye tricks av handling a shovel, a slice-bar, a devil's claw, that not one officer in a thousand knows. I'll show ye

how to expand a boiler tube in its tubes and luxuri-
tand water, how to overhaul pumps; kshaw was
happiness fer me to tache ye iverything'ently the
sorr," cried McCarthy, enthusiastically, his
beaming with pleasure. "Me

"All right, McCarthy; you'll learn that I'll not
let you forget your promise; and I thank you from
my heart for your kind intentions toward that
rookie, George Dewey. Good-bye."

Ralph shook hands warmly with McCarthy who
flushed, then laughed at the reference to George
Dewey. Then he mounted his rickshaw and rode
away.

"You can count on McCarthy's devotion, Mr.
Osborn," observed Warrant Machinist Cooper;
"he is a big-hearted fellow and as clever a water
tender as I've ever known; if you will give him
half a chance he'll be better than his word. If
you should stick to a furnace as you did to your
coal buckets the other night you soon will be a
real fireman. There's a good deal of a trick in fir-
ing a boiler and some men can never learn it; it
isn't merely throwing coal on a fire; it's knowing
how, and when, and where to throw the coal.
And keeping a fire clean, free from clinkers and
dirt is an art in itself. McCarthy is just the man
to teach you."

"I'll be glad to do something in the engineer
department," rejoined Ralph. "I would leave it if

buckets to un-asked for it and now I can't get away it until a r- the chief engineer won't use me for any-me." d I've got to be employed some way.

"Mr. Looking on with a note-book in hand becomes O, some very soon. I'll learn more by doing the work the enlisted men do; I won't spend a great deal of time at any one thing, but I'll bet in a few months I'll be an all-round, useful man. Perhaps in time the chief engineer may come to believe I can be of some use to him. But where are you bound for, Mr. Cooper?"

"Oh, I'm going aboard ship. I've seen all of this town I care to."

"Well, I'm going to walk around a bit—so long."

After strolling about for a while Ralph went to the Hongkong Hotel and the English Club where he hoped he might find Himski or Bollup, but he was disappointed and could not trace them. Finally he hailed a rickshaw and got into it.

"Where you wanchee go?" inquired the rickshaw man.

"Oh, anywhere; go out into the country, and go fast."

"All lightee." The rickshaw man jumped between the shafts of his carriage and started to run. It did not take long to pass through the crowded Hongkong streets, and Ralph soon found himself in the country. To his right was a hill, to

his left a level plain, filled with trees and luxuriant tropical plants. Before long his rickshaw was running through a region that was evidently the Chinese quarter; here the rickshaw man suddenly stopped; he turned to Ralph saying, "Me thirsty, wanchee water." The rickshaw man darted away, returning several minutes later, and without comment picked up the rickshaw shafts and started to run. Ralph leaned back in supreme content, enjoying his ride, without a care on his mind. But he did not know that a hundred feet behind him were three villainous appearing Chinese coolies following his rickshaw on a run; when the speed of Ralph's rickshaw decreased, the three men behind slowed down; when it increased they hurried their pace. The road now led through a lonely country; no houses were about, and thick woods were on each side. As the rickshaw entered this woody section its speed noticeably decreased, then it stopped. The three men behind ran softly up to the rickshaw making no sound.

"What's the matter?" asked Ralph, unsuspectingly.

"Wanchee money, then go back hotel, wanchee money."

Without particular thought Ralph imagined this was probably the Hongkong custom, so he took out his purse to comply with the rickshaw

man's request ; he had hardly opened it when the Chinaman drew out a glistening knife and made a jump at Ralph, trying at the same time to snatch the pocketbook with his free hand. With instant quickness Ralph seized the wrist of the hand that held the knife, and with his left fist which tightly clenched his purse he struck the coolie a staggering blow in the face. The next second Ralph was conscious that four Chinamen, armed with knives, were rushing at him. At the same instant two shots rang out from close behind the rickshaw. The four Chinamen immediately vanished dragging the rickshaw with them. They were undoubtedly murderous thieves and on hearing the shots realized they were discovered and that their safety lay in instant flight.

Ralph looked around and saw a gentleman holding a smoking pistol jump out of a rickshaw.

"Well," he remarked, drawing a deep breath, "you came in the nick of time. I'm certainly obliged to you. I don't know what would have happened to me if you had not come up just when you did."

"Rather lucky, wasn't it?" remarked the other. "I didn't fire at them. I was afraid of hitting you and I was satisfied to see them run; but I'm glad I was on time; you are not hurt, are you?"

"Not a bit. But by George, an instant later

and I would have been knifed. Things looked pretty fierce for a second. I never saw such a villainous crew. Thank you very much. I wish I could do something for you."

"That's all right. I'm glad to have been of service."

"How did you happen to be here?"

"Oh, I've a good rickshaw man. I've been in Hongkong before and am careful who I engage. I took a boy who had been to the missionary school here. I was taking a ride, probably as you were, and was a little way behind you when you left the Chinese quarter; my rickshaw man told me that yours was a notorious thief, was even suspected of worse crimes. When those three men started to run behind your rickshaw my man suspected there would be an attempt to rob you; he told me the three were all criminals, so I just naturally came along."

"Me belly good boy, me missionally boy. Me speakee good English," said the Chinaman proudly.

"You're all right, John," agreed Ralph, opening his purse and giving the Chinaman four golden English sovereigns.

The Chinaman's breath came thick and fast as he gazed on the wealth in his hand. His wages for pulling the rickshaw were seven cents an hour, and this flood of gold let loose a torrent of Chinese

thanks that swallowed up his belly good pidgin English.

“You’ve ruined him for life,” laughed the young man at Ralph’s side; “he probably never made so much money in a year before. Suppose we introduce ourselves; my name is Adeen. I am on a steamer that anchored in the harbor this morning; we leave early to-morrow for the Mediterranean.”

“I imagine you’ll believe me when I say I’m glad to have met you, Mr. Adeen,” said Ralph smiling; “my name is Osborn. I’m from the American war-ship *Illinois*; we anchored this morning; we are going in dry dock over at Kowloon to-morrow, and after coaling are to leave for Boston by way of the Mediterranean.”

Ralph regarded this new friend with much interest. Mr. Adeen appeared to be about twenty-eight years of age. His face was swarthy in complexion, with a frank, open-hearted expression dominating the features; while in his black, penetrating eyes there seemed to be an expression of shrewdness and determination. A dark, silky mustache with waving ends adorned his upper lip. He was slim waisted but broad shouldered and stood erect with military carriage. His voice was low and musical, and though he spoke English without any foreign accent there was something about him that made Ralph feel he was neither an Englishman nor an American. If Ralph had met

Adeen anywhere he would have been attracted and interested by him, and the great obligation he was under intensified this.

"Say, John," inquired Adeen, "can't both this gentleman and myself get into your rickshaw?"

"Me sabby, me show you," replied the Chinaman, and it was quite remarkable how neatly he packed both Adeen and Ralph in the rickshaw that was built for but one passenger.

The rickshaw man trotted back, and in the space of half an hour the outskirts of Hongkong were reached.

"Now, Mr. Osborn, suppose we take the inclined railway up to the Peak; there's a good hotel up there and I want you to take dinner with me."

"That will be fine, Mr. Adeen, but I shall insist upon you being my guest."

"You are too late," smiled Adeen; "this will be my treat to-night."

"Not a bit of it," expostulated Ralph; "after what you did for me to-day you must let me act as host."

But Adeen was obdurate; he insisted that as long as he had proposed the dinner he had the right to pay for it, and finally Ralph gave in.

They took a train on the inclined railway and were whisked up to the Peak, as it is called, which is in reality the top of a mountain nearly two thousand feet above sea level.

At the hotel Adeen ordered dinner and he and Ralph conversed like old friends. After discussing the assault upon Ralph from every point of view Adeen said, "Osborn, you and I have been thrown together in a startling way; we are bound to have kindly feelings for one another. It is a peculiar fact that when one person performs a service for another he takes a great interest in him."

"Yes," returned Ralph. "I guess that's so all right, but suppose a fellow was attacked by thieves and about to be carved up, then is suddenly rescued—how do you think that chap feels toward the man that saved him? He ought at least be allowed the privilege of paying for his dinner."

"I'll give you the chance the next time we meet, Osborn; but now tell me something about yourself; anything will interest me."

"Oh, there isn't much to tell. I was sent to our Naval Academy from the state of Ohio. I spent four years there and had the usual ups and downs the ordinary midshipman has. I imagined for a time that I had more than my share of troubles but these led into warm friendships, so I have no regrets over them now. I was graduated two years ago and until recently was attached to the gunboat *Northfield*. About a year and a half ago while I was ashore in the island of Luzon, one of the Philippine Islands, I was captured by

Filipinos and was a prisoner for several months ; finally I escaped and got back to the *Northfield*, and ten days ago was sent aboard the *Illinois*. That is the history of my life ; not very exciting, is it, Adeen ? ”

“ Boy troubles are always exciting to the boy concerned ; youth is the time of keen sensitiveness, of hope, of wild effort and earnest ambition ; all boys have these feelings. Some continue them through life and when they are men govern the world ; others drop them and trudge away in the treadmill of drudgery, contented with a simple life or else forced to accept overpowering environment. But you certainly must have had some remarkable times when a prisoner, didn't you ? Did you suffer much ? ”

“ Not as much as most prisoners did. I had the good fortune, accidentally and unintentionally, of doing something for the insurgent leader, Aguinaldo, and most of the time I was under his protection. But tell me who you are, Adeen ; you speak English without an accent, yet I imagine you are neither an Englishman nor an American. I want to know something personal of my preserver.”

“ I was educated in England at the University of Cambridge, but if I should tell you my nationality you would probably say you never heard of my country. Suppose we have our coffee out on the veranda and I will tell you something of my-

self. Waiter," directed Adeen, "fix up a table on the veranda for us; have a pot of coffee on it, and bring me the bill."

When the bill was brought Adeen examined it and started to take his purse out of his pocket. He went through one pocket after another; then a blank expression came over his face. "I'll have to let you pay for the dinner after all, Osborn," he finally said; "my pocket must have been picked. I haven't a penny with me."

Ralph was full of concern; he paid the bill, then the two went to their table on the veranda for their coffee.

"Adeen," said Ralph, "excuse me for being personal, but tell me frankly have you other funds aboard ship?"

"No. I had a hundred pounds in notes in my pocket besides a few sovereigns. I'll have to get the captain of my ship to advance me something. I'll probably have some small personal expenses between here and Beirut, where I'm going."

"I'm dreadfully sorry for your sake, Adeen," exclaimed Ralph, "but for my own sake I'm delighted to do something for you. Here are ten sovereigns. I can spare them easily; now please do not tell me that you won't take them."

"Osborn, I'm a Druze."

"Well, what on earth is a Druze!" exclaimed

Ralph, blankly, "and what has that to do with these ten pounds?"

"I thought you had never heard of my country. Frankly, being a Druze prevents me from accepting a favor from a stranger unless in my heart I am sure of the stranger's character. Pardon me, Osborn. I don't doubt you, but I can receive no money, either in friendship or business, unless I believe the source of this money is clean and honest."

"This seems a lot of foolishness to me," replied Ralph. "I'm an ensign in the American Navy and receive a salary of one hundred and twenty-five dollars a month; this money came from my paymaster; surely its source is clean and honest. Come, Adeen, take the money. I'll feel terribly if you don't; and now tell me what a Druze is."

Adeen put the money in his pocket, looking thoughtfully at Ralph. "I thank you," he said. "I will return this to you when I arrive in Beirut. And now I'll tell you about my people, the Druzes."

CHAPTER VII

THE DRUZES OF LEBANON

“WE live in Syria,” Adeen began, “among the Lebanon Mountains, under Turkish government. We are about one hundred thousand strong. Our religion is a sacred inheritance; it has been a secret religion for over a thousand years; we make no converts; no person may be a Druze except his father and mother were Druzes. No Druze is ever converted to any other religion; he may appear or pretend to be a Mohammedan or a Christian, but he remains a Druze, nevertheless. The Turkish crescent waves over us, but the Druzes are actually governed by their own laws which are part of their religion, and these laws are secret.”

“But how are these laws enforced, can you tell me that?” asked Ralph. “Of course I wouldn’t ask you to disclose any secret, but what you tell me is quite interesting.”

“I can tell some things about the Druzes, just like a mason can talk of certain parts of masonry. We are in two classes, the initiated or Ukhâl and

the uninitiated, or Juhâl. Only the Ukhâl possess the secrets of our religion. From the Ukhâl are selected a few for the highest honors in whom reside our inmost secrets and who exercise the real jurisdiction over every Druze family. You might liken these to the high priests of Israel or the Cardinals of the Roman Church. The uninitiated do not know who these high priests are; the high priests select one of their number to be Hakem, the real invisible ruler of the Druzes, whose identity is known only by the high priests."

"Well," exclaimed Ralph, "you have a ruler you call Hakem whose authority you implicitly obey and yet none but a special few know who Hakem is. I don't see how you could go far on such lines. What do the ordinary Druzes think of Hakem?"

"We believe the spirit of God dwelt with the first Hakem and has descended to his successors. We think of him as governing us for our own good, in accordance with God's wishes. Hakem's orders are passed by the high priests to the Ukhâl and by them to the uninitiated; our life in the Lebanon Mountains is a simple one, and our religion is so precious that, strange as it may seem to you, in a thousand years there has never been a real Druze traitor. But that's enough of my religion and people, Osborn; if you are interested look us up in an encyclopedia; you'll find us

described as a queer sect, but I'm sure you'll have a kindly feeling for us."

"I wish you'd tell me more ; to me it is incomprehensible that your ruler should be unknown and invisible. How much power does he really have ?"

"Complete power, but he would be deposed should he misuse it ; our government is a religious government, such as was the ancient government of the Jews. Hakem seldom gives personal orders, yet he might on an occasion of life or death."

"But if none but the high priests know who Hakem really is how would a Druze recognize him ?"

"None but Hakem or one authorized by him may display the Sacred Emblem ; every Druze knows what this is ; in our churches all orders are promulgated under this emblem. The display of our Sacred Emblem calls for the help, cunning, and means of every Druze ; and the person who bears it is, for the time, sacred in our eyes."

"But suppose an impostor should use it, what then ?"

"That is a capital crime," replied Adeen, quietly ; "it merits and receives capital punishment. But it has not happened within the lifetime of the oldest Druze. We live in an unsettled part of the world ; in Syria and Asia Minor are

Mohammedans of various nationalities ; there are also different Christian sects, such as Armenians, Greeks, Syrian and Arabian Christians. There is always an armed neutrality between the Christians and the Mohammedans, but some dreadful religious massacres happen at times and in some of these the Druze Sacred Emblem, used by Hakem's authority, has saved many lives. Our people are to be found everywhere in Syria, and in the coast cities of Asia Minor ; some are in the Turkish army ; there isn't one of us but who would lay down his life in defense of anybody or anything under our Sacred Emblem."

"It sounds strange and unnatural to me," remarked Ralph. "An American is proud to fight for the stars and stripes ; our flag appeals to our patriotism but does not signify any one religion ; a Catholic, Protestant or Hebrew all have the same feeling for it, but it is a national rather than a religious sentiment that animates us."

"None but a Druze knows what our Sacred Emblem means to us," rejoined Adeen. "Should I try to explain this feeling you would understand my words but could not appreciate them. A thousand years of devotion to it, from father to son, has been our history ; with us it is a national as well as religious sentiment ; our religion is our nationality and our nationality is our religion. The two are inseparable in the case of a Druze.

But enough of this ; you will probably never meet another Druze. Now tell me about your imprisonment among the Filipinos."

Adeen was much interested in Ralph's story of his Filipino captivity. Then Adeen told of his life at Cambridge ; it was difficult for Ralph to realize that the intelligent gentleman he was talking with was of a different race, of a peculiar yet civilized tribe of men, little known to the outside world.

"From what you have told me of your people I should imagine you would seem different from the men I ordinarily meet," Ralph remarked, "but yet you don't seem at all strange ; you talk, dress and act as we all do."

"You would think differently if you saw me in my native dress in the Lebanon Mountains," said Adeen, smiling ; "but, Osborn, it's my experience that educated gentlemen are superficially much the same wherever you meet them. But it's getting late ; we must be going ; a train leaves in a few minutes for down town."

At a wharf in the city they engaged sampans, and after a cordial parting, separated, each young man going to his own ship.

The next day Ralph related to Bollup and Himski of how narrowly he had escaped being robbed and of the strange character of his rescuer.

When he told of Adeen's losing his purse, and of lending him ten sovereigns, Bollup broke into a peal of laughter. "What an easy mark you are, Os," he cried; "that's the time you had your leg pulled. That chap was probably Hungry Joe, the bunco man; my surprise is that he worked you for only fifty dollars; who ever heard of such a thing as a Druze? Ha! ha! ha! Hungry Joe just invented that name on the spot; I guess Hungry was the first and last Druze that ever lived; and that Sacred Emblem! Oh, my! Oh, my! Say, Os, I can just see you sitting before Hungry Joe and swallowing everything he passed you. He wouldn't let you pay for your dinner, not he!" Bollup was thoroughly amused and Ralph became indignant.

"Adeen certainly saved me from being robbed and perhaps murdered," he exclaimed; "if the worst man living should do that for me he is entitled to my gratitude; but Adeen is a true-hearted gentleman. Let's get the encyclopedia and look up Druze."

They did so and found a number of pages on the subject, all of which proved of consuming interest to Ralph.

The *Illinois* was taken into the great Kowloon dry dock on the Chinese shore, the next morning. The battle-ship was floated in; the huge gate or caisson was hauled to its position, thus locking

the *Illinois* in the dock. Then the dry dock pumps were started and one could see the water in the dock commence to grow appreciably less.

The enlisted men were immediately sent into the dry dock and standing on floats used long handled iron brushes to scrape the ship's side of barnacles and sea growth. In two hours the dock was pumped dry and all but the under side of the ship had been scraped clean ; the cleaning of this under side then proceeded.

Ralph Osborn donned rubber boots and walked about underneath the ship, the keel and bilge of which were resting upon heavy wooden blocks.

"Gee whiz!" exclaimed Ralph to Himski ; "this is a wonderful piece of engineering work, isn't it? This dry dock is nothing but a big hole cut into solid rock ; and think how quickly and easily our big ship, weighing thirteen thousand tons, has been put where we can actually walk underneath her. What are your duties here, Himski?"

"Oh, I have to superintend the work of about sixty men. As soon as we finish scraping we are to commence painting the ship's side and bottom with anti-fouling paint ; this keeps off the grass and barnacles for a while ; but great Scott ! could you have imagined the old ship would be so dirty ? She hasn't been in dock for a year ; being in tropical waters accounts for it, I suppose. Say, Os,

that was a strange day you had yesterday ; by Jingo, if that chap Adeen hadn't have come up those Chinamen might have killed you ! What a remarkable story he told of his people ; it was all straight goods, too ; the encyclopedia bears him out. It's strange that in these modern days such an ancient form of government exists. Did Adeen say whether or not he was of the Juhâl, that is, of the initiated class ? ”

“ No, ” replied Ralph, “ I never thought to ask him. Perhaps he wouldn't have told me if I had ; there seems to be so much that is secret in the Druze religion. ”

“ Why, Os, perhaps he may actually himself be a high priest ! ”

“ Oh, I guess not ; there was nothing priestlike about Adeen. He seemed to be just a polite cultivated gentleman, such as you would meet anywhere. Well, I'm going on board to see what the engineer people are doing. I imagine they're all busy grinding in valves. ”

Ralph slowly walked up the steps leading out of the dry dock, interested in the scene. Men were underneath the ship continuing the scraping ; others were rigging stages on the ship's side preparatory to painting. The big ship on its keel and bilge blocks, with the great bronze screw propellers, all of course out of water, presented a wonderful sight. Ralph walked about the stern,

stopping on the caisson which closed the dry dock. On the seaward side of the caisson was water within two feet of its top. On the dry dock side was a great hole, thirty feet deep, in which the *Illinois* lay. That this huge mass of a battle-ship could in a couple of hours be taken right out of the sea where it floated and put on dry land where hundreds of men could work under it in perfect safety caused Ralph much reflection.

"The most wonderful thing on earth," he thought, "is the way man's intelligence has chained the great natural forces and made them do its will. The dry docking of this ship is only one of a thousand remarkable evidences of that intelligence; great engineering feats are so common nowadays that they pass almost unnoticed and cause but little comment. Hello, Mr. Cooper, have you been down in the dry dock?"

"Yes, I'm looking out for all fire-room sea valves; when the ship is in dry dock the valves are taken out and cleaned; then they are ground into their valve seats until there is a good bearing everywhere. This means they will be tight. We have been so long out of dock that the sea valves are all leaky; come below and I'll show you just what we do."

"All right, I'll shift into dungarees and be in the after fire-room in a minute."

In the fire-room Ralph found Mr. Cooper and

Chief Water Tender McCarthy. The latter greeted the ensign with a friendly glance.

"Me young frind George Dewey has mysteriously disappeared," said McCarthy in regretful tones. "I'm afeared I worruked him so harrud t'other night he'll niver come back. But plazed and honored I be that the first assistant engineer should come into me biler room."

"I can work just as well as George Dewey did, McCarthy, and if you'll give me a valve to work on—to take apart, overhaul, grind in and so on—I'll prove it to you."

"Will ye, Mистер Osborn? I be shy one man. I haven't begun on this valve yit; it be the sea suction for the fire an' bilge pump; here be a monkey-wrinch; come up thim bolts an' thin lift the valve out; after ye've done that I'll tell ye what nixt to do."

Ralph unscrewed several bolts and lifted the valve from its seat; where the valve had been was now a clear hole leading through the bottom of the ship. He then took the valve apart and cleaned it; McCarthy supplied him with some finely ground glass, and under the water tender's instruction Ralph mixed it with a little oil; then smearing the valve seat with this mixture he returned the valve to its place, twisting it around many times, bearing down heavily on it. At first there were spots where the valve and its seat did

not touch, but continual twisting ground the valve to a perfect contact with its seat. After an hour of this Warrant Machinist Cooper pronounced the valve ready to be connected up. Under that officer's eye Ralph reassembled the parts of the valve and connected it by its bolts to its place in the ship's bottom.

Ralph drew a deep breath of satisfaction. "I'm glad to have done that, Cooper. I will never forget how to grind in a valve. Now I must learn how many sea valves there are in each fire-room and where each valve is."

"That be aisy, Misther Osborn," volunteered McCarthy; "in each fire-room there be a sea suction, where the wather comes into the pump, an' a sea discharge where it goes out if ye be pumpin' overboard. Here be yer discharge valve, Misther Osborn."

"Thank you, McCarthy; now I'd like to walk through all the fire-rooms and see where each valve of each fire-room is; I'm beginning to feel I'm learning something of this ship."

Ralph, accompanied by McCarthy, went into the different fire-rooms, making notes of the position of each valve. "Now I know where all of the sea valves are," he finally remarked to the chief water tender, "and I could fix up and grind in any one of them."

"Sure an' ye could, Misther Osborn; yer not a

greenhorn in a fire-room by anny manes, an' 'tis achin' that I be to put ye on a fire ; but there goes mess call. Come down after dinner an' I'll show ye a lot more."

At lunch time there was an animated talk of dry dock and ship matters. In a navy mess talk never drifts far from the subject of the work at hand. Ensign Winthrop, in virtue of being the senior of the junior officers, sat at the head of the table ; he was full of the way his division of men had scraped and painted ; when this subject was thoroughly exhausted, he suddenly exclaimed, " Say, fellows, have you heard the latest news from home ? "

" No, what is it ? " cried several.

" Why, Congress has appropriated money for several more submarine boats ; old Harker is quite an inventor ; probably you all know that he's been much interested in submarines and several of his inventions have been used."

" Indeed ! " exclaimed Bollup. " The only thing I could imagine that old man would invent would be a new fit of temper. Who'd ever believe Snarleyow could get up something worth while ? "

" You don't know the old man," protested Winthrop ; " there's lots worse than he in the U. S. N. But the interesting news is that the Navy Department has asked our chief engineer to pick out and nominate some young officers for submarine duty. But none of that for mine ; you'll

never catch me at the bottom of the sea ; now's the chance for some of you ambitious naval heroes to volunteer."

"Say, Os," announced Bollup, "I'm going to have some fun with old Snarleyow. He's always walking up and down the quarter-deck by one o'clock ; come up and watch me."

After lunch Ralph and Bollup went to the quarter-deck where Commander Harker was enjoying his customary walk. Ralph edged off to one side of the turret while Bollup hastened to the chief engineer.

"Commander Harker," he began, "I'm Ensign Bollup. I don't suppose you know me. I haven't been here long——"

"You haven't been in the navy long, have you, Mr. Bollup?" inquired the chief engineer, coldly.

"Indeed you're right, sir, and I don't know much about battle-ships, particularly about battle-ship engines. I've been thinking of asking for engine-room duty—I don't think you have a proper number of assistants and I'm much in need of engineering experience."

"I have more assistants now than I know what to do with, Mr. Bollup, but if you want engineering duty you had better see the captain or the executive officer ; that's a matter I've nothing to do with."

“ Thank you ever so much, Commander Harker ; perhaps I’ll see them ; I’ve heard you were interested in submarine boats. I’d like to look forward to that duty and I have been thinking that engine-room duty here would prepare me for submarine work.”

“ Huh ! How long have you been thinking that ? ” asked the chief engineer, giving him a sharp glance.

“ Why, ever since lunch, sir ; if you will take me below you’ll have a chance to teach me a lot of engineering.”

“ More of a chance than I’m looking for,” replied the chief engineer, turning away and resuming his walk.

“ Is that what you call having fun ? ” inquired Ralph of Bollup a moment later. “ I heard what you said and I saw nothing wildly humorous. I couldn’t have cracked a smile to save my life.”

“ I suddenly felt serious, Os ; but really, old chap, I’m in earnest. Wouldn’t it be fine to be captain of a submarine boat ? Just think how interesting it would be to travel along under water. Why, Os, if you and I should go to submarine boats we would be captains ! I’m bossed so much on this big ship by the many superior officers over me that I actually feel as a plebe does at Annapolis. I’d be glad to have engineering duty, much as I dislike the idea, if it would lead to a submarine

boat. Suppose you say a good word for me to old Snarleyow."

Ralph exploded with laughter. The idea of his recommending anything to Commander Harker was inexpressibly funny. "Say, Tom," he demanded, "are you really in earnest? Do you actually want engineering duty?"

"I'll have to have it some time," replied Bollup. "I suppose I might as well get it now as later. But what I really am after is a submarine; just think, Os, how strange it will be to travel at the bottom of the sea! The idea fills me with enthusiasm."

Bollup's looks evidenced his words. In the space of a few minutes he had come to a determination that thrilled his soul.

"I'm going to see the captain right away," he said, "and ask him for engine-room duty. And down below I'll be so smart with an oil can and a bunch of waste that I'll soon be the white-haired boy with old Snarleyow, and by the time we get home he'll pick me out for a submarine."

The afternoon was spent by Ralph in the engine room watching machinists work on the big sea injection and discharge valves of the circulating pump. "These are for the water that cools the condenser," he remarked to Warrant Machinist Cooper. "I believe I now know where every sea valve in this department is; I'm getting on, Mr.

Cooper. I am putting down every point I learn in a note-book. I'll bet I'll know this engineer department pretty well in a couple of months; when a fellow takes just a single glance down here there is so much of it that he feels overwhelmed; but when I study each thing separately no particular difficulty seems to come up. I have all the theoretical knowledge I need for the time so I shall look into every different mechanism we have. In this way I'll get the practical part and in time I hope to become ——"

But Ralph did not finish his sentence. He saw Commander Harker approaching with Mr. Hopkins, and as Ralph had determined to keep out of the chief engineer's way he abruptly left.

CHAPTER VIII

AN INSPECTION OF COAL BUNKERS

IN the afternoon the work on the valves was completed and before dark the ship's sides and bottom had been painted with anti-fouling composition. It had been a busy day for everybody.

The next morning at ten o'clock the sluice valves of the caisson were opened and great streams of water poured into the dry dock; the ship was afloat before many minutes had passed; the caisson also floated and then was towed out of the way. The *Illinois* was hauled out of the dock by tugs and proceeded to her anchorage under her own steam.

"We're going to coal ship to-morrow, Mr. Osborn," observed Warrant Machinist Cooper. "Our bunkers are almost empty; we will take in fourteen hundred tons of coal. I'll be glad when it's all aboard; coaling ship is the nastiest job we ever have to do; the coal dust gets everywhere in the ship, it soils every room, gets into every crevice, lies in layers on every deck and every bulkhead, fills up one's eyes, nose and ears. Ugh, I hate to think of it. We'll be extremely uncomfortable. Not an officer nor an enlisted man in the ship is

excused from the work ; even the officer's servants have their stations."

" Well, what is my station ? " asked Ralph.

" The first assistant has general charge of the engineer department for the time ; he is responsible that all bunkers are properly trimmed and filled ; he is supposed to keep track of the firemen and coal passers and to be sure that each bunker is actually full of coal before it is finally closed. Mr. Hopkins' station is the coal bunkers ; he is required to keep going from bunker to bunker. It is always his report that finally settles when a bunker is to be closed. I have charge of the engine and fire-rooms and look out for things below ; our other warrant machinist, Mr. Raymond, is on deck in charge of the hoisting winches, the weighing of occasional bags of coal, and of any special jobs he may be called upon to do."

At five o'clock the next morning, all officers as well as the ship's crew were turned out and hot coffee was served. The officers dressed in dungaree working clothes, the sailormen in " coaling clothes " which were generally worn-out uniforms. At half-past five the ship resounded with hoarse shouts of " all hands coal ship," to which officers and men responded by running to their stations. On the forward bridge the band was stationed and immediately commenced to play " Dixie " ; all day long while the coal was being dumped on board

the men were cheered with inspiring airs by the band.

Ralph Osborn first went to the engineer log-room where he took a hurried look at the bunker plan and received a list of the bunkers with the amount of coal in each. The bunkers were in two tiers, upper and lower, the bottom of the lower bunkers being on a level with the fire-room floor. In coaling ship coal was dumped into the upper bunkers from the deck and shoveled from the upper into the lower bunkers through round holes called scuttles. After the lower bunkers were filled and the coal trimmed level, the scuttle to the lower bunker would be closed and the filling of the upper bunkers would proceed. Ralph learned these facts from Mr. Cooper. He found, according to his bunker list, that there were but two hundred tons on board, most of this being in the reserve bunkers. Ralph started to walk through the bunkers; he intended to know how each bunker looked, where it was, the position of its doors and scuttles; but he didn't see much. Great quantities of coal were being thrown down, raising clouds of coal dust that could not be seen through. The dust blinded and choked him. "I'm sorry for the poor beggars that have to stay in this awful place for two days," he thought. "I just couldn't stand it." However he managed to walk through the lower bunkers and then

climbed up a ladder to an empty bunker into which no coal had yet been thrown. Ralph's face was as black as coal dust could make it; his eyes smarted and he was coughing violently. A moment after he entered this bunker Commander Harker accompanied by Warrant Machinist Hopkins came in.

"We'll trim the coal all right, chief, faster than those lazy deck hands can give it to us," said Mr. Hopkins, boastfully; "there isn't any one living that can stow coal better than I can. I work hard myself and everybody under me works hard; there's no shirking when I'm about." Then spying Ralph and thinking him a coal passer he shouted: "What are you doing here, you miserable shirk? Get to your bunker in a hurry; you'll do no soldiering here."

"Be easy on him, Mr. Hopkins," interposed the chief engineer; then addressing Ralph in kindly tones he continued: "Go up on deck for a breath of air, my boy; you are probably new to this; it won't be so bad after an hour or so."

Ralph followed this advice, thinking bitterly that while Commander Harker treated him scornfully he yet had plenty of kindly feeling for a coal passer.

On deck Ralph saw great bags of coal, each weighing hundreds of pounds, swing on board from the coal barges alongside. There were four

derricks on each side of the deck. A tackle that led through a pulley block at the top of the derrick had a hook at one end which would be fastened to a coal bag; the other end of the tackle led to a drum of the winch. As a heavy bag was hoisted it would sweep over the deck with a rush; it seemed to Ralph that there was constant imminent danger of the men on deck being hit by the bags in their mad sweep over the deck before coming to their dumping place. But each man was on the alert for his own safety and no accident happened.

Down on the coal lighters were crowds of men busily filling the empty bags. There were four coal lighters in all, two on a side, and there was great rivalry as to which lighter would be emptied first. It seemed like a wild picnic. The men on the lighters shouted and sang, the men on deck called and yelled, while the band was playing with might and main its most stirring music; in this apparent confusion the ship's company was hoisting and stowing away a hundred tons of coal an hour.

Ralph now went through the upper bunkers; the dust was blinding and choking but he seemed to have less difficulty than at first. He marveled that men could be found willing to do such intensely uncomfortable work. From here he went into a fire-room where he commenced to talk to

McCarthy who was in charge of the steaming boilers.

"It's fierce work, McCarthy," said Ralph. "I hope we won't have to do this very often."

"Be me sowl but 'tis the first assistant. Mr. Osborn, ye look much, only worser, as did me young frind, George Dewey; at first I thought 'twas him."

"Your friend George Dewey had a snap compared to what those fellows are now having in the bunkers, McCarthy; but I don't see that I am of any use in coaling ship, neither is there much I can learn. The men on deck are hustling coal out of the lighters and our firemen and coal passers are stowing it in the bunkers—so there isn't much for the first assistant to do."

"Our old first assistant used to hev lots to do," said McCarthy; "he used to ixamine ivery coal bunker hissself afore he let that dressed up coal passer, Mr. Hopkins, beggin' yer pardon, sorr, shut it up. But Mr. Crane was detached an' since thin these bunkers hev niver been properly filled. An' now that dressed-up coal passer—beggin' yer pardon agin, sorr—is supposed to inspicit the bunkers, somethin' he niver does do. I kin tell ye how ye can be useful, sorr."

"Go ahead; tell me, McCarthy."

"Why, just inspicit the bunkers afore they be closed up."

“But the chief engineer doesn’t wish me to exercise authority until I have more practical experience. I don’t think he would want me to do that.”

“Well, thin, I’ll tell ye a sacrate. The chafe engineer, bless his heart for the foine old gintleman he be, has an intoirely wrong concieption av the character av that dressed-up coal passer, beggin’ yer pardon, sorr. The chafe has worrucked harrud an’ be half sick. He ginerally disappears afore coalin’ be half over; he takes Mистер Hopkins’ worrud for the bunkers being filled. Now ye’ve noticed perhaps that the only way a man can git out av the four forward lower bunkers is through the hole in the top. Two coalin’s ago whin one av the lower bunkers was closed up there was a fireman left in it. He was missed six hours later an’ ’twas remimbered that he was last seen in that lower bunker. So the scuttle av the lower bunker, which be at the bottom av the trunk that leads through the upper bunker, was opened, an’ the poor fireman, nearly dead an’ more than half crazy, was hauled out. Since thin, Mистер Osborn, our min be afraid av the lower bunkers; they hate them.”

“That certainly is interesting, McCarthy. I’ll remember what you’ve told me; but I don’t imagine a thing like that would happen very often, so that knowledge will not be of much use to me now.”

‘ Won’t it, sorr? Ye just wait. On our last coalin’ our good chafe engineer worruked harrud for a while but coalin’ ship don’t agree with him none, so he had to take it aisy. Thin the dressed-up coal passer, beggin’ yer pardon, sorr, who was in dirict charge av the bunkers, seein’ the chafe was stowed away, wint to his room an’ niglicted his job intoirely. He left worrud with the firemen in each bunker to close it up whin it was full. So the min in the lower bunker just heaved coal for-ninst the bunker doors leadin’ into the fire-rooms, thin climbed up the ladder an’ closed the scuttles from above. We wint to sea with thim four lower bunkers, each of which should hev held a hundred tons, empty. The byes be a-goin’ to do the same trick to-day if the chafe turns in, for that will mane that the dressed-up coal passer, pardon, sorr, will disappear into his room soon after. Now ye’ll hev a chanct to be useful, Mither Osborn. I nade not tell ye how.”

Ralph was much impressed and was wondering how best he should use this information. He decided to make a point of inspecting each bunker himself before it was closed.

“ Mr. Osborn, the executive officer desires to see you, sir,” announced a messenger coming into the fire-room.

“ You look as if you’ve been working, Osborn,” began Mr. Hale, shortly afterward on the quarter-

deck. "I must send an officer on shore on different errands and thought you would be most available. We have received cable orders to hurry home and will leave day after to-morrow—you will have to go to the consul's, to the health officer of the port, and I would like you to tell the provision merchants that all supplies must be alongside by nine in the morning of the day we leave. Go below and wash up; I'll give you directions later."

Ralph was ready in half an hour though his eyelids were still black with coal dust he could not remove. He received final instructions and left for the shore in the steam launch.

"Take your time about coming back; there is no hurry," were Mr. Hale's parting words.

It was a delicious relief to Ralph to be free from the discomforts of coaling ship. He performed his errands leisurely, as is necessary in the Orient, lunched at the hotel, was delayed and detained in many ways, so that seven hours had passed before he was again aboard ship. He made his report to Mr. Hale and then shifted into dungarees.

McCarthy's words concerning the lower bunkers were uppermost in his mind and his first move was to inquire about the four lower bunkers; according to the bunker list which was kept corrected, these four had all been filled and permanently closed while he had been away.

"Where is the chief engineer?" asked Ralph of Mr. Cooper.

"He's not feeling well and has turned in," was the reply.

"Where is Mr. Hopkins?"

"In the bunkers, somewhere—at least that's where he ought to be."

Ralph went into several bunkers and to other places trying to find Mr. Hopkins but without success. He then went to the warrant officers' quarters and knocked on the door of Mr. Hopkins' room.

"Come in," said a voice.

Ralph threw open the door and saw Mr. Hopkins stretched out on his bunk.

"What do you mean by shirking your duty, sir? Get up this instant," shouted Ralph savagely to the recumbent warrant machinist.

"You'll give no orders to me," cried Mr. Hopkins; "you have no authority in the engineer department."

"Get up out of your bed and go to work," said Ralph scornfully. "I shall report you for neglecting your duty and if you are not up instantly I shall further report you for disobedience of orders."

Ralph turned to go. "Hold on, I'm up," called out Mr. Hopkins. "I just lay down for a minute."

The ensign immediately went to Mr. Hale to whom he reported Hopkins. The latter was

called and made a sorry excuse of having suffered from a sudden faintness. The executive officer dismissed him with a few words, his actions and expression showing plainly the contempt he felt.

“Mr. Hale,” said Ralph, “I’m not satisfied with these four lower bunkers that are reported closed—I think they were filled too quickly.”

“They are all right, Osborn; the chief engineer himself reported them a half hour ago as being full—that was just before you came aboard and before he turned in—he’s not feeling well, but suppose you go to his room and talk with him about it,” and Mr. Hale walked away.

Ralph was in a quandary. He knew Commander Harker would neither listen to nor speak with him; besides he did not like to question the correctness of any report his chief had made; in spite of the uncomfortable relations between himself and Commander Harker he knew that he was in duty bound to render personal loyalty to the chief engineer; so for the time Ralph dismissed the matter from his mind. He busied himself for the rest of the day in going into different bunkers and was useful in keeping the deck officers informed where to dump the coal, switching off from bunkers as they choked up to give the men opportunity to level the coal in them. By night the bunkers were all more or less choked and the speed of coaling decreased. The work stopped at

seven and commenced again at half-past five the next morning.

At ten o'clock Commander Harker, who was on his feet again, reported to Captain Pegfield that every bunker was full and that no more coal could be taken on board.

"That's not possible, Commander Harker," exclaimed the captain; "look over the side; there are four lighters each with a big pile of coal. We asked for fourteen hundred tons and that amount was loaded into the lighters; the coal on board was carefully measured before we ordered any, so there was certainly room for all we asked for."

"Every bunker is full, sir. I'd put more coal in them if there was room. That's all I can say."

The chief engineer was half sick and evidently much worried.

"Hale," called out Captain Pegfield, "let me know immediately how much coal we have received by tally and how much by draft."

"Eleven hundred and nine by tally, captain, ten hundred and eighty by draft. If we get the men now on the lighters aboard ship we'd go down twenty tons more; it's safe to say we have received close to eleven hundred tons."

"How correct is your count?"

"Every bag that has come on board has been tallied and every twentieth bag has been weighed. Our tally is absolutely correct; the bags do not

vary much in weight. The tally by measuring the amount the ship has increased her draft should be exactly right in this smooth water; the count of bags and the measurement by increased draft closely agree, which makes me confident that we have taken eleven hundred tons on board."

"There was room for fourteen hundred before we commenced, wasn't there?"

"There certainly was."

"Well, the chief engineer reports that all bunkers are full, and just look at those four lighters—there's about three hundred tons remaining on them, isn't there?"

"Whew!" ejaculated Mr. Hale. "I knew we were badly choked, we always are toward the last of the coaling, but I hadn't imagined the bunkers were all full. Are you sure all bunkers are full, chief?"

"Mr. Hopkins has charge of the bunkers. I have examined some but I was not well yesterday and accepted Mr. Hopkins' report. He is required personally to inspect every bunker before it is closed. He has just reported to me that every bunker is full and most all are closed."

"Messenger," called out Mr. Hale, "direct Mr. Osborn and Mr. Hopkins to come here immediately."

"Mr. Osborn," said the executive officer, as soon as he appeared, "before we commenced coaling

there was room for fourteen hundred tons in our bunkers. We have taken eleven hundred on board; and now the chief engineer reports every bunker is full. Take a look at those barges on each side. How much coal would you say was on them?"

"About three hundred tons, sir," reported Ralph after a quick glance.

"And where should those three hundred tons go?"

"Into bunkers A29, A30, B33, and B34. If you will come down into the fire-room, sir, we could raise the bunker doors and see if the bunkers are full; it would be the quickest way to find out." Ralph's heart seemed to thump audibly; inwardly he was in a tumult of excitement; here was the opportunity he longed for, the chance of being useful. Matters were moving quickly and there was not time for explanation or discussion.

"I reported those bunkers closed yesterday morning, sir!" exclaimed Hopkins. "I ——"

"Come below with us and justify that report," interrupted Mr. Hale curtly.

All five went below into the engine room and from there to the starboard after fire-room.

"McCarthy," called out Ralph, "run up that bunker door, B33, quickly."

The chief water tender jumped to a grating

above the fire-room floor, seizing a brass wheel which he rapidly revolved. The bunker door slowly commenced to rise; soon the bunker was partly opened and coal commenced to run out.

“That bunker is full of coal,” cried Hopkins; “that’s high enough, McCarthy.”

“Run the door to the top, McCarthy,” directed Ralph.

The chief water tender knew of course what Ralph was after and was glad to help him. The door was run up as high as it would go, and coal continued to run out of it on the fire-room floor plates. Ralph seized a shovel and commenced to dig into the coal to hurry it out of the bunker. Soon the coal stopped running of its own weight. Ralph shoveled feverishly; he dug into the coal with the skill and energy of a veteran fireman. Commander Harker said nothing, but inwardly he was amazed that the young man he had deemed worthless in the engineer department was evidently an expert with the shovel.

In five minutes Ralph’s digging had made a hole near the top of the bunker opening. When it was large enough he squirmed into this hole, scrambling over the coal. Before the others in the fire-room could recover from their surprise, his coal-begrimed face peered out of the hole. “This bunker is almost empty,” he called out. “There’s room for seventy tons here. McCarthy,

shovel this coal away from the bunker door so the officers can get in."

The three other bunkers were entered in the same way, each being found nearly empty. When in the last bunker, Captain Pegfield said to Warrant Machinist Hopkins in severe, reproving tones: "You have been shamefully negligent and inefficient. You are suspended from duty, sir; you may count yourself lucky that you are not brought to bar before a general court martial.

"Mr. Hale, go ahead and fill these bunkers as fast as you can."

Ralph looked at the chief engineer who had not uttered a word; the old man looked sick; he was haggard and pale; he seemed weak and tottered as he walked. He regarded Ralph as if new thoughts were entering his mind; several times he acted as if he were going to speak to him; finally in a trembling tone he said, "Mr. Osborn, I—I—want to thank you."

CHAPTER IX

TARGET PRACTICE

“**T**HANK goodness this nasty job of coaling is done,” remarked Bollup to Ralph and Himski as they met that afternoon in the mess room; “when I used to dream of the glories and delights of being a naval officer I didn’t figure that part of the time I would be eating coal dust, drinking it, breathing it, and wrapped up in it. Ugh! If we were ordered to do this again to-morrow, I’d jump ship.”

“You’ll have plenty of chances to jump before we get to Boston,” replied Himski; “we’ll be coaling ship at every port we stop at. But we’ll have a warm time for the next few days. We leave to-morrow for Mirs Bay, thirty or forty miles from here on the Chinese coast, where we are to have our target practice. A heavy target raft has been constructed which we are to tow with us. We’ll be pretty busy for two days; and right after our target practice we are to start on our long trip for home.”

“Hooray,” shouted Ralph. “While you fellows on deck detail will be up day and night, working like Turks, I’ll be a gentleman of leisure enjoying a snap; I’ll be lying on my bunk read-

ing a good book while you will be worked to a frazzle."

"Say, Os," queried Himski with a grin, "you haven't seen the target practice detail, have you?"

"No, I'm not concerned in it. Why should I see it?"

"Well, the rules require that a junior officer be appointed target umpire; he is also in charge of the repair party. While the firing goes on the target umpire is in a steam launch which is stationed behind the firing line; after each time the ship steams over the range firing guns, the target umpire runs his launch over to the target, counts the holes, patches them and makes any needed repairs. We're not to stop for meals or anything else; we are in a hurry. I heard Mr. Hale say that if the weather is good and we start early enough we ought to finish day firing in one day—but anyway we are to go from day to night practice without delay. Bollup and I and the rest of us on deck will be able to rest and take it easy except when our own guns are firing; but the unfortunate chap who is to be target umpire will have a hard time; he'll have no rest; he'll be in a small boat and busy every minute; the poor beggar will have to leave the ship before daylight, will go it hard all day long and keep it up through the night, not coming aboard ship once."

“Great Scott!” exclaimed Ralph. “I suppose some midshipman will get the job. Who is it to be?”

“Mr. Hale said that as Ensign Osborn had no gun duties he could best be spared, and you’re the boy, Os. How do you like the prospect of the snap you’ve been boasting about? How about Bollup and I taking it easy when our batteries have finished firing, and Ensign Ralph Osborn, U. S. N., is tossing about for twenty-four or thirty-six hours with no rest or relief and nothing but cold grub to eat.”

“Bully, that’s fine!” cried Ralph. “Don’t worry about me, Himski. I’ll enjoy being off by myself. I’m never lonely on the water and I’ll have lots of interesting things to do.”

Early the next morning the *Illinois* steamed away from Hongkong, towing the heavy target raft. By ten o’clock Mirs Bay was reached. The raft was anchored and rigged; buoys at the required points were planted and before night the range was ready for firing. The target raft formed the apex of an equilateral triangle whose sides were sixteen hundred yards long. The base of the triangle was formed by three range buoys. The ship while firing was to steam just outside of the line connecting these buoys, the firing to commence just as the first buoy was passed.

In the afternoon Ralph was directed to report to

the executive officer. "Here are your written instructions, Osborn," said Mr. Hale. "I think you'll find everything provided for. You are to shove off before five o'clock to-morrow morning in the steam launch, towing a cutter and a sailing launch. You will find everything needed in the shape of repair material in the sailing launch; spars, lumber, target screens, gear, nails, tools and so on. Use the sailing launch as a store boat and anchor it behind the firing line; after each time the ship steams over the range you will run over to the target towing the cutter with such supplies as you need for repairs. Patch and sew up every shot hole in the screen and repair or renew the masts as needed. Wigwag over to the ship just what hits are made. Here's a list of general flag signals which we will use. Remember that whenever the powder flag is hoisted at the truck it means we are intending to fire and you must keep clear. Your repair party consists of the boatswain and twenty men. Their food will be put in the sailing launch—you will take your own and plenty of it, for you will be away over twenty-four hours. You'll find all of this and much more in your instructions; the officer of the deck will get everything ready for you. Now be sure you understand your instructions before you start, for after you leave you will have no chance to come back."

“Very well, sir; I understand,” replied Ralph, saluting and leaving Mr. Hale’s office.

Ralph studied his instructions carefully; he was impressed by their thoroughness; every point seemed to have been considered. He read the “Regulations for Target Practice,” and talked matters over with Boatswain Shannahan. The next morning Ralph was up at four o’clock and before five was steaming away, his launch towing a cutter and a sailing launch. He anchored the sailing launch about a quarter of a mile back of the middle buoy, then steamed over to the target raft, towing the cutter; in the latter were two rolled up canvas target screens, each seventeen feet high and twenty-one feet long. These were thrown out of the cutter and were hooked to the halliards which during the previous afternoon had been rigged on the masts of the raft; in a very few minutes two target screens were hoisted, side by side; the sea was calm, not a breath of air stirred, so there was no delay. The target screens were stretched taut and then Ralph steamed away.

It was now broad daylight. The *Illinois* was steaming up and down the range with the powder flag at half-mast, indicating to those at the raft that she was not to fire.

“She’s regulating her speed,” observed Ralph to Boatswain Shannahan, as he watched her; “she’s got to steam at exactly ten knots’ speed over the

ground with the tide and against it. She should take just four minutes and forty-eight seconds between the first and last buoys; when she has the tide with her she will have to make less revolutions than when it is against her."

"She must have hit her speed all right," exclaimed the boatswain.

"Yes," agreed Ralph with intense interest; "there goes the powder flag to her truck—she's turning—her forward turret is swung to port. She'll fire one range short to test her powder on this run. There goes her whistle; she's passed the first buoy. Now watch."

Two minutes passed, the *Illinois* coming down the line of buoys. When almost up to the middle buoy a sheet of white smoke and a yellow flame shot out of one of the thirteen guns of the forward turret; this was immediately followed by a thundering, crashing, reverberating roar. A second later a huge column of water was thrown up a few yards to the right of the target.

"A good shot!" cried Ralph, delightedly. "It was almost a hit."

"The powder is all right," observed Boatswain Shannahan. "We'll see some holes in that screen on her next run."

The battle-ship now put her helm a starboard and turned, the powder flag remaining at the fore truck.

"She's going to commence practice in earnest now," exclaimed Ralph; "she'll go back for half a mile, turn around and then come down the range again."

The eyes of Ralph and Shannahan never left the *Illinois*. They watched her with breathless interest. Again she headed down the range; as she passed the first buoy she blew her whistle, and at the same instant one of the two forward thirteen-inch guns was fired. A long roar with resounding echoes griped the atmosphere, but those of the repair party paid no attention to this; with his binoculars to his eyes Ralph stood up on the outside of the steam launch.

"A hit!" he cried joyfully. "At the lower right hand part of the target—a hit in Y5."

The *Illinois* steamed steadily on; in less than a minute the same gun again sent an eleven hundred pound steel shell at a speed of half a mile a second toward the small target, nearly a mile away.

"Bully!" cried Ralph enthusiastically. "A hit in B2."

Four times in all did this gun speak its message on this run; and after each shot a gaping hole was plainly visible in the canvas target screen.

Before the *Illinois* had reached the last buoy Ralph ordered the steamer to cast off from the sailing launch, and towing the cutter he steamed toward the target. He reached the middle buoy

just as the *Illinois* fired the fourth shot, and seeing the powder flag was lowered continued over to the target.

“Lively now, men,” called out the ensign, as he jumped from his boat to the target raft. “Signalmen, signal over to the *Illinois*, four hits in left target; in Y5, B2, X3, A3. Sailmaker’s mate, bear a hand with your palms and needles and bring some patches over here; on the jump, everybody; four of you sailormen get busy and sew those holes; we’ll have the screen lowered for you in a jiffy.”

Ralph’s energy inspired his men to hurry. The screen was lowered and the men patched it quickly; then it was hoisted in place and stretched taut.

In the meantime the *Illinois* had turned around and was steaming back to her starting-point, preparatory to beginning another run. Ralph’s work at the target was over for the moment, so towing the cutter he ran to where the sailing launch was anchored. Soon the battle-ship came down the range, her powder flag at the truck; at the first buoy her whistle blew and again the same gun that had fired on the previous run gave out its ear-blasting report.

“Hooray, a hit in A4!” cried Ralph with delight. “I hope this second pointer does as well as the first.”

The gun fired three more times on this run, each shot recorded as a hit by a big hole in the target screen.

Ralph's party were all in the highest state of enthusiasm and on their next trip to the target used but little time in patching the new holes. In their eyes the patched target screen was as beautiful as if it were an oil painting by one of the old masters.

They now knew that the thirteen-inch had finished for there were two pointers (the pointer being the man who fired) to each gun.

The next gun fired nine shots, but took four runs to do it, on one run not a shot being fired.

"What's the matter, do you suppose?" asked Ralph of the boatswain.

"Something has gone wrong in the turret. Sometimes there's a miss fire; in that case the breech is not opened for twenty minutes; target practice is dangerous enough without taking any chances; every possible precaution is ordered by the rules. Sometimes after a miss fire there is a hang-fire—the gun going off several minutes after the primer has been exploded. The gun's crew will wait for twenty minutes before opening the breech and then the umpires will investigate to see if the fault can be charged against the crew. The rules are very strict; unless the fault is proved unavoidable, that it is not due to lack of fore-

thought or precaution on the part of the gun crew, it is charged against that crew ; a stated amount is deducted from its record and this lessens every man's chance of prize money. We won the trophy a year ago and over eight hundred dollars' prize money was divided among our after turret's crew."

"That's a lot of money. I hope the umpires will find this the fault of the gun and not the crew."

The second gun that fired did even better than the first, putting nine holes through the right target screen. After the second screen had been patched the *Illinois* steamed near to the target and remained there, giving everybody a chance to see the fine work of the forward turret.

Cheers broke out from the happy ship's company ; the rails were crowded with men wild with delight at the sight of the evidence of their good shooting. After this outlet for their enthusiasm, the practice of the after turret began ; its guns in all firing eighteen shots, making eighteen hits.

"That's beautiful work," exclaimed Boatswain Shannahan. "If our smaller guns do their duty as well we'll keep the trophy another year."

Before the after turret had finished the screens were so full of holes that Ralph was signaled to "shift targets" ; this took time. The ship averaged more than half an hour for each run so that it was nearly noon when the six-inch guns commenced their practice.

The six-inch guns fired rapidly; there was an average of nine shots fired each minute; the three-inch and six-pounders even faster; but to fire the great number of these small guns took many runs, also much patching and shifting of screens. After a run at nearly dusk the *Illinois* hoisted a signal which meant, "Steam launch come alongside."

Ralph steamed to the battle-ship's starboard quarter where he was hailed by Mr. Hale. "Osborn," shouted the executive officer, "day practice is finished; night practice will begin in an hour. I am lowering two dinghys and the catamaran; there's a mast stepped in each and a lantern on each mast. Secure one dinghy to the first buoy, the other dinghy to the last buoy, the catamaran to the centre buoy; see each lantern is burning brightly before you leave it."

"Aye, aye, sir," shouted Ralph in reply. "I understand."

Ralph took the two dinghys and catamaran in tow and started for the buoys. In half an hour he had secured the three boats in accordance with his instructions. Hardly had the last dinghy been tied to its buoy than Boatswain Shannahan remarked to Ralph in low tones: "I don't like the looks of the weather, Mr. Osborn; a breeze has started up and it has freshened rapidly; an hour ago the sea was perfectly calm; look how choppy it is now. We've had a clear sky all day but now

it is so overcast that not a single star is to be seen ; work on the target in bad weather is pretty fierce in daytime but at night it's fearful. I don't like the looks of things, Mr. Osborn."

"There's nothing to do but go ahead," replied Ralph. "I'll caution everybody to be particularly careful—there goes the red light at the fore truck ; it takes the place of the powder flag. We ought to finish in four hours. I'm glad we are only to fire the small guns, those for torpedo defense, tonight."

The night was absolutely black, the only thing visible being the lights of the *Illinois* and the target which was brilliant in the beams of search-lights.

The battle-ship's whistle broke the stillness of the night, followed by the rapid barking of a small gun. Sheets of yellow flame darted repeatedly toward the target. The columns of water raised by some of the shots striking near the target, seen in the search-light beams, appeared as if weird, ghostly monsters were suddenly thrown up from the depths of the sea.

After the run was finished a white light replaced the red at the ship's fore truck, and rapidly shifting combinations of red and white lights spelled a message to Ralph to visit the raft and repair screens.

The ensign steamed over to the target, which as

he drew near, he approached slowly, for the waves were now sharp, giving the heavy raft considerable motion.

"I'll not take the steamer alongside," shouted Ralph to Boatswain Shannahan; "we'd stand a big chance of having a hole punched in us and going to the bottom. I'll cast off the cutter, Shannahan, and you pull up, keeping well to leeward."

"Aye, aye, sir," returned the boatswain; as soon as the painter of the cutter was let go Shannahan got out four oars and pulled to the raft; Ralph steamed up to the stern of the cutter and hopped off the bow of the steamer into the pulling boat.

"This is nasty work; look out for yourself, Mr. Osborn," warned the boatswain. The raft was awash, waves constantly sweeping over it. The work of patching was difficult partly because of the now strong wind which made the target hard to manage and also because the footing was insecure; the men had to use great care to avoid being washed overboard by the seas that swept the raft. A hundred yards away lay the great battleship, silent, motionless and dark, save for its steaming lights and the eight brilliant search-lights that stabbed the blackness of the night.

The work of patching the targets was finally accomplished and with a feeling of intense relief Ralph ordered all of his party into the cutter which shoved off to be taken in tow by the steamer.

“Mr. Osborn, we’ve got to stop; a regular gale is commencing. If we do any more work on that raft we’ll lose some of our men. We must go back to the ship, sir.”

“We are positively forbidden, Shannahan, to go back until we are signaled to do so.”

“This is criminal folly, Mr. Osborn.”

“We must obey orders, Shannahan; there’s nothing else for us to do, but order a signalman to keep a sharp lookout on the ship for a recall.”

The steamer with the cutter in tow was secured to the sailing launch. With straining eyes those in the repair party watched the moving lights of the battle-ship. Before long she was on the range and commenced firing; hardly had the run been completed than the red and white Ardois signal lights called up the steam launch.

“Signal boy, get that signal,” ordered Ralph.

“S-h-i-f-t n-e-w t-a-r-g-e-t-s, l-i-g-h-t u-p s-o-u-t-h e-a-s-t b-u-o-y,” spelled out the signal boy.

A heavy feeling of discouragement surged through Ralph’s mind; to shift targets in this fierce baffling gale seemed an impossible task, to attempt which would be at a terrible risk.

“This is not right, Mr. Osborn; they must be crazy on board,” said the boatswain, much concerned.

“It probably doesn’t look so bad from the ship as it does to us, Shannahan, but there’s nothing

for us to do except to obey orders. We'll first run over to the southeast buoy ; have a lantern lighted ; we'll tie it to the dinghy's mast—then we'll run over to the target and try to shift screens. The ship has the buoy lighted up ; there it is with the dinghy hanging to it."

On reaching the dinghy, Ralph exclaimed : "The mast is knocked down. Hello, we'll need a nail and a hammer to step it—send a couple of men in the dinghy, Shannahan ; we'll leave them in it and steam over to the target. We'll secure the cutter at the target and will leave the men there shifting targets and come right back for those in the dinghy."

"I'll be one of the men, Mr. Osborn," said the boatswain. "I wouldn't like to leave a couple of men in this small boat in such a rough sea ; it's really perfectly safe ; the boat hasn't shipped any water, but things look pretty nasty."

"No you won't, Shannahan," protested Ralph with instant decision. "I'll stay in the dinghy ; you'll be more useful on the raft than I could be ; jump into the dinghy, a carpenter's mate—put that lantern in the dinghy ; shove off, Shannahan ; take the men to the raft and come back for me immediately."

CHAPTER X

A SCOUTING PROBLEM

“WELL have to give it up, Hale,” said Captain Pegfield on the bridge of the *Illinois*; “it’s too bad that this gale has come up. Those men on the target raft are accomplishing nothing. Where’s that steam launch?”

“It left the target over half an hour ago,” replied Mr. Hale. “I imagined it was pointed for the southeast buoy.”

“Signal to it to go to the raft immediately, pick up the men and come back to the ship; I’m sorry we can’t finish to-night but it would be worse than folly to continue.”

“We should have stopped an hour ago,” exploded the executive officer, who had suggested doing so to the captain when the weather first showed signs of changing. However he was glad the order had come now and he lost no time in calling the signal quartermaster and directing the steam launch to be recalled.

Long anxious minutes passed; far away the lights of the steam launch could dimly be seen but she appeared to be in no hurry to obey the emphatic recall which had been hoisted for her.

The officers on the bridge were silent. Captain Pegfield, restless and uneasy, would look at the men on the raft struggling hopelessly, and then for the lights of the steamer. He paced up and down the bridge nervously.

"Signal again to the steamer," he shouted, "and signal to the raft to stop work ; we'll send for them as soon as the steamer returns."

As soon as the men on the raft got this signal they cautiously hauled up the cutter and got into it one by one ; then the cutter's painter was cut, oars were got out and the cutter was pulled to the leeward side of the battle-ship where the water was comparatively smooth ; life-lines were thrown into the cutter and the men clambered up the ship's side to the deck, exhausted but deeply content with the safety that had come to them ; the cutter was then hooked on and hoisted.

On getting aboard Shannahan ran to the bridge, "Captain," he shouted, "Mr. Osborn and one man are in the dinghy at the southeast buoy. I left them there an hour ago!"

"Put a search-light on the southeast buoy," directed Captain Pegfield.

It took a minute or more to find the buoy which was a long pole ; when the buoy was picked up by the search-light the captain uttered an exclamation of dismay. "There's the buoy," he cried, "but where is the dinghy?"

"She is sunk or got loose from the buoy and is drifting," replied Commander Hale, apprehensively. "I would judge the set of the current is about west sou'west—we'd better steam slowly in that direction, captain, and keep our search-lights going."

"Put a search-light on the steam launch," ordered the captain. "I'll pick her up first. How much water have we here?"

"Eleven fathoms, sir."

"Has the steamer an anchor and plenty of chain?"

"Yes, sir; she has thirty fathoms of chain aboard."

"Get her alongside as soon as you can; tell the men to heave their anchor overboard and come aboard ship. Then we'll look for the dinghy. The steam launch may ride out the gale; we'll see if she does; but we must lose no time in hunting for the dinghy."

Hardly had the steamer been anchored than the engines of the *Illinois* commenced to move. All eight search-lights, manned by eager crews, swept the surface of the water. Their beams showed white choppy waves, but no dinghy.

Captain Pegfield was in a fever of anxiety; the upper deck of the *Illinois* was crowded; none remained below except those on watch in the engine and fire-rooms. Seven hundred pairs of eyes fol-

lowed the search-light beams as they slowly traveled, sweeping the entire surface but revealing nothing except a wild waste of angry, seething waves.

Then a change came that brought unutterable dread to Captain Pegfield. It commenced to rain, a heavy dense downpour; the search-lights were useless; their beams did not penetrate the rain a distance of five hundred feet.

"Let go the anchor, Hale," directed Captain Pegfield with a heavy heart. "We can do nothing until the rain stops."

"Stand by the port anchor," shouted the executive officer through his speaking trumpet. "Back both engines."

"All ready with the port anchor, sir," cried Lieutenant Coffin on the forecastle.

"Stop the engines! Stand clear of the port chain! Let go the port anchor!" directed Mr. Hale. "Give her forty-five fathoms of chain in the hawse pipe!"

"Aye, aye, sir. Forty-five fathoms shackle is in the hawse pipe, sir."

"Secure!"

"Keep the engine ready to turn over, Hale; we'll get up anchor as soon as the rain stops," said the captain.

It rained steadily all night; there was a subdued hush on board. Men gathered in groups

and talked of the shipmates that had been so suddenly snatched from them and wondered if there were any chance of their rescue. But few sought their hammocks that night.

In the meantime Ralph Osborn and the carpenter's mate in the dinghy were having a hard time. As soon as they got into it they raised the mast to fit it in its place. The steam launch had not been gone a minute when the carpenter's mate, Stratton by name, exclaimed in dismay, "Mr. Osborn, we're adrift; we've lost the buoy!"

Ralph jumped to the bow and grabbed the boat's painter, pulling it aboard. At its end were the turns which had encircled the round spar buoy, but the buoy was nowhere to be seen.

"Steam launch! Steam launch! Steam launch!" screamed Ralph; but the steam launch was far away; indeed in the roaring tempest about them the cries could have been heard but a few feet.

"Get out an oar," shouted Ralph, seizing one himself and slipping it in its oar-lock.

They pulled in desperation, trying to keep headed for the lights of the *Illinois*, but a hopeless feeling soon possessed both for they knew they were making no progress against the strong wind and the choppy waves; their condition was indeed desperate; in the black night, the howling wind, the angry waves, their small craft was being

swept away by a swift current. Ralph was appalled; he feared the boat might be swamped.

“We must keep the bow to seaward,” he shouted; “give me the mast. I’ll tie the painter around it and heave it overboard for it will act as a drag and keep the dinghy headed up.” This was work for but a minute.

The little boat danced about like a cork but shipped hardly any water.

After Stratton had baled out much of the water in the dinghy he put out his oar again and the two men pulled with utmost exertion for a while, but with no result whatever. The wind was so strong that they never even once rowed up to the drag in the water ahead of them.

“We might as well stop, Stratton; we’re being carried from the ship rapidly,” shouted Ralph. “I can barely see the lights of the *Illinois* now.”

Fifteen minutes later he cried, “We’ve lost the ship, Stratton.”

There was nothing for them to do; mute and motionless they sat, full of despair and agonized dread. After some time it began to rain; the water came down almost in solid sheets. Ralph commenced to bale out the dinghy and for the rest of the night one of them was busy at this.

“This rain has beaten down the waves, and the wind has stopped,” said Stratton, after several hours had passed.

"Yes, and the boat is much easier," returned Ralph. "Oh, if it were only morning!"

The dawn came at six o'clock. The sun rose bright and clear; a gentle breeze blew from the west and there was hardly a ripple on the surface of the water.

"Stratton, we can thank Mr. Hale for never allowing a boat to leave the ship without food and water," said Ralph as soon as it became light enough to see. "Here is a five gallon breaker of water, a can of tinned corn beef and a small bag ofhardtack; suppose we have breakfast."

"Breakfast will surely help some," replied Stratton, and it certainly did, for as their appetite was appeased they both grew cheerful.

"We'll have to pull for the shore, Stratton," said Ralph; "we can't be more than forty or fifty miles away; this is a pretty heavy boat for only two men to pull, but we'll have to try for it."

"We ought to average more than a mile an hour if the weather keeps good—and we're fortunate to have enough food to last three or four days at least."

Renewed hope came to them. They wrung out their wet clothes and spread them out to dry; then got out oars and began to pull, heading for what Ralph judged, by the sun's position, to be west. The boat traveled at a snail's pace.

“It’s slow work, Mr. Osborn, but it’s better than it was last night,” observed Stratton.

“Yes, and every stroke brings us nearer to the shore ; we’ve got to be patient, Stratton, and we’ve got to pull. But I’m hopeful now. I wasn’t last night.”

An hour later Stratton observed, “Mr. Osborn, I’m all used up ; I’m all in. I’ll have to rest for a while.”

“So will I ; we’ve had a hard time and are both worn out. Suppose we lie down for two or three hours ; neither of us will be good for much until we get some rest.”

In a very short time they both sank into a deep slumber. The dinghy drifted quietly ; the sun rose high in the heavens and still they slept. The afternoon came and waned but exhausted nature recked nothing of time or place. The young men slept until late in the day ; the sun was low down in the sky when Ralph awoke. He looked at it with amazement. “We must have slept eight hours,” he exclaimed. “Turn out, Stratton ! rise and shine ! show a leg ! be a true sailor !”

“Great Scott, Mr. Osborn, it’s nearly sunset !” exclaimed Stratton. “We’ve lost a whole day. It will soon be night and we won’t know what direction to pull in.”

“Yes, we will ; so long as the stars are out we

can steer by them better than we could by the sun. Here, eat a hardtack, drink a little water and then stand by for an all night pull. How are you feeling?"

'Fine. I couldn't feel better. How are you, Mr. Osborn?'

"As fresh as a daisy and chuck full of ginger. Now let's pull easily so as not to get tired out."

They commenced to pull; the sea was perfectly smooth. Ralph judged that they would surely reach the shore of China in a couple of days unless bad weather set in.

The sun set behind a bank of clouds but Ralph kept his eye on the north star and manipulated his oar so that the star bore square off the dinghy's port beam.

After it became quite dark, there being no moon, Ralph suddenly exclaimed: "Stop pulling a moment; it seems to me I see a peculiar streak of light to the north'ard. I think I see several. Do you see anything, Stratton?"

"By George, Mr. Osborn, I surely do. There is a faint glimmer; don't you see it? There's another!"

"It's a ship using her search-light," exclaimed Ralph, excitedly. "There are several ships; perhaps we are being looked for."

Each moment there was additional evidence that they had made no mistake. It was now

certain that several ships were throwing search-light beams on the water. The beams were at first faint and indistinct but each moment they grew brighter.

“There are four ships, Stratton; they seem to be several miles apart and no doubt are looking for us. Hooray! We’ll be picked up in an hour or so,” cried Ralph happily.

CHAPTER XI

LESSONS FROM McCARTHY

IN half an hour the masthead lights of four ships were plainly seen. The search-light beams moved slowly over the water, the beams of adjacent ships meeting; it was evident that every square foot of the sea was being carefully examined.

“They can’t miss us, Mr. Osborn,” cried Stratton; “we’re sure to be saved now. They’ll probably see us in ten minutes or so.”

“They surely will; let’s stand up.”

Several times a beam from a search-light passed over the dinghy, lighting it up, and the two young men in it felt they were seen, but the search-light would continue its travel and leave them.

The ships came rapidly on; finally one search-light passed over the dinghy, came back and rested on them; then other search-lights from the same ship were turned on them and Ralph and Stratton knew they were saved.

Inexpressible happiness surged through Ralph as he realized the powerful help that was near. The ship that had found them turned on a brilliant display of red and white signal lights. “That’s to

tell the other ships we're found, Stratton," remarked Ralph in a choking voice.

The ship drew near to the dinghy, so near that its form became apparent though the night was dark. Ralph and Stratton stood up in their boat in the blinding glare of the search-light, but so happy that they did not mind it.

The ship was now so near the dinghy that voices could be heard ; a shout on board of "lower away" thrilled the occupants of the dinghy. They listened in silence and intense interest to the rattling of the falls of the boat being lowered, and immediately after to the rapid, regular sound of the oars. In a very short time a navy life-boat came alongside the dinghy.

"Way enough!" called out some one in the boat.

"Jump in, Osborn," called out a young officer ; "we're lucky to have found you. Coxswain, take the dinghy in tow ; give way, men ; back to the ship, coxswain !"

"How are you, Mr. Osborn? I can't tell you how glad I am to meet you," said a short, rather stout officer to Ralph, on the quarter-deck of a ship that was evidently a war vessel. Ralph knew instinctively that it was a British ship ; but a welcome from his own ship could not have been more hearty.

"I am Admiral Chichester ; we've been scouting for you since noon. Here, drink this coffee the



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orderly has brought you ; you ought to be pretty well done up, but you don't look it."

Ralph regarded Admiral Chichester with great interest. " You were Admiral Dewey's friend at Manila Bay ; I've heard you did lots for him," he blurted out.

Admiral Chichester smiled. " Your Admiral Dewey is a dear friend of mine," he said, " but I didn't have occasion to do much for him. Admiral Dewey was the kind of a man that always did things for himself ; he never needed outside help. You've had a hard time, Mr. Osborn, but seem to be none the worse for it ; here are my officers who want to shake hands with you ; we're all glad to see you aboard, sir."

A dozen or more British officers greeted Ralph enthusiastically ; the American ensign felt as if he could not be happier. His own rescue and the glad faces about him seemed to repay for the hours of dread and hardship that had passed.

" There's your ship, Mr. Osborn, and I know you are in a hurry to get aboard. I have a boat waiting for you."

" Good-bye, admiral ; good-bye to all of you. I cannot express my gratefulness to you."

Ralph and Stratton went over the starboard sea ladder into a life-boat and were pulled over to the *Illinois*, which, with the two other British ships, had drawn near and stopped.

When Ralph reached the *Illinois'* quarter-deck he was rushed at by Himski and Bollup who were beside themselves with happiness at his rescue and were demonstrative in their joy. The deck was crowded with officers and enlisted men all eager to welcome Ralph and Stratton back to their ship. The dinghy which had been towed to the *Illinois* was hoisted ; after that was done the engines were started. As the *Illinois* neared the bow of the British flag-ship Captain Pegfield hailed it, shouting through a megaphone, saying : " The American navy thanks Admiral Chichester and the officers and men of the British ships." Then the shrill whistle of boatswains' pipes was heard and a clear, resonant voice rang out : " Three cheers for the British navy. Hooray ! Hooray ! Hooray ! " Seven hundred voices joined in the cheer ; the cheer was repeated as the *Illinois* crossed the bow of each of the other two British ships ; an exchange of signals between the *Illinois* and the *Immortalité*, the British flag-ship, then occurred, and the *Illinois* started on her return to the target range.

Ralph was naturally in the happiest of spirits ; his messmates expected him to be physically exhausted and almost starved, but he was neither.

" Captain," exclaimed Ralph, after having answered dozens of questions, " I'm full of gratitude for my rescue ; but how did it come about ? How

did it happen that three British ships joined you in the search for Stratton and myself?"

"You can thank your friends, Mr. Himski and Mr. Bollup, for that. Suppose you get them to tell you; it's quite a story."

"Come down below, Os," suggested Himski, "and we'll tell you all about it; you come too, Stratton; you'll want to know."

Comfortably seated in easy chairs in Ralph's room, Ralph and Stratton listened to a graphic tale by Bollup.

"I'm going to tell the story, Os," cried Bollup. "It was this way: Soon after we learned the dinghy was adrift it commenced to rain. Great Scott, how it did pour! The search-lights were useless in that rain; we couldn't see a hundred feet from the ship; so there was nothing to do but to anchor. Os, I can't tell you how terribly I felt, how we all felt. It didn't seem possible that we would ever see you again. I went on watch at midnight. I thought Himski would spend the watch with me. I wanted to talk about you. After a while I sent for him but received word he couldn't come up, he was busy; this made me pretty mad for a bit; however, at about six bells Himski came up. 'Where's the skipper?' he asked me. 'In the chart house,' I replied. 'Come along, Bol,' said Himski; 'I've a plan here for finding the dinghy.' So I got over being mad and

went with him to the bridge where we found the old man feeling just about like the rest of us. 'Captain,' began Himski, 'Mr. Bollup and I wish to propose a method for finding the dinghy; may we talk to you about it?'

"'Certainly; what is it?' returned the skipper.

"'It's just this, sir. You know that at Annapolis we are now instructed in scouting problems. An enemy's ship is supposed to be known within certain limits, though neither her speed nor the direction in which she is going is known. We have considered the dinghy as an enemy's ship. If you will look at the plan drawn up here, sir, you will see that if you have a scouting force of four ships, and have them steam at the speed and in the directions laid down, the dinghy is certain to be seen within nine hours after the scouting begins; every square foot of the sea within certain limits will be searched; it is a mathematical certainty that the dinghy will be found if it is afloat.' Well, Os, you should have seen the old man. It took him less than a minute to decide what to do. 'I'll send a wireless to Hongkong for three tugs,' he cried. Mr. Hale thought the skipper would telegraph to the American consul-general at Hongkong but the captain said, 'I'll send the telegram to Admiral Chichester; he stood by us at Manila and I'm sure he'll have the tugs started for us in a hurry. When quick action is needed you can

depend on a sailorman to hustle.' At five o'clock the captain received a wireless despatch ; all it said was :

“ ‘ Coming.—CHICHESTER.’ ”

“ At ten o'clock the smoke of three ships was reported ; we thought of course they would be tugs, and just imagine, Os, how delighted we were when they turned out to be British war-ships with Admiral Chichester himself on board. By George, that's the way John Bull does things. Well, that's the yarn ; we got started before noon and found you seven hours later.”

“ Old chap,” interrupted Ensign Winthrop, entering the room, “ come into the mess room, won't you ? Everybody wants to see you to tell you how happy and thankful we are you are safe on board. Come along. You've been with your chums, now give the rest of us a chance.”

Ralph went out with Winthrop to join his friends in the other room, and now that he had all sides of the story, the little connecting links were soon filled out.

The ward-room officers crowded into the junior officers' mess room, all wanting to hear of Ralph's experience.

The next day the steam launch was found intact as well as the sailing launch ; both were promptly hoisted. The anchors of the buoys and the target raft were taken aboard ; the bolts securing the

timbers of the raft were withdrawn, the timbers being allowed to drift away. After this was accomplished the *Illinois* started in earnest on her homeward bound trip.

“Himski, there are three officers who have not been near me since I’ve returned,” said Ralph, on the night following his rescue; “Commander Harker, Cullen, and Warrant Machinist Hopkins. I’m not friendly with any of them but I’d like to forget unkind feelings. I’d be glad to shake hands with all of them, but I think they ought to speak first.”

“They probably think you ought to be the one to speak first, Os; why don’t you say good-morning to them to-morrow?”

“Perhaps I will; I’ll think about it.” Ralph did think of it but not one of the three looked his way when he was near and gradually the purpose left his mind.

“Well, McCarthy, here I am,” said Ralph the next morning in the after starboard room; “go ahead and make a fireman of me.”

“Sure, Misther Osborn, I’ve been a-thinkin’ av askin’ ye to make a duck av me; yer proper place be on the wather wid Stratton an’ the rest av the sea-gulls, not down here mannin’ a slice-bar. Do ye really mane ye want to learn to be a fireman?”

“I do indeed and you’re going to teach me.”

“ All right, Misther Osborn. First, how thick a shirt hev ye got on ? ”

“ How thick a shirt ? Why the thinnest I own, of course. The temperature must be two hundred degrees where a fireman stands, right in front of his fire.”

“ Av course. An’ the hotter the worruk the thicker the shirt. Ye’ll hev on the thickest woolen shirt ye own afore I commence. I know what I’m talkin’ about, Misther Osborn, an’ I’m a-goin’ to make a rale fireman av ye.”

A quick glance about the fire-room showed Ralph that all of the firemen had on the regular uniform heavy winter shirts.

“ All right, McCarthy ; I’ll shift right away. I don’t understand the reason but I imagine there is a good one.” And Ralph left to shift into proper fireman costume, returning soon after to McCarthy.

“ We’ll take one av these three fires to commence on. Jacobs, I’ll look out for this fire, ye needn’t bother with it,” said McCarthy to one of the men. “ Now, Misther Osborn, to fire properly ye must kape the grate-bars all evinly kivered wid coal. Yer fire should be about nine inches thick. A careless fireman will hev holes in his fire ; the grate will be bare in spots ; the draft will rush up through those holes an’ will not burn the coal it should. Consiquntly stame pressure will fall. Jacobs, ye tired son av a Dutchman, just look at

that big hole in the back av yer grate; ye hev no back to yer fire an' the front av it be dead. Look in the ash pan underneath the fire, Misther Osborn; the fire ought to show white iverywhere, but half av this fire be black underneath."

"I've just come on watch; that's the way the fire was turned over to me," growled Fireman Jacobs.

"Get yer other two fires in good shape afore I look at thim or ther'll be a Dutchman nadin' midical tratemint in a few minutes," rejoined McCarthy, sharply. "Now, Misther Osborn, whin ye fire, fire quickly. It's bad fer a fire to hev the furnace door open; the quicker ye shovel coal the hotter will be yer fire. This fire nades coal badly in the back, also on the sides. Ye can tell this by yer eye an' the feel av yer slice-bar; it'll become second nature to ye soon. I'll open the furnace door an' ye'll shovel the coal into the fire—put each shovelful where 'tis most naded."

McCarthy threw open the furnace door. A fierce blast of heat from the open furnace struck Ralph in the face; it seemed to scorch and shrivel his flesh; he blindly threw in several shovelfuls of coal.

"I don't see how you can tell where to put the coal," he gasped after McCarthy had closed the furnace door; "it's frightfully hot——"

"Get over the idea the hate will hurt ye, Misther

Osborn; if yer face be sweaty, as an honest fireman's always is whin he's on his job, the hate won't bother ye after a bit. Now try it again, an' don't be afraid yer goin' to be hurted."

After a few more similar trials Ralph found he could face the open furnace without flinching.

"Yer doin' well; yer a promisin' scholar," exclaimed the chief water tender, much pleased. "Now ye must larn to diskiver thim holes the Dutchman has left ye. The grate be only six foot long an' three wide; wid a little practice ye'll be able to take it all in at a glance. Now here be a slice-bar; ye run it into this little hole in the furnace door while the door be shut. A clinker melts out av this coal an' forms on the grate-bars previntin' the draft. Run yer slice-bar along the grate-bars, push it back like this, an' whin ye strike a clinker, get underneath it an' pry it up, loosen it from the grate. That's the idea; yer doin' well, rale well, Mither Osborn. Now I'll lave ye fer a few minutes while I tind to me pump an' look at these other fires. Do the best ye can wid yer fire; I'll be back soon."

Ralph struggled earnestly with his fire, determined to learn how to take care of it. While the furnace door was open intense heat seemed to strike him in the face, almost causing him to jump back. "I can stand it if other men can," he muttered, and he doggedly threw the coal on

the fire. He worked his slice-bar repeatedly, searching for and loosening clinkers, and heaved coal into the furnace at fifteen minute intervals; after a while he came to imagine that he knew where the holes were in his fire and endeavored to throw coal where the fire was thinnest. Ralph's quick intelligence immediately grasped the needs of the practical points in which McCarthy was instructing him.

The chief water tender came to Ralph at frequent intervals, giving him minute directions but causing him to do all the work. Ralph was busy with his one fire every moment and was amazed that the other firemen present each had three and took care of them without overexertion. Yet at noon Ralph was almost exhausted and he was glad to give up his fire.

"Hello, Os," cried Bollup, when Ralph entered his room. "Great Scott, where on earth have you been? You're as black as our old coachman at home!"

"Don't call me Os any more; my name is changed. It is Shadrach Meshach Abednego—call me Shad for short. I've seen as much of a fiery furnace as those three gentlemen ever did; I'm going to take a bath."

"You need it," grinned Bollup. "I've changed my mind about wanting engine-room duty; if you're a result of it I want none of it in mine."

Ralph rested and slept most of the afternoon; he intended to go on watch with McCarthy at eight o'clock but dreaded the ordeal; the prospect was not as interesting nor as inviting now that he knew what it was. But the work did not seem so hard that evening as it had in the morning; Ralph found it easier to face the fire and to throw coal into the furnace. He began to believe he could pick out holes and thin places. He loosened up clinkers with confidence and felt a slice-bar was an easy tool to handle. McCarthy came to his fire less frequently. "Yer doin' foine, Misther Osborn," he said at ten o'clock; "ye'll soon be worth thirty dollars a month to Uncle Sam. Now don't put any more coal on that fire fer half an hour; it's full av dirt an' clinkers an' must be claned out; we'll let it burn down fer a while. We'll watch Jacobs clane his wing fire—go ahead, Jacobs—then ye'll clane yers."

It took Jacobs fifteen minutes to clean the fire, Ralph watching his every movement with interest, listening to McCarthy's comments and explanations. It seemed a simple operation to Ralph, yet when he came to clean his own fire he was slow and clumsy and required much help from McCarthy.

"I understand the principle, McCarthy," he said, "but I'm slow and awkward; however I'll do better to-morrow morning, just see if I don't"

“Yer doin’ foine, Misther Osborn,” exclaimed the chief water tender. “I’ve niver seen a new hand catch on so quickly as ye hev.”

At eight o’clock the next morning Ralph went on watch in McCarthy’s fire-room. He tackled his fire vigorously, first leveling it with the hoe, then throwing in coal, after which he loosened up clinkers with the slice-bar. McCarthy observed him carefully, giving but few directions. At half-past ten Ralph commenced to clean his fire, this time receiving considerable assistance from the chief water tender. At noon he was glad to be relieved; he was tired but not so much so as previously. In the afternoon he rested and slept.

The ship steamed steadily to the southward; the officers were all engrossed in their duties; but Ralph paid no attention to the doings on board, to the drills or to the talk of his messmates. His chief desire was to rest. On his watch from eight o’clock until midnight he took care of his fire and cleaned it; during the entire watch he did not receive suggestion or help from any one. When going off watch at midnight he remarked: “McCarthy, I want two fires to-morrow. I think I will be able to handle them. I’m not overtired and I had lots of spare time in the last four hours.”

yc “All right, Misther Osborn; ye’ve done foine
n’ understand the trick av firin’, but I don’t

know as yer tough enough yit to handle two fires."

Ralph found at first that caring for two fires was an exhausting task but he stuck to it. When off watch he did nothing but rest. Two days later he was regularly firing three furnaces, on watch four hours and off eight; he was doing fireman's work and doing it well. No fireman in the ship did more. Jacobs was given three furnaces adjacent to Ralph's.

At ten in the evening of the second day that Ralph had taken three furnaces he heard Jacobs shout: "McCarthy, I've dropped a grate-bar in the back of my lower furnace!"

"This coal is rotten!" exclaimed the chief water tender. "All right; haul out the fire. Come here, one av ye coal passers, wid the hose; wet down fer Jacobs."

Jacobs hauled the burning coal from the furnace to the fire-room floor, seemingly oblivious to where it went. A stream of water was played on the fire as it dropped on the iron floor plate.

In a couple of minutes the furnace grates were bare; in the meantime several wooden planks were brought to Jacobs who shoved them in the furnace on top of the grate-bars.

"Go ahead, Jacobs; I'll give ye yer new grate-bar as soon as ye git inside the furnace," exclaimed the water tender.

McCarthy handed Jacobs a pair of coarse woolen mittens; the latter put them on and instantly crawled into the furnace, lying on the boards. Until this moment Ralph had no idea of just what was to be done. He was amazed and appalled on seeing Jacobs disappear into the furnace; in this furnace there had roared a moment before an intense fire; the grate-bars were still almost at the melting heat of iron. On both sides of Jacobs were furnaces alive with mad, white hot flames. While Ralph's heart was still full of dread he saw Jacobs quickly slide out of the furnace and walk unconcernedly to the middle of the fire-room where he stood in the cool draft of a ventilator.

“Lively, lads, throw in some fresh fire,” shouted McCarthy.

Ralph realized that a new fire was to be started in Jacobs' furnace, so throwing open a furnace door he drew out a shovelful of burning coal and threw it on the bare grates. Several other firemen did the same, then coal was thrown on the fire, and in a few moments the furnace was as hot as ever.

After Ralph had fired his furnace again he talked with the chief water tender. “McCarthy, tell me just what Jacobs did in that furnace; it seemed a terrible thing to me that you should have sent him into it.”

“Why, Misther Osborn, he had a grate-bar drop on him an' who else but Jacobs should hev gone

into the furnace? Ye can't kape fire goin' in a furnace wid a grate-bar out, can ye?"

"But what caused the grate-bar to drop?"

"Rotten coal, to begin wid, I'll admit that; but if the Dutchman had been livelier wid his slice-bar he wouldn't hev allowed the clinkers to form; yer see, Misther Osborn, this coal sort av melts; a clinker cakes over the grate-bar, sometimes over several bars. Now a slice-bar will loosen the clinker an' allow the air from underneath to rush up, an' kapes the bar comparatively cool. But if a clinker forms an' isn't loosened, why the grate-bar gets so hot it melts and drops. Thin ye've got to haul out the fire, sind the fireman in the furnace if it be, as it usually is, a back bar, put in yer new grate an' start the fire up again."

"But it must be frightfully hot. I should think a man would be burned in them."

"He won't be if he don't touch nothin'; a man's skin can stand a temperature av a thousand degrees in air; he won't be hurted if he don't touch against nothin'."

Late the next night Ralph began to feel the effects of his strenuous work; the care of three fires was almost too much for him. By eleven o'clock Ralph was tired; he was conscious that the slicing of the fires was heavy work. While throwing coal in one of his fires he observed a depression in the centre, near the back connection.

He stooped over and glanced into the ash pan. "McCarthy," he shouted, "I've dropped a back grate-bar; bear a hand, one of you coal passers, with the hose."

"Hould on, Mистер Osborn. I'll put in the new bar fer ye," cried McCarthy.

"No you won't; this is my fire; get everything ready in a hurry."

Ralph threw open the furnace door and using a hoe rapidly pulled out the flaming contents on the floor. A coal passer with a hose played a stream of water over the burning coal, protecting Ralph's legs and feet. McCarthy ran to a side of the boiler and found a new grate-bar. Other men stood by with a couple of boards ready to put them into the furnace when the grates were bare, and a couple of moments later Ralph was crawling into the furnace on top of these planks.

CHAPTER XII

A SOCIETY DARLING AT WORK

AT this time Warrant Machinst Cooper was in charge of the watch and at his station in the engine room. About half-past ten Commander Harker appeared.

“ Good-evening, Mr. Cooper. How’s everything running? ”

“ Nicely, chief; we’re making seventy revolutions a minute and there isn’t a single knock in the main engines. That bilge pump is making more noise than all of the rest of the machinery in the department ; steam pressure is kept up without any trouble ; nothing is running hot and I’m finding it hard work to keep awake. How are you feeling, chief? ”

“ Not very well, Mr. Cooper. I’ve been treated so shamefully by the captain that I can’t sleep at night. He has turned me down, me, an old commander of civil war service, in favor of his pet, an upstart of an ensign, a society darling fit for nothing but to sport brass buttons and gold lace about a ballroom. And that young man, that worthless assistant engineer, has caused me more mortifica-

tion than I have ever before received. He has forced me to alternate with him ; not that I care about going ashore, but to me, nearly of an age to be retired, it is an indignity to have to submit my privileges to the wishes of this pseudo engineer. Faugh, it's unbearable !”

“ You ought not to blame Mr. Osborn, chief ; he couldn't help himself.”

“ I wouldn't if he were of any use, but to be turned down for a society darling, for a fake engineer—oh, I just can't stand it, Mr. Cooper.”

“ Chief, step into the fire-room with me for a moment,” said Mr. Cooper, not replying to Commander Harker's explosion. Mr. Cooper walked forward, followed by the chief engineer ; he opened the door leading into the fire-room and the two stepped into it.

“ Just look at that man hauling the fire out of that furnace, chief,” said Mr. Cooper in a low tone.

Commander Harker saw a young man standing directly in front of a blazing furnace ; he was thrusting a hoe far into it and pulling out the burning coal. The chief engineer saw a face begrimed with coal and sweat thrust close to the furnace. Around his head was tied a large red handkerchief, over his shoulders was a damp towel with which he occasionally swabbed his face. A heavy blue undershirt covered a brawny chest and muscular shoulders and arms. The young man pulled

out the hot fire regardless whether it struck him or not. Standing to one side was a man throwing a stream of water on his shoes and legs and on the burning coal as it was pulled from the furnace.

"All right, McCarthy; shove in your boards," shouted Ralph; as soon as they were placed he crawled into the furnace. McCarthy pushed in a grate-bar which was seized by Ralph and quickly slipped into its place; then Ralph like a veteran fireman backed his way out of his furnace and sought a spot where the draft was blowing.

During this time Commander Harker stood at the fire-room door; a startled and confused expression came over his face as he watched the young man in the furnace; he turned to the warrant machinist at his side with amazed questionings in his eye. As Ralph was backing out of the furnace the chief engineer whispered to his companion, "Come into the engine room."

The two had stood in the back of the fire-room and had not been noticed; the firemen were all engrossed in watching Ralph put the new grate-bar in its place.

"Cooper, was that Mr. Osborn?" asked Commander Harker, in astonished tones, as soon as they left the fire-room.

"It certainly was, chief."

"What's he doing out there?"

"He's acting as a regular fireman of the watch;

he looks out for three fires, cleans them, puts in grate-bars when needed, does exactly what the other firemen do."

"Well," exclaimed Commander Harker, drawing a deep breath, "do you mean he does this work regularly?"

"Yes; he's on McCarthy's watch, on four hours, off eight."

"How long has he been doing this work?"

"Do you remember that after we left Manila you were one night hit in the stomach by a shoveful of coal and nearly knocked down, and that you advised the deck hand who did it to have his rate changed from ordinary seaman to coal passer?"

"Yes; the young man was doing good work. What about him?"

"The young man was your first assistant, chief. He graduated from passing coal to firing and soon will be tending water. After that I intend to give him an oiler's job and later on, when in port, will give him machinist's work in overhauling and adjusting the machinery. He learns quickly, is tremendously ambitious and is far from being ignorant of engineering. He is, in fact, a highly trained engineer; the midshipmen do lots of practical work in the shops at Annapolis."

"Mr. Cooper, I'm utterly astonished; do you know his reason for all this?"

"Yes, sir; he wants to be useful to you; he

thinks he will be if he has an intimate knowledge of the work the enlisted men do."

Commander Harker's eyes glistened with moisture that had suddenly come to them. He was genuinely affected.

After a moment he observed, "Cooper, I must think about this. I particularly wish that Mr. Osborn should not learn that I saw him in that furnace to-night or know what he is doing; please don't mention it. I'm going to bed. Good-night."

"All right, chief; he won't hear it from me. Good-night, sir."

At eight o'clock the next morning Warrant Machinist Cooper appeared in the fire-room.

"McCarthy, how does Mr. Osborn do as a fireman?"

"He be worth a second class rate, Mистер Cooper, an' in six weeks I'd be willin' to rate him first class fireman. He larns quick an' ain't afeared av a fire; he's got the trick av handlin' it."

"Put him tendin' water; teach him all you can; let him handle the pumps and valves himself; make a water tender of him."

"Niver mind firin' this mornin', Mистер Osborn," said McCarthy, when Ralph appeared a moment later. "I'm goin' to make a water tender av ye. Here be the main feed-pump;" and for the next few minutes the chief water tender called Ralph's attention to the different parts of the

pump, its mechanism and its different connections. He showed how a pump could be made to draw water from any one of several different places, according to the valves that were opened. After a while he continued, "Now, Mистер Osborn, jist fer practice, suppose ye put this auxiliary feed-pump on the sea suction an' pump overboard."

Ralph was no novice at starting a pump; he had done this thing many times; he quickly opened the valve on the manifold marked "sea" and another valve marked "overboard"; then he opened the drain and the steam exhaust valve on the pump, and cracked open the steam pressure valve. The pump started immediately in a quick, jerking way, banging noisily at each top and bottom stroke.

"The pump isn't acting right," said Ralph.

"Av course it ain't; it beant treated right," returned McCarthy scornfully; "it beant gettin' no water at all at all; I'm surprised at ye, Mистер Osborn; ye've forgotten the very first step."

"Oh," cried Ralph, "the sea suction through the bottom of the ship isn't open. I know where that is." In a moment Ralph opened the sea valve; the pump slowed down and stopped banging.

"It's all right now. Stop the pump." Ralph experimented with the pumps all morning;

McCarthy explained the ^{and he} of feed check valves, bottom blow, water column and stop valves, and the various attachments of the boilers.

"An' here be the Irish comedian, Mither Osborn. Do ye know what that's for?"

Ralph smiled. "I would call it the hydrokineter; when you ——"

"Ye may call it what ye will but that be too big a name for the men down here. Irish comedian be as near as any av us gits it in the fire-room," interrupted McCarthy.

"When you first start to get steam up," continued Ralph, "you use the hydrokineter to blow steam into the cold water at the bottom of the boiler to warm it; this saves time and keeps all of the water in the boiler at an even temperature."

As water tender, McCarthy's duties were to operate all of the mechanisms in the fire-room and to see the firemen and coal passers performed their duties properly. He was responsible for the proper and safe working of everything and for keeping up the required steam pressure.

In the navy a water tender is always a specially selected fireman; the position carries authority and good pay; the water tender must have expert mechanical knowledge of boilers and their attachments, also have real executive ability in handling men. Water tenders are never gentle but they are always efficient.

Ralph followed McCarthy about, acquainting himself with everything the water tender did. In the afternoon he studied the boiler blue-prints, every line speaking a special message to him; when he went on watch at eight o'clock that night he felt he had an intimate knowledge of every pipe and valve in the fire-room and every part and attachment in the boiler.

"Misther Osborn, I hev cramps in me stomick. Would ye plaze run the watch?" said McCarthy when Ralph appeared at eight o'clock.

McCarthy sat on an upturned coal bucket and with approving eyes watched Ralph start the main feed-pumps and regulate the feed valves. From here Ralph went to each furnace, taking a hasty glance at each fire. He was kept busy operating the pumps, valves, and examining the work of the firemen. After an hour of observation he knew pretty well what each man was doing; then he remarked quietly to Jacobs, "You're soldiering, Jacobs. I'm pumping twice as much water into Boker's boiler as I am into yours; your fires are black underneath; get busy."

"I'm not feeling well. I'm sick, Mr. Osborn."

"That's too bad. Go and sit down for a while—I'll take your fires. McCarthy, tend water; I'm going to take Jacobs' fires."

"That's pretty white of our first assistant," observed Boker to McCarthy, "but it isn't needed;

Jacobs is faking ; he said he was going to fool Mr. Osborn."

Ralph sliced Jacobs' three fires and heaved coal in them ; then Jacobs came up saying : " I'll do me work now, Mr. Osborn ; thank you, sir ; you're very kind, sir, and I'll try to keep me fires up good ; if McCarthy had looked into me fires this morning he'd have batted me over me head with a shovel."

Ralph had no further occasion to complain of Jacobs nor of any of the firemen. In fact they were pleased that the first assistant should be directly over them.

McCarthy watched Ralph's every move, giving him occasional advice. After the watch was relieved Ralph left the fire-room well pleased with his morning's work.

In the two watches that followed Ralph performed all of the duties required of the water tender ; McCarthy was present, but found less and less occasion to give Ralph direction or advice. Hardly had the next watch begun than Mr. Cooper entered the fire-room.

" McCarthy," he called out, " our evaporators are making salt water ; you know lots about evaporators ; the man on watch in the evaporator room is a greenhorn. I'd like you to go there and see if you can help matters. Have you anybody here you can give water tending over to ? "

“Indade I hev, Misther Cooper. I’ll go right away. Misther Osborn, take the bilers, plaze. Should ye nade me, which ye probably won’t, sind to the evaporator room fer me. I’ll be down in a sicond.”

For that watch and the next one Ralph tended water without McCarthy being present. The work was absorbingly interesting; he did not mind the heat or dirt; he felt he was at last of real use in the engineer department.

In the afternoon Ralph again pored over blueprints and made different sketches; the navigation of the ship, its progress, the drills, had no interest for him. His heart was afire with the work he had engaged on.

“For heaven’s sake, Os, what has come over you?” exclaimed Bollup. “You don’t talk to anybody, you’re not interested in anybody, you’re not at all like our old Os. Is Snarleyow mistreating you?”

“I never see the chief engineer, Tom. I’m glad to believe he’s forgotten all about me—I’m busy working and studying, that’s all.”

“Say, Os, Cullen has been ordered to engine-room duty for instruction. All midshipmen have to take a whack at the engine room and all but Cullen have had it. We imagined old Snarleyow would be wild about it but Cullen says he treated him quite decently; Snarleyow told Cullen that

his status was different from yours, that whereas you were regularly ordered as the first assistant engineer, Cullen was simply under instruction ; he told Cullen not to forget that fact and that in case you gave any order it was to be considered as having the authority of the chief engineer."

"What!" exclaimed Ralph. "Why, that's impossible, Tom. Oh, pshaw, you're just pulling my leg."

"No, that's straight, Os. Cullen wouldn't say it if it weren't so. He isn't pleased with the idea he's under your orders."

"Why, Tom, the chief engineer hates and despises me ; he's said I'm a nuisance ; he's ordered me to exercise no authority whatever !"

"It looks funny to me ; perhaps the old man is a stickler for rank."

"Well, this is a big surprise to me. I had come to believe that the chief engineer had forgotten I was aboard. I'll continue to keep out of his way, just the same."

When Ralph started for his next watch in the fire-room he met Warrant Machinist Cooper in the engine room ; the latter said, "If you don't mind, Mr. Osborn, I'd like you to take an oiler's watch in the engine room. I'll station an oiler with you for your first four hours ; you can see everything he does ; after that you can have a few watches for yourself."

“All right, Mr. Cooper; but if Commander Harker should come into the engine room while I’m oiling I’ll jump the game without a relief. I don’t intend he shall see me.”

Mr. Cooper looked as if he would like to tell Ralph something, but made no comment.

The oiler’s work was simple compared to the firemen’s and water tender’s. It consisted in keeping different oil cups full, of feeling brasses by hand to be sure they were not getting hot, and of regulating the speed of different pumps.

Ralph was soon darting in and out of the machinery between rapidly moving parts of the engines where a misstep might cause a dangerous accident. He had much opportunity of watching the various mechanisms in the engine room, and devoted some time in examining the means of starting and stopping the main engines.

“Do you have to use the monkey-tails much?” he asked Mr. Cooper.

“No, very seldom; the engine as a rule starts when you throw the links over. When we get under way after our next anchoring I’ll give you a chance to work the reversing engine yourself; you’ll be delighted with the ease you can handle the engine.”

On Saturday night Mr. Cooper’s hours of duty were changed; for the following week his watch,

morning and afternoon, was shifted from four until eight o'clock.

"This suits me," commented Ralph to the warrant machinist; "all I want is to keep out of Commander Harker's way."

CHAPTER XIII

A BOILER INSPECTION

AFTER Ralph had spent two four-hour watches as oiler, Warrant Machinist Cooper said one morning at four o'clock, "Mr. Osborn, suppose you watch everything I do with the idea of relieving me as the officer in charge of the watch. As the engineer on duty you will have to keep track of everything and give all orders; you will watch the steam pressure, the amount of coal consumed each hour, the number of gallons of oil used, and must always hoist ashes at five bells. Here are the steam and vacuum gages and the revolution counters. In the columns of this engineer log-book are different things to be recorded; temperatures, pressures, revolutions, coal and oil used, water distilled, and so on. Watch the condenser and the air and circulating pumps. Pump the bilges dry every watch. There's a lot of things to be done. I can't mention them all, but you'll be busy enough. And all of the time keep your eyes and ears open; the ear is the best help in the engine room; there are a thousand proper sounds buzzing about us this instant but let a strange sound occur and you will know that some-

thing is wrong ; for example, don't you hear some banging in that high pressure cylinder ? ”

“ Yes, indeed I do. What is it ? ”

“ Water is condensing in it ; evidently the cylinder jackets need to be drained and more steam put on the jackets. Suppose you try to discover where the jacket drains and steam valves are, and see if you can get rid of that hammering.”

It was in ways like this that Ralph acquired an intimate knowledge of the machinery and its connections. Mr. Cooper kept him constantly busy, informing him what was to be done but requiring him to do it.

The working of the machinery had to be watched ; it was necessary that the engineer on duty should give explicit orders to machinists, oilers, and water tenders, and should have intimate knowledge of how every one performed his work. Besides the main engines there were many auxiliaries and pumps in operation ; the most pressing thing was that nothing should run hot, which proper oiling would tend to arrest.

Mr. Cooper gave his orders to Ralph and the latter carried them out.

“ Test your feed-water every watch, Mr. Osborn,” directed the warrant machinist ; “ condensers leak sometimes and make salt water.”

“ How do you test the feed-water ? ”

“ With litmus paper or nitrate of silver, if you’re particular ; but I just taste it ; that’s the easiest way.”

“ Ugh, that’s oily and nasty,” exclaimed Ralph after tasting some water he drew from a pet cock on the cylinder.

“ But does it taste salty ? ”

“ No, but it’s not fit to drink.”

“ Of course not. Now watch your oil ; we can’t afford to waste any. Whenever you see a brass is running perfectly cool split the oil wick to decrease the amount of oil used. If the steam pressure falls below one hundred and forty pounds quarrel with the water tenders. Let every man on watch feel you have your eye on him, that you’ll jerk him up if he neglects anything. And don’t forget each hour to put all the required information in the log-book.”

In the first four hours of this Ralph had many questions to ask of Mr. Cooper, some for information, others for advice. The warrant machinist’s method of instruction was to put Ralph on the right track but to make him dig for himself. At the end of several days Ralph gave directions with confidence and advice from Mr. Cooper was rarely necessary.

At four o’clock one morning as Ralph descended into the engine room, Mr. Cooper met him, saying : “ Mr. Osborn, our distilling plant is making

salt water. I must go to the evaporator room to help matters if I can; you'll have to run the watch without me."

"But the chief engineer has ordered me to exercise no authority down here and ——"

"It's all right, Mr. Osborn; you needn't worry. I must see what the trouble with the distiller is; you can send for me if you want me," and Mr. Cooper left.

Ralph's heart seemed to leap for joy. That he so soon would be actually in charge of these powerful engines was something he had not dreamed. In that morning watch he was spurred by restless activity; there was nothing but routine orders to be carried out, but to Ralph it was all a delight. A little before eight o'clock the warrant machinist reappeared.

"How's everything?" he asked.

"All running smoothly; nothing has happened. How are the distillers?"

"Not doing well. They ought to be making fifteen thousand gallons of water a day but are not making six."

"What's the matter?"

"If we put more than ten pounds steam pressure in the evaporator coils the water we make is brackish, not fit to drink; our distilling plant is the weak part of this engineer department."

Ralph went on watch again at four o'clock; soon

after Mr. Cooper was called away again, leaving Ralph in sole charge in the engine room.

Before long Midshipman Cullen appeared. "Where is the engineer on watch?" he asked of an oiler.

"Over there by the starboard thrust; it's Mr. Osborn."

Cullen looked surprised. He approached Ralph, who was feeling of a thrust collar wondering if it would get warm.

"Osborn," said Cullen, "I'm under instruction down here; the chief engineer says I'm to report to the engineer of the watch at four every day to take indicator cards of the main engines."

"All right. I'll connect the indicators and start you right away."

The two young men had to converse with each other but Ralph noticed that Cullen was short in his remarks and not friendly in manner. So after starting him on taking the cards Ralph left him.

From now until the ship anchored at Singapore Ralph stood all of Mr. Cooper's watches. The latter was always within reach but it was seldom necessary to send for him.

Ralph had a feeling that Mr. Cooper was not doing right in being absent from his station so much of the time and told the warrant machinist so, but without result.

“But, Mr. Cooper, if the chief engineer comes down and finds me in charge and giving orders there’ll be a big fuss.”

“The chief engineer will learn you can run a watch if he does ; it will do him good.”

But the chief engineer did come down in the afternoon before the ship anchored at Singapore. He did not seem to see Ralph nor did he apparently notice that the warrant machinist was absent. He walked around the engine room, regarded every piece of moving mechanism, went into the fire-rooms, and then left without making any comment.

This mystified Ralph ; but his chief feeling was that of relief when the chief engineer left without making any fuss.

The ship anchored before noon the next day. At one o’clock Ralph received word that Commander Harker wished to see him. Ralph found the chief engineer at the ward-room mess table talking with the executive officer.

“I was told you wished to see me, sir,” he said.

This was the first time he had spoken to Commander Harker for weeks. The chief engineer looked feeble, as if he were a broken down old man ; Ralph instinctively reproached himself for the resentment he had been cherishing.

“Mr. Osborn,” said Commander Harker, “I shall not go ashore while we are in Singapore. I

wanted to say that as far as I am concerned you may go any or every day."

This came as a violent surprise to Ralph, so much so that he was actually speechless for a moment; and after that he did not know what to say. Finally he managed to blurt out: "Thank you, sir," and then left the ward-room.

"The old man has had a change of heart toward you, Os," said Himski, after he had heard of the interview.

"I've had some big surprises, Himski, but this is about the biggest of all. I sort of imagined I was going to get a blowing up; just think how Commander Harker abused and insulted me—he has treated me shamefully without any cause; then all of a sudden he goes out of his way to be kind and considerate. I don't know how to take a man like that; but I'll keep clear and have nothing to do with him; he'll never see me if I can help it. However, this was white of him. I'll give him credit for that."

"Well, Os, do you realize that since target practice none of us has seen anything of you? When you're not below you're either resting in your bunk or studying some old blue-print; as far as the mess is concerned you might as well not be aboard; you hurry through your meals and never chat in the mess room. What's the matter with you?"

“Just get into engineering once, Himski, and you’ll know. We studied books, solved probs, and worked with machine tools at Annapolis, but this is different. I am learning in a way that cannot be taught in a school. I can’t explain to you the fascination of actually managing powerful engines where it is done for a real purpose and not for mere practice. When I am at work below I am positively thrilled ; every moment is a joy. When I am away from the engine room I want to be back. I am thinking of what I am going to do next, or some point has come up that I want to study.”

“But, Os, you’re in no authority below ; you can’t give an order. I’ve really been much surprised you’ve put in so much time down there—it would be different if you had charge of a watch. I could understand how absorbing that might be, but I should think that just looking on would become mighty tiresome.”

“I am standing Cooper’s watches. I have absolute and complete charge ; he turns things over to me and leaves. I haven’t spoken of this and don’t want it talked about. I don’t imagine Cooper is shirking ; he’s not that kind of a man ; he always seems to have an important job to attend to ; and I’m having the most interesting work I ever had. It’s eight hours a day in a hot engine room for me, but I begrudge the time I’m not

there. I'm a real engineer, Himski; you have no idea of the pleasure and satisfaction there is in the work."

"I'll be glad when the fascination wears off, Os, so we can see more of you. Suppose we go ashore this afternoon and see what this town of Singapore is like; a change will certainly do you good."

"Fine; it will be a real treat."

The three chums, Ralph, Bollup and Himski, went ashore that afternoon and saw Singapore; this crowded port city was similar to many of the other cities in the Orient, and after their curiosity was satisfied they found an attractive English hotel and had a good dinner.

On their return they heard with delight that mail from home had come on board. Bollup found a great pile of letters awaiting him; Ralph had but few; one of these was signed "Gladys" and was from Bollup's sister. Mail time was often sad for Ralph for he had no father or mother to write to him, and being an only child he had no immediate family to be interested in him.

"Os," exclaimed Bollup, bursting into the room occupied by Ralph and Himski, "my mother has written me that Gladys has left home for a visit to my aunt who is a missionary; she is going to a place called Kessab, a town in Syria. Now what do you think of that!"

“I’m thinking a good deal about it, Tom. I’ve received a letter from Gladys, written just before she left. By George! We’re going to stop at Beirut for a few days; perhaps we may have a chance to go to Kessab. We must look on the map to see where Kessab is. I’ve never heard of the place. How long has your aunt been there, Tom?”

“Over fifteen years; her husband was killed in a massacre of Christians fourteen years ago; Aunt Anna has been there ever since; she is enthusiastic over her work. We’ve wanted her to come home but her heart is in Syria and she won’t leave. Won’t it be great if we can see Gladys? How long will it take us to get to Beirut?”

“Three weeks, I imagine. Oh, it will be fine if we can get leave; let’s look up Kessab.”

The town was readily found on the map; there was much conversation among the young men as to its distance and the probable means of travel; different plans were suggested and laid out; and it was late that night when Ralph and his friends turned into their bunks.

“Mr. Osborn,” said Warrant Machinist Cooper the next morning in the engine room, “we’re going to shift berth in an hour; we don’t seem to be in a proper anchorage. Suppose you put steam on the engines and start the necessary auxiliaries; this will be good practice for you.”

“Indeed it will be. What boilers have steam up?”

“Boilers A and B. We’re only going to move a quarter of a mile. What will you do first?”

“Put steam on the cylinder jackets and crack open the throttle valves; this will warm up the engines; then start the air and circulating pumps; after that turn the engines over slowly.”

“You’re wrong. First build up strong fires in the two boilers; they’re only banked at present; and before you crack open the throttles remember the boiler stop valves must be opened. But the most important thing of all is to see all drains are open; when steam first strikes the cold pipes a lot of water will be condensed; you must get rid of this water. Most burst steam pipes come from water hammers; before you can use steam you must blow out the water that has formed.”

“All right. Come with me, Cooper, and prompt me if I don’t give the right orders.”

In the forward fire-rooms Ralph gave the order, “Spread fires, and build them up good and strong,” to the chief water tender. Then, accompanied by a machinist he went to the berth deck; using a large monkey-wrench he slowly and carefully turned the wheels of the forward boiler stop valves to the left.

“That’s right; open those stops very gradually,” cautioned Cooper.

Ralph saw that all the drains of the main steam pipes were opened and then opened the throttle valves slightly. After this he opened the cylinder jacket valves, started the air-pumps, and then the circulating pumps. Ralph did all of this himself, receiving occasional advice from Mr. Cooper. Soon the engine room resounded with the hiss of steam and the working of pumps.

“Send to the officer of the deck for permission to turn the engines,” directed Mr. Cooper, which Ralph did.

“The officer of the deck says all right, sir, but you are to turn slowly,” reported the messenger.

“Go ahead, Mr. Osborn; turn each engine a few revolutions ahead, then astern.”

“Stand clear of the port engine,” cried Ralph. Then throwing up the lever of the reversing engine he was thrilled by seeing the mighty machinery move. The piston and connecting rods went up and down and the crank-pins revolved. Ralph worked the port engine ahead and astern; after stopping it he went to the starboard engine, doing the same thing there. The machinery worked perfectly.

“Messenger,” called out Ralph, “report to the officer of the deck that the engines are all ready.”

“I wish Commander Harker could have seen me,” he said to Warrant Machinist Cooper; he did not understand the occasion for the smile that

crossed Mr. Cooper's face, who made no reply to his remark but said, "Now stand by for signals, Mr. Osborn. I will handle the starboard engine and you the port; work the engine ahead or astern just as ordered by the annunciator in front of you."

Soon Ralph heard the clang of a bell and saw the arrow of his annunciator change from "stop" to "ahead slow." He raised the reversing lever and marveled at the ease with which the engine started; for the next few minutes Ralph received many signals and had much practice in handling his engine.

"The officer of the deck says to bank fires and secure the engines," was an order that came down the speaking tube. Under Mr. Cooper's directions Ralph gave the necessary orders, saw the steam shut off the engines, the pipes drained, the auxiliaries stopped and the fires in the boiler furnaces banked.

"Mr. Cooper," commented Ralph, "I'm sure I could do this alone another time; there is nothing difficult or mysterious in getting the engines ready for use. There are a number of steps to be taken; I couldn't possibly forget one of them."

"But suppose you should, Mr. Osborn? Some machinist or oiler would come to you and ask if you didn't want to do this or that. The men down here are not blind at all and if any officer

should make a misstep his attention would be immediately called to the fact. If I'm on duty when we leave here I'll give you the job of getting the engines ready and won't expect to say a word. By the way, McCarthy is opening up his two after boilers; perhaps you'd like to take a look at their insides."

"Indeed I should.

"Good-morning, McCarthy," called out Ralph to his old friend in the starboard after fire-room. "What boiler are you opening?"

"Good-marnin', Mither Osborn. "I'm afther openin' biler N. I sispician it be dirty inside; it hasn't been claned fer a long toime. Come along, Jacobs, I'll sind ye into yer biler. Mither Osborn, I'm a-goin' to take off the upper manhole plate—whin the plate be off it laves a hole big enough fer a man to crawl into the top av the biler. Here at the bottom av the biler be three other manhole plates; if the biler be very dirty we'll pump all the wather out an' open up the lower plates. An' here be Mither Cullen; perhaps ye'd like to see the insides av a biler, Mither Cullen?"

"Yes, indeed, very much," replied the latter who had just come into the fire-room.

Ralph and the midshipman followed Jacobs and McCarthy to the side of the boiler and then climbed an iron ladder. Here, using a big wrench, the two enlisted men unscrewed two nuts that held the

dogs of the manhole in place and a moment later the plate was lifted out.

“Phew!” ejaculated McCarthy; “that smell ain’t nice at all at all; the wather must be rale dirty. Give me that portable electric light. Take a look, Mither Osborn; ye can see the wather is just below the top tubes. Jacobs, get in an’ look at the top av the back connictions—let me know if they nade clanin’ an’ scrapin’.”

Jacobs entered through the manhole; Cullen held the light, with his head stuck into the boiler, watching the fireman.

Of a sudden Cullen gave a startled, frightened cry. “What’s the matter, Jacobs?” he shouted. “McCarthy,” he continued, “Jacobs has fallen flat on the tubes.” Without further words Cullen dived into the boiler and Ralph grabbed the portable electric light which Cullen had dropped.

“Don’t go into that biler; kape out av it,” shouted McCarthy, almost fiercely, jumping for the ladder and fairly leaping into the fire-room.

Ralph had an instantaneous feeling of contempt for the voluble chief water tender; though he did not stop to analyze his thought he felt that McCarthy had deserted a comrade in need of help. With his head thrust into the boiler Ralph saw Jacobs lying prone on top of the back connections and Cullen crawling over the boiler tubes toward him.

Cullen all at once seemed weak and wobbly and suddenly fell flat.

"McCarthy, McCarthy!" shouted Ralph, but there was no response.

With a determination to get hold of Cullen's legs and drag him out Ralph dived into the boiler; he was immediately conscious of a suffocating feeling; he gasped for breath and tugged at Cullen's legs but in a moment all strength deserted him and he lost consciousness.

When McCarthy jumped into the fire-room he was possessed with an intense frenzy.

"Stop iverything," he shouted; "come up the bolts av these lower manhole plates. Lively, lads; the biler be foul an' Jacobs is dyin' in it!"

The men in the fire-room were spurred into activity. The two nuts of each manhole plate were rapidly unscrewed; the dogs were pulled off and then heavy blows from sledge-hammers knocked the manhole plates into the boiler; immediately three heavy streams of dirty water gushed out of the boiler to the fire-room floor, flooding it, making a nasty mess of the ashes and coal that had been heaped about.

"What's all this for, McCarthy?" called out Mr. Cooper, angrily, standing in the doorway leading to the engine room.

Without answering McCarthy jumped to the

ladder and ran to the top manhole ; Mr. Cooper followed him.

McCarthy thrust his head into the boiler, saying as he did so, " Jacobs wint into the biler, Mither Cooper, an' fell flat, pizened by bad gases ; Mither Cullen wint in fer him an' got knocked out—the same wid Mither Osborn."

McCarthy lit a match, holding it in the manhole ; it was immediately blown out. " I guess the air be swate now, Mither Cooper ; I'll go in an' pass thim out ; ye can grab thim whin I get thim to the manhole."

CHAPTER XIV

RALPH LEARNS SOMETHING ABOUT EVAPORATORS

THE three men in the boiler top were quickly lifted out and carried into the engine room. Ralph recovered consciousness in a few minutes and tried to sit up. "Where are Cullen and Jacobs?" he gasped.

"Right here, Mr. Osborn," replied Mr. Cooper. "They'll come to in a moment, I hope; take it easy; the doctor is coming down."

Ralph's head pained dreadfully; he breathed with difficulty and was nauseated, yet he was recovering rapidly; every moment he felt better and soon wanted to talk.

"How are Cullen and Jacobs?" he asked.

"Getting better every minute. Jacobs was in the boiler longest and is sicker than either you or Cullen," returned Surgeon Smythe. "I'm going to have you all taken up on deck in the fresh air. Could you stand to be moved, Osborn?"

"Oh, yes; I'm not badly off. But, Cooper, tell me just what was the cause of this trouble and how we got out."

"McCarthy was in too much of a hurry to have his boiler inspected; he should have waited until

the boiler top was ventilated before letting anybody go into it. There was no air in the boiler but plenty of poisonous gases; so naturally you were all three knocked out."

"But how did we get out?"

"You can thank McCarthy for that!"

"McCarthy!" exclaimed Ralph. "The last I saw of him he was running away."

"McCarthy showed a quick wit. He knocked in the lower manhole plates; water rushed out and naturally air rushed in from the top manhole; then he jumped into the boiler and passed you out. You all owe your lives to McCarthy; he's chuck full of common sense and nerve."

"How be yer feelin', Mither Osborn?" inquired McCarthy, smiling through the sticky black grease that was smeared over his face. "Ye thought I'd runned away, didn't ye? I did, but ye see I come back agin in good toime."

"I feel like a chump. Forgive me, McCarthy; you're a real friend, a true friend. I thank you with all my heart. Doctor, I think I can walk all right. I'd like to go up on deck."

"All right. Mr. Cooper will walk with you to be near by in case you should get dizzy. I'll stay here with Cullen and Jacobs until they feel better."

Ralph spent the rest of the day in his bunk inclined to rest but not suffering beyond a headache;

he received word that neither Jacobs nor Cullen was seriously affected.

Later in the day Bollup dropped in for a chat. "Say, Os," he summed up, "that fellow McCarthy knew just what to do, didn't he? Everybody on the ship is talking about him."

"I imagine there isn't anything about boilers that he doesn't know," rejoined Ralph, "and he's all kinds of a good man besides. I wouldn't be here now if it hadn't been for McCarthy. I'm feeling bully, Tom; my headache is nearly gone. I'll be at work again to-morrow morning."

Coal and stores were taken on board the next morning. The day was hot and damp; the coal dust which permeated everywhere made the ship extremely uncomfortable. Ralph did not feel vigorous or ambitious and did not plunge into the work of "coaling ship." The ever-present coal dust made lolling in his room uncomfortable, so finally he wandered to the engine room where he found Warrant Machinist Cooper.

"I don't feel like going into bunkers to-day and don't know what to do; I'm not sick yet I don't feel like working," Ralph remarked. "I wish I could find a nice easy job where I could sit down and watch men work without having to fill my lungs with this coal dust."

"I've just the job for you, Mr. Osborn. I'm scaling evaporators; why don't you go to the

evaporator rooms and boss the job? Do you know much about evaporators?"

"Only theoretically; that is a subject I haven't yet tackled practically. Tell me all about evaporators; start at the beginning; just imagine I don't know anything about them."

"Well, an evaporator is a machine into which salt water is pumped; it is really a big cylinder. Now there are pipes in the evaporator which are filled with steam from the boiler. These hot steam pipes evaporate the sea water that surrounds them, which passes out of the top of the evaporator as vapor; this vapor then passes into the distiller, which is really nothing but a condenser; the vapor strikes cold pipes through which sea water is being pumped and is condensed into fresh water. That's all there is to it; it's a very simple process."

"But why is an evaporator needed, if you pump the sea water into the boiler and make steam of it? Why could not this steam be condensed into drinking water instead of using the evaporator?"

"It could be and used to be. But when you evaporate sea water you leave the salt behind; this remains in the boiler on top of the furnaces, tubes, and back connections, and it's mighty hard to get this salt out. With high pressure boilers, such as we have here, only fresh water is used for feed; we never use salt water except in an emer-

gency. When we use an evaporator the salt is deposited on the evaporator tubes and on the inside of the evaporator shell. Once every two weeks we pull out the evaporator tubes, a simple quick process, chip off all the salt and put the tubes back. On this ship our evaporators are very inefficient; we are constantly in danger of a water famine; we need at least ten thousand gallons of fresh water a day, seven thousand for the ship's company and three thousand for make up boiler feed, but we only make six thousand. We would indeed be in a bad way if one of our evaporators should become disabled. The chief engineer is worrying himself sick over the matter."

"It seems odd that the evaporators are inefficient; why don't they make more than six thousand gallons?"

"Because we can't force them. We ought to carry fifty pounds steam pressure on the coils but if we have more than ten pounds the vapor carries salt water with it and when condensed is brackish, not fit to drink. The trouble is due to restricted vapor space in the top of the evaporator. In our new ships this is avoided by having a separator, as it is called; the vapor passes from the evaporator into the separator where it strikes a sort of a twisted plate; this whirls the vapor about, throwing out the small particles of salt water; the purified vapor then passes to the dis-

tiller where it is condensed into drinking water. If our evaporators here were only fitted with separators we could carry fifty or sixty pounds of steam pressure on the coils and could easily make twenty thousand gallons of water each twenty-four hours."

"Thanks, Cooper; I'll go into the evaporator room and see if I can interest myself up there."

In the evaporator room, which Ralph had not previously visited, he found three men chipping off the salt which was encrusted on a nest of evaporator tubes. They paid no attention to Ralph.

"Say, Jack," remarked one, "this is a heap better than breathing coal dust, ain't it?"

"Betcher life; we'll make this job last till coalin' time is over."

"You'll get a hustle on or find yourselves in a lower bunker in five minutes," broke in Ralph, authoritatively.

"Who be you?" snarled one of the men, not recognizing Ralph in his dungaree suit as an officer.

"Ensign Osborn, the first assistant. Get busy and you'll have no kick coming from me; but if you nurse that job I'll find you another in two wags of a dog's tail."

Ralph was amused at the alacrity with which the chipping hammers flew. Flakes of salt were rapidly chopped off the coils. One man was inside

the evaporator chipping vigorously ; all soldiering on the job and talking about it stopped completely.

Ralph spent the entire day in this evaporator room watching the men at their work and acquainting himself with the mechanism used to convert sea water into fresh drinking water.

By ten o'clock the next morning the coils of both evaporators as well as the insides of the evaporator shells had been chipped clear of all salt and arrangements were being made to replace and bolt into position the evaporator heads to which the coils or nests of tubes were attached.

"You've put life into these evaporator men, Mr. Osborn," said Warrant Machinist Cooper, entering the evaporator room just after the chipping had been finished ; "I hadn't imagined this job would be done before night. The evaporators are well cleared of salt and the heads and tubes are ready to go back. I suppose that by this time you know all about the evaporating plant."

"I know something. The evaporator is just a big shell, empty at present ; we'll shove in the tubes, bolt up the head and then we'll be ready for business. Here's the salt water feed-pipe ; after the tubes are in we'll first pump the evaporator half full of salt water. Then we'll start the circulating pump for the distiller, open this valve on the top of the evaporator to let the vapor pass into the distiller, and then we'll be making fresh water."

“That’s right. What’s that other pipe, to the right of the sea water feed?”

“That’s the bottom blow; I suppose you blow down every watch, don’t you?”

“Yes; that prevents the water in the shell from becoming too salty; we lose a good deal of heat that way but it saves lots of extra salt from being deposited on the tubes. By George! It’s unfortunate we haven’t a separator; we would be in a nasty fix if anything should happen to one of our evaporators.”

“Well, Cooper, I’ve finished this job; have you got another for me?”

“Yes; let’s go to the ice machine; it’s forward on the berth deck. I’m making some repairs to it, renewing the packing of some stuffing boxes.”

When the ice machine was reached the warrant machinist remarked: “You understand the principle of this machine, don’t you?”

“I think so,” replied Ralph; “first the machine compresses air which causes heat to develop; this heat is carried away by running water; then this compressed air is expanded and as the heat which was in it has been carried away the expanded air becomes intensely cold; this cold air is carried in pipes; it freezes water into cakes of ice and keeps the meat room at a low temperature.”

“Correct. Now what is the chief cause of trouble experienced with ice machines?”

"I don't know, Cooper. I really have had no practical experience running one."

"I'll tell you. The air is compressed to a pressure of over two hundred pounds to a square inch, or ought to be. Sometimes air leaks develop; you don't get the pressure and you make no ice. So we are constantly looking for air leaks. Well," continued Mr. Cooper, "the coal is all on board, thank goodness; we leave early to-morrow and I'll be on watch. I'm going to let you give every order about getting up steam and preparing the machinery for use. Suppose this afternoon you write up everything you do, every order you will give; in case you overlook anything I will call your attention to it."

"All right; I'll outline every movement and let you have the paper to-night."

In the afternoon the ship had a bath. Huge quantities of water were thrown everywhere. The decks and bulkheads were scrubbed, everybody working strenuously to get rid of the evidences of coaling.

Ralph in his room studied evaporators and ice machines. These subjects were of absorbing interest, far more so than when he was studying at Annapolis with no greater duties toward such mechanisms than to be able to make creditable recitations concerning them. He was now studying with the purpose of personally directing their

operation; his ambition was to develop a usefulness as an assistant engineer which in some way would bring to him the confidence of Commander Harker.

Shortly after eight o'clock that evening, as Ralph sat in his room talking with Himski and Bollup, there came a rap at his door.

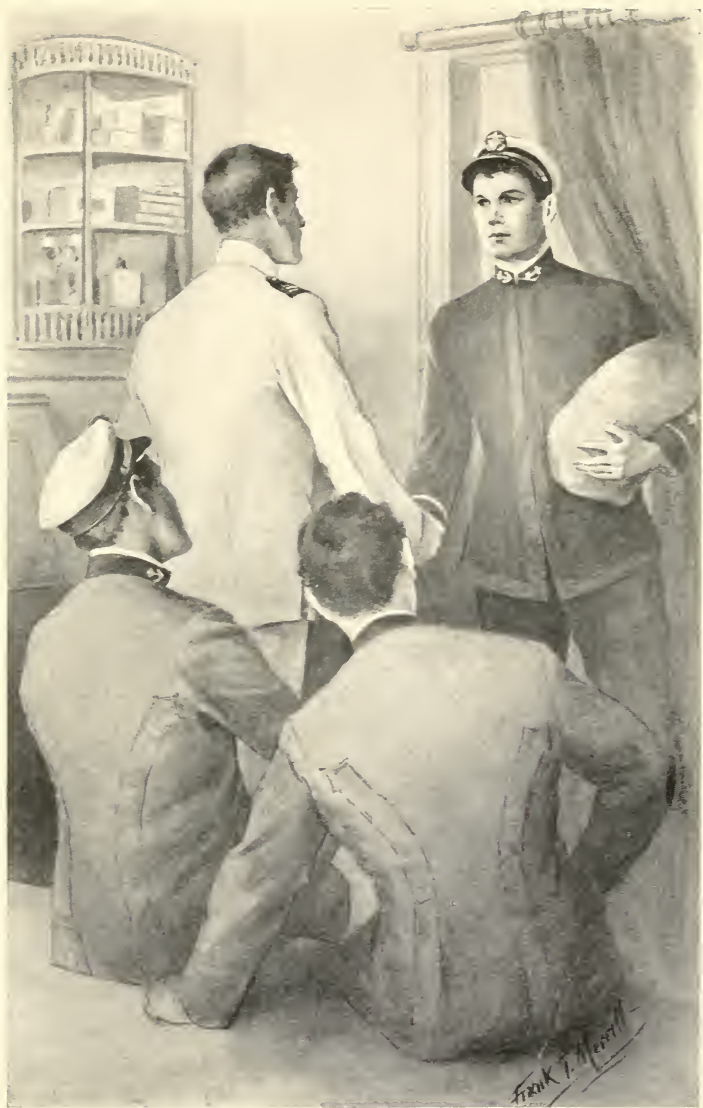
"Come in," he called out.

Midshipman Cullen entered; he had a bundle under his arm.

"Osborn," Cullen began, "I want to apologize for my words of that morning in Hongkong. I know I was insulting, but I was mad; and I really didn't mean what I said. I meant to apologize to you publicly in the mess room to-night but you cleared out before I had a chance; after you left I told the fellows what I was going to do. Please forgive me, Osborn. I hope you bear me no ill will."

"Why, my dear fellow," exclaimed Ralph, beaming with happy feeling, "let's shake hands and forget all about it. I gave you cause to get riled and you let go your temper. You and I were mixed up in a bad scrape yesterday and ought to be good friends. How are you feeling?"

"Oh, I'm feeling fine; thank you for coming in after me; that was real white in you, Osborn. Say, that Water Tender McCarthy is all to the good, isn't he? But look here, Osborn, we're not



"WHY, MY DEAR FELLOW." . . . "LET'S SHAKE HANDS."

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square yet. I've drawn a suit of dungarees from the paymaster to replace those of yours I threw overboard, and here's the twenty dollars that was in them. You have got to take them. I won't feel right if you don't."

"Hold on a minute, Cullen. I don't want to pretend to be generous and refuse them and put you under any obligation. Suppose we settle this on its merits. I object to taking the dungarees because I had no business to leave them in the bath room, and I object to accepting the twenty dollars because I showed but little sense in leaving money in a dirty working suit. I propose that you and I let Himski decide this matter. What do you say?"

"I say," persisted Cullen, "that you've got to take both the dungarees and the money."

"And I positively refuse; now what are you going to do about it?"

"Look here, Osborn, you ought to be generous enough to let me square myself. I'll not feel right if you don't take these things."

"And I'll feel pretty mean if I did. Say, Tom, isn't my proposition square?"

"It surely is, Os," replied Bollup, "and you've picked out a long head to settle the matter. You'd better agree, Cullen."

"I will," hesitated Cullen, "provided that Himski will agree on his word of honor to show

me no favoritism; will you promise that, Himski?"

"I will. Shall I give judgment?"

"Go ahead, Himski; here's your chance to prove yourself a wise judge," exclaimed Ralph.

"All right, Himski," said Cullen; "no favoritism, remember."

"Here goes, then. You are both at fault. Cullen, you had no right to throw those dungarees overboard. Os, you should not have left your clothes about, much less as they contained twenty dollars. My judgment is that you should share the loss equally between you. Cullen, you are to pay Osborn ten dollars and give him the dungaree suit at half cost."

"A Solomon!" ejaculated Bollup.

"You're a terrible failure as a judge, Himski," laughed Ralph; "a good judge always pleases one party in a suit but you have disappointed both of us. However, I'll keep to my agreement. Cullen, you're all right; you're mighty square and I appreciate your coming here to-night; you and I are both in the engine room. We'll work together and help each other."

The four young men spent a pleasant evening together; Cullen had a warm nature that attracted Ralph.

"I'm glad Cullen and I are friendly," he remarked to Himski when the others had left. "I

once thought I would never speak to him again. I felt the same way toward Commander Harker for a while but now every time I see him I feel sorry for him ; he seems weak and half sick but still keeps on working. I wish he would let me help him ; he doesn't believe I have a glimmer of intelligence concerning engineering but he'll find out before long he's made a big mistake."

CHAPTER XV

A CATASTROPHE

“**T**HE engines are ordered to be ready at four o'clock, Mr. Osborn,” said Warrant Machinist Cooper at eight the next morning. “I have the duty but will turn it over to you. Fires are banked in the two forward boilers, water is at steaming level in all of the remaining six boilers. You had better prime furnaces and start fires in these six boilers right away, and at two o'clock start to warm up engines and get the auxiliaries ready. I've got to hurry up the repairs on the ice machine; send for me if necessary, but I don't imagine you will need me.”

“How about the chief engineer? He wouldn't want me to do this.”

“Don't worry about the chief. I've got to leave so you'll have to carry out the orders.”

Without further discussion Mr. Cooper left the engine room. Ralph was not altogether easy in his mind; he was apprehensive that Commander Harker would appear in the engine room and that a violent explosion would follow. But at the same time Ralph was thoroughly elated. He knew in his own mind he could get the engines

ready and having the chance to demonstrate his ability filled him with joy. It was a victory that he had been longing for.

He went to the fire-room at once. "Prime furnaces, start all fires," he called out in each fire-room.

He watched the firemen throw coal on the empty grates and later run with shovelfuls of burning coal to put on them. Ralph had a multitude of details to attend to; he gave many orders to machinists, oilers, water tenders, and by personal inspection saw that every order was properly obeyed.

The time passed rapidly. It was a suffocatingly hot day and hotter in the engine and fire-rooms than on deck, but Ralph was so absorbed in his work that he did not mind the heat nor was he sensible of any discomfort. At eleven o'clock Warrant Machinist Hopkins came into the engine room. He watched Ralph for a moment, then exclaimed, "What are you giving orders here for? Don't you know what the chief engineer says about your exercising any——"

"Mr. Hopkins, if you have any work to do down here do it—if you haven't, get out," retorted Ralph with rising wrath.

Mr. Hopkins hesitated a moment as though he would like to say more, but not daring to he turned and went up the engine-room ladder.

“He’ll be back in a minute with old Snarleyow,” muttered Ralph bitterly to himself. “There’ll be a blow up; this will get Cooper into trouble. I’d better send him word.” He seized a piece of paper and scribbled on it, “‘I’ve just fired Hopkins out of the engine room—think he will come back with the chief. You had better come right away.’ Here, messenger, take this note to Mr. Cooper at the ice machine; hurry, it’s important.”

The messenger soon returned. “Mr. Cooper says He can’t come now; he said to tell you there wouldn’t be any trouble,” the messenger reported.

Ralph was greatly puzzled. He had a secret feeling, much as he enjoyed the authority he was exercising, that Mr. Cooper had no right to be absent from his post at this important time; also that Mr. Cooper was in imminent danger of receiving severe reprimand from the chief engineer. He was amazed that Cooper dared to remain away after receiving his note; and as the minutes passed and Commander Harker did not appear Ralph remained mystified.

When Hopkins left the engine room he looked for the chief engineer who was walking up and down the port side of the quarter-deck.

“Captain,” began Hopkins, in an important manner, “Mr. Osborn is in the engine room giving——”

“Don’t bother me,” exploded the chief engineer,

throwing up his hands in an excess of irritation ; "tend to your own business and leave other things alone." Hopkins slunk away, surprised and aggrieved. He failed entirely to understand the turn of events.

At four o'clock that afternoon the *Illinois'* engineer department presented a busy scene. Heavy fires roared in all of the furnaces of the eight boilers ; coal passers in the bunkers were busy filling their buckets with coal ; firemen were feeding the furnaces ; water tenders managed their pumps, tested boiler valves, and examined the fires with critical eyes. Overhead in the fire-rooms the forced draft blower engines were turning over slowly, in readiness to pump huge volumes of air into the fire-rooms as soon as engines were started.

In the engine rooms machinists and oilers darted about examining the air and circulating pumps which were in full operation, filling up oil cups, and seeing that everything was ready to get under way. Directing them was an intelligent, earnest youth in dungaree working clothes who gave orders quietly but seemingly with perfect confidence.

"Call up the officer of the deck," directed Ralph ; "ask for permission to turn over the engines."

"The officer of the deck says go ahead, Osborn,"

replied Cullen a moment later. "You are to turn each engine slowly, a few revolutions ahead, then astern."

"Stand clear of the port engine," shouted Ralph. Then seizing the reversing lever he raised it; the great engine immediately started. Ralph put the lever in its middle position and the engine came to rest. Throwing the lever down caused the engine to revolve in the opposite direction. Leaving the port engine Ralph gave a warning cry of, "Stand clear of the starboard engine," and a moment later started it. Then he called out, "Messenger."

"Sir."

"Report to the chief engineer that it is four o'clock and that both main engines are ready for signals from deck."

"I'll relieve you, Mr. Osborn. I come on watch at four o'clock," reported Warrant Machinist Raymond, coming up and saluting.

"Wait until we get under way, and look out for the port engine, please," replied Ralph, who, now that everything was ready, was unwilling to give up his authority until he had seen the result of his day's work.

At the sound of a bell, Ralph regarded the starboard engine annunciator; the pointer whirled around stopping at "ahead slow."

Ralph raised the reversing lever, starting the

starboard engine; then came a bell for the port engine, which was operated by Mr. Raymond. Signals came rapidly for a few minutes, but finally both engines were running at "full speed ahead." Ralph now gave orders to water tenders concerning the blower engines and the boilers, then turning to Warrant Machinist Raymond, said: "I'll turn the duty over to you. The second division is on watch, all eight boilers are connected up, all blower engines are running but only assisting the natural draft—the air is heavy and dead; no breeze is blowing; that's why I started the blowers. Keep steam at one hundred and sixty pounds' pressure and make ninety turns on each engine. There's lots of other things for you to know; here's some memoranda orders from the chief engineer ——"

"All right, sir; I'll relieve you," interrupted Warrant Machinist Raymond. "I'll look about and find out everything I ought to know."

For half an hour longer Ralph remained below, watching the engines with a happy feeling that he had been equal to the important work that had been thrown upon him. He felt that if the chief engineer could but know of his work that day he would assume the real duties of first assistant engineer and could relieve the chief of many routine details.

"But to tell him would do me no good. Com-

mander Harker would go crazy at the thought of me giving orders down here and might report Cooper for being absent," reflected Ralph.

For the following week Cooper and Ralph came on watch together at midnight and noon, Cooper always disappearing immediately, leaving Ralph in charge. Several times Ralph expostulated with Cooper.

"I'm glad to run the watch," he admitted. "Every minute is full of interest for me and I'm learning a whole lot; but it's your watch, Cooper—you're not doing right in leaving your station; you know you're not; and if the chief should learn of it you would get into trouble."

"Don't worry, Mr. Osborn, I'm always within call; I'm not turning in. I'm not shirking. The chief has given me an extra lot of work and I'm doing it while you're running the engines. You can now handle the engines as well as any warrant machinist in the ship."

"Do you really mean that, Cooper?"

"I most assuredly do; you've proved it."

"Thank you for your good opinion, Cooper, and for your help and encouragement. But if I'm competent to stand a watch it ought to be in my own name, not yours, as it has been. It's not just to refuse me recognition if I'm competent, and it would be unofficerlike for me not to insist upon this recognition."

"You're entirely right, Mr. Osborn. We'll see the chief to-day and have this matter straightened out. I'm sure he'll give you regular duty from now on."

"I'm sure he won't," replied Ralph, with conviction, "but I'll give him a chance. I'm afraid he'll give you thunder for letting me do your work; that's the only thing that worries me. What are you laughing at, Cooper?"

"Oh, at a funny thought that just came to me—but let's turn in; it's now four o'clock; we've been up since midnight and I'm sleepy. We'll see the chief after he's had his breakfast."

Before nine o'clock Ralph sought the warrant machinist. "Well, Cooper, are you ready to go to Commander Harker?" he asked. "Good gracious, man, you look tired out. What's the matter?"

"I was tired out at four o'clock, as I told you, but just after I left you I went to the evaporator room where I've been ever since. The evaporators were making salt water and lots of it. I shut off each evaporator separately and found that one of them is all right, the other in bad shape. I then took out the tubes of the bad evaporator and examined them. Every tube is pitted; the tubes are worn out; the tubes of the other evaporator are comparatively new but the old tubes are hopeless. That evaporator will be out of commission till new tubes are put into it."

“ Well, re-tube it ; we can, can't we ? ”

“ That's the trouble ; there's not a spare evaporator tube on board and there is no pipe of the proper size that we might make tubes of. The remaining evaporator will not make three thousand gallons of water a day ; this is a serious matter, Mr. Osborn. We are confronted by a water famine. I hate to report the facts to the chief engineer ; the poor old man is in a bad way and I'm afraid this news will finish him. The old man is on the quarter-deck now. Come along.”

On the ship's deck Commander Harker was feebly walking up and down. His face was white and anxious. It seemed to Ralph that he had aged greatly in the past few weeks. Ralph and Cooper walked up to him.

“ Chief,” began Mr. Cooper, “ I'm sorry to report that the tubes of the forward evaporator have given out. I've examined them this morning ; they're pitted clean through. We've no spare tubes on board and no pipe of the size. We'll have to get along with one evaporator, chief, till we get to Aden.”

Hardly had Cooper finished than, with an agonized exclamation, the chief engineer staggered and would have fallen to the deck but for Ralph and Cooper. They assisted him to his room ; the surgeon was sent for, but Commander Harker insisted he was not ill. He was determined to

examine the evaporator for himself, so went with Ralph and Cooper to the evaporator room.

"This is a terrible blow, Mr. Cooper," he finally said; "it will be a week before we arrive at Aden. We'll have a water famine on board. Oh, this is awful. I must see the captain right away."

On the receipt of this serious information Captain Pegfield immediately took drastic means to conserve the use of fresh water. None was to be used for bathing or washing by either the officers or enlisted men. The only fresh water to be used was for cooking and drinking.

"It's a serious condition but we'll meet it," said the captain to Commander Harker and Lieutenant Commander Hale. "We can't count on making more than twenty-six or seven hundred gallons a day, and we've only five thousand gallons in our reserve tank. Hale, have each officer instruct his men of the circumstances and put a sentry watch over the tanks; we'll take no chances. It's a pity you can't force the evaporator, chief; it really ought, you tell me, to make ten thousand gallons a day."

"Yes, captain; it could do that if a separator were attached to it, but to force it without the separator would be to make water so brackish that it could not be drunk. Nothing can be done, sir, until we get to Aden."

"Cooper," said Ralph a little before noon, "I

won't be on watch with you this afternoon. I'm going to study up evaporators."

"All right, Mr. Osborn; as soon as matters ease up and the chief is a bit more comfortable in his mind we'll see him about your having your own watch."

After a hurried lunch Ralph went to the evaporator room; he examined the leaky tubes with great interest. While doing this Commander Harker entered.

"Are all the tubes pitted?" he asked Ralph in anxious, agitated tones.

"Every tube, sir," replied Ralph.

"Mr. Osborn, this is a terrible thing to happen to me. I'd be very grateful if you could devise any means to help matters. I ought to be able to do it but my mind works slowly. I can't think as clearly as I once did; in such an occasion a first assistant should be of help to his chief engineer."

Wonder filled Ralph's mind as he looked into the pleading face of Commander Harker and listened to his trembling voice. It did not seem possible that it once could have been filled with vibrant scorn for him. Nor was there in Ralph's heart the slightest vestige of the resentment that had been there. There was no feeling for the chief engineer except pity and a desire to help him.

"It wasn't your fault, Commander Harker," he

said ; “ you should not take the matter so keenly to heart ; besides, we can get along until we get to Aden. Don't worry more than you can help about it, sir.”

CHAPTER XVI

THE *ILLINOIS*' FIRST ASSISTANT ENGINEER

“THE chief engineer has actually asked for my help,” thought Ralph after Commander Harker had left the evaporator room. “Poor old man, he is all broken up; he seems to have lost his animosity toward me. Well, I bear him none, but I wish he would let me act as a real first assistant. I’d try hard to do his worrying for him. This evaporator is a simple machine—sea water is converted into steam, leaving the salt in the evaporator, and then this steam is condensed into drinking water. One evaporator would make eight or ten thousand gallons a day if we only had a separator attached to it. When the evaporator is forced by high steam pressure inside the coils, the sea water that is evaporated carries salt water with it; the separator takes the sea water out of this vapor; that’s the whole action of the separator. It’s a pity we haven’t one here.”

Ralph looked at the disabled evaporator; the head containing the tubes had been taken out and the evaporator was now merely a cylindrical shell, partly open at one end. From the bottom of the separator ran two pipes. “One is to admit sea

water, the other is the bottom blow," pondered Ralph to himself; "and that big pipe on top is the vapor pipe by which the evaporated sea water goes to the distiller."

Suddenly a thought jumped into his mind; he eagerly examined the connections of the evaporator to see if his idea could be carried out. An hour later he went to the engine room and found Cooper.

"The chief engineer has asked me to help him," he said to Cooper. "I want a working party. Are there any machinists and other mechanics not detailed for watch standing?"

"Yes; there are six machinists available for repair work and as many oilers. I could scare up some water tenders and firemen. What do you want them for, Mr. Osborn?"

"I'll tell you later. Send the men to the log-room right away, please."

In the log-room Ralph said to the yeoman there, "Have you any wire gauze in the storeroom?"

"Yes, sir; several big rolls of it."

"And is there pipe of different sizes, and valves, unions and elbows?"

"Yes, sir; we have lots of things, any amount of them; if you'll come with me to the storeroom I'll show you."

In the storeroom Ralph found a great diversity of all sorts of engineer materials, stores and tools.

Returning to the log-room he seized a piece of paper and wrote rapidly on it, saying to the yeoman: "Send these things to the evaporator room right away; use these men that are waiting here for me." Addressing the men he said, "You men that are machinists come along with me to the evaporator room; the others will go to the storeroom with the yeoman."

In the evaporator room Ralph said, "Men, you know we are in danger of a water famine. This evaporator ought to make ten thousand gallons of water a day; it would if we could carry sixty pounds' pressure on the coils; but we can only put ten pounds on the coils because if we try to force the evaporator the vapor carries up salt water with it; a separator would get rid of the salt water. Now I propose to make a separator out of this broken down evaporator. We will run a pipe from the vapor valve of the working evaporator to the feed inlet of the broken down evaporator, which is now our separator. In the middle of our separator we will fasten layers of wire gauze. Now the vapor from the evaporator will be admitted to the bottom of our separator; it will pass up through the wire gauze, which will extract the particles of sea water it is carrying, and the vapor that passes out of our separator will be pure steam. Now you men are all practical and have a more intimate knowledge of how to

cut the pipes and connect them up than I have. I want to ask if any of you see anything impossible or impracticable in this plan."

"Mr. Osborn, this is all right; it's easy and simple," exclaimed Machinist Fuller, enthusiastically. "Why, there'll be no trouble at all in making a separator out of this evaporator. We've all the materials and tools needed; we'll start in right away, sir."

"Good. I'm going to work with you. We'll give each of you a particular job; some will secure the gauze in our separator by screws—you'll have to tap and thread a number of holes in the evaporator shell for that purpose; others will cut pipes to the required lengths, threading the ends where needed. Every man will take his own measurements. Lots of points will come up to be settled but we won't worry about them until they appear."

The machinists all displayed an enthusiastic interest. Machinist Fuller took a leading part in the discussion and planning that followed. In a very short time each machinist was assigned his particular job and then all started in with a good will to work. Tools and materials were brought into the evaporator room, and the making of a separator was actually under way.

At eleven o'clock the next morning Warrant Machinist Cooper entered the evaporator room. He gave one look at the steam gauge and then

shouted: "Great Scott, Mr. Osborn, you've got sixty pounds of steam. Don't you know you'll make nothing but brackish water with that pressure?"

"I'd put seventy pounds on the coils if I thought they could stand it," rejoined Ralph, smiling happily. "Suppose you test the water we're making. Here's nitrate of silver; draw a glass of water from the distiller and drop some of the nitrate in it."

"I will, and I'll show you a glass of water so cloudy you can't see through it," exclaimed Cooper.

Seizing the glass he filled it with condensed water from the distiller and then dropped some of the chemical into it.

"Why, this doesn't cloud at all. You're making good pure water, Mr. Osborn!" ejaculated the warrant machinist in amazement. "How in the world do you do it?"

"Take a look at the evaporator, Cooper," replied Ralph.

With keen eyes the warrant machinist took in the changes Ralph had made.

"By Jingo!" he exclaimed. "I believe you've converted this forward evaporator into a separator."

"These machinists have, Cooper. We've had a pressure of sixty pounds on the coils for an hour and the water has been tested pretty nearly every minute; it's all fresh so far."

"By George, Mr. Osborn, this is splendid.

You've actually made a separator out of this broken down evaporator. What did you do to the inside of the evaporator?"

"We took out those leaky tubes and put in several layers of wire gauze, that's all. The vapor enters at the bottom through the old feed pipe, passes up through the gauze which robs it of any small particles of salt water it may be carrying, and then passes out of the top through the vapor pipe to the distiller. We've had sixty pounds' pressure on these coils for an hour and haven't made a drop of anything but perfectly fresh water, so I'm quite hopeful."

"I should think so! This is magnificent, Mr. Osborn. How much water are you making?"

"I don't know. I'm expecting at least six thousand gallons in twenty-four hours. I hope everybody on board will get a fresh water bath tomorrow."

"We'll get more than that; everybody on board has been worrying, everybody has been made uncomfortable. This will be good medicine for the chief engineer. I'm expecting he'll collapse. I'm sure he doesn't know anything of this. He told me a few minutes ago that the breakdown of the evaporator was the worst blow he's had since he entered the navy, nearly forty years ago. Please go to him right away; this will make a new man of him."

“I’m not going to the chief engineer. I’m going to bed—I’ve been working here steadily since yesterday afternoon; so have these six machinists. We all need rest and sleep. I’m going to turn in. Somebody else can watch how this experiment turns out—and, Cooper, see that the men who have been working with me are not ‘turned to’ until to-morrow. I think we all deserve a rest. I’ll turn the evaporator room over to you, and I don’t expect to be called on for anything for the rest of the day.”

Ralph immediately went to bed, leaving orders with a mess attendant to be called at six o’clock that evening. “I’ve been up all night, Himski,” he remarked. “Just see I’m not disturbed, will you?”

It seemed to Ralph that he had been asleep but a few minutes when he heard a thunderous pounding at his door.

“Who is it?” he called out.

“The cabin orderly, sir. The captain wants to see you right away.”

“What time is it?”

“Nearly six o’clock.”

Late in the afternoon, shortly before Ralph was awakened, Commander Harker entered the captain’s cabin.

“Captain,” he said, “I have a report to make

concerning Mr. Osborn. I would like to make it in his presence and also in the hearing of the executive officer. Will you please send for those officers?"

Fifteen minutes later Ralph entered the cabin still too sleepy to wonder why he was sent for; he glanced from the captain to the chief engineer. Suddenly he felt his senses come to life with a wild throbbing of intense excitement.

"Mr. Osborn, the chief engineer has a report to make against you. What is it, Commander Harker?"

"I have no report to make against my first assistant, sir, but one concerning him. Captain Pegfield, you know, and probably everybody at the time knew, including Mr. Osborn, that I was much displeased when he was ordered as my first assistant. I am conscious that I was harsh and unkind to him. I wish to state, sir, that if to-day I were given the navy list and asked to choose my first assistant I would choose Mr. Osborn. I would prefer him to any officer in the entire naval service. I wish to apologize to Mr. Osborn and to beg his pardon for the harshness I showered upon him. I hope he will find it in his heart to forgive me."

"These are kind, generous words, Mr. Osborn," remarked Captain Pegfield. "Have you nothing to say in reply?"

For a moment Ralph was speechless with joy.

He had not expected such a triumphant entry into the chief engineer's good feeling and did not know what to say. When he did find his voice, he said what had been in his mind for some time. "Oh, Commander Harker," he burst out, hurriedly, "if you will only make use of me, let me act as your representative in some things, let me relieve you of many details, I will be the happiest man on the ship. You are not well—there is much that I could lift from your shoulders."

"This is interesting, but what is the occasion for it?" asked the captain, smiling pleasantly.

"I at first wasn't willing for Mr. Osborn to go on duty, captain, fearing his inexperience in engineering; so Mr. Osborn started in as a coal passer, then acted as a fireman, water tender and oiler. I was with Warrant Machinist Cooper one time and saw Mr. Osborn replace a grate-bar in a boiler that was under steam; this was several weeks ago. Mr. Osborn never knew I witnessed that act. Since then, under my direction, Mr. Cooper has had him stand all of his watches in the engine room. Mr. Osborn has proved himself competent to have entire charge of the engines. Yesterday a happy thought came to him—he converted the disabled evaporator into a separator. I have to report, sir, that due to Mr. Osborn, we are now making fresh water at the rate of nearly eight thousand gallons a day."

"What!" cried Captain Pegfield in amazement. "Eight thousand gallons a day! Is it possible?"

"It is indeed, sir, and I'm a very happy old chief engineer."

"This is splendid, Osborn," exclaimed Mr. Hale. "I don't blame the chief for wanting you for his first assistant."

Ralph was too full of happiness to say anything, but a feeling came over him that he would work for Commander Harker with all of his energy and all of his ability.

"Captain," said the chief engineer, "I am worn out physically and mentally. I am an old man and cannot bear up longer under the strain that has been upon me. I have a first assistant in whom I have perfect confidence. I would like your permission to consider myself relieved of most of my active duties, to turn them over to my first assistant. He will consult with me daily and I shall advise and direct him generally, but I would like him to have the active management of my department. I know it will be better for me and I believe it will also be better for the ship."

"Certainly, Commander Harker. I will give the order in writing, if you wish it; and keep me informed about the water distilled."

"Yes, sir. Thank you, sir."

"I'd like to go to the evaporator room," said the captain, "and have Mr. Osborn explain just

what he has done. I'm delighted beyond words that we are not in danger of a water famine. You've done splendidly, Mr. Osborn. I congratulate the chief on having you as his first assistant."

In the evaporator room Ralph described the way the separator had been made ; it did not take long and seemed very simple to everybody present. When they all left, Ralph went down to the mess room to dinner.

"How's old Snarleyow, Os?" exclaimed Bollup, as Ralph took his place at table.

"If you're referring to the chief engineer I wish you'd speak decently of him, Tom," replied Ralph earnestly. "Commander Harker is a fine old gentleman and I'm happy to be his first assistant."

"Gee whiz, Os! You don't mean that, do you?"

"I do indeed ; every word of it."

"Gentlemen," interrupted Ensign Winthrop, "here is an order from the executive officer saying that the restrictions concerning the use of fresh water are removed. Hooray! I'd rather have a bath than the crown jewels of the Great Mogul!"

CHAPTER XVII

THE ACTING CHIEF ENGINEER

“**Y**OU and I must get together, Mr. Osborn,” said the chief engineer, later in the evening to Ralph. “I’m going to be your adviser, but you’ll have a free hand below. I’ll expect to have a daily talk with you and you’ll keep me informed of how things are running. I feel as if a load had been lifted from me. I have now what I’ve longed for, a real first assistant.”

“I hope you’ll have no cause to be disappointed in me, Commander Harker. I’m going to do my level best to be useful to you. I’ve had lots of experience in the last month and I believe I could give good service as an assistant engineer. But to run this department—whew! that’s a bigger job than I’m fit for. I’ve no false notion that I’m competent for that—I’ve oceans of experience yet to get.”

“Call me ‘chief,’ Mr. Osborn; that sounds better than ‘commander.’ Of course you’ve lots to learn but at the same time you were far better grounded in the basic principles of steam engineering than I had any idea of. You’ve convinced me that Annapolis training is really excellent. It was a fortunate day for me when I saw you crawl

into that furnace. Ha! ha! ha! You had no idea that when you were standing Mr. Cooper's watches it was really by my direct orders, had you?"

"No, sir; and much as I liked Cooper I was worried by thinking he was neglecting his duties, that he had no right to leave me in charge. Now, with this new arrangement just what am I to do, chief?"

"You are to keep the engines going; you will plan and carry out all repairs. There are one hundred and fifty men in our department; you will detail them to their watches and their duties. There are many routine inspections, tests and reports to be made; you will find all of these laid down in the 'Engineering Instructions.' You must be familiar with all of the requirements and carry them out. The 'Cleaning and Station-bills' tell the duties of every man in the department. You must become familiar with these, but our men are all well trained; you'll have no trouble. Keep a close watch on the daily expenditure of coal and oil, also the amount on hand; if we should run short of these even a good assistant couldn't invent anything to help matters. Now, Mr. Osborn, for the rest of this trip I'm going to let you do my worrying. I can't express the relief that has already come to me, and I'm quite happy that you bear me no unkind feeling for my previous harshness."

"I certainly don't, chief. I can understand that you needed an assistant that you could rely on and I was undoubtedly inexperienced, and I'm overjoyed that you are really going to make use of me."

"Mr. Osborn, for years I have been much interested in submarine boats. I have made several inventions that have been installed in them. Submarine boats are destined to tremendous importance; every great power is building them. Have you ever thought much about this subject?"

"No, sir, but I expect to learn something about submarine boats. I have had no special intention, yet I feel that I would like service in one. If I went into submarine boat service I would be captain of one while still an ensign. This looks pretty good to me, chief."

"Would you like to know something about them, Mr. Osborn?" asked Commander Harker with sudden interest.

"Indeed I should, sir. I've never seen a submarine; I've only a hazy idea how one is operated. Just start at the beginning and tell me how one is managed."

"A submarine boat has two sets of engines, gasoline motors for running at the surface, and electric motors for running when submerged. The boat is shaped like a cigar and is chuck full of different mechanisms. There are water tanks

which you can fill to sink the boat, or blow out if you wish to float it; there are compressed air tanks which provide power and ventilation; vertical rudders to let you steer in any direction, horizontal rudders by which you can cause the boat to dive, or to come to the surface. In the bow is the torpedo tube containing the torpedo. In the boat is an air compressor, pumps, ventilating engines, dynamos, motors and a host of other mechanical devices. Here is a confidential description of a boat just finished; you can take this, also these blue-prints, if you wish to; but I'll warn you that if you commence to study them you'll land in a submarine before long."

"I'd like nothing better, chief. An officer ordinarily has to wait until he's fifty years old before he commands a ship, but submarine boat captains are to be ensigns and young lieutenants. I might get command of one before I'm twenty-five. Chief, some one once said in our mess room that you had been asked to recommend some young officers for submarine boat instruction. Is that so?"

"Yes," admitted Commander Harker, smiling pleasantly, "and does my first assistant want me to recommend him?"

"Indeed he does, chief, after a while. I would be ever so much obliged if you'll help me to prepare for that duty."

“I can help you only in a general way. None of us know much of the actual handling of a submarine; real service in one is the great teacher. But a submarine is really only a bundle of many mechanisms. The work you are doing now is familiarizing you with different machines, their operation and repair; this will all be helpful to you in a submarine boat. I would advise you to brush up your knowledge of electricity, the care and management of dynamos and motors; the ability to locate faults and direct repairs; get perfectly familiar with our air compressor; and though you have a lot of men here to obey your orders, get into the habit of starting pumps and engines yourself. In a submarine the crew is small and the captain must be an all round engineer; study up this pamphlet. Do all this and by the time we reach New York you'll be ripe for submarine instruction and I'll be glad to recommend you for it.”

“Oh, thank you so much, chief,” cried Ralph. “Good-night. I'll report to you to-morrow morning.”

Ralph turned out at five o'clock. He enjoyed his first bath for several days, and after some coffee and toast he descended into the engine room.

“Who is the warrant officer on watch?” he asked a machinist standing in the starboard engine room.

“ Mr. Hopkins, sir.”

“ Where is he ? ”

“ I don't know, sir,” replied the machinist looking uneasily about him.

“ When did you last see him ? ”

“ I saw him at four o'clock when he relieved Mr. Cooper, sir. He may be in the fire-room ; I'll go out and see.” Instead of going into the fire-room he stepped through the doorway into the port engine room ; following him Ralph saw him dart up the engine-room ladder. A shouted order from Ralph brought him back.

“ Are you going to Mr. Hopkins' room to bring him down here ? ” he demanded sternly.

“ I thought I would look for him, sir,” replied the machinist, in much discomfort.

“ Messenger,” ordered Ralph, “ go to Mr. Hopkins' room, wake him up and tell him to report in the engine room immediately.”

Ten minutes later Warrant Machinist Hopkins descended into the engine room. He was evidently uneasy but tried to assume a defiant air.

“ What do you mean by your message ? ” he blustered. “ I'm not under your orders. You've no business to give any orders down here—I'm in charge of this watch. I'll trouble you to leave the engine room.”

“ Mr. Hopkins,” said Ralph quietly, “ I shall report you to the captain for absenting yourself

from your station without authority. In the meantime you are relieved from duty."

"You've no authority down here; you can't give me an order. I'm in charge of this watch. Don't you try to boss me or anybody else while I'm around," shouted Hopkins, angrily.

"I'll inform you officially that the chief engineer has directed me to assume entire charge and that you and every man in this department is directed by Commander Harker to obey my orders. Don't make your own case worse, Mr. Hopkins, by disobeying them."

The warrant machinist had been long in the navy and recognized real authority when confronted by it. Ralph's quiet sternness appalled him.

"You won't insist on this report, will you, Mr. Osborn?" he begged, his manner instantly changing from angry bluster to fear and supplication. "I wasn't well this morning. This report of yours will court martial and dismiss me. Please give me another chance, Mr. Osborn. I know I haven't treated you right; I beg your pardon for that. Let up on me this once. Give me another chance."

"I'll hold nothing personal against you, Mr. Hopkins, but I shall surely report you for being absent from your station. Leave the engine room, please."

Ralph turned from the warrant machinist to go into the fire-room. Mr. Hopkins looked helplessly at him and then slowly walked up the engine-room ladder.

The watch was finished by Ralph who was relieved by Warrant Machinist Raymond at eight o'clock. After breakfast he wrote a formal official report against Mr. Hopkins, stating all of the details, which he handed to Commander Harker.

The report seemed to throw the chief engineer into a state of nervous excitement.

"This won't do, Mr. Osborn," he gasped; "this will put Mr. Hopkins off duty. It means a general court martial for him which couldn't take place for months. In the meantime he'd be under arrest, hanging around doing nothing."

"I suppose it will, sir," replied Ralph quietly.

"Mr. Hopkins has been a good help to the ship; his manner is unfortunate, but you can forgive him for that."

"I bear him no personal ill will, sir. I'm sorry this has occurred but I have no other possible course except to report him. If I didn't I would most lamentably fail in doing my duty."

"But you didn't report Mr. Cooper when, as you believed, he left the engine room without authority."

"The circumstances were different, chief; looking at it from one view-point he was relieved by

the first assistant, which technically, and by regulations, was entirely proper. But if I was refused recognition in that capacity, then I was without authority, and had no occasion to make reports; in other words it wasn't my duty to do so. But your order of last night, as I understand it, not only installs me as first assistant but also, with certain limitations, as acting chief engineer. I would report Mr. Cooper or my best friend, under these circumstances, should it be my duty. I must either do that or else give up my job, chief."

"But we're short-handed already; we need Mr. Hopkins' services," cried the chief engineer, in tones of despair. "Oh, I hoped my troubles were over, but they're worse than ever."

"I'm sorry I had to make the report, chief," replied Ralph, in great perplexity, "but the other considerations that you speak of are matters beyond my power to settle."

Shortly before noon Ralph was directed to report to the captain, whom he found in consultation with the executive officer.

"Mr. Osborn, this report of yours will send Mr. Hopkins in arrest to await trial by court martial which can't occur until we arrive home."

"I expected it would be regarded as a serious report, sir."

"It is indeed and I approve of your making it;

you could do nothing else. But also it has completely upset your chief; he seems to be fond of Mr. Hopkins and he's much worried about losing his services. The surgeon tells me that if Commander Harker's mind isn't free he will soon be a nervous wreck. Now I can't handle this report as you have made it. I would have to forward it recommending a court martial. But if you should rewrite it and report Mr. Hopkins simply for neglect of duty—not stating the circumstances—I would be in a position to act on the matter myself. His offense merits dismissal, but the circumstances of the chief's health and our being short-handed in the engine room would justify another course."

"Very well, sir. I'll be glad to rewrite the report."

Later in the day Warrant Machinist Hopkins was ordered to report to the cabin where the captain, the executive officer, the chief engineer and Ralph were assembled. With a worried look the warrant machinist regarded them.

"Mr. Hopkins," began the captain, "you are reported for neglecting your duty this morning. Have you any statement to make?"

"No, sir, but if you will only give me another chance I'll be the best warrant machinist the ship ever had, captain," stammered Hopkins in an eager, embarrassed manner.

“Your offense richly merits severe punishment. You must possess a low sense of duty and responsibility; you have displayed qualities utterly un-officerlike; but certain conditions induce me to punish you myself instead of recommending you for a court martial. I shall punish you to the limit of my power. You are suspended from duty for ten days. This will be entered in the log and on your record. To-morrow I shall restore you to duty on the ground that your services are required. That is all, sir.”

A great gloom was suddenly lifted from Hopkins' face. “Oh, thank you, sir,” he cried. “I don't deserve this, captain, but I'll try to win your good opinion, sir; you'll never regret being merciful to me.”

Hopkins reported to Ralph the next morning in the engine room.

“I'm restored to duty, sir,” he said, humbly. “Commander Harker has directed me to report to you for orders. He told me that you didn't insist on the full report against me; that if you had I would have been court martialed and probably dismissed. I am very grateful to you, Mr. Osborn. I hope you'll give me a chance to prove it. I know I've never been decent to you. I'm sorry for that; but I know when I've been treated white, so please, Mr. Osborn, let me prove I'm not altogether unworthy of trust.”

"Look here, Hopkins," returned Ralph, "you and I will start fresh. I'll forget about our previous unpleasant relations and the occurrences of yesterday morning. I'm going to give you a chance to do something for yourself and for somebody else besides. I shall direct Midshipman Cullen to stand watch with you. I want you to advise him; put him to work first on the fires. After he knows how to handle a slice-bar and a shovel give him a chance at tending water; then put him to oiling. After that we'll give him opportunity to handle the main engines; as he becomes more familiar throw authority his way until finally he is competent to act as engineer in charge of the watch."

"I'll be happy to do this, Mr. Osborn," exclaimed Hopkins with a beaming face, "and I thank you for bearing me no ill will."

"Look here a minute, Cullen," called out Ralph to the midshipman who stood near by; "you are to go on a regular watch with Mr. Hopkins; on four hours and off eight, day and night; you are to have a taste of everything. In a month or six weeks you ought to be in charge of your own watch. I'll talk over the details with you later."

"I guess you're IT down here, Osborn," replied Cullen with a broad smile. "There is an order posted signed by Commander Harker, stating you are the acting chief engineer. Shall I call you

chief or acting chief? I'll be glad to go on regular duty with Hopkins. I've done nothing else except to stand around and watch how things were done; it all seems easy and sensible, but it will mean more to me when I am actually doing things myself."

CHAPTER XVIII

A CABLEGRAM IN CIPHER

“GREAT SCOTT, Os! I hear you’re acting as chief engineer; of all the surprises that have ever occurred this is the greatest,” ejaculated Bollup as Ralph joined the mess at dinner that evening. “Here’s old Snarleyow, abusing you and insulting you one minute and giving you a stick of candy and a glass of soda water the next. I suppose now you will be insisting he’s always been sweet tempered and kind hearted, won’t you?”

“I believe he is a sincere man, harsh and impetuous at times, perhaps, but he is certainly good to me now. He’s going to teach me something about submarine boats. I expect to leave the *Illinois* as soon as we reach New York. He’s going to recommend me for submarine instruction.”

“As soon as we reach New York,” repeated Bollup, merrily. “Say, Os, if you don’t blow us up before we reach Aden I’ll be happy. It’s wicked to put such a kid as you in charge of a battleship’s engines; I shall go around day and night with a life preserver strapped to me. I’m betting you’ll make a submarine boat of this *Illinois* be-

fore you get much older but that when you once send us to the bottom you'll never get us up; that's what's worrying me."

Ralph received much good-natured raillery from his light-hearted messmates, all of whom were really delighted at the good fortune which had come to him.

"Aren't you worried at what you'll have to do, Os?" asked Himski.

"Of course, in a way; yet we have a well-trained engineer's force and thoroughly experienced warrant machinists. I imagine that if I were to start on a big mistake I wouldn't get far. The same men that operated the machinery will continue to do so; the duty below runs in well-worn grooves. I have no innovations in mind. I shall relieve Commander Harker of the routine matters but will report to him daily; he will really continue to direct things but I shall relieve him of the burden of detail. There will be no difference in the work below."

And this proved to be the case; the ship traveled steadily on but the only persons affected by the change in duty were Ralph and the chief engineer. The latter gained visibly each day in strength. His face lost the wan, haggard, hunted look it had had for weeks; his step grew more buoyant; he began to take an interest in life. He resolutely avoided the engine room but enjoyed

talking about matters of duty with Ralph, directing and advising him constantly. Ralph was in a state of exhilaration; he was wonderfully busy with the details of engineer duty. He had no false notions concerning his own ability or experience, therefore he never hesitated to get the opinions and advice of others. He discussed trimming coal in the bunkers with coal passers, firing boilers with firemen, and other matters with the machinists. He threw so much enthusiasm into everything he did and said that his personality stimulated those who came in contact with him. He daily discussed practical points with the warrant machinists, but no untoward incidents occurred. The engines ran smoothly, no troublesome questions arising. The one evaporator steadily made eight thousand gallons of good drinking water daily.

“We will get new tubes for the other evaporator in Aden,” remarked the chief engineer. “We’ll have to give up our separator but it’s uncomfortable to think of the possibility of anything happening to our one evaporator.”

The run to Aden was a hot one; the ship was anchored there for three days taking coal and stores on board. New tubes were secured for the broken down evaporators, then the ship started for the Red Sea, taking four days to pass through it, days of extreme discomfort for everybody because

of the intense heat. Pitch boiled out of the deck seams; all drills were suspended, everybody making vain efforts to escape the almost unbearable heat. At the end of the Red Sea came the Suez Canal and two days later the *Illinois* anchored off the large city of Beirut where mail was received.

"Os," cried Bollup, bursting into Ralph's room, "I've a letter from Gladys; it's written from Kessab. She says she and my aunt are about to start for the town of Adana. Have you heard from her?"

"Yes, and I've just looked that town up. I've not had as many letters to read as you have, Tom. Adana is about two hundred and fifty miles north of Beirut. It's fifty miles inland; I'm afraid we'll have no chance to go there. By George! I'm disappointed. Gladys says there is to be a big missionary meeting there. All of the missionaries in Syria and lots of the native preachers are to meet in a great convention. Pshaw! I wish she'd come to Beirut instead. She could do more real missionary work in this ship in a minute than she could among those heathen Mohammedans in a lifetime."

"You're right, Os," said Himski sympathetically. "I suppose we'll hike off for Gibraltar in a few days. I'm afraid you'll have no chance to——"

"Mr. Osborn," interrupted a messenger boy

entering the room, "there's a Turk on deck that wants to see you."

"A Turk wants to see me!" repeated Ralph, amazed. "I don't know any Turks."

"He asked for Ensign Osborn, sir; he's waiting on top sides for you, sir."

"I'll bet he has an ostrich feather to sell, Os," grinned Bollup. "Bring him down; I'd like to see a real Turk."

Ralph left the room, saying, "I'll be back in a minute. Don't leave, Tom." Shortly afterward he returned, accompanied by the Turk.

"Himski, Bollup," he called out, breathlessly, "this is Adeen, the man that saved me from those Chinese robbers in Hongkong."

"And the man who borrowed ten sovereigns from you, Osborn," added Adeen; "here they are, and thank you very much."

Adeen's welcome by the three ensigns was boisterously cordial. Though Ralph had met him but once, yet he looked upon him as an old friend. Bollup regarded Adeen with great interest. "I expected to see a Turk," he blurted out, "from what the messenger said to Os, but except for that red fez you're wearing I would imagine you were an American or an Englishman. It's a pleasure to know you, Mr. Adeen. Osborn is my dearest friend; you earned my gratitude that day in Hongkong."

“How about Hungry Joe, Tom?” laughed Ralph, maliciously.

Bollup reddened and looked uncomfortable. “Drop that, Os,” he exclaimed; “you know I was only joking.”

“I don’t blame you for imagining I was a confidence man,” said Adeen, smiling good-humoredly. “I worked Osborn for a dinner and ten pounds, didn’t I?”

“Oh, come now, I was just having a little fun with Os. I pull his leg sometimes. I beg your pardon, Mr. Adeen; that was just a joke. Don’t hold it up against me.”

“I won’t, not for a minute; it’s all right, Mr. Bollup. I’m in a hurry and can’t stay longer, but I want you three to dine with me to-night. I’ll meet you at the Grand Hotel at seven o’clock. I’ll not take no for an answer; now say you’ll all come; there’s lots I want to talk over with you.”

“We’ll be there, Adeen; not one of us is on duty to-night,” cried Ralph. “But don’t rush off. I haven’t had a chance to say a word to you yet.”

“I wish I could stay longer but I’ve an engagement I have to keep,” replied Adeen, regarding his watch. “My boat is waiting and I must hurry. Good-bye. Don’t forget, seven o’clock at the Grand Hotel.”

All three ensigns went on deck with Adeen, and saw him off.

“I’d trust Mr. Adeen,” remarked Himski, thoughtfully, after they returned to their room. “I’d like to know him better ——”

“He’s a bully good chap,” broke in Bollup. “I’m glad we’re going to dine with him to-night.”

There was a happy party of four young men at the Grand Hotel that evening. To all appearances they were old friends. The Hongkong experience was discussed at length. Adeen had but recently arrived at Beirut; he told of his trip from Hongkong. “I assure you, Osborn, those ten sovereigns you gave me were mighty useful,” he remarked. “Now tell me of all that has happened since I saw you last and don’t be too modest—I’m sure you’ve had an interesting time. I remember you told me you were not on good terms with your chief engineer. How has that matter turned out?”

“Turned out!” exclaimed Bollup. “Why, the chief engineer, that violent, fire-eating, cruel-hearted old Snarleyow is now eating out of Osborn’s hand; he abdicated his job and installed Os as chief; that’s a fact, Mr. Adeen. Talk about miracles! well, we’ve had one right on board; ask Himski; ask Os himself if I’m not giving you straight goods.”

The subject proved of much interest to Adeen; by dint of questioning he drew out all of the circumstances from Ralph. Finally the latter said:

“Look here, Adeen, I’m doing all of the talking; you are far more interesting than I am. Now tell us something of yourself. How is it that you are at Beirut? I imagined by this time you would be with the Druzes in Lebanon.”

“I expected to be,” replied Adeen, “but my plans are suddenly changed. I take a steamer to-morrow for Mersine. I’m going to Adana; that’s about fifty miles from Mersine by rail.” Adeen spoke slowly and soberly.

“Adana,” cried Ralph. “Oh, I wish I was going with you ——”

“This is the confoundest luck,” exclaimed Bollup, slamming his hand on the table. “My sister Gladys is visiting in Kessab with an aunt who is a missionary; Os and I have been counting on seeing her here, but letters received to-day tell us she is soon to leave for Adana. Gladys is the best sister a fellow ever had. It makes me wild to think I won’t see her.”

“You say your sister is in Kessab and soon to leave for Adana?” repeated Adeen in quick, jerky tones, indicative of suppressed excitement.

“Yes, she and her aunt are going to attend a missionary convention in Adana. I’d hoped to see her here. Blame the luck.”

Adeen regarded Bollup with troubled eyes; a damper seemed to have come over his buoyant spirits. The others continued their talk, but

Adeen was silent and preoccupied, which soon became noticeable. "What's the matter, Adeen?" inquired Ralph. "You've suddenly become very quiet. Has anybody said anything to hurt you?"

"Yes," replied Adeen, soberly; "frankly, I'm distressed to learn that Mr. Bollup's sister is in Kessab soon to leave for Adana."

The three friends were amazed.

"Excuse me, Mr. Adeen, but how can my sister's movements affect you?" asked Bollup.

"They don't affect me at all, Mr. Bollup, but other matters connected with her may. Pardon me, Mr. Osborn, for being personal, but please answer this question: Is Miss Bollup a dear friend of yours?"

"She is indeed," answered Ralph frankly; "but why do you ask?"

"I am a Druze," replied Adeen, "which means that certain obligations toward my friends devolve upon me, obligations that take precedence over most other considerations. Osborn, you and I faced peril together in Hongkong; you befriended me after my pocket was picked; a dear friend of yours, the sister of a man who has eaten my bread, is in Kessab, soon to leave for Adana."

There was an air of aloofness and mystery surrounding his quiet words which caused a feeling of awe—each of the young men felt an overwhelming desire to ask for an explanation, but none

dared ; a stronger feeling held them in an uncomfortable way to silence, awaiting for Adeen in his own good time to enlighten them.

"Come," he finally said, abruptly, "we've had enough dinner. I want you to take me to your ship immediately. I wish you to present me to your captain."

Without saying anything more Adeen arose, called for and paid his bill and walked out of the hotel followed by three surprised young naval officers.

A carriage drove them to the water front where a boat was engaged. As nine o'clock taps was being sounded the young men reached the *Illinois*.

"Osborn," said Adeen, "please present me to your captain and then give me an opportunity for private conversation with him."

"Certainly ; orderly, ask the captain if Mr. Osborn may present his friend Mr. Adeen to him."

"The captain says to come in, sir," reported the orderly a moment later.

"Captain Pegfield, this is my friend Mr. Adeen to whom I am under great obligations and for whom I have high regard and respect. He wished to speak with you on some important matter and has asked to be presented to you," said Ralph.

"I am glad to meet you, Mr. Adeen. Sit down, won't you?"

Ralph withdrew. Waiting on the quarter-deck for him were Bollup and Himski.

"What's up, Os? What in the world is the matter?" asked Bollup, excitedly.

"I haven't the least idea; I can't imagine. Why Adeen should be interested in Gladys' movements amazes me, yet you saw how suddenly he became serious at dinner. The encyclopedia says that these Druzes are a strange people. Adeen had seemed to be a perfectly natural chap until you said Gladys was going to Adana, then I guess he became a real Druze. Something touched him that we know nothing about."

"I imagine the captain will know. I'm going to stay up until Adeen leaves the cabin," replied Bollup; "anything that concerns Gladys touches me."

The young men waited impatiently on the quarter-deck, talking in low tones; three bells were struck, with Adeen still in the cabin. Ten o'clock came, but the conversation in the cabin continued.

"This is astonishing!" exclaimed Ralph. "Adeen has been an hour with the captain." A little later the cabin orderly walked down the ward-room ladder and soon the three eager ensigns saw the executive officer followed by the chief engineer enter the cabin.

Shortly after eleven o'clock Adeen accompanied by the captain came out on the quarter-deck.

“Send Mr. Adeen ashore in the steam launch,” ordered Captain Pegfield; then he said, “Good-night, Mr. Adeen, and good-bye,” and shook hands with him cordially.

The steamer came alongside the gangway. The three waiting friends bade Adeen a quiet, almost formal good-bye. Ralph accompanied him down the ladder to the launch.

“Good-bye, Adeen,” he said. “I’m sorry not to have seen more of you; if you leave to-morrow I’m afraid I’ll not see you again.”

“Good-bye, Osborn,” returned Adeen, warmly; then after a moment’s hesitation he said: “I expect to see you again in a few days.”

Adeen jumped into the launch which immediately shoved off.

“What is it, Os?” excitedly asked Bollup. “Did Adeen tell you anything?”

“Nothing, except that he expects to see me in a few days. But I don’t understand that, if he leaves for Adana to-morrow morning. I’m all mixed up.”

“Os,” said Himski, “it looks to me as if Adeen is the bearer of important information. My opinion is that he expects some kind of trouble to break out in Adana and has urged Captain Pegfield to go to Mersine. I’ve heard that Turkey is in an unsettled political condition; that a revolution to depose the Sultan is expected to break out at any time.”

“By George! I believe that’s it,” cried Bollup. “I hope a revolution does break out if it brings us to Mersine. Hooray! Os, we’ll go to Adana; we’ll be delegates to that missionary convention; we’ll represent the navy. I’ll make a speech about the poor, suffering, benighted heathen we left in China and then pass around the hat; that’s the way they always do at missionary meetings ——”

“Mr. Osborn,” interrupted the marine orderly, saluting, “the captain says he will wish you to go to the cable office in an hour.”

“The skipper is telegraphing for permission to go to Mersine,” cried Bollup, joyfully jumping at conclusions. “Os, we’re going to see Gladys, I’m sure of it. I’m going to the cable office with you.”

A little before midnight Ralph was directed to report to the cabin. Mr. Hale was with Captain Pegfield.

“Mr. Osborn,” said the latter, “I wish you to go ashore immediately. Take this telegram—it is in cipher—to the cable office; the steamer is to wait at the landing for you.”

“Very well, sir. May Mr. Bollup go with me?”

“Yes; by the way, please don’t talk of Mr. Adeen’s visit to me to-night.”

“Very well, sir.” Ralph positively burned to

ask questions but he knew the customs of the naval service and refrained. Captain Pegfield gave no further orders, so Ralph with the cipher cablegram in his pocket left the cabin and accompanied by Bollup went ashore.

CHAPTER XIX

UNEXPECTED ORDERS

BARGES laden with coal were brought alongside the *Illinois* the next morning, and with the band playing stirring airs the ship's company started to get it aboard.

"I'm going ashore, Osborn," remarked the chief engineer; "coaling ship doesn't agree with me. Hustle the men in the bunkers. We're in a hurry to leave; stores will come aboard this afternoon; we're going to leave day after to-morrow."

"Where are we bound for after we leave, chief?" asked Ralph.

"For Gibraltar, according to present orders, but perhaps a cablegram will come to change things. I won't be back until to-night. Don't disable any of the machinery or start repairs that can't be finished by to-morrow night."

Ralph was full of intense curiosity but it was not his place to ask questions, much as he longed to do so. He could not divest his mind of Adeen's strange change of spirits the previous evening, of the long call made on Captain Pegfield late at night, of Adeen's parting words that he expected to see him soon, nor of the midnight cablegram.

Busy as Ralph was throughout the day these thoughts kept constantly recurring.

The coal was all stowed in the bunkers by noon the next day; then the customary scrubbing and cleaning followed. Ralph and all of his mess-mates not on duty went ashore in the afternoon. They visited the beautiful grounds of the American College located on a point of land projecting into the sea; later they drove about the city, being much interested in the old town which presented sights strange to their eyes. After a good dinner at the Grand Hotel they returned to the *Illinois*. Ensign Winthrop met them at the gangway.

"There's great news, fellows," he said; "we leave at seven to-morrow morning, bound for Mersine. The skipper received a cablegram this afternoon; everybody thinks there's something in the wind but we don't know what it is."

"Hooray," shouted Bollup. "The captain heard I had a sister at Adana, a town fifty miles inland from Mersine, and he's taking the ship to Mersine to give me a chance to see her. That's enough in the wind to please me."

"Bully," exclaimed Ralph. "I haven't been so pleased for a long time. Tom, we'll have to get leave at Mersine. It won't take long to go by rail from there to Adana."

Himski was more serious. "I'm afraid trouble of some kind is expected, Bollup," he said in a

low tone. "This is undoubtedly the result of something Adeen told the skipper and it was important enough for our Navy Department to change its orders for this ship. If there is danger or trouble in Adana I'll be mighty glad, Tom, that you'll be on hand to protect your sister."

The ship steamed away from Beirut the next morning, heading for the northward. Ralph had many duties in the engine room which kept him busy all morning; in the afternoon he and Bollup, while discussing Mersine and Adana, were directed to report to Captain Pegfield.

"Now we're going to get news, Os; come along," cried Bollup, bounding out of the stateroom.

"Mr. Bollup," said the captain in his cabin, "Mr. Adeen informed me that you have a sister who is soon to be in Adana."

"Yes, sir," cried Bollup.

"He also told me that he had secret information that a massacre of Armenians by Mohammedans has been planned; uprisings are to occur simultaneously in Kessab, Adana and dozens of other towns. None but Armenians are to be attacked, yet there will exist great danger to American missionaries and other Christians. We will anchor off Mersine early to-morrow morning. I shall send you and Mr. Osborn on shore immediately. You will be busy looking out for your sister. Mr. Osborn, your duty will be to keep the safety of

American citizens in mind. We have no consul at Adana but an American school is there with many American missionaries attached to it. If Mr. Adeen's information is correct there is going to be one of the most awful outbursts of Mohammedan fanaticism that the world has ever known. Mr. Osborn, bear in mind that you are not going to Adana for the purpose of helping Armenians. Mr. Adeen says this outbreak will not be stopped by government officials. None but Armenians are to be harmed, and you must remember that Armenians are Turkish subjects; however your heart may be torn you are not to interfere; but as far as the safety of American citizens is concerned I desire you take a high stand with the Turkish authorities. Should an outbreak occur you will demand complete protection; you will ask for a guard of Turkish soldiers to protect Americans. Should this be refused you will say that I will land armed troops and use whatever measures are necessary to protect my countrymen. You will caution the missionaries that however my sympathies may lie I will not interfere for the benefit of Armenians. I am not on an errand of mercy for Armenians but solely of protection for Americans. You will find all of this in these written instructions; also, here is a letter establishing your official character. Get news to me by telegram or mail. In case an outbreak really

occurs I will send Mr. Hale to Adana, but if for any reason you should fail to get news to me, or Mr. Hale should not reach Adana, you will be guided by these instructions and your own good sense. You will both be in uniform, of course. That is all, gentlemen."

"Os, I'm crazy with fear for Gladys," cried Bollup, after they left the cabin. "I can't wait for to-morrow. I feel as if I couldn't stand this suspense."

"We'll have to bear it, Tom, the best way we can," replied Ralph; "we must study these instructions. We'll occupy ourselves to-day in some way. My great hope is that Gladys will be in Adana before the massacre occurs; if we find her there we'll have her come down to Mersine immediately. But if the massacre starts before she arrives at Adana, why——" Ralph drew a long breath; he did not complete the sentence, for the thought in his mind was that Gladys would be in a danger so terrible that he dared not contemplate it.

At five the next morning the *Illinois* anchored off the town of Mersine; a few moments later, the steam launch, which already had steam up, was lowered.

"I'll not wait for the health officers to board us. I want these two officers to get started," exclaimed Captain Pegfield. "Mr. Osborn, there is some

kind of a wharf dead ahead of the ship; get there as soon as you can. Send the launch back immediately."

It was with great relief that Ralph and Bollup left the *Illinois*; neither had slept the preceding night; they had tossed about in their bunks thinking and wondering what was going on ashore. Twenty minutes passed before the launch reached its destination. On the wharf were a crowd of men who looked at the American officers with great interest. Many despairing cries and wild, appealing shouts greeted their ears as they climbed up the ladder to the wharf.

A young man accosted them. "I am a Greek," he said; "I speak English. These poor people are Armenians; they are begging you to take them to the ship. Reports have come that many Armenians were killed last night. Thousands of them have come into Mersine."

"Get into this steam launch," replied Ralph; "go to the American ship and tell the American captain everything you know. When does a train leave for Adana?"

"In half an hour; my brother will go to the station with you. I'll go over to your ship."

The young Greek shouted peremptorily to the people who had crowded about Ralph and Bollup. It was difficult to force a passage through the crowd but they edged their way into it accompanied by

the brother of the Greek who had spoken to them; then they passed down the wharf which led to a city street. Neither of the Americans took much notice of the crowds of people that almost blocked their way nor of the pitiful supplications that met them at every step. They were conscious that some who passed regarded them with wild hatred, others looked upon them as saviors.

“I suppose some of these people are Mohammedans, others are Armenians,” muttered Bollup; “but they all look alike to me.”

They hurried to the station, a walk of fifteen minutes, without much thought either of hate-filled Mohammedans or fear-crazed Armenians; but however the Mohammedans may have regarded them none opposed their passage through the town.

“We’re lucky to have caught this train, Tom,” remarked Ralph, with a feeling of great relief, as they seated themselves in a railway coach. “We’ll be in Adana in two hours.”

“I’ll not admit I’m lucky until I get hold of Gladys,” replied Bollup. “I can think of nothing else. Oh, I wish we’d start!”

The minutes dragged for the young men, but finally the train started. They were in a compartment with a number of other passengers, all men; some were well dressed, others clad in the

cheapest of garments; some wore clothes of European pattern, others wore loose flowing gowns with great baggy trousers. But all were dressed exactly alike in one respect; except for the two Americans, every man wore the red fez on his head.

The train passed through a level country; far away to the left were the dim outlines of towering mountains; to the right the sea was to be seen.

"This is the famous Cecilian plain, celebrated for its fertility since the time of Alexander the Great," remarked Ralph.

"I'm not interested in dead conquerors nor in agricultural subjects, Os," retorted Bollup, savagely. "Great heavens, don't you see that big house over to the left? It's afire! These devils have commenced their deadly work. I'm burning up with anxiety for Gladys."

"So am I, Tom. We'll be in Adana by eight o'clock; it's now half after six. We're both wild with impatience but if we try to talk of something it will help pass the time."

"I can't talk, Os. I can only think of Gladys. Look at that farmhouse; it's burning. Every house we've passed has been set on fire."

After some minutes the train stopped at a railway station on the outskirts of a large town.

"This must be Tarsus," remarked Ralph. Bollup started out of the car but returned very

soon. "The town is afire," he cried; "half of it is burning up. Come to the platform, Os."

From the platform they saw, a mile or so over to the right, dozens of smoke columns ascending to the sky. After the train had started they saw hundreds of burning buildings. Then came, faintly at first but increasing in force, the unmistakable report of gun firing. A feeling of dread and apprehension came over them that terrible work was going on; but the train rushed along, soon reaching the country where but occasional houses were to be seen; many of these were burning. Ralph and Bollup sat quietly, filled with strong feeling and intense determination to accomplish what they had set out to do. Finally the train ran into a large city and stopped at a railroad station.

"This must be Adana," cried Bollup, jumping out of the car.

"Yes, this is Adana, or what is left of Adana," replied an elderly gentleman who met the young men as they left the car. "You are American naval officers, I judge?"

"Yes, we are from the battle-ship *Illinois*, now at Mersine."

"Thank God for this cheering news. I am an American missionary, Dr. Hastings. We have had a terrible night; the Armenian quarter has been burned down; thousands of poor people have been

butchered ; the streets are filled with the dead. I hope you bring news that American sailors are on their way to save what are left of these poor people. The Turkish authorities refuse to make any effort to restrain the wild mob that is in control of this town."

"Is my sister here?" gasped Bollup.

"Who is your sister?"

"Gladys Bollup. Is she here? For heaven's sake, speak quickly."

"Your sister is not here, Mr. Bollup; she was expected last night. I know her; she's traveling by carriage with Mrs. Simpson from Kessab, but the roads are bad and Kessab is a long ways off. But tell me, are you bringing help?"

"I hope so," said Ralph; "but take me to a telegraph office. I must send a message to my captain."

"The telegraph office is closed; the operators have fled. It is impossible for you to telegraph."

"Then I must send a letter back to Mersine by the first train; when does the next one leave?"

"No more trains are to leave Adana," replied Dr. Hastings; "the firemen and engineers have been driven away."

"I must get word to Captain Pegfield," cried Ralph; "a way must be found."

"There is no way to send a letter, sir; but your ship at Mersine is certain to learn what has

happened from the foreign officials; it is certain that the news of what has happened will reach them. They will not know all of the details but must be aware of the principal facts. Your captain will learn from them. Come to my house; you will soon enough learn of the awful horrors that have descended upon us."

"My orders are generally to do anything I can to ensure the safety of American citizens," said Ralph. "My name is Osborn."

"You'll have plenty of work to do; your uniform will help to protect us. I've heard of you, also of Mr. Bollup, through a Druze named Adeen, God bless him."

"You know Mr. Adeen. How very interesting!" exclaimed Ralph, but Bollup broke in, excitedly, "I'm going to meet my sister. Do you think I shall stay in this town while she's traveling toward it in danger? I want you to point out to me the road she will come in on."

"You can't go out to meet her, Mr. Bollup. I don't know what road she is coming in on; she may be on one of several. Mr. Adeen has despatched a number of Druzes to look for her; one of them will find her. A Druze can travel in the country without much danger. You wouldn't live an hour should you leave the city; your uniform will protect you in the city but would cause your immediate destruction outside."

While this conversation was rapidly going on there was plainly heard innumerable reports of rifle firing ; but so eager and interested were Ralph and Bollup that these made no impression upon them.

Dr. Hastings was carrying a staff to which was attached the Turkish crescent.

"I don't like to walk under this flag," he remarked, "but it means protection ; come along. I want you to come to my house ; all the Americans in the city are there and Adeen will be there soon."

Ralph and Bollup walked out of the station with Dr. Hastings, the Turkish crescent waving over them. Incessant rifle reports greeted their ears ; directly ahead of them, over a wide area, huge volumes of smoke were rising.

"My home is on the edge of the Armenian quarter," said Dr. Hastings, "but we hope it will escape burning. This outbreak is racial rather than religious ; neither Greek, nor Arabian, nor Syrian Christians have been attacked and there are thousands of these here. We have a multitude of poor refugee Armenians in the grounds about my house but once they get inside the walls surrounding our missionary compound, they are safe. This wild mob of bloodthirsty Mohammedans is under perfect control ; they dare not injure an American or his property. The Americans are reasonably safe except from accidents. There are many guns being fired but none at us."

Their walk to Dr. Hastings' house was through dusty streets; many men armed with rifles ran by, throwing angry glances at them but evincing no other hostility. Ten minutes after they had left the station the street opened into a sort of public square. Ralph noticed, perhaps a hundred yards ahead, a confused crowd of men, women and children being driven and shouted at by men carrying rifles.

As soon as Dr. Hastings saw this crowd he gave a cry of alarm. "Stay here under this flag," he shouted, running ahead.

Neither Ralph nor Bollup knew what was to happen nor why Dr. Hastings had left them. They naturally stopped and gazed with intense interest at the movements of the crowd in front of them.

"Tom," exclaimed Ralph, "it looks to me as if those people with guns had those other people as prisoners. See—they're separating the women and children from the men. Oh, oh—horrors, they're shooting those men. There's Dr. Hastings; he's got some Armenian in his arms, trying to save him. Come on, Tom."

Ralph and Bollup started on a run, not knowing what they could do and having no plan except to help Dr. Hastings; before they reached him the sound of a military bugle was heard amid the crash of rifle firing and a troop of Turkish cavalry



A TROOP OF TURKISH CAVALRY

LIBRARY OF THE
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came galloping down the street; at their head was a red coated officer. The mob instantly disappeared on the approach of the cavalry but it had completed its awful work. A hundred forms of what had been men lay lifeless on the road, surrounded by weeping women and children.

"You're too late this time, major," said Dr. Hastings, sorrowfully, yet calmly; "you've saved thousands of lives, but it's a pity you weren't here five minutes ago."

"It is indeed," replied the officer. "I'll carry any of these men that show signs of life to the British consulate; it's a good deal of a hospital now. I'll send the women and children with them. I had just escorted a crowd of over three hundred to your compound when I heard of this lot. I came over as soon as I could, but was too late. What a pity!"

"Major Doty, these are two American officers from the battle-ship *Illinois*; they have just come in from Mersine."

"I am pleased to meet you, gentlemen," said Major Doty, simply. "I hope to have a chance to talk with you later. Doctor, I think you had better hurry; matters are pretty bad in your neighborhood. Get word to me if you need me; you will know where to find me."

"Yes, wherever matters are worst," replied Dr. Hastings. "Hurry, gentlemen."

“Can we do nothing for these poor people?” asked Ralph, loth to leave the dreadful scene while there was a possibility of helping the suffering.

“Major Doty has plenty of help; he doesn’t need us, or at least there may be greater need elsewhere,” replied the doctor. “We’ll be home in a few minutes.”

“Has there been anything else so horrible as this, doctor?” asked Ralph.

“Yes, I am sorry to say, thousands have perished in the last twenty-four hours just as these have; that horrible sight was not a novelty to me. This is my home, gentlemen; walk in.”

CHAPTER XX

AMERICAN MISSIONARIES

IN Dr. Hastings' home, which was a large one containing many rooms, were a number of American women, the wives of missionaries. The young officers were introduced and an eager exchange of questions followed.

"I'm looking for my sister, Gladys Bollup," cried Bollup, as soon as he had a chance to question the wife of Dr. Hastings. "Is there any news of her?"

"Not yet," replied Mrs. Hastings, "but we are hoping for news of her and Mrs. Simpson from Adeen. Henry," she continued, addressing her husband, "our compound is full of Armenians; the last lot brought by Major Doty could hardly be passed into the gate, it is so crowded; we must have thousands of those poor creatures below. I hear there are several thousand in the grounds of the Armenian cathedral and all refugees coming into the city must now go there; we have room for no more."

Through the open window Ralph could see many houses burning; there was constant succession of rifle reports. On the tops of different buildings groups of men were to be seen, shooting rifles.

"There is danger of the fire spreading to your house, Dr. Hastings," exclaimed Ralph. "You have considered that, of course?"

"Yes, but there is no breeze and there are a number of brick houses between us and any fire. We will be watchful but I am hopeful; the Turks would like to fire our buildings but I do not believe they would dare do it. I wish however we had a guard of Turkish soldiers for protection. One of our young missionaries has gone through the burning district to the Vali, that's the Turkish word for governor, to demand protection, but he hasn't returned. We Americans are not worrying about ourselves but for the thousands of poor people in our charge."

"Can you send me to the Vali?" asked Ralph. "I shall insist upon ample protection for all American citizens."

"It will be a hazardous trip, Mr. Osborn; you will have to pass through the burning district. There are crowds of fanatics, killing and plundering. Your uniform might protect you from assault; it probably would, but there are innumerable stray bullets flying about that are dangerous. But I can send one of our missionaries with you to the Vali if you want to go."

"I'll go immediately. Please hurry the missionary so we can leave at once."

Ralph was introduced to a Mr. Gibbs, a black-

bearded, happy-looking young man; even the terrible condition of affairs did not subdue a certain joviality of manner of this missionary.

“Bridge isn’t back yet from the Vali, Mr. Gibbs,” said Dr. Hastings; “neither has a guard of soldiers come; perhaps a strong demand made by these officers may quicken the Vali.”

“All right,” said Mr. Gibbs. “I’m ready to start now, Mr. Osborn.” Like all the other American missionaries Mr. Gibbs gave no thought to self or the hazard he would incur.

With Mr. Gibbs as their guide Ralph and Bollup hurried from the house, entering soon the part of town where there were burning buildings on every side. Bands of men ran about the streets, setting fire to buildings and looting them; they saw repeated instances where Armenians were driven from houses and shot without regard to age or sex. It seemed like a horrible dream.

Several times Mr. Gibbs, who was carrying a Turkish flag, shouted to crowds in their way that opened to allow the three to pass through.

“I am saying we are on an errand of peace,” explained the missionary to his companions.

Finally the Armenian quarter with its burning houses and murderous plunderers was left behind.

“This is the Vali’s palace,” said Mr. Gibbs, entering an enclosure which contained an imposing

house. Several guards apparently attempted to stop the missionary's entrance but he brushed them aside with scant courtesy.

"There's the Vali," he cried, "that miserable, scared scoundrel. What shall I say to him?"

"Say that I am from the battle-ship *Illinois*; that the captain of it demands protection for all American citizens; that if harm comes to any Americans Captain Pegfield will send armed troops here for their protection."

Mr. Gibbs spoke energetically to the cowering wretch before him who answered in trembling tones.

"The Vali says he has sent a battalion of soldiers to protect the Americans; he begs no troops be landed. The Turkish government would hang him if this were done."

"Tell him he will be hanged then if any Americans are harmed," replied Ralph.

"Won't you say anything about protecting the Armenians, Mr. Osborn? Surely our country and the whole civilized world will view this outbreak with horror."

"Say what you please for yourself, Mr. Gibbs. However I may feel my duty has regard solely to American citizens."

"Mr. Gibbs," urged Bollup, "tell him that my sister is traveling to this city from Kessab; tell him to send out soldiers to look for her and pro-

tect her, to get word to me if he hears of her or where she is so that I may go out to get her."

After some talk with the Vali Mr. Gibbs said : "He declares that soldiers have already been sent to guard the Americans, that he can do no more; that if any Americans are injured it will be by accident beyond his control. Mr. Bollup, he declares he will do what he can for your sister but says that he has no authority beyond the city's limits. He was properly scared by Bridge before we came in but your being here will make him doubly anxious. Now let's get back."

They retraced their steps through the ruins of what had been the Armenian quarter; there was the danger from falling walls, from the bullets that constantly sang in the air, and from the fanatical mobs of Mohammedans whose rage found vent in burning, killing and plundering; houses were ransacked for Armenians, none of whom lived long after being driven into the streets. But the Americans were not molested.

In one street somewhat free from fire a numerous crowd had collected. Ralph saw Major Doty with his troop of Turkish horsemen charge into it, dispersing it.

"That man has done wonders," remarked Mr. Gibbs; "he is the acting British consul, but he is actually a major in the Royal army. He forced the Vali to give him soldiers; with them he has

saved the lives of many thousand Armenians. He has only twenty soldiers but whenever he appears the mob melts away; he has marched thousands of Armenians to different points of safety—some to Catholic, some to protestant missionary compounds, others to the consulates. Look at his right arm; it is shattered, yet he never thinks of himself. Through his efforts and personal actions the Turkish authorities have been forced to make some attempt to keep down the mob; if it were not for him complete anarchy would exist. Thirty thousand Armenians lived in Adana, of whom, it is estimated, five thousand have been killed. It would be thirty thousand if it were not for Major Doty.”

The return trip presented countless sad spectacles but was accomplished without accident. When they came in sight of the missionary compound, Mr. Gibbs gave a sigh of relief.

“There are the Turkish soldiers!” he exclaimed. “Over a hundred of them, I should judge—that means safety for us and the Armenians with us. We had a hard time last night, fires breaking out all about us, incessant rifle firing and terrified crowds of Armenians rushing to us. It was wonderful how our wives bore up; there were twelve of them in the house and every one showed clean grit.”

“There’s Adeen coming toward us,” broke in

Bollup. "Say, Adeen, have you heard any word of my sister?"

"Not yet, Mr. Bollup, but I have sent a number of men to look for her. I have sad news for you, Mr. Gibbs. Just before the soldiers arrived Mr. Rogers and Mr. Warren went down the street on an errand of mercy; both were shot down. The Turkish officers say it was an accident, that it was never intended."

"They are entirely aware of what is intended," cried Mr. Gibbs. "Were both killed?"

"Yes, instantly."

In the house, Dr. Hastings said, "I judge you have heard of the terrible news. But we will grieve for our dead later; at present we have much work to do for the living, who are in need of food; for the sick and wounded who need our care."

Ralph was amazed at the calmness of Dr. Hastings' household. He had never before come into personal contact with missionaries nor had he ever thought much about them. He felt he was in the presence of men and women who for twenty-four hours had unflinchingly looked death in the face, and not one had faltered. They were now devoting themselves to the needs of the frightened multitude that had rushed to them for safety.

Bollup was too distracted to think of anything

but his sister; he was wild to go out on the Kessab road to meet her.

“It would be folly, Mr. Bollup,” expostulated Dr. Hastings. “You cannot go without a guide and I will forbid any one who respects my authority or advice to show you the road or guide you. Your sister may arrive by any one of several roads; just as soon as we get news of her, when we know where she is, I will help you to meet her.”

“Os, we’re doing no good here. Suppose we find Major Doty; let’s offer him our services,” suggested Bollup.

“Dr. Hastings, are all the Americans in Adana with you?”

“Yes, Mr. Osborn, including the two dear boys who but an hour ago were so full of life.”

“Can you suggest anything for me to do which would tend to secure their safety?”

“You might talk to the Turkish colonel in command of our guard; you might impress him with the fact that if any Americans are harmed or their property injured, or if any Armenians now with us are attacked that a heavy account will be rendered against him and his government.”

Ralph was introduced to the Turkish colonel; he regarded him with surprise. The colonel was probably thirty-five years old; he had blue eyes and light hair and might easily have passed in

appearance for an Englishman or an American. He greeted Ralph courteously, as one officer would another.

“This is a sad day, sir,” he said, in English, “but I hope the worst is over. The good Turks are all grieving, but the mob was uncontrollable; there are but few soldiers here. We have tried to keep order, but what can a few hundred soldiers do against a mob of thousands?”

“Colonel,” replied Ralph, “I bring you word that if Americans or their property are injured armed troops will be sent here from the American battle-ship now at Mersine. You know that by treaty made with your government the missionary houses and grounds are held to be American soil; the Armenian refugees with the missionaries must receive protection.”

“My soldiers are under perfect control,” said the colonel. “No harm will come to any Americans or to Armenians who have taken refuge with them. But will your battle-ship interfere to save other Armenians?”

“That is a question my captain will decide. I am going to find Major Doty, the British consul. Will you send a guard with me?”

“Yes, indeed; I would object to your going without one. But I warn you it will be dangerous. I can protect you from attack but not from accidental bullets.”

“Colonel,” said Bollup, “I have a sister who is on her way here from Kessab. I wish to go out to meet her. Can you send a guard and a guide with me?”

“I would be glad to oblige you, sir, but I cannot. I would lose my head if I were to send a soldier out of Adana; besides, unless you know just what road she is coming in on I would not know where to send. Here is your guard, Mr. Osborn. You may be perfectly sure that your countrymen will remain in safety while you are away.”

Ralph, Bollup and Adeen, in company with the Turkish guard, had no trouble in finding Major Doty. The latter was much relieved to learn the American missionaries were amply protected. “That’s one worry off my mind,” he said. “I know that Turkish colonel; he is a soldier and a gentleman. You may depend upon him. What a sad thing that the two missionaries were killed! No, there is nothing I can ask you to do; I would suggest that you stay with Dr. Hastings for the present. I will send for you if I should need you.”

Bollup listened as patiently as he could to this conversation and then broke in with his urgent appeal for his sister. “She was expected here last night from Kessab,” he explained. “I want to go out to meet her but no one will show me the

way. I'll go alone if some one will show me the way; if some one will tell me where the Kessab road is."

"Bollup," declared Adeen, firmly, "I have told you that I have sent out a dozen Druzes to look for your sister, to find her and protect her. She will be perfectly safe in their company but would not be in yours—the country is alive with bands of fanatics; your uniform is a protection here but in the country would invite attack."

"You're all against me," groaned Bollup, made unreasonable by his great anxiety. "You are preventing me from helping my sister."

"If we do not hear of her by to-morrow morning I will promise to send you out on one road with a band of Druzes," replied Adeen. "I will go with another band and Mr. Osborn with another. There are three roads she might come in on; but I expect to hear of her before to-morrow."

"But why not start right away?" insisted Bollup.

"Because all Druzes living in Adana have been sent out, some to look for your sister, others to order every Druze in the outlying villages near here to report to me to-morrow morning. This is the best that can be done, Bollup."

"You're very kind, Adeen," said Ralph; "you seem to be in authority among the Druzes."

"I am," replied Adeen, simply.

"Os, if we can get soldiers to-day, you will go out on one road, won't you?" pleaded Bollup.

"Indeed I will, Tom, but if we can't I will go with the Druzes to-morrow, as Adeen suggests. Major Doty, you have been shot in the arm. I hope it is not a bad wound."

"No, I can keep my horse. But I must be going; this mad populace is in small bands. I have to keep moving to break them up and to gather Armenians to be marched to the different places of refuge. Good-bye."

It was late in the day when Ralph and Bollup returned to Dr. Hastings; Adeen left them here, promising to see them the next morning. A light repast was served, then the program for the night was discussed.

"I think we should keep a watch all night long," said Dr. Hastings; "but everybody must try to get some sleep. A Turkish officer with a patrol will be on watch in the street with orders to call the battalion in case of attack."

"Bollup and I will each take a watch," said Ralph. "Bollup, suppose you go on watch at eight. I'll relieve you at ten and then some one of the missionaries will take my place at midnight."

From the windows of Dr. Hastings' house Ralph saw the sun go down, but dozens of lurid fires kept the Armenian quarter lighted; the rattle of musketry never ceased. The missionaries kept

calm though tremendously concerned, but neither panic nor fright existed with any of them. Most of them had been busy all day with the terror-stricken Armenians in the spacious grounds or compound attached to Dr. Hastings' house. Countless sad tales were told the missionaries by these poor people, some of whom were from Adana, others from the surrounding country. During the night the missionaries repeated the stories told them, and thus Ralph heard tales of atrocities that almost passed belief, yet not surpassing acts he had himself witnessed.

At midnight Ralph was relieved by Mr. Gibbs. He lay down on the floor with the sound of the never-ceasing rifle shots in his ear and soon dropped off into a sound sleep.

He was awakened at the break of dawn by Adeen.

“Osborn,” announced the Druze, “Miss Bollup has arrived. She and Mrs. Simpson came in with a great crowd of refugees who were driven into the Armenian cathedral. Hurry, get Bollup; there are thousands of Armenians there without guard or protection of any kind. We must get her out of there and bring her here.”

CHAPTER XXI

HAKEM

“WAKE up, Tom, wake up ; Gladys is found,” cried Ralph to his comrade who was sleeping near him. Bollup was on his feet in an instant. “Where is she ?” he shouted.

“With other refugees in the grounds of the Armenian cathedral,” answered Adeen. “Hurry, we should lose no time.” But Bollup needed no such admonition ; he rushed out of the house followed by Ralph and Adeen.

“Adeen,” said Ralph, “tell this Turkish officer where we are going and that we want a guard.”

“The officer says he can’t give us a guard without the colonel’s permission and the colonel is not here ; he is with the Vali,” reported Adeen after a moment’s talk with the Turkish lieutenant.

“Come on,” called out Bollup, impatiently ; “you know the way, Adeen. Never mind the guard.”

Adeen started off with a trot. “I hope we may escape being shot ; the bullets are flying in all directions now,” he said. “Small numbers of resolute Armenians, well supplied with guns and ammunition, have been firing into the crowds in

the streets; hundreds of Turks must have been killed yesterday."

"How do you know that Gladys is at the Armenian cathedral?" asked Bollup.

"A Druze brought me word a few minutes ago; a Druze high priest is with her."

They hurried on through the narrow streets lined by smouldering walls of what had been Armenian homes. Occasionally rifle shots rang out on the morning air but fortunately no harm or opposition came to them.

"Do you see that crowd of people ahead of us?" asked Adeen. "They are refugees coming in from the country districts; they are entering the cathedral grounds."

"There must be a great crowd there," commented Ralph. "Won't those staffs or flags you are carrying be in your way? What are they for?"

"They may be of use," replied the Druze, shortly. "Crowd in; we'll have to fight our way through this mob."

They were now in the midst of a frantic, terrified multitude of refugees; men, women and children were struggling desperately to pass through the gates that led into the cathedral grounds.

Just as Adeen, Ralph, and Bollup had by pushing and shoving neared the entrance, a wild shriek arose from those behind them; this was followed by a fusillade of shots.

“ A Turkish mob is at us,” shouted Adeen.

An overpowering push, inspired by fright, carried all three inside the grounds.

“ Keep near me,” cried Adeen. “ Bollup, I sent word to the Druze priest with your sister to go to the left wall ; we’ll find her there.”

The grounds, which comprised about two acres, were bounded on the right by the cathedral and by high brick walls on the other sides. Several thousand Armenians were crowded into the enclosure, creatures whose only sentiment was that of overpowering fright. Gladys’ rescuers had fairly to fight their way through the panic-stricken mob.

Their progress was slow, but they pushed, dived and squeezed their way inch by inch, until finally they neared the left wall.

“ Now down toward the other end, away from the entrance,” directed Adeen.

They edged their way along slowly but surely. Finally Bollup gave a happy shout : “ Gladys, oh, Gladys ! I’m here ! ” he called out.

A moment later Gladys was sobbing in her brother’s arms.

“ Oh, Tom, I knew you’d come. Oh, I am so glad you are here to take care of me. Here is Aunt Anna, Tom. And Ralph ! Oh, Ralph, I’m so glad to see you ; it is so good of you to come with Tom ! ”

“ Osborn, there is no time to talk,” said Adeen,

in a low tone. "Look at those Turks running about on the cathedral roof. Do you see those cans they are passing up? They are soaking the building with kerosene; we must get out by the back entrance. I prepared for this. I must leave you now to get out a party of Druzes—I've given full directions to the priest with Mrs. Simpson; she will talk Arabic with him. Now fight your way to the other end of this yard, leave by a doorway in the brick wall—and hurry."

Adeen spoke rapidly to the priest with Mrs. Simpson in a language unintelligible to Ralph; he then handed one of the flagstuffs to the priest and after a hurried hand-clasp with Ralph, pushed his way through the surrounding crowd and in a moment was lost to view.

The priest instantly started to move down the wall, elbowing his way, pushing and crowding; Ralph behind him shoved, and back of him pushed Bollup; Mrs. Simpson and Gladys followed. They made a very effective wedge.

When near the back wall the screams of fright that filled the grounds were redoubled.

Flames burst from all parts of the cathedral; numbers of Turks climbed to the top of the walls, discharging rifles and pistols into the terrified crowd below them.

The one exit from the grounds was through the doorway toward which the Druze priest was head-

ing. And here there was no assurance of safety, for outside of this wall was to be heard incessant reports of rifle firing.

The tops of the walls were now filled with frenzied Mohammedans who discharged their firearms as fast as they could be reloaded.

Finally the Druze priest with his party neared the doorway, then with a rush they were swept through it into a narrow street. Many of the refugees were shot down as they emerged ; in the whirl of events Ralph saw many things. Missionaries, both Protestant and Catholic, were full of energy in trying to protect these persecuted people ; entirely unmindful of self, they gathered some of the distraught refugees together endeavoring to keep them away from the Turks. These devoted men rescued hundreds.

As the Druze priest with his party was swept through the doorway he unfurled the banner he was carrying, holding it over his head.

From the crowds that lined the street a dozen men, armed with rifles, rushed to the Druze priest ; a few words were shouted, then these dozen men surrounded the priest's party and separated it from the swarming mass of Armenians pouring through the doorway. With the Druze priest, the two officers and the two women in their centre, these twelve men marched, unopposed, down the street. Above them waved a banner, blue and white in

color; its design was not familiar either to Ralph or Bollup.

Fifteen minutes later they arrived at Dr. Hastings' house. Here a loving welcome was given Mrs. Simpson, who was an old friend, and Gladys, by Mrs. Hastings.

Bollup's joy at getting his sister back safely was intense. The awful thought of what might so easily have happened without the help of that quiet though powerful Druze had toned down his usual boisterous and hearty manner. "Thank God, Gladys, you are safe; thank God!" was about all he could say. But he was full of enthusiasm to serve and eager to do something to help the unfortunate Armenians.

"We've got to go back," he suddenly announced; "we must do our part, Os. Mrs. Hastings says her husband and all the men here are at the cathedral trying to save some of those Armenians from that murdering mob of Turks. Naval officers can't sit still in the house when missionaries are risking their lives."

"You're right, Tom; this is not our place. Come along."

Gladys clung to her brother. "Oh, Tom," she said, "must you go back to that dreadful place? Must you go, Ralph? Haven't you done enough?"

"Don't worry, Gladys; we'll be back soon," Ralph assured her.

As they left the house they met the Turkish colonel.

"Colonel," cried Ralph, "at the Armenian cathedral, in the rear, is a mob of Turks murdering Armenians. Men, women and children are being shot; it's awful! I beg of you to go there with your soldiers."

"I can't do it, Mr. Osborn; my orders are solely to protect Americans."

"There are a dozen of American missionaries there in imminent danger," persisted Ralph, almost beside himself; "if harm comes to one of them I'll report that I informed you of their danger and you did nothing. If you take your soldiers there they will be protected; at the sight of your men the crowd will run away. If you hurry you'll save thousands of lives. Hurry, man, hurry!"

"If Americans are there and in danger the case is altered," replied the Turkish colonel, speaking rapidly. "It would be sad indeed if another missionary were killed; but I can't permit you or Mr. Bollup to go. Mr. Osborn, you must stay here; it would be a calamity to us if an American naval officer were to be killed."

"You can't stop us—will you send soldiers to the cathedral?"

"Mr. Osborn, I'll go with all my soldiers except a guard of twenty men which I'll put under your

orders if you'll agree to stay here with Mr. Bollup and protect these American women while I'm away."

Ralph readily agreed to this. "You'll do more good than I can; we'll stay here, but hurry, for humanity's sake!" he urged.

The colonel gave quick, snappy orders which brought into life a hundred Turkish soldiers; they quickly mounted their horses and galloped down the street.

"That's splendid," Bollup commented. "I feel you and I ought to be with the missionaries, yet the soldiers will do more good than we could. The mob will break and run when the soldiers appear. I am happy enough that Gladys and Aunt Anna are safe, but just think of the horrible sights they have seen."

"Don't think of them, Tom; let's be thankful and satisfied that Gladys and your aunt are safe. Why don't you go in the house and visit with Gladys?"

"Because I'm on guard here with you. What will you do if you want to give this squad of soldiers any orders?"

"Send to Mrs. Hastings for an interpreter; but I judge they have had their orders from the colonel. Just listen to that firing; it is steadier than ever. We are fortunate to have gotten away from that cathedral, Tom. There are

many who didn't; you and I owe everything to Adeen."

"Indeed we do; everything, Os, and —— Hello, the firing has almost stopped. I can only hear an occasional shot."

"Bully," cried Ralph. "Our friend the Turkish colonel must have arrived and taken charge."

Half an hour later a multitude of refugees guarded by Turkish soldiers were driven down the street past the missionary's house. Some were taken into the already overcrowded grounds; after a hurried conversation between Dr. Hastings and the Turkish colonel the rest were marched further on to be distributed among the different European consulates.

"I hope the worst is over," said Dr. Hastings to Ralph. "All the refugees are now in guarded camps. I've been afraid the mob would attack that cathedral," he continued. "I'm happy that Mrs. Simpson and Miss Bollup are safe. It has been terrible, yet we have much to be thankful for. If that Turkish colonel hadn't appeared most of these poor creatures would have lost their lives. His coming saved great numbers. Major Doty kept going as long as he could; he neglected to care for his wounds as he should, and now I hear he is sick. That's why he was not at the cathedral this morning."

"Were any Americans injured?" inquired Ralph.

“Not one, except in their hearts. Won't you come inside, Mr. Osborn?”

“Not until Colonel Osman returns; Bollup and I are on guard until he comes back. Doctor, have you seen anything of Adeem during the day?”

“No, I fear he may have been harmed; hundreds never got out of the grounds. I hear he left you there.”

A terrible fear arose in Ralph's mind, a dread that the noble-hearted Adeem might have lost his life.

Two hours later the Turkish colonel with his horsemen rode up. Ralph and Bollup greeted him warmly. “I am told you have saved many lives; you should be a happy man,” congratulated Bollup.

“We soldiers obey orders,” replied the colonel, pleasantly; “mine are to protect Americans. I am glad also to have done something for those unfortunate Armenians. I'll relieve you of your guard, Mr. Osborn, and thank you for taking it.”

When Ralph and Bollup entered the house they found Dr. Hastings chatting with a group of friends. “We were talking over a strange thing, Mr. Osborn,” said the doctor. “Mrs. Simpson says that as soon as your party got out of the cathedral grounds, the high priest with you suddenly displayed the Druze Sacred Emblem.”

“Was that flag the Sacred Emblem?” cried

Ralph, much interested. "I wondered at the time what it was."

"Yes, that's what it was; we all know it here. But the strange thing is that Mrs. Simpson is certain that the priest did not have it when they entered the cathedral grounds; he must have received it while he was inside."

"What's strange about that?" inquired Ralph.

"If you lived in this part of the world you'd know. The Druzes are a strange, a fascinating people; their religion and government is a secret into which the outsider never pries. Their ruler lives yet is invisible and unknown except to the high priests, but he governs with despotic power and authority. Wherever the Sacred Emblem waves, all of us have seen it in Druze churches, it has been placed personally by Hakem, the Druze unknown ruler; none but Hakem may authorize the Emblem to be used. The Emblem protected your party, Druzes jumped to your rescue, and as you marched away with it above you no Turk would have dared to shoot at anybody under it. The strange thing, Mr. Osborn, is that Hakem, the ruler of the Druzes, must have been in the cathedral grounds this morning. This is of astounding interest to us ——"

"Oh, Os!" exclaimed Bollup, impulsively. "It ——"

But a quick, sharp look from his friend caused

him to subside; Ralph filled the gap by saying, "I'll never forget Adeen. I do hope he got away from the cathedral safely."

"Mr. Adeen is outside; he would like to see Mr. Osborn for a few minutes. He said he was in a great hurry," interrupted Dr. Hastings' young daughter, entering the room.

"Adeen, my dear friend, thank you for saving us. I am so happy to see you alive. I've been worrying about you for hours. Thank God, you are safe. I will be ever grateful to you; you risked your life for us, a life I now know to be precious to a whole nation."

"What do you mean, Osborn?" exclaimed Adeen.

"I know it was only Hakem who could have given the Sacred Emblem, which saved us, to the Druze high priest. I know this is a momentous secret; it is safe with me, yet I cannot help but tell you that I know of the honor that has come to me. I am overwhelmed at the thought that the man who saved me and my friends is the king of his own people."

"My highest title to you and yours must always be that of a true friend; whatever I did was done gladly, happily; whatever you suspect you must keep to yourself. Good-bye; we worship the same God. May He ever bless you and yours. Present my kindly regards to your friends. We will not meet again."

“ Oh, Adeen, do come in ; Bollup, his sister and Mrs. Simpson wish to see you, to thank you.”

“ I cannot ; I have much to do. Good-bye, dear Osborn. I shall always cherish with deep affection the friendship that has grown up between us.” And Adeen hurried away.

When Ralph returned to the others, he was indignantly assailed by Bollup for not bringing Adeen with him.

“ This is not right, Os. I have had no chance to thank Adeen. I’m going after him. Where could I find him ? ”

“ You can’t find him, Tom ; it is best for you to stay here. I tried to thank Adeen, to express the gratitude we all have for him.”

Later when the missionaries were intent on discussing the problem of feeding the refugees, Bollup said in a low tone to Ralph, “ Os, when we entered the cathedral grounds Adeen had a couple of flags rolled up. Were these Sacred Emblems ? Do you know if he gave one of them to the high priest ? If so it must mean that Adeen is Hakem of the Druzes ! ”

“ If it is so, Tom, you and I should be the last ever to tell of it ; so let’s promise each other never to talk of it or tell anybody about it ; that’s the least we can do to show our gratitude. It must always be a sacred secret.”

The next two days Ralph and Bollup were kept

busy assisting Dr. Hastings in caring for the refugees ; they needed food, nursing and medicines. Adana became quiet ; the conflagration was over, the discharging of weapons ceased ; but miles of ruins, thousands of dead and dying and the twenty thousand miserable Armenians cooped up in the refugee camps were dreadful reminders of one of the worst massacres that history recounts.

On the third day after the escape from the cathedral grounds Dr. Hastings announced that a train would leave at noon for Mersine.

"I'll go on it," exclaimed Ralph, with instant decision. "Tom, you had better remain here. I feel that I must report to Captain Pegfield at my first opportunity."

By three o'clock that afternoon Ralph was aboard the *Illinois*.

The next morning a train left Mersine for Adana carrying surgeons, medicines, and a great quantity of provisions. But Ralph Osborn did not accompany it ; he lay in his bunk sick with a high fever.

CHAPTER XXII

HOMeward BOUND

A WEEK later Bollup returned to the *Illinois*. In the meantime all of the officers had been to Adana, but this did not lessen the enthusiasm with which Bollup was received; it was like a return to one's home and family.

In the stricken town of Adana order had been restored; the Turkish government was alive to its responsibilities of protecting the Armenian refugees and of saving them from the starvation which now threatened. A dozen war-ships of different nationalities were anchored near the *Illinois*; the sympathies of the world were aroused by the sufferings of the Armenians, and money, surgeons, medicines and provisions were coming daily to their relief.

"How is Os, Himski?" asked Bollup. "I hope I can see him."

"He's all right; he had a touch of malaria; was pretty sick for three or four days. He still is weak but is up and dressed. He'll be wild to see you. Come down."

"Hello, Os, old chap," cried Bollup, bursting into his room. "By George, I'm glad to see

you're up. I was worried terribly when the news came that you were sick."

"Tom, you dear old fellow, you're the best medicine I've had yet. Tell me everything that has happened in Adana since I left. We saw some sad sights in that town, Tom."

Bollup gave his friend a graphic account of what had transpired in Adana since he had last seen Ralph.

"Say, Os, you look white and peaked but I hear you are over your fever. Are you able to walk about any?"

"Yes, indeed; the last few days I've spent several hours on the quarter-deck in a chair and to-day I feel much stronger. I want to go back to Adana once more. Do you know, Tom, that as good friends as Gladys and I have been I saw practically nothing of her in Adana. I never had a single talk with her except when there were crowds about." Ralph spoke resentfully. "I think I'll be well enough to go to Adana to-morrow or the day after, anyway; I want to see my friends there once more. I'm going to ask Dr. Smythe if he will take me off the sick list to-morrow so that I can go to Adana the day after. Just wait here, Tom. I'll be back in a moment."

Ralph left the room, returning a little while after, his face wreathed in smiles.

"It's all right; the doctor says I will go off the

sick list to-morrow and Mr. Hale has given me permission to go to Adana the day after. Splendid, isn't it? You'll go up with me, won't you, Tom?"

"I wish I could, Os, but I must be ashore in Mersine day after to-morrow. Perhaps Himski will go with you."

"Why can't you come with me? What have you to do in Mersine?" asked Ralph, blankly.

"You see during the last days at Adana Aunt Anna seemed broken down; her nerves have given way entirely, so Dr. Shepherd has ordered her to return to God's own country for a year's rest. She and Gladys are coming to Mersine on the day you're planning to go to Adana and of course I must be here to meet them. They'll spend several days here with the missionaries ashore; too bad you'll be in Adana. Aunt Anna will be awfully sorry to miss you." There was a mischievous twinkle in Bollup's eye as he spoke.

Ralph jumped up from his chair and stood menacingly before his chum.

"Tom, you villainous joker, why didn't you tell me Gladys was coming to Mersine? I want to see her. I'm not going to Adana if she's to be in Mersine."

Bollup grinned. "I imagined that on second thought you would decide not to go to Adana until you had thoroughly recovered."

Two days later among the passengers who arrived in Mersine from Adana were Mrs. Simpson and Gladys; two young naval officers met them at the station, and judging from the warmth of the greetings it would have been difficult for a stranger to decide which of the two young officers was brother to the charming young girl.

"Oh, Ralph, I'm so happy you're well enough to be out; we've been so worried about you," cried Gladys. "Aunt Anna, isn't it splendid to see Mr. Osborn again?"

"Don't talk about Mr. Osborn to me, Gladys," replied that precise lady; "as long as I live I shall call him Ralph. You won't object, will you, Ralph?"

"I'd hoist a flag of protest if you did anything else. Here's our carriage. We'll drive to your friends the Boyds."

For the following two days Ralph decided he needed exercise; he wasn't mentally or physically in humor for assuming his engineering; and so it was natural for him to go ashore for long walks; nor was it at all surprising that he had company on these walks. The exercise must have been beneficial to Ralph's health and spirits for his face beamed with happy gladness.

Several days later when Ralph and Bollup said their good-byes on the steamer aboard which Mrs. Simpson and Gladys embarked one would have

judged that the four were all members of the same family and very dear to each other.

“I’m ready for duty, chief. I’m entirely well again,” reported Ralph the next morning.

“Are you sure you’ve recovered, Osborn?” asked Commander Harker, with a sly twinkle in his eye. “Were I your age and had spent two days with as lovely a young girl as Bollup’s sister is I wouldn’t be over it for some time.”

Ralph colored then laughed happily.

“How are matters going on in the engine room, chief? Have you missed me?”

“Missed you! I should say so; at least at first. But young Cullen has been doing splendidly. He and the warrant machinists have been running things; I started to take hold when you left for Adana but I wasn’t at all well so had to let up and things went on below just as well as if you or I had been there. But I’m glad you are about again, particularly as we start for home next week. Coal comes alongside to-morrow; we’ll fill up the bunkers, and as soon as the revenue cutter *Tahoma* arrives we are to leave. Our government wishes the stars and stripes to be flying here and the revenue cutter was in the Mediterranean on her way to California.”

“That’s great news, chief. Where do we go from here?”

"To Gibraltar, then to Boston. I intend to be a passenger, Osborn; you will run the department. It's a fortunate thing for me to be able to turn things over to you. We didn't start well, you and I; that was my fault; but I'm sure you've forgotten about that."

"I haven't forgotten that you're one of the kindest friends a young officer ever had," protested Ralph, feelingly, wondering that he ever could have felt resentment toward the warm-hearted old man who was now so full of gentleness. "Chief, would you permit me to put Cullen on watch? You know how hard he has been working and what this would mean to him; he has lots of experience to get, just as I have, but I'm sure he will do well. This would be a great help for the warrant machinists; at present they are on watch for four hours and off eight and have some work in their eight hours off; if Cullen takes charge of a watch they will be off watch twelve hours."

"Put him on, Osborn. I've changed my opinion about the engineering abilities of Annapolis graduates."

The *Tahoma* arrived several days later and anchored in Mersine harbor. "We're to leave tomorrow for Gibraltar," announced Ensign Winthrop at luncheon. Shouts of joy greeted this information.

“ Say, Osborn,” asked Cullen from across the table, “ am I to stand watch with Hopkins ? ”

“ No, you are not,” replied Ralph, decidedly.

“ Well, who am I to stand watch with ? I hope you are not going to take me off altogether ; the engine room is a regular home to me and I like Hopkins. He’s letting me do most everything now. Who do you want me to stand watch with, Osborn ? ”

“ With a fellow named Cullen.”

“ What ! ” exclaimed Cullen, breathlessly. “ Do you mean I’m to be in independent charge of an engine-room watch ? ”

“ You’ve hit it,” smilingly replied Ralph ; “ the chief engineer has asked the captain for authority to put you in charge and the captain has said all right.”

“ Hooray ! ” shouted Cullen ; “ three cheers for everybody on earth ! ”

It seemed as if every man aboard the *Illinois* had some reason to be happy. The great thing with most of them was that a long cruise in far-away lands was nearing its finish ; bright anticipations of home and dear ones filled everybody’s heart. Besides this Ralph Osborn was enthusiastically happy because of the important duties that had so accidentally devolved upon him, and Cullen was similarly affected at the news that he was to have independent charge of a steaming watch.

The ship took six days to steam to Gibraltar ; here coal and supplies were taken on board ; then the *Illinois* left for Boston.

“Osborn,” remarked Commander Harker, after the Rock of Gibraltar had faded from sight, “I don’t imagine you will remain long aboard the *Illinois* after we reach Boston. I have recommended you for submarine boat instruction ; my letter will reach the Navy Department four or five days before we get home and it is quite possible that you will be detached as soon as we arrive.”

“Thank you, chief. I know I’m not high enough in rank to remain your first assistant here ; that of course happened because there were no senior officers in Manila available for the duty. I will be glad to have this instruction but will be sorry to leave Bollup and Himski, and you too, chief. I’ve had a happy cruise here and I feel I’ve learned a lot about handling machinery. I knew something before I came aboard but here I have had the practical handling of engines and pumps ; this ought to help aboard a submarine boat.”

“Indeed it will. You will find different kinds of engines there but it will be an easy matter for you to learn their manipulation ; if you know how to handle one type of engine all other types will seem easy.”

“I am studying the drawings and instruction book you gave me. I will know what to look for

when I get aboard a submarine; it has gasoline engines to use when running on the surface, electric motors when running submerged. There is an air compressor; compressed air is used to blow out water tanks, for the torpedoes and for other purposes. The boat is kept on a level keel by admitting water into different tanks or blowing it out; there are all sorts of safety precautions provided. I judge that barring accidents a submarine is perfectly safe when handled by an expert but extremely dangerous otherwise. I intend to know every mechanism, every pipe and valve in the boat if I am ordered to one. I imagine it will be very interesting."

The passage from Gibraltar was an uneventful one; the engines were not forced, and two weeks elapsed before Boston was reached.

During this time Ralph was busily occupied with the details of his work but every day found some time to spend in studying submarine mechanisms.

Finally Boston Lighthouse was sighted; a pilot was taken aboard and several hours after the *Illinois* was secured alongside a dock in the navy yard. The battle-ship had on board seven hundred happy hearts; from captain to coal passer there existed but one feeling, that of delight at being once more at home.

While in the engine room next morning, the

cabin orderly came to Ralph. "Sir, the captain wishes to see you," he reported.

"Good-morning, Osborn," greeted Captain Pegfield as Ralph entered his cabin. "I'm sorry to inform you that you are to leave us; here are navy department orders detaching you from the *Illinois*, directing you to report at Provincetown, Massachusetts, for submarine instruction."

CHAPTER XXIII

DUTY ABOARD A SUBMARINE BOAT

RALPH spent the following two months in Cape Cod Bay attached to the submarine boat *Moccasin* which was commanded by Lieutenant Prestan. The *Moccasin* was under way five days each week ; at night her crew slept aboard the tug *Nina*. The gasoline and electrical engines presented no difficulties to Ralph ; he studied their drawings, and step by step traced their connections.

Aboard the little craft was a maze and tangle of pipes and valves ; in every corner was a mechanism of some description. Used to the spacious engine rooms of the *Illinois* Ralph was amazed that so much machinery could be crowded into the little *Moccasin*, and that in addition there was room for nineteen men to work and move about. It must be admitted that the first time the boat dived Ralph experienced a queer sensation ; his breath came quickly, for an instant nervousness possessed him,—something similar to one's first experience in a storm, wondering when the ship rolls deeply if there is not danger of her capsizing. But the attitude of Lieutenant Prestan, coolly regarding the gauges, deftly handling certain levers,

and the unconcerned manner of the enlisted men attending to the various mechanism reassured Ralph. Besides the latter were three other ensigns aboard the *Moccasin*, under instruction, who had been there for several weeks.

“You’re doing finely, Osborn,” remarked Lieutenant Prestan at the end of the first week. “You don’t seem to be afraid of yourself when it comes to handling the engines; more than half of a man’s skill consists in confidence. At the end of another month you’ll know this little boat as well as I do.”

“Hardly,” replied Ralph; “but I’ll know more about her than I do now; it’s easy enough to run the motors but it will take time to know what each one of these thousand different valves are for, just why and when to run water into the tanks and which tanks, or to blow it out; when running submerged there are many things to be thought of. You must work your rudders just right, the trim must be just so, you must compensate for the shifting of weights if the men move about. If I had time to think I might figure out just what to do under different circumstances but there is no time to think; things are happening too quickly. I sometimes wonder that you can think of so many things all at once.”

“I don’t think of a lot of things, Osborn. I do things automatically. I handle this boat just as

a person plays the piano ; it is done intuitively. Every time we go out you will get more experience and before you know it you will find yourself handling levers and valves automatically. I can see by the way you have taken hold that you are used to machinery. Your *Illinois* experience is valuable help to you."

At the end of six weeks the other three ensigns were detached and ordered to command submarine boats that had just been completed. By this time Ralph felt perfectly at home with the *Moccasin's* machinery ; he had worked hard ; he was perfectly familiar with every mechanism and every valve and pipe aboard.

"Osborn," said Lieutenant Prestan, "you know this boat as well as I do. You are just as competent to handle her as I am. Suppose you take her out to-day ; you won't need me."

"I'd love to," responded Ralph. "I think I could handle her all right."

"I know you can ; go ahead."

Ralph ran the boat on the surface for an hour using the gasoline engines, enjoying thoroughly the sensation of being in command of the craft ; then he disconnected the gasoline engines, started the electric motors, and closed the conning-tower. Soon by manipulating the levers and admitting water into tanks the boat sank beneath the surface. By the depth recorder he was kept informed how

far below the surface he was, and by manipulating the mechanism he maintained a constant depth. Ralph had no desire to go down very deep; the periscope which projected up from the conning-tower reflected down to him what was occurring on the water's surface. By means of this instrument he could steer clear of obstructions while the only part of the boat to be seen was the projecting top of the little periscope which was not likely to attract attention as it moved through the water.

"You had no trouble, I suppose?" inquired Lieutenant Prestan, when Ralph returned that evening.

"It was fine, Captain Prestan, and I hope you'll let me handle the boat again by myself; it's splendid experience for me. I'd like to have lots of it. I want to fire the torpedoes, too, some time."

"All right, Osborn; this is Monday. You may take the *Moccasin* out every day this week. I've a lot of reports to make, more than enough to keep me busy. A week from to-day we are to take the *Moccasin* to the Boston Navy Yard, then I'm to be detached. I'm to have command of a flotilla of submarine boats that are now at Newport. It's a big job for a young lieutenant and I'm feeling pretty good over it."

"That's fine. I congratulate you. But what's to become of the *Moccasin*?"

“She’s to remain at Boston for a while; her motors need adjustment, and there are some other repairs to be made.”

“But who is to command her, Prestan?”

“I have recommended you to have her, Osborn; you are my natural successor.”

“Really!” exclaimed Ralph. “I’m to be her captain, am I? By Jingo, Prestan, I’d rather command the *Moccasin* than the *Illinois*!”

Ralph was delighted; his duties on the *Moccasin* now had a new meaning for him; in the days that followed there was some grumbling in the submarine boat at the long hours she was kept running, but Ralph’s enthusiasm cured that. Every day the boat was run on the surface and also submerged; torpedoes were fired; every mechanism was repeatedly operated.

On the following Monday the *Moccasin* arrived at the Boston Navy Yard, the passage from Provincetown requiring three hours.

“I’m detached, Osborn. Here are your orders directing you to assume command,” said Prestan, on his return from calling on the navy yard commandant. “The commandant gave me an interesting piece of news; our battle-ship fleet is going to be exercised in fleet tactics and strategy; it is to be divided into two squadrons, one to be called the enemy’s squadron, the other the home squadron. The enemy’s squadron is to be divided

into two divisions of four ships each, the home squadron into two divisions of three ships each. Scouts and destroyers accompany each squadron. War is to be declared ; the problem for the enemy will be to locate the divisions of the home squadron and to crush them before they can combine. The purpose of the divisions of the home squadron will be to join, and then to meet each division of the enemy's squadron separately."

"That sounds interesting ; but suppose an enemy's division meets a home division and the two divisions fire blank charges at each other. How is it to be known which side is victorious ?"

"By the superiority of force. The enemy's divisions, separately, are superior to the home divisions. But if the home divisions should be able to combine and meet a single division of the enemy, then the home admiral would have six ships against the enemy's four. This is what the home admiral will try to do and what the enemy will try to prevent ; and I'm to be in it with my submarines. Isn't that great ?"

"Indeed it is. I wish I were to be with you, Prestan."

"I wish you were and perhaps you will be if your repairs are finished ahead of time."

For the next ten days Ralph worked with feverish activity. He took the gasoline engines

apart, making adjustments where needed. Valves were overhauled, faulty electric wires replaced, and leaky air tanks made tight.

In the meantime a mimic war was declared. With engrossing interest Ralph read in the daily papers that four enemy's ships had left Bermuda, and that another division of the enemy had left Halifax; at the same time one division of home ships sailed from Pensacola, another from Bar Harbor, Maine. For several days the newspapers were full of surmises as to the movements of the opposing divisions. Different ocean steamers sent in wireless reports of having passed war-ships and from these the interested public imagined that the two divisions of the home squadron were hastening toward each other, one steaming north, the other south. And it was evident that the enemy imagined they would join somewhere in the region of New York City.

Before many days passed one home division arrived in Long Island Sound, being followed by the scouts of the pursuing enemy division. Then came news that the home division had anchored under the fortifications of Plum Island, across from the Connecticut shore; here the enemy's division could not follow but remained patrolling in Long Island Sound.

The day after the receipt of this interesting news word came that the southern home division had

anchored off Provincetown, protected by the Cape Cod fortifications. The Bermuda enemy division through its speedy scouts discovered the whereabouts of the home division, and soon arrived in Cape Cod Bay; it blockaded the home division there, keeping a safe distance from the army's guns.

With the opposing forces in this position several uneventful days passed, neither side making any offensive movement.

"This is tiresome," grumbled Ralph to Chief Gunner's Mate Douglas. "Here is one home division under the guns of Plum Island; it daren't leave, and the enemy division daren't get within range of the Plum Island guns. The same situation exists at Provincetown; the defenders are afraid to go out, the enemy is afraid to go in. I guess this will be a drawn battle. Pshaw! I wish one side or the other would win a decisive victory."

"The commandant would like to see Mr. Osborn immediately," interrupted a marine orderly, sticking his head into the conning-tower. "He says to hurry, not to shift into uniform if you are in working clothes."

Ralph scrambled out of the submarine and set out for the commandant's office on a run. "I wonder what's up?" he muttered.

"Mr. Osborn," began the commandant, "yester-

day you reported the repairs to the *Moccasin* were completed. Are you all ready to get under way?"

"Yes, sir; I can leave immediately."

"I suppose you have been reading the papers about the naval war that is going on?"

"Yes, sir. I've been much interested; if the newspaper reports are correct I am acquainted with the present condition of affairs."

"There are some things the newspapers don't know. Two hours ago, in a dense fog, the home division at Plum Island slipped out; it is steaming to the eastward at full speed; as soon as the enemy division in Long Island Sound learns this, and it will as soon as the fog lifts, it will follow. The home division will go over the Pollock Rip Shoals; this is dangerous navigation but it is possible. A few moments ago a tug brought me word that the enemy's division that's been outside Provincetown has suddenly left; its purpose is undoubtedly to join the division at Plum Island. I must get word to Admiral Waddell at Provincetown that the other home division is steaming to join him, also that the division blockading him has left. Here's a letter for you to deliver to Admiral Waddell."

"Very well, sir; I'll start right away. I suppose you can't send a wireless?"

"No, because of the interference. The wireless telegraph of all the enemy's ships are going at full blast; this morning early, he landed a party on

Cape Cod. The umpires have credited him with destroying all telegraph and telephone wires into Provincetown and have forbidden sending any messages by wire for eight hours. The enemy has left a scout in the bay which prevents me from sending a tug over with this message; you must take it; you will have to get by the enemy's scout without being seen, get into Provincetown, and deliver this letter."

"That ought to be easy, sir."

"But it will not be for this reason. Admiral Waddell's orders are to sink any submarine that appears; he can take no chances of its being friendly for the enemy is credited with having carried submarines on colliers. If any of Admiral Waddell's ships see you you will be considered sunk. And if you appear on the surface within sight of any Cape Cod guns you will also be considered sunk. Every moment is precious. You must come to the surface in some place not in range of the guns of the forts or ships, leave your boat, and hurry to Admiral Waddell. If this letter is delivered promptly the two divisions of the home squadron may combine and then whip each division of the enemy separately. The enemy is not likely to go over the Pollock Rip Shoals and the home divisions will; that's how they'll meet. Admiral Waddell is aboard the *Alabama*. That's all; make haste, and good luck to you."

Ralph lost no time in getting back to the *Moccasin*.

"Douglas," he called out, seeing the chief gunner's mate standing alongside the conning-tower, "send a couple of men up to cast off the lines. Get the gas engine ready as soon as you can."

"You're not going to shove off in this fog, are you, Mr. Osborn?"

"Yes, hurry up; there's no time to lose. How much air pressure is there?"

"Over ninety pounds, sir."

"Start four cylinders, open your gas suction valve, look out for the combination ground switch and cocks on the front of the engine. Here, men, come up the lines on these bollards; jump aboard with the ends, leaving a bight of rope over the bollards; be ready to let go and haul in when I give the word. I'm going to back out as soon as the engines are ready."

Ralph jumped aboard the *Moccasin* and was below the next moment.

"How are you getting on, Douglas?"

"I'm giving air to the starting valves; everything else is ready. There she goes; she's exploding now, sir."

"All right; close the cocks, throw in the cams, set the igniter to early ignition. All ready, Douglas? I'm going to back out."

"I don't like the fog, Mr. Osborn; it's pretty

thick. It will be dangerous traveling, but everything is ready."

"The fog is lifting; we're on important duty, Douglas. Cast off the lines; stand by to back out."

CHAPTER XXIV

NAVAL WARFARE

“IF the fog hadn’t lifted we never could have gotten out, Mr. Osborn,” commented the chief gunner’s mate about an hour later. “There’s Boston Lighthouse. Where are we going?”

“To Provincetown. The torpedo with the collapsible head is in the tube, isn’t it?”

“Yes, sir.”

“Be all ready to fire. As soon as we are clear of the lighthouse lay a course to Provincetown; the chart is in the conning-tower, and hand me a telescope. We’ll dive in a few minutes. See that everything is all ready.”

Ralph and the chief gunner’s mate stood on the submarine’s deck forward of the conning-tower. Ralph knew that Douglas was one of the most competent submarine men in the navy; he had no hesitation in turning the control of the boat over to the chief gunner’s mate.

Passing tugs and steamers tooted vigorously as the low ominous looking submarine passed them. To these Ralph paid no attention. His eyes were riveted to the telescope with which he slowly swept the horizon. After a while he kept the

telescope pointed steadily over the submarine's port bow.

"Douglas, what do you make of the craft I'm looking at? She's far away but you can see her in the direction I'm looking—take the glass."

"That's a scout, sir; it's the *Birmingham*. I know her well. Those peculiar outriggers on the foremast are for her wireless outfit."

"All right; let's get inside and close up; I want to get as close as we can without her seeing us. We'll dive and travel toward the *Birmingham*, showing only a foot of our periscope. Get a compass bearing of her; it will be some time before we can pick her up by the periscope. I hope she's not moving."

Ralph and Douglas entered the conning-tower, the top door of which was then closed. The boat was submerged and driven ahead by electric motors. Half an hour later, though the *Moccasin* was completely submerged except for the foot of the periscope showing above water, Ralph saw, by means of the reflecting mirrors of that instrument, the long hull and tall masts of the *Birmingham*, not half a mile away.

"She's not moving and gives us a beautiful broadside to fire at," said Ralph gleefully to Douglas. "Be all ready; we'll torpedo her in a few minutes."

The speed of the motors was decreased, causing

the submarine to run slowly. "We can't miss her; she's not two hundred yards away," muttered Ralph. Then he pressed the firing key. There was a hiss of air, the noise of quick working machinery, and the sound of rushing water.

Ralph's eyes were glued to the mirror of his end of the periscope. A moment's breathless wait followed; then he shouted, "We've hit her; she's torpedoed! I'm going to claim she's sunk."

Manipulating the mechanism the *Moccasin* rose to the surface a hundred feet from the scout cruiser. Opening the conning-tower top, Ralph climbed up. His appearance created great commotion on the decks of the *Birmingham*.

Hardly had Ralph stuck his head out of the conning-tower than he heard a rapid succession of reports from a quick firing gun.

"You're sunk," called out an officer on the *Birmingham's* bridge, evidently her captain. "Return to the navy yard; report you were discovered and sunk."

"You are torpedoed, sir; you were torpedoed before I came to the surface."

"Obey my orders instantly."

"I appeal to the umpire's decision, sir."

"I am the umpire. Who are you? What is your claim?" called out an officer, running to the side of the *Birmingham's* captain.

"The *Moccasin*, Ensign Osborn commanding;

the *Moccasin* claims to have torpedoed the *Birmingham*. The *Birmingham* is out of action for the rest of the war."

"Where is your evidence?"

"On your starboard beam; the torpedo is running around in circles. I request you to pick up the torpedo and take it on board; you will find its head collapsed."

"I tell you you're sunk; return to the navy yard immediately," shouted the *Birmingham's* captain, angrily.

"I appeal to the umpire, sir."

"*Moccasin* there, follow up the torpedo," called out the umpire; "if you find the head collapsed carry out your other orders; if the head has not collapsed, return here."

There were angry expostulations from the *Birmingham's* captain but Ralph did not wait to hear them. The *Moccasin* glided through the water toward the torpedo which had not been lost sight of. After striking the scout's side it had glanced off and was now going around in a circle on the water's surface in plain sight a quarter of a mile away.

The *Moccasin* was soon near the torpedo's circular path; as it came by, at quite a good speed-Ralph and Douglas saw the collapsible head was smashed in.

"That settles it, Mr. Osborn; it was a bully

good hit. Officially the *Birmingham* is at the bottom; the torpedo itself will be all the evidence the umpire needs."

"Yes; let's get inside and close up. We're now off for Provincetown; we'll run for a time toward Boston with our periscope above water. The *Birmingham* will watch us; then we'll sink the periscope and head for Provincetown."

"Very well, sir. Shall I put another torpedo in the tube?"

"No, but put the forward cap on and drain the tube."

The *Moccasin* entered Provincetown harbor two hours later with but a foot of her periscope showing.

"Douglas, there are three battle-ships at anchor here, Admiral Waddell's squadron; I have an important message for the admiral."

"Well, if these ships are our friends I suppose we will come to the surface, won't we?"

"No, indeed; we would be declared destroyed. A battle-ship takes no chance on a submarine; it destroys it first and investigates afterward. I've got to get my message to the admiral without the submarine coming to the surface."

"You can't do that, Mr. Osborn; we'll have to find some spot out of sight of the ships."

"There's no such place within many miles; there is nothing but sand about here; there's no

secluded spot near. I'm going to do what Ensign Whiting did over at Manila,—get out of the submarine through the torpedo tube. That's why I didn't want you to put another torpedo in the tube."

"By George, Mr. Osborn, that's risky."

"No, it isn't. I'm a good swimmer. We'll keep a quarter of a mile from the nearest ship,—that's Admiral Waddell's flag-ship. I'll shift into my bathing suit now. I've stopped the motors; we'll drift for a quarter of a mile. Half a minute after I've entered the tube shut it up, then flood it and open the cap quickly. As soon as I get out I'll swim to the periscope and put my hand over it; this will be a signal to you I'm all right. Thirty seconds after you've opened the cap, close it and drain the tube; if anything should prevent my getting out you would get me in time."

Ralph rapidly threw off his clothes and got into a bathing suit. Taking a hurried look into the periscope's mirror he remarked, "This is just right. I'm going into the tube now."

Lieutenant Shattuck of the flag-ship *Alabama* was pacing his beat up and down the ship's quarter-deck. On the bridge and at several points on deck were men with telescopes, constantly sweeping the horizon. Lieutenant Shattuck's

face was pale and drawn, betokening long nights of vigil when danger of attack from a blockading force consisting of battle-ships and destroyers did not permit of much sleep for the officers and men of Admiral Waddell's squadron.

Night alarms had been many; hardly had a ship's company settled down to sleep when the electric bells would resound; the harsh, discordant notes of bugles sounding blasting echoes in every compartment would call all to their stations. And so Lieutenant Shattuck was to be pardoned for his condition of nervous irritability this warm afternoon. As he paced up and down the deck, wishing that his tiresome watch were over, he was startled by a sharp cry from the quartermaster of, "A swimmer is coming aboard over the starboard gangway." Almost accompanying his words, an athletic young man in a dripping bathing suit came running aft on the quarter-deck. Lieutenant Shattuck's nerves gave way.

"What do you mean coming aboard this warship?" he shouted, indignantly. "Don't you know this is war time? No visitors are allowed; get off this ship instantly."

"I am Ensign Osborn. I have an important message for Admiral Waddell. I come aboard officially."

"You come aboard officially," repeated Lieutenant Shattuck scornfully; "if you were a naval

officer coming to see the admiral officially you would be in special full dress, not in a bathing suit. If you have a message for the admiral give it to me; in the meantime I'll have you taken care of as a suspicious character. What are you ensign of, the Cape Cod Naval Militia?"

"I am Ensign Osborn, U. S. Navy, commanding the submarine *Moccasin*. I bring a most important message for the admiral. You are wasting precious time, sir; please send word to him of my errand here."

"Orderly," called out Lieutenant Shattuck, "tell Admiral Waddell that a young man in a bathing suit is on deck; he says he is Ensign Osborn, with an important message for Admiral Waddell from the commandant of the Boston Navy Yard. He will not give me the message; he insists on seeing the admiral personally."

The admiral was evidently more believing than the deck officer, for very soon a gray-bearded, robust officer appeared on the ladder from below. "Ralph Osborn," he exclaimed, "I am delighted to see you again. Ralph, what is your message?"

"Admiral, I am from the *Moccasin*. If you will look a couple of hundred feet on the starboard beam you will see a black speck on the water; it's the periscope of the submarine boat *Moccasin*. Will you please send a boat over there

—direct a man to put his hand on the periscope. That will be a signal for the boat to come up. Here is a letter from the commandant, sir; it's pretty wet but if you can't read it I can tell you its contents."

Admiral Waddell tore open the wet envelope; he had no difficulty in reading the note it contained.

"You have brought me splendid news, Ralph," he cried jubilantly. "Shattuck," he continued, "let me introduce you to an old friend of mine, Ralph Osborn; and find that periscope. There it is—I see it. George, how easy it is for a submarine to steal into a harbor and remain undetected. Send a whale boat over to the submarine, Shattuck; let the coxswain know he's to put his hand on the periscope for a moment. And signal to the squadron that a friendly submarine is coming to the surface; it is not to be fired on. Ralph, I understand by this that the squadron that has been blockading us has steamed away, leaving only a scout cruiser, the *Birmingham*, to watch us. By Jingo, I wish she had gone too; it would make our problem easier."

"The *Birmingham* was torpedoed, sir, by the *Moccasin*, not two hours ago. I'm sure the umpire will declare her sunk."

"Admiral," interrupted Lieutenant Shattuck, "the *Birmingham* is coming around the point fly-

ing a signal which reads, '*Birmingham* was torpedoed and ruled out of action.' "

"Good. Send for the captain and the flag lieutenant. Signal to the squadron to heave short all anchor cables and prepare to get under way immediately. Now, Ralph, tell me all you know; but first, how in thunder did you get out of the *Moccasin*? That is beyond my imagination."

"Through the torpedo tube, sir; it was perfectly easy. The commandant told me that the squadron coming from Plum Island would go over the shoals through Pollock Rip; he thinks the enemy will try to combine south of Nantucket light-ship."

"By George, we'll join the other division of the home squadron; that will give us six ships, and then we'll meet each division of the enemy's squadron separately. There's your submarine, Ralph. By Jingo, that was a gritty thing for you to do."

In the meantime officers came running up from below; they crowded around Ralph in a joyous mood. Admiral Waddell made no secret of the news the submarine had brought. Numbers of men appeared on deck all alive with interest and it was not long before all knew just what had happened.

On the *Alabama's* yards streams of flag signals spelled orders to the other ships present, and many

an apprentice boy, wanting some chum on another ship to know the good news, wigwagged frantically, using his cap in place of a signal flag.

“ Well, Ralph, I’m afraid I’ll have to send you back to your ship ; you have delighted me beyond words ; we’ll be under way in a few minutes.”

“ I’m ready to go, admiral, but may I have permission to run by my good old ship, the *Illinois* ? I see it’s just astern of you.”

“ Yes, indeed ; good-bye.”

Shortly afterward, Ralph was climbing aboard the slippery superstructure of the submarine. “ Turn around, Douglas, and run down by the *Illinois*, the ship next astern.”

“ Aye, aye, sir.”

Douglas turned with a starboard helm toward the *Alabama* ; the decks of the battle-ship were crowded with eager watches. Suddenly there was heard the shrill whistle of a boatswain’s pipes. “ Do you hear that ? ” bellowed a hoarse, strident voice. “ Give three cheers for the *Moccasin* and its nery skipper. Hooray, hooray, hooray ! ”

Over seven hundred voices joined in the shout ; deep relief from prolonged tension had come to the ship’s company which was expressed in wild cheers for the plucky ensign. Hardly had these stopped when the crew of the *Illinois* commenced cheering. Ralph was recognized by his old ship-mates, all of whom tried to tell him that he was

“all right.” On the *Illinois*' quarter-deck he saw Bollup, Himski, Cullen and others, cheering as madly as they ever had at an army and navy football game.

After passing the *Illinois*, Chief Gunner's Mate Douglas said, “Mr. Osborn, the flag-ship has mastheaded the *Moccasin*'s signal number; there goes a signal to us in the biggest signal flags aboard.”

“Read the signal, Douglas. What is it?”

“‘1 8 6 *Moccasin*’; that means, ‘Well done, *Moccasin*.’”

As the ships present read this public signal, which was in effect a great honor, renewed cheering was heard on all of them. Then the squadron hove up their anchors and steamed out of Provincetown Harbor.

CHAPTER XXV

HAMPDEN GROVE

TWO days later Rear Admiral Waddell's squadron of six battle-ships steamed into the Boston Navy Yard; as they moved slowly and majestically through Boston Harbor they were greeted by an incessant shrieking of whistles, for Admiral Waddell had won a great victory and was given an enthusiastic reception.

"It was the prettiest trick ever turned, Os," exclaimed Bollup, aboard the *Moccasin*, an hour after the *Illinois* had been tied to a navy yard dock. "Our home squadron of six ships was inferior to the enemy's squadron of eight, but superior to each division of four. We went through Pollock Rip, struck it at high water and had no trouble; two hours later we met our other division, combined with it and continued our way. We met the enemy's division of four ships west of Martha's vineyard; we were six against four; the umpires immediately ordered the enemy's division out of action; then we steered to the southward and met the other enemy's division to the westward of Nantucket Shoals Light-ship, and that ended the war. We had met the enemy and they

were ours. Our squadron is wild about you. Admiral Waddell says the best thing he ever did for the navy was to save you from being bilged when you were at the Naval Academy. He declares that if our division hadn't started when it did we could not have struck Pollock Rip at high water; that our two divisions might not have combined. He has written a letter of commendation of you to the Navy Department. The result of this war has made Admiral Waddell the biggest man in the navy to-day."

"The whole thing is glorious," cried Ralph happily, "but I have to laugh when I think of how that Lieutenant Shattuck met me aboard the *Alabama*; he would have liked to throw me overboard."

"Shattuck has been unmercifully joked about that, but at the time you appeared we were all pretty much on edge. Os, our good ship, the *Illinois*, is going out of commission immediately; I am detached and granted a month's leave; so is Himski. He's going to come to Hampden Grove with me; you've got to come too. What do you say?"

"I'm delighted; orders have just come to lay up the *Moccasin*. She's an old boat, comparatively. I'll ask for leave and join you in Hampden Grove in less than a week. Hello, here's Himski. It's just grand to see you again."

The three friends talked all the afternoon and until late at night, and even then were far from being finished in what they wanted to tell one another.

A week later, in a small dusty country railroad station in the southern part of Virginia, Ralph Osborn alighted from a train. The greeting received by Admiral Waddell on his triumphant entrance into Boston Harbor did not equal the explosive warmth that met Ralph. The Bollups were all there, the colonel, Mrs. Bollup, Gladys, Dorothy and Tom; with them were Mrs. Simpson and Himski. The month that followed was one of ideal happiness for Ralph.

The loving affection of the Bollup family caused deep contentment to enter his soul; and the sight of a beautiful face that always seemed filled with tenderness was in his mind by day and by night. Far from his thoughts were lonely watches at sea, the hardships of Filipino prisons, the heat of engine rooms, or the horrors of Armenian massacres. There was room for nothing except the deep contentment and glad happiness that filled him, for Gladys Bollup and he were to be everything to each other.

