

district or another, to export a staple food-stuff like wheat to relatively well-fed England, but it was our job to carry the stuff not to reason why. The nine white members of the ship's company were glad to be homeward bound, especially when it meant surcease from the discomforts and other drawbacks of the Calcutta coal trade.



RELATIVELY SHORT VOYAGES were a drawback to the Calcutta coal trade, because every time we returned to Calcutta the entire crew was paid off and a new lot signed on a day or two before sailing again. It seemed a matter of luck whether the new crew would contain a larger proportion of experienced stokers than the last lot, or too many "jungli wallahs" with forged papers who had never been to sea before and would have to be taught from zero the ungente art of stoking marine boilers with low grade coal.

When a new crew was needed the Captain would go ashore to see a functionary known as the God Serang, who could apparently produce any needed number of Lascar sailors, stokers, serangs, sekunnis and tindals, all of course supposed to be experienced men with discharge papers from other ships in which they had served; all this for a suitable fee of course. Being a wily Oriental the God Serang received a fee from the men for whom he found jobs and I used to wonder if he was supposed to be responsible for supplying men with experience at the job for which they signed on. There were certainly times when I felt I would like to have him in the stokehold with me at sea and put him to work at trying to keep steam up in our boilers with the low grade native coal, when the boilers were designed to burn good Welsh or Yorkshire stuff. It was

difficult enough for really experienced stokers and almost impossible for the raw recruits fresh from the jungle, even after they had recovered from seasickness and found "sea-legs" of a sort.

I was fortunate in that the tindal who was in charge of the stokehold in my watch and the oiler came back each time we took on a new crew, as they were both very good men at their respective jobs, which made a world of difference to me.

I got on well with the Lascars and had no trouble with them. The oiler in my watch was an elderly man with a long, wispy beard that gave him a venerable look. He knew his job and I found him completely reliable. On the occasion of a Moslem festival the Lascars would hold a service of some sort on the after hatch, just outside their quarters and dressed up in their best clothes. My oiler seemed to have the status of a lay reader, presiding over the affair, standing up in front of the congregation and holding a copy of Koran from which he was apparently reading. I did not know if he could actually read but if not he put on a very good act, reciting from memory while seeming to read.

When we were on watch if I noticed the steam pressure dropping below the correct figure, I would tell the oiler to tell the tindal I wanted to speak to him. The oiler would say, "Accha Sahib" and go to the stokehold. Then the tindal would appear and I would look at him and the pressure gauge, whereon he would say "Accha Sahib" and vanish to the stokehold again; they could read the gauge at any rate.

In a short time the needle of the gauge would begin to creep up and all would be well. Thus would the dignity of man be respected and protocol preserved while the main engines turned over at a steady 60 revolutions per minute and the ship maintained her usual speed of 8 knots.

For the first few days of our passage from Karachi to Hull everything went smoothly, though the weather became perceptibly warmer as we approached the Gulf of Aden. We

passed Aden at 8 o'clock one morning, when the sea was glassy and the temperature of the water 93°F. and the air temperature in the engineroom 145°. The stokehold was slightly more bearable owing to the draft coming down the two large ventilators to supply the air necessary for combustion in the furnaces.

At 10 o'clock I was startled by the sudden loud clanging of the engineroom telegraph, while the pointer whirled round from "Full Ahead" to "Full Astern," something that rarely happened at sea and almost surely indicating an emergency of some sort, such as a "man overboard."

This time it was a case of two men overboard, both of them stokers in my watch apparently crazed by the heat, who had gone up on deck and over the side into the clear blue water that certainly looked enticing if one did not think about sharks.

To get a large, slow speed, triple expansion engine from full ahead to full astern was a rather complicated operation, and while I was working at the controls as quickly as possible, the second engineer came running down the steep steel stairs to take charge. He explained the cause of the trouble and told me to go up on deck and see what happened.

I saw the two stokers swimming about in circles, not as if trying to get back to the ship, and one of our lifeboats being rowed toward them by four deckhands, with the Mate at the tiller and the carpenter in the bow holding a boathook; to complete the picture there were several very large sharks swimming about quite near the stokers but apparently not making any move to attack them. They could certainly have gobbled up the stokers with time to spare before the lifeboat reached them.

The two swimmers were pulled into the lifeboat, brought back to the ship and laid out on a hatch looking very limp. Two of the ship's officers went to work to apply "artificial resuscitation" according to the Board of Trade instructions and diagrams with which all British ships are equipped.

However, the stoker serang took a hand in the proceedings by respectfully asking the Mate to let him cope with his errand subordinates, and the Mate was obliged by recognized custom to agree. Whereon the serang removed the heavy leather belt he was wearing and proceeded to strike eight bells on the still limp, half-drowned swimmers and chased them down to the stokehold to shovel coal again. This seemed brutal but was certainly effective. The serang presumably knew the men as shirkers and felt they had caused him to "lose face," so dealt with them according to his lights.

It was understood that the owners had obtained a good freight rate for carrying the cargo of wheat to Hull, probably owing to the ship being the only suitable one available in Karachi at the time. So we had orders to clear out the coal left in the largest bunker and have it washed out to receive bags of wheat; the coal was stored in the alleyways to be used up before that in the other bunkers.

This meant that we must put into two ports en route to Hull to take in more bunker coal, and the first of these was the small island of Perim, about 120 miles or 15 hours steaming after passing Aden.

It was a pitch-black, moonless night when we arrived there, suitable for deeds of darkness, such as the formation of a syndicate consisting of the Chief and second engineers and the chief officer, to purchase a case of Scotch whiskey from the ubiquitous Arab bumboatmen.

The Second roped me in to help him pull the case up from the bumboat and take it to the Chief's cabin, while the Chief went up to the bridge to engage the Captain in conversation on the other side of the ship, a simple plot that worked smoothly, though I would have preferred not to be a party to such a nefarious scheme.

It was an understood thing that we were not supposed to have liquor in our cabins, though just how much force the rule had in law if it came to the point I never knew. In the

navy it has plenty of force and it is a serious offence for any officer except the Captain to drink in his cabin. In this case the chief engineer was exempt from the rule perhaps by tacit consent. Most of the time at sea he was under-occupied with me taking his watch, and he guzzled steadily in moderation.

I was 22 at the time and practically a teetotaler, not on principle but because I did not like the taste of any liquor I had encountered, and was bent on saving as much money as possible toward my project emigration, as soon as I decided where to go.

We sailed from Perim before daylight and when I went to take over the engineroom from the Second at 8 o'clock it was obvious that he had lost no time in sampling his share of the Arab's merchandise. He was in a state of alcoholic euphoria, without a care in the world, but I would have been fully justified in refusing to take over the watch owing to the condition of things in the engineroom.

This was a dilemma I had not encountered before. It was of course the Chief's watch and in any case I should report to him my reasons for refusing to relieve the Second. So far as I knew he might be in the same condition and the last thing I wanted to do was to stir up trouble of any sort. Being the "dogsbody" of the engineroom staff, I couldn't win.

So I decided on the spot to take over the watch and do the best I could to get things straightened out in the four hours before the Third relieved me at noon. I was quite certain he would not take over from me unless all was as it should be then.

This sort of thing went on for 48 hours, till the Second had consumed his four bottles of Scotch singlehanded, which is fairly hard drinking even for the tropics, though I suppose the intense heat plus the liquor causes a very high rate of evaporation through perspiration, and helps to stave off some of the more obvious effects of heavy drinking.

The morning after we left Perim the Chief told me casually

to take indicator cards from the main engines in the afternoon instead of working on the winches. It seemed an extraordinary order and I never did figure out the reason. It was certainly not necessary and was regarded as something to be done by two men working as a team, at some time when the temperature was not so excessively high, because it was a very hot job working around the cylinder heads. It could as well have been done three or four days later under much cooler conditions.

The job had been done once before while I was in the ship and then it was done by the Chief and Second together, when it was comparatively cool and while I was on watch in the forenoon. It occurred to me that the Chief thought I probably would not know how to do the job, as I think many juniors on their first voyage would not.

As it happened I did know very well and actually did it and worked out the results singlehanded in less time than the Chief himself took, with the Second helping him. This was because I used my slide rule for the numerous small calculations involved. When the Chief noticed the slide rule in my hand he said, "What the hell is that bloody thing?"

It was a bit of a shock to realize he had never seen a slide rule before, and when he told me to show him how it worked I was faced with the problem of trying to explain the rule to someone who had never heard of Logarithms, without making him seem ignorant — a tough task. I did the best I could while he pretended to understand.

Owing to the large size of the engines the actual business of using the indicator without help resembled doing fairly strenuous gymnastics for two hours or so, in a very high temperature. When I had finished I was as close to sheer physical exhaustion as I have ever been, before or since.

The indicator may be likened to a graphic recording barometer or some such instrument that draws diagrams, from which the exact horsepower developed by the engines may be calculated, and the trained eye can tell if the valves that con-

trol the flow of steam through the cylinders are in good order and working efficiently. This is important because if the valves become worn or even slightly out of adjustment, the result is a serious waste of steam and therefore of fuel, which is a major item in the cost of operating a ship.

As we steamed north toward Suez the temperature dropped steadily and was a most welcome relief. In the Mediterranean the weather was bright and sunny but felt chilly by contrast.

Our next stop was Algiers for more bunker coal, which we hoped would be of better quality than the Indian coal we had burned for many months, but this proved a vain hope.

The coal came alongside stacked in neat rectangular piles on barges and looked well enough to a casual glance. When we tried to burn it at sea it behaved more like the slag from a smelting furnace, and ran through the gratebars in long streaks, destroying the bars in the process. It was fortunate that we had an unusually large supply of spare bars, which may have saved the ship from total loss in a very bad storm in the Bay of Biscay.

It is about 400 miles from Finisterre to Ushant and when we were half way across the weather became worse rapidly and developed into a real hurricane, with winds over 75 miles per hour, and mountainous waves.

It was vitally necessary to keep the steam pressure up so that the engines could develop full power, as otherwise the ship might turn over and sink. It would be impossible to launch lifeboats in that sea, so all hands would probably be lost with the ship.

Some of the Lascar stokers collapsed under the prolonged strain and the second and third engineers took over the stokehold, where they did a wonderful job for 48 hours without relief, and under the most difficult conditions.

They told me to stay in the engineroom and make sure nothing occurred in the way of hot bearings or other such troubles, which would necessitate stopping the engines for

even a minute. Such things are more likely to happen when the ship is rolling and pitching in a very rough sea than in relatively calm water.

When we arrived in the English Channel there was very little wind but dense fog, and as usual plenty of traffic. It is an eerie feeling being in the engineroom well below the waterline, hearing the foghorns of several other ships and knowing that the bow of one of them may come crashing through the steel plates of your ship at any moment, followed by a flood of water.

When the fog cleared we were near Dover and found we had only just enough coal left to take the ship into that port, "with swept bunkers," meaning the last shovelful of coal we could scrape up.

I never heard whether the owners wanted to know why the unscheduled visit to Dover was necessary, but I would think in the nature of things they would expect an explanation. I suppose it might have been blamed on the unusually bad storm in the Bay of Biscay. I doubt if they were told that they very nearly lost the ship and cargo and crew owing to the exceptionally bad quality of the coal we took in at Algiers.

When we arrived in Hull we heard that the next voyage would be to Rio Janiero with a cargo of coal, also that we might have a bit of leave to visit our homes if we had any, which I had not. I did, however, manage to have a brief holiday for which I went to Southampton to stay with friends.

I rejoined the ship shortly before she was ready to sail for Rio, with orders to put into Las Palmas to "top up" the bunkers. This because coal was relatively expensive in Rio. We left Hull with bunker coal stored in the boarded-up alleyways as well as with the holds and bunkers chock full.

The process of getting out of the docks of Hull was liable to be complicated at best, as it meant going through many lock gates, with much "manoeuvring" which means stopping and starting, going ahead and going astern and changing

speed. It took us a good part of a night to get clear and drop the pilot.

The occasion was made memorable for me because the Second and Third had been ashore for a good-bye visit to the pubs of which there were a large number near the docks as in most seaports. When they came on board they were both very sleepy, and during a long wait between signals on the telegraph they both went into a very sound sleep, sitting on the floor with backs against one of the large cast-iron columns that supported the engines, and sloped at a comfortable angle.

That was all very well though I was mildly wondering what would happen if the next ring of the loud gong of the telegraph would wake them, when it happened and it didn't. So I had to try my best at doing three things at once, answer the telegraph, operate the steam reversing gear and the main throttle valve, always a three-man job when entering or leaving port.

This went on for a while till the Chief came down and looked the situation over solemnly, as if he had been to a pub or so himself, as I expect in truth was the case. Finally he decided to wake the sleepers up, but none of them said anything and I resumed my usual job of answering the telegraph.

We had a good run of about ten days to Las Palmas and were glad of the change from typical English winter weather. I think it rained copiously every day of the three weeks or so the ship was in Hull.

A few days after we left Las Palmas the coal in the starboard alleyway was on fire, and we had a fairly tough time getting it out. I had just finished my breakfast one morning when the Goanese messboy called my attention to the steel deck outside the messroom door, where a large round bulge like a blister had formed in the past few minutes, just where I might have stepped on it unless I happened to be looking down at the deck, so I narrowly escaped having a very hot foot.

It was obvious that the coal stored in the alleyway was burning, a rather startling idea as we must have had over

7,000 tons of the stuff in the ship, including the cargo, the bunkers and the alleyways. The ship was a long way from the nearest land, we had not sighted any other ships since we had left Las Palmas, and we had no wireless with which to broadcast our position or call for help.

Coal is not normally regarded as an especially dangerous cargo but ours had become ignited through a combination of circumstances. A steampipe ran through the alleyway and the coal was in contact with it. The pipe was covered with asbestos insulation but the metal flanges were not and were in direct contact with the coal, just beneath the steel deck on which a tropical sun blazed down. So the coal had evidently reached the temperature at which ignition took place.

I sent the messboy to fetch the chief engineer who promptly sent me to the bridge to notify the Captain, then to the engine-room to start a pump to supply seawater to the firehose under high pressure.

In order to reach the seat of the fire it was necessary to do a lot of digging, and the diggers were working in the cramped space of the alleyway. The closer they came to the fire the more air got to it and the more smoke and fumes were given off. For a time it looked as if the blaze might get out of control before it could be extinguished, but fortunately the firefighters won the battle.

Rio Janeiro has one of the finest natural harbours in the world, surrounded by magnificent scenery. When we arrived and dropped anchor there the place had a curiously martial appearance owing to the presence of Brazilian, British and American warships anchored here and there. Suitable sound effects were furnished by occasional outbursts of gunfire from the land, and we were informed that an attempt at a revolution was in progress, the whole place was under martial law and we must not go ashore till it was lifted. That was no hardship as it wasn't our fight and none of us wanted to be involved. At the time Brazil and Argentina were engaged in an arma-

ment race and Brazil had managed to acquire from the builders in Britain, two of the largest battleships afloat, the *Sao Paulo* and the *Minas Geraes*, equipped with guns of 12-inch calibre on both broadsides like their prototype in the Royal Navy, H.M.S. *Dreadnought*, commissioned two years before in 1908.

British people were convinced that the Germans planned to start World War I when they thought the time propitious as they evidently did in 1914. For some time prior to the actual outbreak of hostilities the atmosphere of international diplomacy was tense, and any incident such as the attempted revolution in Brazil was regarded as possibly leading up to the major conflict between Britain, France and Russia on one side and Germany and Austria on the other. Communication by wireless was comparatively new and the sudden arrival of British and American warships in Rio was an early instance of the use of wireless for controlling the movements of the "pieces" about the chessboard of international politics.

Both Britain and the United States had extensive commercial interests in Brazil and a number of civilian citizens living there. The British engineers who had brought the two new battleships out from the builders' yard were still on board and were in a somewhat precarious position after the Brazilian crews had mutinied and killed their own officers.

After ten days or so martial law was lifted and we could go ashore so I proceeded to live up to my sobriquet of "The Tourist," either plain or bloody. Many of the fine buildings were badly pock-marked by bullets, and windows shattered. I remembered my mother reminiscing once about being a passenger on a ship between Britain and Buenos Ayres that put into Rio en route, when the place was in a political uproar that resulted in Brazil becoming a republic, instead of being ruled as a monarchy by a member of the reigning family of Portugal.

After we had discharged the cargo of coal we heard that the ship was to load manganese ore for Antwerp, which suited

me very well, Antwerp being one of the continental ports that rated as "home ports" for British ships. So I could claim my discharge there and would have done so except that I was saved the trouble by the ship going from there to Cardiff.

I had put in the twelve months in charge of a watch that was necessary as a qualification before I could sit for the examination for a Second Engineer's Certificate, the next step in the career I had planned for myself.

The passage from Rio to Antwerp was uneventful except for what the engineers regarded as a serious nuisance, caused by careless stowage of the manganese ore in the holds. Instead of being spread evenly it was very uneven with hillocks of ore here and there about the four holds. This resulted in some distortion of the steel hull of the ship, so that the bearings that carried the propeller shaft from the engineroom amidships to the stern, were pushed slightly out of line, causing them to run hot.

Fortunately the weather was fair and we did not meet any storms, so managed by keeping a small stream of seawater running over each of the "plummer-blocks," as those particular bearings are called. The water drained to the bilges and was pumped overboard by the bilge-pump. It was a source of anxiety to the engineer on watch and we had to keep a close eye on the bearings during the passage to Antwerp, which took about a month.

The manganese ore was unloaded into barges to be taken via the canals to the Krupp Works at Essen, doubtless to be used as an ingredient in the special steels for the manufacture of armaments, for the First World War that was to begin less than four years later.

Our stay in Antwerp was prolonged by the trade union rules that limited the tonnage of cargo to be unloaded in a day to 600 tons, less than half what could be done quite easily with the available equipment, and a prime example of the

union policy of "Go Slow" and "Make Work," thereby adding considerably to the cost of the material.

On passage from Antwerp to Cardiff the weather was stormy and the ship with no cargo in the holds bobbed about like a cork, which made being on watch in the engineroom very unpleasant. Every time the stern lifted on a wave the propeller came out of the water, which took the load off the engines, causing them to race at high speed, so that when the propeller was again suddenly immersed there was danger of a breakage serious enough to cripple the ship.

Just before I joined the ship a year before, under exactly similar conditions the propeller had broken, necessitating costly repairs and delay. Trying to avoid this meant the engineer on watch must keep very close to the throttle valve, and try to catch the critical instant to shut off the supply of steam without actually stopping the engine, which would bring sulphurous language down the speaking tube from the bridge.

It was a very tricky operation, nerve-wracking for four hours at a stretch, and made more so by the fact that it was impossible to attend to closely and carry out the normal routine of the watch as well. I had plenty of previous experience when we were returning to Calcutta with empty holds, and I disliked it intensely. So it was with relief that I contemplated a spell ashore after we reached Cardiff, to be spent in final swotting for the exam, then emigrating to Canada if I passed.

When we arrived in Cardiff we heard that the next trip would be to Rio again with coal. The Chief's home was in Cardiff and the Second and Third both planned a brief holiday in Glasgow. They all asked me if I would stay on board for a few days which I was under no actual obligation to do but did not like to refuse. Nobody warned me I should have to cope with a very angry Captain as soon as darkness fell and he wanted to work on his papers in his cabin.

The dynamo needed some repairs and the Second worked