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WEDNESDAY, 19 FEBRUARY, 1919.

Admiralty, 19th February, 1919.

DESPATCHES FROM THE VICE-ADMIRAL, DOVER PATROL, ON ZEEBRUGGE AND OSTEND OPERATIONS, 22ND-23RD APRIL, 1918, AND OSTEND OPERATIONS, 10TH MAY, 1918.

REPORT OF VICE-ADMIRAL, DOVER PATROL, ON OPERATIONS, 22ND-23RD APRIL, 1918.

Fleet House, Dover,

**9th May, 1918.*

(No. 1806/001.)

SIR,

Be pleased to submit for the information of the Lords Commissioners of the Admiralty the following Report on the Operations on the Belgian Coast on the night of the 22nd-23rd April, 1918.

I.—GENERAL SUMMARY.

2. To make the report clear, the different sections of the operations have been separated as much as possible. Fuller details than appear in this despatch will be found in the complete set of orders and reports forwarded herewith.

(NOTE.—These orders and reports are not published with this despatch.)

3. The main objects of the enterprise were (1) to block the Bruges ship-canal at its entrance into the harbour at Zeebrugge; (2) to block the entrance to Ostend harbour from the sea; and (3) to inflict as much damage as possible upon the ports of Zeebrugge and Ostend.

4. Zeebrugge harbour is connected by a ship-canal with the inland docks at Bruges, which communicate again by means of a system of smaller canals with Ostend harbour. The whole forms a triangle with two sea entrances. The eastern side, which is 8 miles long, is the ship-canal from Zeebrugge to Bruges; the southern side, which is 11 miles long, consists of smaller canals from Bruges to Ostend; the base, facing north-west, is the 12 miles of heavily fortified coast line between Ostend and Zeebrugge. This fortified line is prolonged 8½ miles to the westward, extending to the right flank of the German Army, facing Nieupoort, and 7 miles to the eastward as far as the Dutch frontier. The defences include a number of batteries mounting over 225 guns, 136 of which are from 6-in. to 15-in. calibre, the latter ranging up to 42,000 yards.

5. This formidable system has been installed since the German occupation in 1914, and Bruges has recently provided a base for at least

* NOTE.—Some amendments to this despatch of 9th May, 1918, have been made by the Vice-Admiral, Dover Patrol, in the light of information received between that date and 22nd January, 1919.

35 enemy torpedo craft and about 30 submarines. By reason of its position and comparative security it has constituted a continual and ever-increasing menace to the sea communications of our Army and the seaborne trade and food supplies of the United Kingdom.

6. When the operations of the 22nd-23rd April were undertaken it was believed that, although the blocking of the Zeebrugge entrance to the Bruges ship-canal was the most important of all objects, it would be necessary also to block the entrance to the Ostend harbour in order to seal up the Bruges ship-canal and docks; for unless this were done the lighter craft would still be able to pass to and fro more or less freely through the smaller canals.

7. The attack upon the Zeebrugge Mole, as well as the bombardment of Zeebrugge by monitors and from the air, were designed to distract the attention of the enemy from the main operations. Without this diversion the attempt of the blocking ships to pass round the end of the Mole, to enter the harbour, and to reach the ship-canal entrance at the inner end must almost certainly have been discovered, with the result that the vessels would have been sunk by the shore batteries long before they reached their goal.

8. An important, though subordinate, object of the attack upon the Zeebrugge Mole was to inflict as much damage as was possible in the time upon the harbour works and defences. In order to prevent enemy reinforcements being brought from shore while this work was in progress arrangements were made for blowing up the viaduct which connected the Mole with the land.

9. Similarly the bombardment of the Ostend defences by our shore batteries in Flanders, by the monitors and also from the air was designed to cover the attempt to block the entrance to that harbour.

10. It was anticipated that, in addition to the fire from the land batteries and harbour works, the attacking forces would have to face a counter-attack from the powerful destroyer flotilla which was known to be inside. One destroyer emerged from Zeebrugge harbour, and is reported to have been struck by a torpedo fired from C.M.B. No. 5. Other torpedo craft, which apparently had not steam up, remained alongside the Mole, and their crews assisted in its defence. The greater part of the flotilla had for some reason been previously withdrawn to the Bruges docks.

11. As will be seen from the subsequent narrative, our operations were completely successful in attaining their first and most important object. The entrance to the Bruges ship-canal was blocked. The second object—the blocking of the entrance to Ostend harbour—was not achieved, for reasons which will be explained subsequently. The attack on the Zeebrugge Mole was completely successful as a diversion to enable the blocking ships to enter the harbour, to proceed to their allotted stations, and, with the exception of the "Thetis," to be sunk in accordance with the plan. The blowing up of the viaduct was carried out without any hitch, and produced the desired results. Owing, however, to various reasons which will be more particularly dealt with later, the less important objective, the destruction of the defences on the Mole, was not so thorough as had been hoped.

12. The main results achieved have, however, proved greater than I expected when the fleet returned to port on the morning of the 23rd April. Aerial observation and photographs show clearly that even the lighter craft in the Bruges ship-canal and docks have so far been unable to find an exit through the smaller waterways to Ostend harbour. At least 23 torpedo craft have remained sealed up at Bruges ever since the operations on St. George's Day, and so far as can be seen not less than 12 submarines would likewise appear to be still imprisoned. As yet no effective steps seem to have been taken to clear the Zeebrugge entrance to the Bruges ship-canal, where the silt is shown to be collecting; and although doubtless in time the enemy will succeed in opening a way out, it seems likely that this important section of his raiding and commerce-destroying forces must inevitably be seriously hampered for a considerable period. In addition to suffering this substantial injury, the enemy has been obliged to bring down reinforcements from the Bight of Heligoland to Zeebrugge and Ostend.

13. The preparations and training for the attack extended over a long period, during the latter portion of which (i.e., from the 22nd March) the Dover Patrol was subjected to an exceptional strain owing to the unprecedented transport of reinforcements to France.

14. Success would have been impossible without the eager and generous co-operation of the Grand Fleet, the neighbouring commands and dockyards, and the Harwich Force.

15. The concentration of the attacking fleet had to take place about 63 miles distant from Zeebrugge and Ostend. As the length of time needed for reaching these objectives after the forces had been assembled was seven hours, it was inevitable that there should be a period of not less than four hours of daylight during which enemy observation by air and submarine might discover our movements. In order to guard against this, which would have meant the certain failure of the expedition, it was necessary for the patrols and air forces to show the utmost degree of vigilance and energy. There is every reason for believing that, as a result of their efforts, the enemy remained up to the last entirely unaware of our intentions.

16. In order not only that the attack might have a reasonable prospect of success, but that it might not end in disaster, various conditions were essential—(a) a certain state of the tide; (b) calm weather; (c) a more or less favourable direction of the wind; and (d) absence of fog, with, if possible, a moderate amount of haze. The first of these conditions (the state of the tide) fixed the dates between which it was practicable to make the attempt. The others it was not possible to reckon with in advance, owing to the uncertainty of the weather, more especially at that time of year, and also to the fact that all these conditions might be different on the Flanders coast from what they were off the Goodwins, or that they might change for the worse between the starting of the expedition from the point of concentration and its arrival at its destination seven hours later.

17. It was anticipated that minefields, which would endanger the heavier draught vessels, might be encountered in the enemy's waters, but this risk had to be faced, and special arrangements were made to save the

crews and storming-parties in the event of vessels being sunk.

18. On two occasions previous to the 22nd April the concentration took place, but, owing to unfavourable weather conditions setting in, had to be dispersed. This fact, although it caused disappointment among the officers and men, and also contained a danger that the enemy might become aware of our designs, had a considerable practical value as a rehearsal of the preliminary stages of the undertaking. On this point I may say here that, although on this occasion the wind changed and served us badly at a moment when we were finally committed to the attack, better conditions had not—since the preparations were completed—occurred before, nor have they recurred up to this date.

19. The main force started from the point of concentration at 4.53 o'clock on the afternoon of Monday, the 22nd April.

20. The bombardment of Zeebrugge by monitors began at 11.20 p.m., simultaneously with that of the Ostend defences by monitors, and by our shore batteries in Flanders. These bombardments had been carried out on several nights prior to the 22nd April to give the enemy no reason to anticipate further action on our part on this particular occasion.

21. The vessels charged with making a smoke screen began operations simultaneously off Zeebrugge and Ostend at 11.40 p.m.

22. According to time-table, the hour at which the "Vindictive" (Captain Alfred F. B. Carpenter) should have been laid alongside the Zeebrugge Mole was midnight. She reached her station one minute after midnight, closely followed by the "Daffodil" (Lieutenant Harold Campbell) and "Iris II" (Commander Valentine Gibbs). A few minutes later the landing of the storming and demolition parties began. By 1.10 a.m. the "Vindictive" had taken off the survivors, who had meanwhile done their work upon the Mole, and by 1.15 a.m. she and her consorts were clear of the Mole.

23. At 12.15 a.m. Submarine C3 (Lieutenant Richard D. Sandford) had succeeded in ramming herself between the iron piers of the viaduct, and was thereupon abandoned by her crew after they had lit the fuses. Five minutes later the cargo of explosives blew up, completely destroying communication between the Mole and the shore.

24. The "Thetis" (Commander Ralph S. Sneyd, D.S.O.), the first of the blocking ships, passed the end of the Mole, according to arrangement, fifteen minutes after midnight. Making her way to the entrance of the ship-canal, she carried away the obstructing nets, and being then in a sinking condition from gunfire, with both her propellers fouled, was sunk by her crew close to the entrance of the canal. The "Intrepid" (Lieutenant Stuart S. Bonham-Carter), the second of the blocking ships, following a few minutes later, was sunk in the ship-canal itself; and the "Iphigenia" (Lieutenant Edward W. Billyard-Leake), the last of the three blocking ships, following close astern of the "Intrepid," was sunk with the most complete success across the narrowest part of the ship-canal at 12.45 a.m.

25. It was expected that the blocking ships "Brilliant" (Commander Alfred E. Godsal) and "Sirius" (Lieutenant-Commander Henry N. M. Hardy, D.S.O.) would have found the entrance to Ostend harbour by midnight. For

the reason, however, which is explained in the next paragraph, they missed their objective, ran ashore, and had both to be sunk about 12.30 a.m.

26. The success of the Ostend enterprise was affected to some extent by two adverse factors: (1) at 12.15 a.m. the wind (N.N.E.), which so far had been favourable for purposes of the smoke screen, shifted into an unfavourable quarter (S.S.W.), thereby exposing the attacking forces to the fire of the enemy; (2) the buoy which marks the Channel to Ostend harbour had been moved very shortly before, unknown to us, to a position some 2,400 yards further east, so that when "Brilliant" and "Sirius" found it and put their helms to starboard they ran ashore.

27. The manner in which the survivors of the crews of the five blocking ships and of Submarine C3 were rescued and brought away by volunteer crews in motor launches and a picket boat was beyond praise. The various incidents are described in subsequent paragraphs.

28. In the course of the attack on St. George's Day our casualties to officers and men were as follows:—Killed, 176; wounded, 412; missing, 49; of the latter 35 are believed to have been killed. Although these casualties are light compared to those that the Army constantly suffers in similar enterprises, we have to mourn the loss of comrades selected from practically every unit of His Majesty's sea forces. Our losses in ships were as follows:—H.M.S. "North Star" and motor launches Nos. 424 and 110, sunk. No other vessel was rendered unfit for further service.

29. I have already submitted to the Lords Commissioners of the Admiralty the list of naval officers whom I considered deserving of promotion, either immediately or as soon as they have the prescribed service. I propose to forward as soon as possible a supplementary despatch bringing to their Lordships' notice the names of other officers and men who distinguished themselves, for they are naturally numerous. They came from many ships, and were scattered immediately the operations were over, so that it is difficult to obtain the details relating to them.

30. I cannot close this brief summary without reference to those gallant souls who did not live to see the success of their endeavours. It seems almost invidious to mention names when every officer and man who took part was animated by one spirit, ardently welcoming the opportunity of achieving a feat of arms against odds in order that honour and merit might be added to that which our Service has gained in the past. Amongst those who lost their lives were many who shared with me the secrets of the plan, and of those I cannot refrain from recalling Lieutenant-Colonel Elliot, Captain Halahan, Commander Valentine Gibbs, Majors Cordner and Eagles, Lieutenant-Commanders Harrison and Bradford, Lieutenants Hawkings and Chamberlain, and Wing-Commander Brock, who all worked for many weeks in the training of the personnel and the preparation of material. Their keen enthusiasm and absolute confidence that the enterprise would be carried to a successful issue were invaluable to me. During the anxious days of waiting in crowded ships in a secluded anchorage, and in spite of two disappointments,

the patience and faith that our chance would come, which were displayed by all, owed much to the fine example of these officers.

NARRATIVE.

II.—COMPOSITION OF FORCES.

31. In order that all parts of the Naval Service might share in the expedition, representative bodies of men were drawn from the Grand Fleet, the three Home Depôts, the

Royal Marine Artillery and Light Infantry. The ships and torpedo craft were furnished by the Dover Patrol, which was reinforced by vessels from the Harwich Force and the French Navy. The Royal Australian Navy and the Admiralty Experimental Stations at Stratford and Dover were also represented.

The details thus contributed, which finally composed the whole striking force, were as shown in the following table:—

From	Monitors.	Light Cruisers.	Leaders.	T. R. Ds	M. L's.	C. M. B. s.	Picket Boats.	Parent Ships, &c.	Blocking Ships.	Submarines.	Minesweepers.	Auxiliary Craft.	Besides those belonging to ships in preceding columns.	
													Officers	Men.
Grand Fleet (exclusive of Royal Marines)	...	...	...	...	...	...	...	...	...	...	...	..	27	365
Harwich Force—														
Covering Squadron...	...	7	2	14										
For Operations ...	...	...	1	6										
Dover Patrol ...	8	1	4	17	36	12	...	...	...	...	1			
Portsmouth ...	...	...	...	...	10	13	...	2	1	2	...	1	9	41
The Nore ...	...	...	...	...	12	...	1	1	4	...	...	1	7	469
Plymouth ...	...	...	...	...	...	...	...	...	...	...	...	...	2	8
Royal Australian Navy	...	...	...	...	...	...	...	...	...	...	...	...	1	10
French Navy ...	...	...	...	8	4	...	...	...	...	...	...	...
Dover Experimental Base	...	...	...	...	...	...	...	...	...	...	...	...	4	87
Royal Marine Artillery	...	...	...	...	...	...	...	...	...	...	...	...	2	58
Royal Marine Light Infantry	...	...	...	...	...	...	...	...	...	...	...	...	30	660
Total ...	8	8	7	45	62	24	1	3	5	2	1	2	82	1,698

III.—TRAINING OF PERSONNEL, PREPARATION OF MATERIAL.

32. A force thus composed and its weapons obviously needed collective training and special preparation to adapt them to their purpose.

33. With these objects, the Blocking Ships and the Storming Forces were assembled towards the end of February and from the 4th April onwards in the West Swin Anchorage, where training specially adapted to the plan of operations was given, and where the organisation of the expedition was carried on. The material as it was prepared was used to make the training practical, and was itself tested thereby. Moreover, valuable practice was afforded by endeavours to carry out the project on two occasions on which the conditions of wind and weather compelled its postponement, and much was learnt from these temporary failures. The "Hindustan," at first at Chatham and later at the Swin, was the parent ship and training depôt, and it is due to Captain A. P. Davidson, D.S.O., who also did good work in fitting out the various ships, that the accommodation of the assembling crews and their maintenance during the weeks of preparation and postponement was so ably organised as to reduce the discomforts inseparable from the situation to a minimum. After the second attempt, when it became apparent that there would be a long delay, the "Dominion" joined the "Hindustan," and the pressure on the available accommodation was relieved by the transfer of about 350 seamen and marines to her.

34. Two special craft, the Liverpool ferry-steamers "Iris" (renamed "Iris II.") and "Daffodil," were selected after a long search at many ports by Captain Herbert C. J. Grant. (Retired) and a representative of the Director of Dockyards, on account of their power, large-carrying capacity (1,500), and shallow draft, with a view in the first place to their pushing the "Vindictive" alongside the Mole (for which they were in the result most useful); to the possibility, should the "Vindictive" be sunk, of their bringing away all her crew and the landing parties; and to their ability to manoeuvre in shallow waters or clear of mine-fields or torpedoes. They proved to be admirably chosen, and rendered good service.

35. The blocking ships and "Vindictive" were specially prepared for their work in Chatham Dockyard, the "Iris II" and "Daffodil" at Portsmouth. I received the most zealous and able help from all officers and Departments concerned, who did their utmost to expedite the work in every way.

36. I was able to devote more personal attention and time to working out the plan of operations and the preparation of personnel and material than would otherwise have been possible, because Rear-Admiral Cecil F. Dampier, Admiral Superintendent and second in command of the Dover Flotilla, Commodore the Hon. Algernon Boyle, C.B., M.V.O., Chief of Staff, and Captain Wilfred Tomkinson, commanding the Sixth (Dover) Flotilla of Destroyers, practically relieved me of all the routine work of the Dover base and patrol. I

am greatly indebted to Admiral Dampier for his loyal co-operation in connection with the operations. In order to bring together the number of destroyers requisite for the operation, while maintaining the work of the patrol, it was necessary to have the entire available force in running order. This called for high organisation on Captain Tomkinson's part, and was made especially difficult because the period of preparation coincided with that in which very heavy demands were suddenly made on the escort flotilla by the pressing needs of the army in France. The fact that the many additional services which the Dover Patrol was called on to carry out in addition to its routine, were performed without deranging its working, reflects the greatest credit on Commodore Boyle, whose exceptional powers of organisation have been invaluable to me.

37. Reference to Wing-Commander F. A. Brock's services during the operation will be made in connection with the attack on the Mole, but I cannot leave this part of the subject without recording my indebtedness to him for the indispensable share he had in the operation. When, as Vice-Admiral of the Dover Patrol, I first began to prepare for this operation, it became apparent that without an effective system of smoke-screening such an attack could hardly hope to succeed. The system of making smoke previously employed in the Dover Patrol was unsuitable for a night operation, as its production generated a fierce flame, and no other means of making an effective smoke screen was available. Wing-Commander Brock and sixty ratings were lent to my command, a factory was established in the dockyard, and he worked with great energy to obtain materials, designing and organising the means and the plans, and eventually developing the resources with which we finally set out. These were of great value even in the adverse circumstances which befell us, and I greatly deplore the loss of a man so well qualified to carry experiments in this matter further. When on the Mole he was very keen to acquire knowledge of the range-finding apparatus which might be of use to the country, and his efforts to do this were made without any regard to his personal safety, and I fear cost this very brave and ingenious officer his life.

38. The fitting out of the motor launches and coastal motor boats with smoke apparatus, designed by Wing-Commander Brock, was carried out at Dover, under short notice and with untiring energy by my Flag Captain, Ralph Collins, ably assisted by Commander Hamilton Benn, Engineer Lieutenant-Commander M. G. A. Edwards, Lieutenant F. C. Archer, and Mr. G. D. Smart, of H.M. Dockyard, Dover.

39. Staff-Paymaster Walter C. Northcott, R.N.R., the Naval Supply Officer at Dover, was at all times most zealous and untiring in dealing with the vast quantities of stores and munitions which had to be checked and distributed, often at very short notice.

40. The first officer who became available for a command in the blockships was Lieutenant Ivan B. Franks ("Dolphin"). Although suffering from the severe effects of an accident on service, his confident enthusiasm fired all who came into touch with him. He was put in charge of the early preparations of all the blockships and commanded the "Iphigenia" in the two abandoned attempts, but to his great

disappointment he was taken ill with appendicitis two days before the actual attack, and had to be sent to hospital to undergo an operation. I do not wish the good work he did, and the good example he set, to go unrecorded.

41. The flag officers of other commands who were in a position to assist me did so most generously. The Commander-in-Chief of the Grand Fleet sent me a selected body of officers and men truly representative of his command, for I understand that the whole of his command would have been equally glad to come. From the neighbouring commands at Portsmouth and the Nore, the Adjutant-General, Royal Marines, and the Depot at Chatham, I received support and assistance, not only in ships and men, but in every possible way. The Rear-Admiral Commanding the Harwich Force spared me a flotilla leader and six destroyers, besides protecting the northern flank of the area in which I was operating.

Brigadier-General McEwan and his staff at Chatham supervised the training of the officers and men from the Grand Fleet as if for the Royal Naval Division, France. Their assistance was invaluable, and I much appreciate their whole-hearted co-operation.

42. I am much indebted to Brigadier-General Charles L. Lambe, C.M.G., D.S.O., commanding the 7th Brigade of the Royal Air Force, and Lieutenant-Colonel Frederick C. Halahan, M.V.O., D.S.O., in command of the Air Forces under my command, for the co-operation of the 61st and 65th Wings, under Lieutenant-Colonels P. F. M. Fellowes, D.S.O., and James T. Cull, D.S.O., respectively, throughout the preparation and execution of the operations. The 65th Wing was lent for the purpose by the Field-Marshal Commander-in-Chief British Armies in France. For several weeks the 61st Wing was engaged in frequent reconnaissances, and took a large number of photographs in different conditions of tide, from which photographs plans and models were constructed. On the first occasion of attempting the operation, the 65th Wing was already committed to their attack when I was compelled by shift of wind to withdraw the sea attack. The air attack was delivered with the greatest gallantry at a low altitude, and against a tremendous anti-aircraft defence. To the intense disappointment of the 65th Wing, mist and rain made it impossible to co-operate by repeating the aerial bombardment on the night of the 22nd-23rd April, but the 61st Wing and aircraft from the Guston aerodrome at Dover escorted the main force across the North Sea.

IV.—PREPARATION AND DEFENCE OF ROUTE.

43. The preparation of the routes from the starting points of attack, by the removal of obstructions and the placing of navigational marks and those for the long-range bombardments was carried out by Captain Henry P. Douglas, borne for surveying duties on my staff, and Lieutenant-Commander Francis E. B. Haselfoot, his assistant. The completely successful manner in which this very important work was done, in circumstances of interference from the enemy and the elements, does great credit to these officers, both of whom I recommend to the favourable notice of the Lords Commissioners.

44. To afford protection at a certain point in the route, and to maintain the aids to

navigation during the approach and retirement of the expedition, a force consisting of the flotilla-leader "Scott" and the destroyers "Ulleswater," "Teazer," and "Stork," lent from the Harwich Force, and the light cruiser "Attentive," flying the broad pendant of Commodore the Hon. Algernon D. E. H. Boyle, my Chief of Staff, was stationed there. The duties of this force were not interrupted by the enemy, but it was instrumental in controlling and directing the movements of detached craft in both directions, and relieved me of all anxiety on that score.

V.—THE PASSAGE OF THE FORCES.

45. At the moment of starting, the forces were disposed thus:—

(a.) *In the Swin.*

For the attack on the Zeebrugge Mole: "Vindictive," "Iris II.," and "Daffodil."
To block the Bruges Canal: "Thetis," "Intrepid," and "Iphigenia."
To block the entrance to Ostend: "Sirius" and "Brilliant."

(b.) *At Dover.*

T.B.D. "Warwick" (flag of Vice-Admiral).

Unit L, "Phœbe" and "North Star."
Unit M, "Trident" and "Mansfield."
Unit F, "Whirlwind" and "Myngs."
Unit R, "Velox," "Morris," "Moor-som," and "Melpomene."

Unit X, "Tempest" and "Tetrarch."
To damage Zeebrugge viaduct: Submarines C. 1 and C. 3.

A special picket boat to rescue crews of C. 1 and C. 3.

Minesweeper "Lingfield" to take off surplus steaming parties of blockships, which had 100 miles to steam.

Eighteen coastal motor boats, numbers 5, 7, 15, 16, 17, 21B, 22B, 23B, 24A, 25BD, 26B, 27A, 28A, 29A, 30B, 32A, 34A, 35A.

Thirty-three motor launches, numbers 79, 110, 121, 128, 223, 239, 241, 257, 258, 262, 272, 280, 282, 308, 314, 345, 397, 416, 420, 422, 424, 513, 525, 526, 533, 549, 552, 555, 557, 558, 560, 561, 562.

To bombard vicinity of Zeebrugge: Monitors "Erebus" and "Terror."

To attend on monitors, &c.: "Termagant," "Truculent," and "Manly."

Outer Patrol off Zeebrugge: "Attentive," "Scott," "Ulleswater," "Teazer," and "Stork."

(c.) *At Dunkirk.*

Monitors for bombarding Ostend: "Marshal Soult," "Lord Clive," "Prince Eugene," "General Craufurd," M. 24 and M. 26.

For operating off Ostend: "Swift," "Faulknor," "Matchless," "Mastiff," and "Afridi."

The British destroyers "Mentor," "Lightfoot," "Zubian," and French torpedo-boats "Lestin," "Capitaine Mehl," "Francis Garnier," "Roux," and "Bouclier," to accompany the monitors.

Eighteen British motor launches, numbers 11, 16, 17, 22, 23, 30, 60, 105, 254, 274, 276, 279, 283, 429, 512, 532, 551, 556, engaged in smoke-screening duty inshore and rescue work, and six for attending on big monitors.

Four French motor launches, numbers 1, 2, 33, and 34, attending on M. 24 and M. 26.

Coastal motor boats (40 feet), numbers 2, 4, 10, and 12; (55 feet) 19 and 20.

46. Navigational aids having been established on the route, the forces from the Swin and Dover were directed to join my flag off the Goodwin Sands and proceed in company to a rendezvous, and thereafter as requisite to their respective stations; those from Dunkirk were given their orders by the Commodore.

47. An operation time-table was issued to govern the movements of all the forces, wireless signals were prohibited, visual signals of every sort were reduced to a minimum, and manœuvring pre-arranged as far as foresight could provide. With few and slight delays the programme for the passage was carried out as laid down, the special aids to navigation being found of great assistance.

48. The Harwich Force, under Rear-Admiral Sir Reginald Tyrwhitt, K.C.B., D.S.O., was posted to cover the operation and prevent interference from the northward, which relieved me of all concern on that score.

49. On leaving the Goodwins, the Main Force was disposed in three columns. The centre column was led by "Vindictive," with "Iris II." and "Daffodil" in tow, followed by the five blocking ships and the paddle minesweeper "Lingfield," escorting five motor launches for taking off the surplus steaming parties of the blocking ships. The starboard column was led by the "Warwick," flying my flag, followed by the "Phœbe" and "North Star," which three ships were to cover the "Vindictive" from torpedo attack while the storming operations were in progress; "Trident" and "Mansfield," towing submarines C. 3 and C. 1; and "Tempest," to escort the two Ostend blockships. The port column was led by "Whirlwind," followed by "Myngs." and "Moor-som," which ships were to patrol to the northward of Zeebrugge; and the "Tetrarch," also to escort the Ostend blockships. Every craft was towing one or more coastal motor boats, and between the columns were motor launches.

50. The greater part of the passage had to be carried out in broad daylight, with the consequent likelihood of discovery by enemy aircraft or submarine. This risk was largely countered by the escort of all the scouting aircraft under my command. On arrival at a certain position (C), it being then apparent that the conditions were favourable, and that there was every prospect of carrying through the enterprise up to programme time, a short pre-arranged wireless signal was made to the detached forces that the programme would be adhered to.

51. On arrival at a position $1\frac{1}{2}$ miles short of (G), at which Commodore Boyle's force was stationed, the whole force stopped for fifteen minutes to enable the surplus steaming parties of the blockships to be disembarked and the coastal motor boats slipped. These and the motor launches then proceeded in execution of previous orders. On resuming the course the "Warwick" and "Whirlwind," followed by the destroyers, drew ahead on either bow to clear the passage of enemy outpost vessels.

52. When the "Vindictive" arrived at a position where it was necessary for her to alter course for the Mole, the "Warwick,"

"Phœbe," and "North Star" swung to starboard and cruised in the vicinity of the Mole until after the final withdrawal of all the attacking forces. During this movement and throughout the subsequent operations "Warwick" was manœuvred to place smoke screens wherever they seemed to be most required, and when the wind shifted from north-east to south-west, her services in this respect were particularly valuable.

VI.—BOMBARDING FORCES.

53. *Zeebrugge*.—The monitors "Erebus" (Captain Charles S. Wills, C.M.G., D.S.O.) and "Terror" (Captain Charles W. Bruton), with the destroyers "Termagant," "Truculent," and "Manly," were stationed at a position suitable for the long-range bombardment of Zeebrugge in co-operation with the attack. Owing to poor visibility and an extraordinary set of the tide the opening of bombardment was delayed slightly behind programme time; otherwise the operations of this force were carried out according to plan. During the operation enemy shell fell in the vicinity of "Erebus" and "Terror," but neither was hit. On completion of the bombardment the vessels of this force took up patrolling positions to cover the retirement from Zeebrugge. Aerial photographs show the good effect of this bombardment.

54. *Ostend*.—Similarly, the monitors "Marshal Soult" (Captain George R. B. Blount, D.S.O.), "General Craufurd" (Commander Edward Altham), "Prince Eugene" (Captain Ernest Wigram, D.S.O.), and "Lord Clive" (Commander Reginald J. N. Watson, D.S.O.), and the small monitors M. 21 (Commander Oliver M. F. Stokes), M. 24 (Acting Commander Claude P. C. de Crespigny), and M. 26 (Lieutenant-Commander Arthur C. Fawcett) were stationed by Commodore Hubert Lynes, C.M.G., in suitable positions to bombard specified batteries. These craft were attended by the British destroyers "Mentor," "Lightfoot," and "Zubian," and the French "Capitaine Mehl," "Francis Garnier," "Roux," and "Bouclier." The Commodore reports that the bombardment was undoubtedly useful in keeping down the fire of the shore batteries. These returned the monitors' fire about five minutes after the latter opened, the ships being hit by fragments of shell, but no material damage being done.

55. *Siege Guns*.—Co-operation by R.M.A. siege guns (Colonel Pryce Peacock, R.M.A.) on given enemy targets was arranged by the Commodore Dunkirk to which the enemy replied without causing any casualties or any damage of importance.

VII.—ATTACK ON ZEEBRUGGE MOLE.

56.—*General*.—The attack on the Mole was primarily intended to distract the enemy's attention from the ships engaged in blocking the Bruges Canal, its immediate objectives were, firstly, the capture of the 4.1 inch battery at the sea end of the Mole*, which was a serious menace to the passage of the blockships, and,

* NOTE.—After the evacuation of Zeebrugge by the enemy it was found that these guns were of 5.9 inch calibre, and subsequent to these operations the battery was moved from the end of the Mole on to the parapet.

secondly, the doing of as much damage to the material on the Mole as time permitted, for it was not the intention to remain on the Mole after the primary object of the expedition had been accomplished.

The attack was to consist of two parts; (a) the landing of storming and demolition parties, and (b) the destruction of the iron viaduct between the shore and the stone Mole.

57. The units detailed for the attack were:—

(a) H.M. Ship "Vindictive," Acting Captain Alfred F. B. Carpenter (late "Emperor of India"); the special steamers "Iris II," Commander Valentine Gibbs ("Tiger"), and "Daffodil," Lieutenant Harold G. Campbell ("Emperor of India"); the latter detailed to push the "Vindictive" alongside the Mole and keep her there as long as might be requisite.

(b) Submarines C 3 and C 1, commanded by Lieutenants Richard D. Sandford and Aubrey C. Newbold respectively, attended by a picket boat under Lieutenant-Commander Francis H. Sandford, D.S.O.

58. Besides the above, a flotilla of twenty four motor launches and eight coastal motor boats were told off for rescue work and to make smoke screens or lay smoke floats, and nine more coastal motor boats to attack the Mole and enemy vessels inside it, &c.

At 11.40 p.m. the coastal motor boats detailed to lay the first smoke screen ran in to a very close range and proceeded to lay smoke floats and by other methods produce the necessary "fog." These craft came under heavy fire, and only their small size and great speed saved them from destruction.

59. "Vindictive."—At 11.30 p.m. the Blankenberghe light buoy was abeam, and the enemy had presumably heard or seen the approaching forces, as many star shells were fired, lighting up the vicinity, but no enemy patrol craft were sighted. At this time the wind, which had been from the north-east, and therefore favourable to the success of the smoke screens, died away, and at a later period came from a southerly direction. Many of the smoke floats laid just off the Mole extension were sunk by enemy fire, and this in conjunction with the changes in the wind lessened the effectiveness of the smoke screen.

60. At 11.56 the ship having just passed through a smoke screen, the Mole extension was seen in the semi-darkness about 300 yards off on the port bow. Speed was increased to full, and course altered so that allowing for cross tide the ship would make good a closing course of 45 degrees to the Mole. The "Vindictive" purposely withheld her fire to avoid being discovered, but almost at the moment of her emerging from the smoke the enemy opened fire. So promptly, under the orders of Commander Edward O. B. S. Osborne, was this replied to by the port 6-inch battery, the upper-deck pom-poms, and the gun in the fore-top, that the firing on both sides appeared to be almost simultaneous. Captain Carpenter was conning the ship from the port forward flame-thrower hut. Lieutenant-Commander Robert R. Rosoman, with directions as to the handling of the ship should the captain be disabled, was in the conning tower from which the ship was being steered.

61. At one minute after midnight on the 23rd April, St. George's Day—the pro-

gramme time being midnight—the “Vindictive” was put alongside the Mole, taking gently on the special fenders of the port bow, and the starboard anchor was let go. At this time the noise was terrific. During the previous few minutes the ship had been hit by a large number of shell and many casualties caused. Lieutenant-Colonel Bertram H. Elliot, D.S.O., and Major Alexander A. Corder, the two senior officers of the Royal Marine storming parties, and Captain Henry C. Halahan, D.S.O., commanding the naval storming parties, all ready to lead the men on to the Mole, had been killed; Commander Patrick H. Edwards, R.N.V.R., and many other officers and men killed or wounded.

62. As there was some doubt as to the starboard anchor having gone clear, the port anchor was dropped close to the foot of the Mole and the cable bowsed-to with less than a shackle out. A three-knot tide was running past the Mole; and the scend alongside the Mole created by the slight swell caused much movement on the ship. There was an interval of three or four minutes before “Daffodil” could arrive and commence to push “Vindictive” bodily alongside. During this interval the ship could not be got close enough for the special mole-anchors to hook, and it was a very trying period. Many of the brows had been broken by shell fire, and a heavy roll had broken up the foremost mole-anchor as it was being placed. The two foremost brows, however, reached the wall and the naval storming parties, led in the most gallant manner by Lieutenant-Commander Bryan F. Adams (“Princess Royal”) ran out along them closely followed by the Royal Marines, gallantly led by Captain and Adjutant A. R. Chater. Owing to the rolling of the ship a most disconcerting motion was imparted to the brows, the outer ends of which were “sawing” considerably on the Mole parapet. Officers and men were carrying Lewis guns, bombs, ammunition, etc., and were under heavy machine-gun fire at close range, add to this a drop of 30 feet between the ship and the Mole and some idea of the conditions which had to be faced may be realised. Yet the storming of the Mole by these two brows, and later by two others which were got into position, was carried out without the smallest delay, and without any apparent consideration of self-preservation. Some of the first men on the Mole did splendid work with the object of hauling one of the large mole-anchors across the parapet. Lieutenant-Commander Rosoman assisted in this on board, encouraging and directing the men with great coolness and ability.

“Daffodil” arrived three minutes after “Vindictive,” closely followed by “Iris II.” Both suffered less in the approach, “Vindictive” occupying practically all the enemy’s attention. As already stated “Daffodil’s” primary duty was to push “Vindictive” bodily on to the Mole, to enable her to be secured, after which “Daffodil” was to come alongside and land her parties over that ship. In the end her men had to disembark from her bows on to “Vindictive,” as it was found essential to continue to push “Vindictive” on to the Mole throughout the action. This duty was magnificently carried out by her Commanding Officer, Lieutenant Harold G. Campbell (“Emperor of India”), who, during the greater part of the time, was suffering from a

wound in the head which for the time deprived him of the sight of one eye. Without the assistance of “Daffodil” very few of the storming parties from “Vindictive” could have been landed or re-embarked; and the greatest credit is due to Mr. Campbell for the skilful manner in which he handled his ship.

63. The landing from “Iris II.” was even more trying. The scend alongside made her bump heavily, and rendered the use of the scaling ladders very difficult, many being broken up. Lieutenant Claude E. V. Hawkins (“Erin”) ascended the first ladder, secured the mole anchor, and was then shot and fell on to the Mole. Lieutenant-Commander George N. Bradford (“Orion”) got to the top of a derrick with a mole anchor on it, leaped on to the Mole, secured the anchor and was shot, falling into the water between “Iris II.” and the Mole. Gallant attempts to recover his body were made, Petty Officer M. D. Hallihan being killed while so employed. The gallantry and devotion to duty of these two officers was of the highest order. In the end, so impossible was it to get the mole anchors to hold, that the cable was slipped, and “Iris II.” went alongside “Vindictive” to enable “D” Company and her Royal Marines to land across her, but only a few men had got to the “Vindictive” when the withdrawal signal was sounded.

64. On board the “Vindictive” the foremost 7.5-inch Howitzer’s Marine crew were all killed or wounded in the very early part of the action. A naval crew from a 6-inch gun took their place, and were almost entirely wiped out. At this period the ship was being hit every few seconds, chiefly in the upper works, from which the splinters caused many casualties. It was difficult to locate the guns which were doing the most damage, but Lieutenant Charles N. B. Rigby, R.M.A., with his Royal Marines in the foretop, kept up a continuous fire with pom-poms and Lewis guns, changing rapidly from one target to another. Two heavy shells made direct hits on the foretop, killing Lieutenant Rigby and killing or disabling all in the top, except Sergeant N. A. Finch, who, though severely wounded, continued firing till the top was wrecked by another heavy shell. Captain Carpenter reports that before going into the foretop Lieutenant Rigby had displayed fine courage and ability, and that the success of the storming of the Mole was largely due to the good work of this officer and the men under his orders.

65. Acting Captain Reginald Dallas Brooks, R.M.A., was in command of the R.M.A. gun detachments in “Vindictive.” He not only set his men generally a splendid example of devotion to duty, but commanded the crew of the 11-inch Howitzer in its exposed position in a very fine manner.

66. Half an hour after the storming of the Mole had been commenced, the Captain visited the decks below and found Staff-Surgeon James McCutcheon and the staff under him working with great energy and care. A constant stream of casualties were being brought down every hatch, yet there appeared to be no delay in dealing with each case.

67. *The Mole.*—The attack on the Mole was designed to be carried out by a storming force to prepare the way for, and afterwards to cover and protect, the operations of a second force which was to carry out the actual demolition, damage, &c. Both these forces comprised Royal Naval ranks and ratings under the com-

mand of Captain Henry C. Halahan, D.S.O., and Royal Marines under the command of Lieutenant-Colonel Bertram N. Elliot, D.S.O.

68. The storming force was composed of Naval Companies—A. (Lieutenant-Commander Bryan F. Adams, "Princess Royal"), B. (Lieutenant Arthur G. B. T. Chamberlain, "Neptune"), and D. (Lieutenant-Commander G. N. Bradford, "Orion"), all under the command of Lieutenant-Commander Arthur L. Harrison ("Lion"), and the 4th Battalion, Royal Marines, organised as follows:—

"A" (Chatham) Company: Major Charles E. C. Eagles, D.S.O.

"B" (Portsmouth) Company: Captain Edward Bamford, D.S.O.

"C" (Plymouth) Company: Major Bernard G. Weller, D.S.C.

Machine Gun Company: Captain Charles B. Conybeare.

On the death of Lieutenant-Colonel Elliot D.S.O., and Major Alexander A. Corder (Second in Command), Major Weller assumed command of the battalion. Captain A. R. Chater was battalion adjutant.

This force was embarked mainly in "Vindictive," but partly in "Iris II."

69. The demolition force was composed of C. Naval Company, under the command of Lieutenant Cecil C. Dickinson ("Resolution"), and was divided into three parties, Nos. 1 and 3, under Sub-Lieutenant Felix E. Chevallier ("Iron Duke"), being conveyed in the "Daffodil," and No. 2, under Lieutenant Dickinson, in the "Vindictive."

70. The objectives of the storming forces had been communicated to the officers, and specific duties allotted to the different units, who had been exercised on a replica of the Mole, described to the men as "a position in France."

71. This specialised preparation was necessary, but it handicapped the leaders of the storming parties, for, owing to the difficulty in recognising objects on the Mole, the "Vindictive" overran her station and was berthed some 400 yards further to the westward (or shore end of the Mole) than was intended (see plan). It was realised beforehand that "Vindictive" might not exactly hit off her position, but the fact that the landing was carried out in an unexpected place, combined with the heavy losses already sustained by "Vindictive," seriously disorganised the attacking force. The intention was to land the storming parties right on top of the 4.1 inch guns (see footnote to para. 56) in position on the seaward end of the Mole, the silencing of which was of the first importance, as they menaced the approach of the blockships. The leading blockship was timed to pass the lighthouse twenty-five minutes after "Vindictive" came alongside. This period of time proved insufficient to organise and carry through an attack against the enemy on the seaward end of the Mole, who were able to bring heavy machine-gun fire to bear on the attacking forces. As a result the blockships came under an unexpected fire from the light guns on the Mole extension*, though the 4.1 inch battery on the Mole head remained silent (see paragraphs 73 and 94).

* NOTE.—After the evacuation it was found that three of the guns on the Mole extension were of 4.1 calibre.

72. Lieutenant-Commander Adams, followed by the survivors of "A" and "B" Companies, were the first to land, no enemy being then seen on the Mole. These two companies had suffered severely before landing, especially "B," both of whose officers were casualties. They found themselves on a pathway on the Mole parapet about 8 feet wide, with a wall 4 feet high on the seaward side, and an iron railing on the Mole side. From this pathway there was a drop of 15 feet on to the Mole proper. This raised portion of the Mole will in future be referred to as the parapet. Followed by his men, Mr. Adams went along the parapet to the left (towards the lighthouse extension), where he found a look-out station or control, with a range-finder behind and above it. A bomb was put into this station, which was found clear of men. Wing Commander Frank A. Brock here joined the party, and went inside to investigate. He was not seen again by Mr. Adams, but from other accounts it is believed he was seen alive later.

73. Near this look-out station an iron ladder led down to the Mole, and three of Mr. Adams' party descended it and prevented a few of the enemy from reaching the harbour side of the Mole. Two destroyers alongside the Mole showed no activity up to this time, nor did Mr. Adams see the three-gun battery at the Mole end fire at any time whilst he was on the parapet, but a machine gun about 100 yards to the westward of these guns was firing on his party. It appeared at this time that the enemy were firing at the "Vindictive" from the shore end of the Mole, but no gun flashes were seen, as everything was so well illuminated by enemy star shell and the rockets fired by "Vindictive." After capturing the look-out station Mr. Adams advanced to the eastward about 40 yards, where he left his party in position and himself returned to collect more men.

74. Returning to the look-out station, Mr. Adams found only some wounded, but later collected two Lewis gunners and a small party under Petty Officer George E. Antell, O.N. 232634 ("Lion"). These he sent to the eastward and the Petty Officer inboard, as he had been wounded in the hand and arm before landing, and although in great pain had carried on most gallantly.

75. The situation now was that Mr. Adams' few men and the two Lewis gunners were beyond the look-out station protected from the machine-gun fire from the direction of the Mole Head, but exposed to that from the destroyers alongside the Mole, and the men were being hit apparently by machine guns and pom-poms. Lieutenant-Commander Harrison arrived at this time; this gallant officer was severely wounded in the head on board "Vindictive" before coming alongside, but directly he recovered consciousness he joined his section on the Mole; on receiving Mr. Adams' report he directed him to try and get more men. Major Weller, Commanding the Royal Marines, on receiving Mr. Adams' report, despatched Lieutenant G. Underhill with reinforcements to assist Mr. Harrison. Whilst this party was being collected, Mr. Adams returned to the look-out station, where he was informed that Mr. Harrison had led a rush along the parapet and that he and several of his men had been killed by machine-gun fire. Able Seaman McKenzie, one of B Company's machine gunners with Mr. Harrison, did good execution

with his gun, though wounded in several places, and Able Seaman Eaves* was killed in attempting to bring in Mr. Harrison's body.

76. About this time the recall was sounded, and Mr. Adams therefore withdrew his men from the parapet and Mole, collected the wounded, and sent them to the "Vindictive." He himself went along the parapet in search of Mr. Harrison, but not finding him, returned to assist in the re-embarkation. As originally planned, Mr. Harrison's bluejacket storming parties were to deal with the battery on the Mole head and Mole extension only, but for the reasons given in paragraph 71 they started 400 yards further from their objectives than was intended with the intervening ground fully exposed to machine-gun fire. Mr. Adams and his men, and later Mr. Harrison, pressed their attack most gallantly, and, though denied a full measure of success, it appears probable their fire prevented the 4.1 inch battery at the Mole head coming into action, as these guns did not open fire at the blockships (see paragraph 94).

77. *Marine Storming Party.*—The Royal Marines of this expedition were drawn from the four divisional headquarters and the Grand Fleet. The battalion was to provide the officers and men of the storming force: the crews of four Stokes guns, one 11-inch howitzer, five pom-poms, and some Lewis guns of the "Vindictive's" armament, and a few men to work with the Naval demolition party. It was carried to Zeebrugge in the "Vindictive," except A Company, two Vickers guns of the machine-gun section, and two Stokes guns, which went in "Iris II." All had taken part in the special training and practices already referred to, the howitzer crews having been put through a course at Shoeburyness.

78. The first objective of the Royal Marine Battalion was a fortified zone situated about 150 yards from the seaward end of the Mole proper; its capture was of the first importance, as an enemy holding it could bring a heavy fire to bear on the parties landing from "Vindictive." This objective being gained, the Royal Marines were to continue down the Mole and hold a position so as to cover the operations of the demolition parties from an attack by enemy troops advancing from the landward end of the Mole. The destruction of the Viaduct by Submarine "C.3" was intended to assist in this, by preventing reinforcements reaching the Mole from the shore. Owing to "Vindictive" coming alongside to landward of this zone, the Royal Marines were faced with the double duty of preventing an enemy attack from the shore end and of themselves attacking the fortified zone. The casualties already sustained and the fact that "Iris II." could not remain alongside to land her company of Royal Marines (see paragraph 63) left insufficient men in the early stages of the landing to carry out both operations. The situation was a difficult one, for to attack the fortified zone first might have enabled the enemy to advance up the Mole and seize positions abreast "Vindictive" with the most serious consequences to the whole landing force, whereas by not attacking the fortified zone the guns at the Mole head could not be prevented from firing at the blockships. As will be seen in subsequent

paragraphs, the Royal Marines first secured the landward side, after which an assault was organised against the fortified zone, but the unavoidable delay prevented this attack from being carried through before the blockships had passed in and the recall sounded. Major Weller's action was correct; lack of men prevented him reinforcing the bluejacket storming parties under Mr. Harrison and Mr. Adams, who had in consequence to attempt an assault on a very strong position with the depleted A and B Companies, and without the assistance of D Company, which could not be landed in time from "Iris II." (see paragraph 63). How heroically they failed has been related in paragraphs 72 to 75.

79. No. 5 Platoon (Lieutenant T. F. V. Cooke) was the first to land, and proceeded to the right (west) along the parapet. They silenced a party of snipers who were firing from near No. 2 Shed into the men landing. Captain and Adj. A. R. Chater initiated this, which Major Weller considers greatly assisted the disembarkation. Captain Bamford now joined, and with Lieutenant Cooke and this platoon reached a position some 200 yards from the "Vindictive"; their action greatly assisted the advance along the Mole, they themselves being exposed to a galling fire. Lieutenant Cooke, who set a fine example, was twice wounded, and was rendered unconscious; he was most gallantly carried back to the "Vindictive" by Private John D. L. Press, R.M.L.I., who was himself wounded.

80. No. 9 Platoon and the remnants of No. 10, under Lieutenant C. D. R. Lamplough, were the next to land. They descended from the parapet to the Mole (a drop of 15 feet) by means of ropes, and proceeded to establish a strong point at the shoreward end of No. 3 Shed, to prevent possible attack from that direction. This unit later attacked a destroyer alongside the Mole, inflicting damage on the craft and crew.

81. Units were now rapidly landing, and No. 7 Platoon (Lieutenant H. A. P. de Berry) succeeded in placing their heavy scaling ladders in position, and then formed up to support Nos. 9 and 10 Platoons. The successful placing of the scaling ladders was largely due to Sergeant-Major C. J. Thatcher. Major Weller then received information that the naval storming party needed reinforcements. He therefore despatched No. 12 Platoon and the remnants of No. 11, under Lieutenant G. Underhill, to their assistance. These platoons advanced to the left (east) along the parapet, and reached the lock-out station, where they were checked by machine-gun fire; Mr. Adams and his men were some 40 to 50 yards ahead of them, and both parties could make no headway along the exposed parapet. Meanwhile No. 5 Platoon, which had been recalled from its advanced position, with Nos. 7 and 8 Platoons, all under Captain Bamford, were forming up on the Mole for an assault on the fortified zone and the 4.1 inch battery at the Mole head. This attack was launched, but before it could be developed the general recall was sounded. The units fell back in good order, bringing their wounded with them. The passing of the men from the Mole on to the parapet by means of the scaling ladders was rendered hazardous by the enemy opening fire at that portion of the Mole, several ladders being destroyed; the men were sent across in small batches from the comparative shelter

* NOTE.—Able Seaman Eaves, it appears, was not killed, but was very severely wounded and taken prisoner.

afforded by No. 3 Shed, such rushes taking place as far as possible in the intervals between the enemy's bursts of fire.

82. *The Demolition or C Company.*—This company was under the orders of Lieutenant Cecil C. Dickinson ("Resolution"), and was divided into three parties, Nos. 1 and 3 consisting of Sub-Lieutenant Felix E. Chevallier ("Iron Duke") and twenty-nine ratings in the "Daffodil," and No. 2 of Lieutenant Dickinson and twenty-one ratings in the "Vindictive." Twenty-two rank and file, R.M.L.I., were attached for the transport of the explosive equipment.

83. Lieutenant Dickinson and No. 2 party landed after the Naval Storming Parties and assembled on the pathway of the parapet, which became somewhat crowded before the scaling ladders could be got into position to enable the men to descend on to the Mole. No. 2 party then proceeded to No. 3 Shed. The heavy fire from the destroyers alongside the Mole prevented any advance towards the shore, and the demolition of this shed was therefore impracticable; charges were, however, placed and everything prepared in case an opportunity for its destruction occurred. An attempt was made to place a charge alongside the destroyers, but was repulsed by their fire. Some bombs were therefore thrown on board. The enemy's shell fire at this portion of the Mole became very heavy, and the recall being sounded the party re-embarked under the conditions related in para. 81.

84. The demolition party was on the Mole about 55 minutes, and it was solely on account of the proximity of our own storming parties that no destruction took place. This party, ably led by Lieutenant Dickinson, behaved in a most cool and undisturbed manner both during the approach (when they suffered severely) and on the Mole. After returning on board the extra explosives, etc., were jettisoned, as they were then only a danger to the ship. The preparation of the demolition scheme and organisation of the company for carrying it out was very efficiently planned by Lieutenant-Commander Francis H. Sandford, D.S.O., borne for special service on my Staff.

85. *Experimental Party.*—The account of the attack on the Mole would not be complete without reference to the contribution in officers and men made by a detachment from the Admiralty Experimental Station at Stratford, and the work done by them. This detachment was commanded by Lieutenant Graham S. Hewett, R.N.V.R., with Lieutenant A. L. Eastlake, R.E., second-in-command. It contributed thirty-four men, all volunteers, for the working of the fixed and portable flame-throwers, phosphorus grenades, etc., either on board "Vindictive," "Iris II.," and "Daffodil," or with the various naval and marine parties landed on the Mole. The fixed flame-throwers in "Vindictive" were put out of action by enemy shell fire. The portable ones accompanied the seaman and marine landing parties, the personnel of the experimental party sharing the difficulties and dangers of the assault. Lieutenant Hewett specially mentions Air-Mechanics W. H. Gough and W. G. Ryan for good service during the attack on the Mole.

86. *Destruction of Viaduct.*—The object of this part of the attack on the Mole was to prevent reinforcements from the land passing on to the Mole during the operations. It was pro-

posed to do this by exploding one or two old submarines in contact with the iron piers and cross-ties of the viaduct. It was calculated that a C class submarine at a speed of 6 knots would penetrate the light bracing of the piers up to her conning tower.

87. To enable the submarine to be abandoned and continue her course automatically, C. 1 and C. 3 were fitted with gyro-control. A picket boat was provided for the escape of the crew, and each submarine had two motor skiffs, they also carried a light scaling ladder each, so that in case all other means of rescue failed, they might climb on to the Viaduct and escape along it from the effects of the explosion. Exploding charges, primers, battery and switch gear were devised and fitted. These three craft were towed by T.B.D.s "Trident" and "Mansfield" to certain positions, whence they proceeded under their own power.

88. Submarine C. 3 (Lieutenant Richard D. Sandford) proceeded on the courses laid down, and duly sighted the viaduct right ahead, distance about a mile and a half. Shortly after this, by the light of star shell, fire was opened on C. 3, apparently from 4-inch guns, but was not long maintained. When the viaduct was about half a mile off, a flare on the far side silhouetted the Mole and viaduct, which appeared about two points on the port bow. Two searchlights were then switched on to C. 3, and off again, possibly in order that the submarine might run into the viaduct and be caught. By this time the viaduct was clearly visible. One hundred yards away, course was altered to ensure striking the viaduct exactly at right-angles. C. 3 struck exactly between two rows of piers at a speed of nine and a half knots, riding up on to the horizontal girders of the viaduct, and raising the hull bodily about two feet; she penetrated up to the conning tower.

89. The crew having mustered on deck before the collision, lowered and manned the skiff. The fuses were then ignited, and the submarine abandoned, the skiff's course being set to the westward against the current. Her propeller having been damaged, oars had to be used. Immediately the skiff left the submarine, the two searchlights were switched on, and fire was opened with machine guns, rifles, and pom-poms, the viaduct being lined with riflemen firing under the wind screen, and the houses on the inner end of the Mole opening on her with pom-poms. The boat was holed many times, but was kept afloat by special pumps which had been fitted. Mr. Sandford (twice) and two of the crew were wounded at this time. As only slow progress could be made against the current, the charge exploded when the skiff was but two or three hundred yards from the viaduct. The explosion appeared to have great effect, much débris falling into the water around. Both searchlights immediately went out, and firing became spasmodic. The picket boat was then sighted, and the skiff's crew taken on board, the wounded being finally transferred to the T.B.D. "Phœbe." Mr. Sandford describes the behaviour of all his crew as splendid, and worthy of the high traditions of the submarine service. He selects his next in command, Lieutenant John H. Price, D.S.C., R.N.R., for mention, and states that his assistance was invaluable, and his conduct in a position of extreme danger exemplary. To this modest

praise of the exploit, I would add that the officers and men, who eagerly undertook such hazards, are deserving of their Lordships' highest recognition. They were all well aware that if their means of rescue failed them, as through untoward circumstances it nearly did, and they had been in the water at the moment of the explosion, they must almost inevitably have been stunned and drowned, or killed outright, by the force of such an explosion. Yet they disdained to use the gyro-steering which would have enabled them to abandon the submarine at a safe distance, and preferred to make sure, as far as was humanly possible, of the accomplishment of their duty.

90. Submarine C. 1 (Lieutenant Aubrey C. Newbold), owing to delay caused by the parting of the tow, did not arrive in the vicinity of the viaduct till the retirement had commenced. He had previously seen a big flash, but had not heard any sound, and was therefore in doubt as to what the force in general had done, but realised that his boat might be required for another occasion. He therefore retired, though he and his crew immediately volunteered for similar service. They were naturally disappointed, but in my opinion Lieutenant Newbold was perfectly right, and their Lordships will not lose sight of the fact that they, equally with the officers and men of C. 3, eagerly embarked on the enterprise in full realisation of what the consequences might well be.

91. The picket boat employed for rescuing the crew of C. 3 was commanded by Lieutenant-Commander Francis H. Sandford, D.S.O., who had organised the method of attack on the viaduct. The picket boat displayed bad qualities when towed above a certain speed in the prevailing conditions of wind and sea. She was steered only with great difficulty, and was twice on her beam ends, being saved from total capsizing by the tow parting. She then proceeded under her own steam, and endeavoured to reach the viaduct before the explosion. Her speed was not as much as was expected; still she arrived in time to pick up the motor-skiff very shortly after the explosion, and transferred the officers and men to the "Phœbe." This boat subsequently returned to Dover under her own steam, as her fore compartment being holed and full of water made towing inadvisable. From first to last she had made a voyage of 170 miles to and from the Belgian coast in unpleasant conditions, and effected the rescue in the face of almost insurmountable difficulties, due to enemy action, weather, and tide. I have already recommended Lieutenant-Commander Francis Sandford for promotion on this and previous grounds. His boat's crew were all volunteers, and I am including them in my general list of recommendations to their Lordships' notice.

VIII.—BLOCKING OPERATIONS.

92. The blocking of the Bruges Canal and the entrance to Ostend Harbour was the principal part of the whole objective, the damage to the Zeebrugge Mole being subsidiary thereto. To the "Intrepid," "Iphigenia," and "Thetis" was assigned the duty in the Bruges Canal; "Brilliant" and "Sirius" being detailed for Ostend.

93. *Zeebrugge*.—The orders to the blockships were to proceed into the canal. If her two consorts were seen to be following, the leading vessel ("Thetis") was to ram the lock

gates; the second and third ("Intrepid" and "Iphigenia") were to be run ashore near the entrance at the southern end of the piers, this being the narrowest part of the channel and the position best calculated to block the channel by silt. This opinion as to the best position was based on local knowledge, and the decision to attempt the project in this way was come to after much consideration, and bearing in mind the fact that if the leading vessel should fail to block the lock gates, and should sink in the channel short of the gates, she would have been no obstruction; whereas two ships well athwart the channel at the entrance would be certain to set up silt and cause great inconvenience to the enemy.

94. The proceedings of these ships were as follows:—

"Thetis" (Commander Ralph S. Sneyd, D.S.O.).—Sighted the Zeebrugge Mole ahead, and signalled the fact to the ships astern. She was greatly assisted by rockets fired from "Vindictive," which showed up the Mole extension and the lighthouse, and also by Captain Ralph Collins in a motor launch, who hailed the "Thetis" and gave her the bearing of the lighthouse. After rounding the latter the barge-boom came into view, and "Thetis" was steered for the barge furthest from the Mole, opening fire at the lighthouse, and then at the barge, which is reported from subsequent observation to have been sunk. The ship was under a fairly heavy fire from the light guns on the Mole extension, but her captain did not see any firing from the 4.1-inch battery at the Mole head. As the ship approached what appeared to be an opening between the barges and the net obstruction extending to the south-eastward from them she commenced to swing to port. She was given full port helm, but ran into the nets between the two end buoys, and continuing to forge ahead, took the nets with her. The piers of the canal entrance were in sight when both engines were reported to have brought up. "Thetis" had thus cleared the net obstruction away enough to enable the ships following to pass to starboard of her, and she signalled to them to do so. Being then about 300 yards from the eastern pier-head, and having drifted slightly to port (shoreward), she appears to have grounded. She had a list to starboard, and was settling down, having been frequently holed along the starboard side by gunfire. She continued to be hit from the Mole, from craft alongside it, and from guns on shore east of the canal. One or two machine guns were also firing at the ship, her 6-inch fore-castle gun engaging these guns until her own smoke made it impossible to see. Communication with the engine-room having broken down, a messenger was sent, and Engineer Lieutenant-Commander Ronald C. Boddie ("Hercules") succeeded in starting the starboard engine, which moved the ship ahead; and being still aground aft, her head swung to starboard into the dredged channel. As she appeared to be sinking, the commander cleared the boiler rooms, sent the boat-keepers to their boats, ordered the smoke to be turned on and the ship to be abandoned. Owing to the death of the petty officer in charge of them, the forward firing keys were not in position; smoke and shell fumes prevented their being found, so that the charges were fired by the after keys; they detonated well, and the ship then quickly sank. The ship's company manned the one remaining cutter and pulled to M.L. 526 (Lieutenant

Hugh A. Littleton, R.N.V.R.), which was lying near. Although crowded and holed in two or three places, the cutter was got away without confusion, due to the exertions of Lieutenant George A. Belben ("Penelope"), Commander Sneyd and Lieutenant Francis J. Lambert ("Sir John Moore") being at this time disabled by gas.

95. "*Intrepid*" (Lieutenant Stuart S. Bonham-Carter, "Emperor of India").—This ship had been unable to get rid of her spare watch of stokers, owing at first to the delay in her motor launch getting alongside, and apparently to the disinclination of the surplus crew to miss the coming fight. She therefore proceeded to the canal with 87 officers and men on board instead of 54. On approaching the Mole she came under heavy shrapnel fire. She rounded the lighthouse and, directed by "Thetis," aground on her port hand, steered for the canal, very few enemy guns firing at her, as they were concentrated on the Mole—doubtless at "Vindictive"—and on "Thetis." On reaching his position in the canal, Lieutenant Bonham-Carter went full speed ahead with the starboard engine and full speed astern with the port helm hard a starboard. He then waited for the crew to get into the boats, but finding the ship was making stern way he had to blow the sinking charges before the steaming party could get out of the engine-room. Engineer Sub-Lieutenant Edgar V. Meikle, with his men, got into a cutter, of which he took charge, proceeding out past the "Thetis" till picked up by motor launch. Another cutter was picked up by the T.B.D. "Whirlwind," and the skiff by M.L. 282. With the two officers and four petty officers Lieutenant Bonham-Carter launched a Carley raft and went down the canal until picked up by motor launch 282. This motor launch came right into the canal under the stern of the "*Iphigenia*"—the next blocking ship—under a heavy fire. She was commanded by Lieutenant Percy T. Dean, R.N.V.R., whose conduct Lieutenant Bonham-Carter describes as "simply magnificent." I have had the pleasure of recommending this officer to their Lordships for promotion, and I consider his gallant conduct is well worthy of the Victoria Cross. With the exception of Stoker Petty Officer Harold L. Palliser (O.N. 226201), who was killed while in the motor launch by a machine gun, the whole crew got away. Lieutenant Bonham-Carter reports the exceptionally fine behaviour of the whole of his crew—deck and engine-room alike—and specially mentions Lieutenant Alan Cory-Wright ("Ramillies"), Sub-Lieutenant Dudley A. Babb ("Sarpidon"), and Engineer Sub-Lieutenant Meikle. In another letter I have recommended Lieutenant Bonham-Carter and the two last-named officers for promotion. I may say here that I regarded the chances of escape from any of the blocking ships as very slender, and this was well known to those who so readily volunteered for this hazardous service and to the volunteer crews of the motor launches who ran equal risks in their work of rescue.

96. "*Iphigenia*" (Lieutenant Edward W. Billyard-Leake, "Fearless").—This ship, like the preceding one, did not discharge all her engine-room ratings, because some managed to avoid it in order to take part in the fight, and they therefore joined up with the rest of the crew. The "*Iphigenia*" was the third and last of the Zeebrugge blockers to undertake her

duty, and it is no disparagement to the predecessors, who made her task the easier by their example, to say that she was, as I believe, completely successful. On approaching the Mole she came under shrapnel fire, and was lighted up by two searchlights on the western (or land) end of the Mole, and by flares, these latter being rendered useless to the enemy by the smoke-screen, and facilitating navigation for the attacker. On rounding the lighthouse the "*Iphigenia*" went full speed, a star shell showing up the "*Intrepid*" headed for the canal and the "Thetis" aground. As she approached "Thetis" that ship showed a green light on her starboard side which enabled Lieutenant Billyard-Leake to find the canal entrance. The ship was now hit twice on the starboard side, one shell cutting the siren steam-pipe and enveloping the fore part of the ship in steam.

97. As "*Iphigenia*" approached the canal entrance it became obscured by smoke, and her captain found that she was heading for the western pier. Going full speed astern he brought his ship in between a dredger and a barge, severing them. He then went ahead with his starboard engine and drove the barge into the canal. When clear of the barge he went ahead with both engines. Seeing that the "*Intrepid*" had grounded on the western bank of the canal, with a gap between her and the eastern bank, he steered to close the gap, and collided with the port bow of "*Intrepid*." He then rang the alarm-gong to signify the imminent blowing of the sinking charges, but finding that he was not completely blocking the channel he telegraphed to the engine-room to go astern, which was done. As soon as his ship was clear he sent Lieutenant Philip E. Vaux ("Marvel"), the First Lieutenant, to the engine-room with an order to go ahead, which was promptly obeyed. The entire entrance was then covered in smoke. As soon as he considered the ship had headway, he put the port engine astern, the starboard ahead, and his helm hard-a-starboard, and grounded on the eastern bank. He then abandoned ship and fired his charges, which all exploded. The company left the ship in one cutter, as the other one was badly damaged. While in the cutter the crew came under more shrapnel and machine-gun fire, which caused some casualties. When trying to pull clear of the ship, M.L. 282 (Lieutenant Percy T. Dean, R.N.V.R., whose conduct in rescuing the officers and men from the "*Intrepid*" has already been described) was sighted across the "*Iphigenia*'s" bows, and the cutter pulled to her. The majority of the crew got into the motor launch, which then went astern. The cutter also pulled round the stern of the ship and the launch took the rest on board, except three, one of whom was killed. The cutter was made fast to the stem of the motor launch, which went out of the harbour stern first at full speed. Lieutenant Billyard-Leake reports that this motor launch was entirely responsible for saving the survivors from the "*Iphigenia*." Heavy machine-gun fire was concentrated on her while on passage out, at which time Sub-Lieutenant Maurice C. H. Lloyd, D.S.C. ("Dominion"), was mortally, and Lieutenant James C. Keith Wright, R.N.V.R., of M.L. 416, dangerously wounded, and two of the motor launch's crew of four killed. I trust that the Lords Commissioners, who have so many claims to judge, will consider that this recital of the part played by the "*Iphigenia*" well justifies my mention of

Lieutenant Billyard-Leake and of Mate (E) Sydney Greville West ("Benbow"), who throughout the preparations and operation worked his department in an admirable manner.

98. "*Brilliant*" and "*Sirius*."—I regret that the effort to block Ostend did not succeed. The "*Brilliant*" (Commander Alfred E. Godsall, "*Centurion*"), with "*Sirius*" (Lieutenant-Commander Henry N. M. Hardy, D.S.O. ("*Patrol*"), in her wake, was approaching the charted position of the Stroom Bank Buoy, but did not sight it as expected. Deducing from the positions of other navigation marks already passed that the ships were to the northward of their supposed position, they continued on their original course for an extra two minutes, sighting the buoy to the north-eastward. They steered to pass to the northward of the buoy, at which time they first came under fire from the enemy's batteries, and then shaped a course for the deduced position of Ostend. No marks were visible owing to smoke, which made it necessary for "*Sirius*" to keep very close station on "*Brilliant*." When the Ostend Piers should have been seen by "*Brilliant*," breakers were observed on the starboard bow, and though the helm was starboarded, the ship grounded. "*Sirius*," observing this, immediately put her helm hard over and her engines full speed astern, but the ship being already badly damaged by gunfire and sinking, did not answer the helm, and collided with the port quarter of the "*Brilliant*." In the end, both ships being practically fast ashore, "*Brilliant*," with her port engine immovable, and "*Sirius*," in sinking condition, were blown up where they stranded, as observation has since shown, about 2,400 yards east of the canal entrance. Lieutenant A. C. Crutchley ("*Centurion*"), Sub-Lieutenant Angus H. MacLachlan ("*Temeraire*"), and Engineer Lieutenant Wilfred Long ("*Dublin*"), all serving in the "*Brilliant*," were reported by their captain as having set a fine example to their men. Commander Godsall also mentions Petty Officer Joseph J. Reed (O.N. C230360), who behaved with conspicuous coolness.

99. The rescue of the crews by motor launches which had been standing by under heavy fire of every calibre, was carried out in the gallant manner which distinguished the work of the crews of the motor launches and coastal motor boats throughout the action. Commander Ion Hamilton Benn, R.N.V.R., attempted to go alongside in Motor Launch No. 532, but owing to thick smoke she was damaged by collision with the ship. Lieutenant Roland Bourke, R.N.V.R., in M.L. 276, repeatedly went alongside "*Brilliant*" in the difficult circumstances of her starboard engines still going astern, while M.L. 283, under the command of Lieutenant Keith R. Hoare, D.S.C., R.N.V.R., embarked practically all the men from the "*Sirius*," and sixteen from the "*Brilliant's*" whaler, sunk by gunfire.

100. After leaving the "*Sirius*," Lieutenant-Commander Hardy found that Engineer Lieutenant William R. Maclaren ("*Iron Duke*") and some men were missing. He therefore hailed C.M.B. 10 (Sub-Lieutenant Peter B. Clarke, R.N.R.), and with Lieutenant Edward L. Berthon, D.S.C. ("*Viceroy*"), went alongside the ship under a heavy and accurate fire from 4.1-inch and machine

guns to search for them, but found no sign of life in either ship. The officer and men were subsequently picked up by the "*Attentive*" in a boat, in which they had pulled thirteen miles out to sea after the sinking of their ship.

101. Their Lordships will share with me and the commanding officers of these ships the disappointment due to the defeat of our plans, as we may believe, by the legitimate ruse of the enemy in shifting the buoy. As the Commodore at Dunkirk remarks in the despatch to which their Lordships will refer for details on this point, the location of buoys by aircraft is a high art, and can only be done with accuracy in relation to closely surrounding land or shoal features, but aerial photographs have since established the fact that had the buoy been in its original position the vessels would have made the entrance accurately.

102. Both Commander Godsall and Mr. Hardy immediately and repeatedly asked me for other ships, to be allowed to try again. They report that all their officers and Petty Officer Joseph Reed have volunteered to make another attempt, sanguine that with the experience gained it would succeed.

IX.—THE RETIREMENT.

103. The viaduct explosion having duly taken place, and the blocking ships having been seen proceeding shorewards, the main object of storming the Mole had been accomplished; and the only reason for prolonging the operation till the programme time for retirement was that of continuing the work of demolition. On the other hand, the only guns in "*Vindictive*" bearing on the Mole had been put out of action; the upper works of the ship and men in exposed positions were presenting an easy target to the shore guns, while, in view of the failure of the Mole anchors, the storming parties would be unable to embark if the "*Daffodil*" should be disabled. Captain Carpenter, regarding the "*Daffodil's*" escape up to this time as being almost a miracle, therefore decided to give the order for the retirement, and in this I consider he acted with good judgment; in fact, I had given orders for the "*Warwick*" to close the "*Vindictive*" so that I might inform Captain Carpenter that I had seen the blockships proceeding in, ascertain the conditions on the Mole, and decide on further action, when I saw that she was hauling off.

104. The searchlights, by which twenty minutes' warning was to be given, having been destroyed, as well as the "*Vindictive's*" siren, by which the executive signal was to be made, the "*Daffodil*" made the latter signal at fifty minutes past midnight, and the retirement commenced. About fifteen minutes later it was reported to the Captain that officers and men had ceased coming on board, a large number having already embarked by the same means as they had originally used for storming the Mole. To make doubly sure, Captain Carpenter waited till ten minutes past one, and after repeated assurances from officers and his own observation that no more were returning, he ordered "*Daffodil*" to tow "*Vindictive's*" bow away from the Mole, the port cable was slipped, and towing commenced. The hawser parted almost at once, but the ship's head was clear enough to allow her to proceed at full speed with helm hard-a-port under cover of her own smoke screen. A large bumpkin made of her own mainmast, rigged out

over the "Vindictive's" port quarter, and taking against the wall, protected the port screw, which nevertheless hung up two or three times, being probably fouled by the débris of the brows. The "Vindictive" reached Dover soon after 8 a.m., on the 23rd.

105. Some of the proceedings of "Iris II" have been reported in connection with the storming of the Mole, and the rest may be told here. Shortly after leaving the Mole she came under a very heavy fire from the Mole and shore batteries, being hit ten times by small shell and twice by large ones. The first large shell came through the port control position and carried away the port side of the bridge, causing a very serious fire amongst the ammunition and bombs under the bridge. It mortally wounded Commander Valentine Gibbs and Major Charles E. C. Eagles, D.S.O., R.M., and seriously wounded Lieutenant George Spencer, D.S.C., R.N.R. Lieutenant Oscar Henderson ("P. 19") took a volunteer fire party with a hose on to the upper deck to quench the fire, but seeing the condition of the bridge he ran up on to it and found Commander Gibbs, as he then thought, dead, and Lieutenant Spencer seriously wounded, but still conning the ship. He took command and steadied the ship on her course, the coxswain, Petty Officer David P. Smith, sticking to his post with great gallantry, steering with one hand while holding an electric torch to the compass with the other; it is due to Lieutenant Spencer that the ship was turned away from the land. "Iris II" was again hit by three shells simultaneously, and as the men were packed very closely on the main deck the casualties were very heavy. When the ship was steadied on her course the fire was put out, Able Seaman F. E. M. Lake ("Monarch") being the first man to attack it, which he did with sand, afterwards helping Mr. Henderson to throw bombs overboard, regardless of his own life. A motor launch, No. 558, commanded by Lieutenant-Commander Lionel S. Chappell, D.S.C., R.N.V.R., and with Captain Ralph Collins on board, gallantly came into the heavy fire from the enemy's guns, and throwing a smoke screen around "Iris II" enabled her to get clear, the ship being very badly damaged; she reached Dover at 2.45 p.m., some five hours after the death of her captain, who remained confident and cheerful until his very heroic spirit passed.

106. Although the Lords Commissioners of the Admiralty have most promptly recognised and rewarded the services of Acting Captain Carpenter by promoting him to the Post List, I should not like to end this part of my despatch without putting on record the praise which is due to him. An excellent staff officer, he rendered me invaluable assistance in the drawing up of the final operation orders, the preparations for which involved strenuous work by many officers and a vast amount of necessary detail. My account of the proceedings of the "Vindictive" outlines his personal share in the attack, but as showing the force which his example had on those under his command, I hear on all sides that the Captain's calm composure when navigating mined waters and bringing his ship alongside the Mole in darkness, and his great bravery when the ship came under heavy fire did much to encourage similar behaviour on the part of the crew, and thereby contributed greatly to the success of the operation.

X.—OSTEND.

107. In arranging the sections of this despatch, I have grouped proceedings of units taking part in the operations off Ostend in their appropriate places, but I submit herewith the report by Commodore Hubert Lynes, C.M.G., Senior Naval Officer at Dunkirk, to whom I am indebted for whole-hearted co-operation and loyal assistance at all times. I share his regret as to the alteration by the enemy of the position of the Stroom Bank Buoy not having been discovered, but I feel that the consequence must be accepted as one of the misfortunes of war.

108. The Lords Commissioners will notice that five French torpedo craft co-operated at Ostend with our big monitors, and four French motor launches with our small monitors. I should like to be allowed to express my gratification at this co-operation, and my thanks for the valuable assistance these vessels gave are due to Vice-Admiral Pierre Alexis, M. A. Ronarc'h, K.C.B., C.M.G., Commandant Supérieur de la Marine dans la zone des Armées du Nord, Dunkerque, and to Capitaine de Vaisseau Breart de Boisanger, D.S.O.

109. Commodore Lynes has recommended for special recognition several officers and men, and the rest their Lordships will have an opportunity of considering in the list which I am forwarding as soon as it can be prepared.

XI.—TORPEDO BOAT DESTROYER FORCE.

110. I desire to relate the proceedings of some of the vessels of the 6th Destroyer Flotilla under the command of Captain Wilfred Tomkinson, and the "Warwick" flying my flag, which came under my own observation, or are of special interest or merit.

111. The "Trident" and "Mansfield" after parting company from their submarines, covered the western flotilla of smoke-screening small craft. The "Whirlwind," "Myngs," "Velox," "Morris," "Moorsom," and "Melpomene" covered the eastern smoke-flotilla. The "Warwick," "Phœbe," and "North Star" cruised off the Mole to protect the assaulting craft from torpedo attack. These duties took the destroyers close in shore, and they were frequently under a heavy fire from guns of all calibres at short range. When the assaulting craft were leaving the Mole, the "Warwick" followed them for a few minutes, and then returned to assist the withdrawal of the small craft, picking up four motor launches, including No. 282, commanded by Lieutenant P. T. Dean, R.N.V.R. This launch had on board one hundred and one people from "Iphigenia" and "Intrepid," some of whom had been killed in the launch, and others who were wounded. As the motor launch was dangerously overloaded and full of wounded, I ordered them to be transferred to the "Warwick," which took more than half an hour to do. I was much struck with the gallant bearing of Lieutenant Dean and the survivors of his crew. They were all volunteers, and nearly all had been wounded and several killed.

112. While the "Warwick" was engaged as stated in the preceding paragraph, the "North Star," having lost her bearings in the smoke, emerged from the smoke screen to the south-eastward of the lighthouse. Seeing some vessels alongside the Mole, she fired all her torpedoes at them and withdrew; but coming under very heavy fire at point-blank range she

was immediately disabled, and soon in a sinking condition. The "Phœbe," commanded by Lieutenant-Commander Hubert E. Gore-Langton, was handled with conspicuous gallantry while under this heavy fire. She repeatedly circled round the "North Star," making smoke screens and attempting under their cover to tow her out of action. She was twice successful in getting her in tow, the hawser being shot away once and parted once. "Phœbe" then went alongside "North Star," and endeavoured to tow in that way. "North Star," however, was in a sinking condition, and being continually hit. In these circumstances, Mr. Gore-Langton ordered the abandonment of the "North Star," standing by her, and taking off all of her company who were left alive.

113. I regret that the "North Star" was lost, but the conduct of Lieutenant-Commander Kenneth C. Helyar and his company was all that could be desired, the "North Star" not being abandoned until all possibility of salvaging her was gone. The Lieutenant-Commander of "Phœbe" states that Mr. Helyar by his coolness and calm devotion to duty set a splendid example to all, though his ship was totally disabled and constantly being hit. He would not leave his bridge until ordered twice to abandon his ship when she was obviously sinking under him, and could not be saved. He also did his utmost to assist the "Phœbe" in every way to take her in tow.

114. "Tempest" and "Tetrarch," of the Harwich force, accompanied the Ostend blockships from the Goodwins until they reached the inshore smoke screen off Ostend, after which they co-operated with the Dunkirk destroyers "Faulknor," flying the broad pendant of Commodore Lynes, "Lightfoot," "Mastiff," "Afridi," "Swift," and "Matchless" in supporting the small craft inshore, within close range of the enemy's heavy batteries.

115. I wish to record my entire satisfaction with the good work done by the torpedo-boat destroyer force throughout the operations. The part taken by the "Phœbe" in protecting and endeavouring to tow out of action the "North Star," and in the final rescue of her people, is a conspicuous example of the fine qualities of this branch of the service, and is highly creditable to Mr. Gore-Langton, his officers, and crew. I have already recommended that officer for promotion, as I consider that his personal and professional conduct on this occasion marks him as likely to be valuable in the higher ranks of His Majesty's service.

XII. — SMOKE SCREENS, MOTOR LAUNCHES, AND COASTAL MOTOR BOATS.

116. The orders for smoke-screening the approach and operations of the forces attacking Zeebrugge and Ostend, and the reports from the numerous motor launches and coastal motor boats employed on that duty, are necessarily too detailed to be recapitulated in a despatch of this general nature. Apart from the smoke apparatus supplied to the larger craft for self-protection, the duty of making smoke screens and laying smoke floats was imposed on a large fleet of motor launches and coastal motor boats. Without the services of these little vessels for this duty, for rescue work and for inshore work generally, an attack of this nature could hardly have been considered.

117. *Smoke Screens.*—While the wind favoured the screens were efficacious. Captain Ralph Collins, who commanded the motor launches, reports that in some units in which the smoke screens were maintained, and in which most of the boats were under fire, there were no boats hit; whereas, in one instance, which came under my own observation, the absence of a screen led to preventably heavy punishment. As to the smoke floats, the enemy sunk many of them directly they were laid, especially if, as happened in many cases, they emitted flame. Those which remained were effective.

118. *Motor Launches.*—These craft were under the command of Captain Ralph Collins at Zeebrugge, and Commander Hamilton Benn at Ostend. As to the handling of these craft, great credit is due to the leaders of sections for the way in which they led their boats up to the objectives. When the wind shifted, the commanding officers proceeded closer inshore to give as much protection to the attacking ships as possible. One unit, under Lieutenant Gordon S. Maxwell, R.N.V.R., went close inshore, and by dropping three floats without baffles succeeded in inducing the enemy to concentrate his fire on these floats. Lieutenant-Commander Dawbarn Young, R.N.V.R., was in command of M.L. 110. He had volunteered to precede the blockships and light the entrance of the harbour and canal with calcium buoys. Whilst approaching the entrance M.L. 110 was struck by three shells, which killed and wounded half the crew and wrecked the engines. Lieutenant-Commander Young, hit in three places, was mortally wounded, but stuck to his post and gave orders to abandon ship, until he collapsed. This very gallant officer died before reaching Dover. Ever the first to volunteer for any dangerous work, the Dover Patrol has sustained a great loss by his death.

119. Of the meritorious work reported from the motor launches, I have already selected the instances of Lieutenant P. T. Dean, R.N.V.R., in No. 282, and Lieutenant H. A. Littleton, R.N.V.R., in No. 526, who brought off the crews of the sunken blocking ships. There is no doubt that these boats were handled in a magnificent manner, and that the highest praise is due to their officers and men. From Ostend reports of the motor launch flotilla are of the same high character. Commander Ion Hamilton Benn reports that M.L. 283 (Lieutenant Keith R. Hoare, R.N.V.R.) took on board the entire crew of "Sirius" and some of "Brilliant's" people, and was seriously overloaded; but was able to reach harbour safely. He cannot speak too highly of the conduct of Lieutenant Hoare and Lieutenant Rowland Bourke, R.N.V.R. (M.L. 276), who both showed remarkable coolness and good judgment throughout the operation. He also mentions Lieutenants, R.N.V.R., Sidney D. Gowing (M.L. 551), Rawsthorne Proctor (M.L. 556), and Malcolm S. Kirkwood (M.L. 11).

120. *Coastal Motor Boats.*—I have been greatly impressed with the administrative capacity of Lieutenant Arthur E. P. Welman, D.S.C., R.N., the young officer in charge of the coastal motor boats of the Dover Patrol. In the Zeebrugge operation he had seventeen of these vessels under his orders. Besides their screening duties, several of them undertook attacks on enemy vessels and against the Mole, the seaplane shed, &c., with success, Lieu-

tenant Welman always being in the most exposed position. Sub-Lieutenant Cedric R. L. Outhwaite, R.N.V.R., in C.M.B. 5, reports that he attacked an enemy destroyer which was under way, and observed his torpedo hit below her forward searchlight, the light shortly afterwards going out, and her fire diminishing. Sub-Lieutenant L. R. Blake, R.N.R., in C.M.B. 7, reports hitting a destroyer alongside the Mole with a torpedo which struck below the fore bridge. No. 32A fired a torpedo at the steamship "Brussels." An explosion followed, but the result was hidden by smoke.

121. The zest of most of the young officers in the coastal motor boats, like that of those in the motor launches, compels one's admiration. I can select only one of many instances which show the eagerness of the officers to take part in a fight from which circumstances tried to exclude them. Lieutenant Edward E. Hill in C.M.B. 35A had the misfortune to foul his propellers on the evening of the 22nd April when already 18 miles on his outward voyage. He got a tow from a drifter, and arrived at Dover at 8 p.m. His boat was immediately hoisted and the propellers cleared, but as there was other damage he was not afloat again till 9.40 p.m. He then made his way to the Belgian coast, and was off Zeebrugge—about 70 miles—by 11.50 p.m., taking up his smoke-boat patrol at once, and continuing it for an hour, in the course of which he came under rather heavy fire from a battery at Blankenberghe. The chapter of accidents amongst such small craft is naturally a long one, but the resource developed in overcoming them is more than compensation. The daring way in which the crews of these boats approach the shore, drawing the beams of the searchlights and the fire of the guns, then escaping in their own smoke, is splendid. Lieutenant Francis C. Harrison, who commanded the Ostend section of C.M.B.'s, mentions the names of Sub-Lieutenant Peter B. Clarke, R.N.R., Midshipman N. S. Herbert, R.N.R., and Chief Motor Mechanic G. H. Hebblethwaite (C.M.B. 10) for the dangerous work which that boat undertook in searching for the engineer of the "Sirius," who was thought to be on board that ship after she had been sunk, in the course of which the boat came under very heavy fire; and Sub-Lieutenant Frank A. W. Ramsay (C.M.B. 19) for his coolness and quickness in laying the inshore calcium buoys under heavy machine-gun fire. Lieutenant Welman also mentions the names of several officers and men in coastal motor boats; these will be forwarded for Admiralty consideration shortly.

XIII.—DOVER TRAWLER PATROL.

122. Captain William V. Howard, D.S.O., of the Trawler Patrol, accompanied the expedition in the paddle mine-sweeper "Lingfield," and did valuable work in keeping touch with the force, giving assistance by towing, and otherwise helping small craft in trouble while on the passage to and from Zeebrugge, also in receiving the surplus crews from blockships, and escorting motor launches. This veteran officer has been on patrol work off the south-east coast of England during the whole of the war. His energy and example are great incentives to the officers and men of the Trawler Patrol which he commands.

XIV.—MEDICAL ARRANGEMENTS.

123. In conclusion I desire to make a special reference to the praiseworthy manner in which the medical officers and their staff, and volunteer helpers, devoted their skill and sympathy to those who were wounded in these operations. Fighting at such close quarters, the casualties were bound to be numerous, and the wounds likely to be severe. Staff Surgeon James McCutcheon, M.B., was the senior medical officer of the force. In an able report that officer outlines the work of his staff, and the circumstances in which it was done, and I trust that the Lords Commissioners will agree with me in thinking that no branch of the naval service surpassed in zeal and ability the efforts of the medical branch to prove itself worthy of its profession, and of the occasion. I have selected with difficulty from a number of very deserving officers the names of three to be representative recipients of such promotion as their Lordships may be able to award for these operations to the medical branch of the Royal Navy.

I have the honour to be,
Sir,
Your obedient Servant,
ROGER KEYES,
Vice-Admiral.

Enclosure.

PROCEEDINGS AT OSTEND. REPORT FROM
COMMODORE, DUNKIRK.

Office of Commodore, Dunkirk,
April 30, 1918.

Sir,—

I have the honour to forward the following report on Operation Z.-O., carried out on the night of the 22nd-23rd April.

1. A brief preliminary report was phoned to Vice-Admiral, Dover Patrol, on the 23rd April, since which photographs and air reconnaissances have established the facts (as reported) that—

(a) "Sirius" and "Brilliant" are not inside Ostend Harbour, but lie stranded about 2,400 yards to eastward of eastern pier.

(b) The Stroom Bank Buoy is not in its charted position, but is a little to eastward of the prolongation of eastern pier, approximately lat. 51 15 50 N., long. 2 53 20 E.

2. (b) accounts for (a); supposing, as is almost certain, that the buoy was in this position on the night of 22nd-23rd.

3. The location of buoys by aircraft is, of course, a very high art, and can only be done with any degree of accuracy with relation to closely surrounded land (or shoal) features.

Captain R. Graham, D.S.O., D.S.C., R.A.F., and Captain L. H. Slater, D.S.C., R.A.F., obtained the present position of Stroom Bank Buoy by coming down to 100 feet and fixing the buoy with reference, for direction, to the line of eastern pier.

4. The organisation detailed in my 0/53, of the 21st April, was carried out for Ostend operation, which I conducted with the assistance of Commander J. L. C. Clark, D.S.O., R.N., from on board "Faulknor," leader of the Off-Shore Destroyer Force.

5. The operation was carried out according to programme. There were no hitches, the times were kept precisely, and I have compli-

mented the senior officers of units, and all, on the care with which they both studied and carried out my necessarily rather voluminous orders.

6. (a.) The wind, on starting out, was light north-westerly, and continued thus until about 10 minutes before "Sirius" and "Brilliant" arrived at Stroom Bank Buoy, when it most unluckily shifted round to the south-westward, causing all the smoke to go wrong at the critical moment.

(b.) The M.L.'s and C.M.B.'s strove with resolution and good judgment to compete with this reverse, but all their efforts were overpowered by the enemy's smoke screen blown to seaward, while they themselves became subjected to a heavy, but happily ill-directed, gunfire.

7. The blockships made the Stroom Bank Buoy (which was alight and marked the whole time), but after that the adverse smoke prevented them seeing anything by which they might have retrieved the error of the buoy's position.

8. (a.) Since the Captains of the blockships, Commander A. E. Godsall, R.N., and Lieutenant-Commander H. N. M. Hardy, D.S.O., R.N., will have made their full reports to you, I say little more, since, after what has been said, it is needless to remark that the failure to find the entrance was no fault of theirs; on the contrary, the newly discovered position of the buoy only too plainly shows that their course, after rounding the buoy, ought to have brought them right in.

(b.) I may add that on my return to harbour about six hours later, the bitter disappointment of these two gallant officers showed itself chiefly in begging, for another blockship apiece to have another try.

9. The low clouds and drizzle put all aircraft participation out of the question.

10. The monitor and siege gun bombardments were undoubtedly useful as a blind, and to keep the fire of the shore batteries down.

The shore batteries commenced to return the monitors' fire about 5 minutes after the latter opened. A number of shell fragments were picked up on board the monitors, but there were no hits. Photographs show a number of hits around the German batteries, but none on the guns.

11. (a.) This time the enemy took longer to be alarmed than on the night of 11th/12th. He seemed to take but a desultory interest until the monitors opened fire, *i.e.*, $\frac{1}{4}$ hour after the C.M.B.'s arrived at the Stroom Bank Buoy, and, as on the previous occasion, he cannot have had a single patrol out.

(b.) Very few shells fell near us in the off-shore destroyers. Enemy's fire was evidently either directed against the inshore boats, at the monitors, or barrage fire into the smoke areas.

(c.) His star shell, as before, averaged about 7,000 yards from the shore; when we closed to that range they dropped alongside of (one on) the division.

(d.) At intervals the enemy's star shell showed up to us the M.L.'s busily engaged with their smoke screens, and at 11.50 also the blockships with their escort to the E.N.E. steering for the Stroom Bank Buoy. It was at this moment that we noticed the shift of wind to south-westward.

(e.) About 10 minutes later the blockships disappeared abreast the buoy into the smoke,

and we saw no more of them, but picked up "Tempest" and "Tetrarch."

(f.) C.M.B.'s 12 and 19 report a "M.L. blew up" about 00.15, E.S.E., 2 miles from Stroom Bank Buoy; this apparently refers to the blockships being hit by shell.

(g.) About 00.25 bursts of firing became more frequent, and more searchlights switched on than before, evidently the result of the blockships' emergence from smoke and stranding.

(h.) After this there was little more than desultory firing, probably at monitors, with the exception of two 3-minute bursts of barrage fire at 00.42-00.52.

The searchlights continued searching actively until about 01.30 when their numbers reduced to three or four.

(i.) At 01.00 the "retirement" red rocket signals and syren "K's" were made by destroyers; this produced a few big shrapnel in our neighbourhood.

(j.) A few C.M.B.'s and M.L.'s were seen coming away off and on up to 2 a.m., when we withdrew to fix position by R, R.M.C. Buoy, picking up No. 7 C.M.B., disabled, on the way. ("Tetrarch" towed her home.)

(k.) Having fixed by Position R, we continued to cruise between R and Stroom Bank Buoy until daylight, and the shore became visible, when, nothing floating being in sight, all forces were withdrawn; B.C. Patrol being sent out later, and picking up the last straggler, *viz.*, C.M.B. 17, who had run out of petrol near 3 B.C. Buoy.

(l.) At 03.20, when near Stroom Bank Buoy, we saw two searchlights, judged about 500 yards apart, concentrated on something burning in the water between them.

At 03.30 this fire culminated in an explosion, and darkness ensued, the two searchlights switched out a few minutes later.

(m.) No enemy craft were seen by anyone except that C.M.B. 12 feels sure that she was chased by a destroyer with searchlights, but I cannot think a craft coming out of Ostend could have been seen by no one else or escaped us, for, apart from the star-shell illumination, the diffused moonlight gave quite one mile visibility.

12. On return to harbour about 07.30, I found that:—

(a.) All the crews of the blockships had been saved, the majority by M.L.'s 276, 283, and brought to Dunkirk; the few others who had evacuated in a pulling boat were picked up by the Gap Patrol.

(b.) This salvage work of M.L.'s 276 and 283 was carried out under heavy, but fortunately not accurate, fire with a courage and coolness that alone could have achieved its wonderful result, for not a man was wounded, and the heavily laden boats returned to harbour safely.

(c.) All the M.L.'s had returned intact with very slight casualties, and one damaged bow.

(d.) The C.M.B.'s, too, both for Zeebrugge and Ostend, had all returned safely, either to Dunkirk or Dover, with the exception of two or three which were retrieved later. Their personnel casualties were two dangerously wounded and four wounded, considering the work done, a marvellous result, and one which reflects the greatest credit on the C.M.B. officers.

13. *Conclusions.*—(a.) The luck of the wind changing, combined with the shifting of the

Stroom Bank Buoy, accounts for the failure to block Ostend Harbour. There is no discredit to anyone; indeed, none could have carried out their duties more admirably than did the Ostend forces on this occasion.

(b.) I anticipate success in the new endeavour, the undertaking of which has only been waiting favourable weather conditions during the last few days.

(c.) The lion's share of the work was, of course, done by the C.M.B.'s, M.L.'s, and blockships.

I have, &c.,

HUBERT LYNES,

Commodore, Dunkirk.

Vice-Admiral Sir Roger Keyes, K.C.B.,

C.M.G., M.V.O., D.S.O., R.N.,

Dover.

OSTEND OPERATIONS.

May 10, 1918.

Fleet House, Dover,

June 15, 1918.

(No. 2305/003.)

SIR,

Be pleased to lay before the Lords Commissioners of the Admiralty the following report on the renewed attempt made in the early morning of the 10th May, 1918, to block the entrance of the Ostend-Bruges Canal by sinking the "Vindictive" therein.

2. When I learnt on the 23rd April that the attempt to block Ostend had not succeeded, I represented to their Lordships the desirability of repeating the operation at once. The "Vindictive," the only vessel available at the moment, being placed at my disposal, every effort was made to repair the damage she had suffered and fit her out before the expiration of the period in which the tide and darkness suited, *i.e.*, about four days. This was accomplished at Dover, thanks to the strenuous efforts of Rear-Admiral C. F. Dampier, the Superintendent of the Dockyard, and his small staff; the services of Engineer Commander Henry F. Bell, R.N., and Mr. A. J. Luke being particularly valuable.

Two hundred tons of cement were put into the "Vindictive's" after magazines and upper bunkers on both sides, which was all her draught would permit her to carry, in view of the depth of water in the approaches to Ostend Harbour.

Major-General Sir William Hickey, K.C.B., Commanding Dover Garrison, most helpfully provided men for filling bags with cement and putting them on board.

3. As already reported in my last despatch, Commander Alfred E. Godsall, R.N., and Lieutenant-Commander Henry N. M. Hardy, D.S.O., R.N., of the "Brilliant" and "Sirius" respectively, had begged to be allowed to make another attempt, and had reported that all their officers and Petty-Officer Joseph J. Reed of the "Brilliant," had volunteered for this service. As Commander Godsall had led the previous attack, he was given command of the "Vindictive," and Lieutenant Victor A. C. Crutchley, R.N., Sub-Lieutenant Angus H. Maclachlan, R.N., and Petty-Officer Joseph J. Reed, all of the "Brilliant," accompanied him. Engineer Commander William A. Bury, R.N., however, claimed his right to remain in the "Vindictive." This very gallant officer, who greatly distinguished

himself on the 23rd April, represented that his knowledge of the engines and boilers of his ship should be utilised. He further begged that Engine Room Artificers Hubert Cavanagh, Norman Carroll, Alan Thomas, and Herbert Alfred Harris, who also volunteered, might be allowed to remain with him. I acceded to his request.

Lieutenant Sir John Alleyne, D.S.C., R.N., of H.M.S. "Lord Clive," who had been most useful in fitting up the navigational arrangements which were destroyed on the 23rd April, asked to be allowed to navigate the vessel during the operation. I approved of this request, feeling that this officer's experience and intimate knowledge of the shoals and currents on the Belgian coast would be of great value to the Commander of the "Vindictive."

The crew were selected from a very large number of volunteers from vessels of the Dover Patrol.

4. The "Vindictive" was in all respects ready by the desired date, but the weather was unfavourable, and the operation had to be postponed until the necessary condition of tide and darkness recurred. This delay made it possible to prepare a second ship, the old cruiser "Sappho," which was taken from Southampton to Chatham and fitted out by Chatham Dockyard with the greatest celerity and thoroughness.

5. Lieutenant-Commander Hardy took command of her, and he was accompanied by all the officers of the "Sirius," Lieutenant Edward L. Berthon, D.S.C., R.N., Sub-Lieutenant Alfred V. Knight, R.N.R., and Engineer-Lieutenant William R. McLaren, R.N. Her crew were selected from a very large number of volunteers in the Royal Naval Barracks at Chatham.

6. Aerial observation on the 9th May showed that many torpedo and submarine craft were still shut up in Bruges, and proved that the effectiveness of the blocking of the Zeebrugge branch of the canal was maintained up to that date. Although the craft so shut up in Bruges have been unable to use the small waterways to Ostend, the latter port was still being used by enemy torpedo craft and submarines.

7. Other information, confirmed by aerial observation, also disclosed the fact that to counterbalance the forced inactivity of the craft in Bruges, and probably to resist any repetition of the April attack, a considerable number of German destroyers had joined those units of the Flanders force which were outside the canal on the night of the 22nd-23rd of that month.

8. Commodore Hubert Lynes, C.M.G., at Dunkirk, having so ably carried out the direction of the former attempt as part of the Zeebrugge and Ostend scheme, I entrusted the conduct of the operations on this occasion to him, placing under his orders all the monitors, destroyers, motor launches, and coastal motor boats required, in addition to the blocking ships "Vindictive" and "Sappho." On the evening of the 9th May, the weather conditions being most promising, the "Vindictive" and "Sappho" sailed in company to join Commodore Lynes at Dunkirk.

His report, which is attached, furnishes the details of the operation.

9. In order to prevent interference from Zeebrugge by the newly-arrived enemy destroyer force mentioned in paragraph 7

H.M.S. "Warwick," flying my flag, and a division of destroyers consisting of H.M. Ships "Whirlwind," "Velox," and "Trident," under Captain Wilfred Tomkinson, R.N., cruised midway between Ostend and Zeebrugge.

10. Meanwhile the operation proceeded in accordance with the plan, except for the unfortunate breakdown of the "Sappho," due to a boiler accident, which reduced her speed to such an extent that she was unable to reach her destination in time to take part. This halved the chances of success, and was a great misfortune.

With regard to the proceedings of "Vindictive," I cannot do better than quote from the report of Lieutenant Victor Crutchley, on whom the command devolved when Commander Godsall was killed and Lieutenant Sir John Alleyne seriously wounded:—

"On arrival at position P, course was altered for the Stroom Bank Buoy. The boat marking the buoy was seen and left close on the port hand; the buoy was not seen. Speed was reduced to twelve knots on passing the buoy.

"At this time the smoke screen was excellent. There was a lane between the eastern and western sections, and the only fire experienced was shrapnel, which I considered was fired at a venture, and did no harm. We ran on for thirteen minutes from the Stroom Bank Buoy, and then, as the entrance was not sighted, altered course to the westward parallel to the shore, and reduced to 60 revolutions (nine knots). As we still failed to see the entrance we altered course 16 points to starboard, and returned along the shore to the eastward. We again failed to find the entrance, and so altered course 16 points to starboard. All this time, owing to fog and smoke, the visibility was not more than $1\frac{1}{2}$ cables. This time the entrance was sighted about one cable on the port beam, and at the same time the ship came under a very heavy fire from shore batteries of all descriptions.

"On sighting the entrance, in accordance with previous orders, I passed the order 'preparatory abandon ship' to the engine-room. As soon as the entrance was sighted the ship was handled from the conning tower. Commander Godsall immediately turned up for the entrance and ordered smoke to be lighted. At about this time communication with the after control failed. Just after the entrance was passed, Commander Godsall went outside the conning tower and gave the order hard-a-starboard from outside.

"Immediately after this a heavy shell burst either on the conning tower or very close to it; Lieutenant Alleyne was knocked out, and Commander Godsall was not seen again, and all the occupants of the conning tower were badly shaken. I then ordered the port telegraph to full speed astern, to try to swing the ship across the channel. She grounded forward on the eastern pier when at an angle of about three points to the pier. As the ship stopped swinging, and at the time I considered that no more could be done, I ordered the ship to be abandoned.

"When the engine-room had been abandoned, Engineer Lieutenant-Commander Bury blew the ship up by firing the main charges and after auxiliary charges, and I

endeavoured to fire the forward auxiliary charges. There was a considerable shock when the first set of charges were fired. I am not positive that the forward auxiliary charges fired, as I could not distinguish the shock from other disturbances.

"When I got on board M.L. 254 I found that the First Lieutenant had been killed by a shell bursting, also one deckhand. The captain, Lieutenant Geoffrey H. Drummond, R.N.V.R., and the coxswain, had been wounded. We went out of the harbour stern first followed the whole way by machine-gun fire. On finally going ahead the fore-castle flooded, and the boat was very much down by the bows. The pump and buckets were got under way and all spare hands placed right aft. However, the water was gaining, and 'S.O.S.' was made by flashing lamp continually to seaward. The courses steered from Ostend were north for 15 minutes, and then west by north until picked up by 'Warwick.'

"I cannot speak too highly of the bravery of the M.L.'s coming alongside inside Ostend; they were under a continuous and heavy fire. M.L. 254 rescued two officers and thirty-seven men.

"The question of recommendations is a very difficult one. Every man, without exception, behaved splendidly."

11. It had been Commander Godsall's intention to ram the western pier with the object of swinging the ship across the channel under port helm, a manoeuvre that would have been greatly assisted by the tide, which was setting strongly through the piers to the eastward. It would appear that when the "Vindictive" eventually found the entrance she was too close to the eastern pier to use port helm without risk of grounding broadside on. This would account for Commander Godsall's order "hard a starboard" a few seconds before he was killed. The "Vindictive" was thus committed to starboard helm when the command devolved on Lieutenant Crutchley, who very promptly put the port telegraph to full speed astern. Unfortunately the port propeller, which was very severely damaged against Zeebrugge Mole, was of little value. Due to this, and also to the fact that the tide was setting strongly against her starboard side, the ship's stern did not swing across the channel as desired, with the result that she grounded at an angle of about 25 degrees to the eastern pier, leaving a considerable channel between her stern and the western pier.

12. At 2.45 a.m., fifteen minutes after the programme time for the withdrawal of the motor craft, the "Warwick" and her consorts proceeded slowly to the westward parallel to the coast.

13. At 3.15 a.m. a signal of distress was observed from the direction of Ostend. I directed the division to close, and found M.L. 254 (Lieutenant Geoffrey H. Drummond, R.N.V.R.) badly damaged and in a sinking condition, with two officers and thirty-seven men of the "Vindictive's" crew on board. Lieutenant Drummond was very severely wounded, his second in command, Lieutenant Gordon F. Ross, R.N.V.R., and other men killed, and most of her small crew and many of the "Vindictive's," including her gallant Engineer-Commander, were wounded. They were transferred to the "Warwick," and this

took half an hour to do, on account of the serious condition of some of the wounded.

14. Dawn was now breaking, and H.M.S. "Warwick" and her consorts were within close range of the enemy's batteries. M.L. 254 was too badly damaged forward to allow of her being towed, and was rapidly settling down. I ordered her to be destroyed, and, as soon as this had been carried out, withdrew the division at 25 knots.

15. By this time the tide had fallen so low that it was inexpedient to return by the route inside of the shoals by which the approach had been made, and a course was steered for a gap in the net defence by the deep-draught route from Ostend to seaward.

It would seem that the enemy had mined this route in anticipation of an attack. At 4.0 a.m. H.M.S. "Warwick" struck a mine, which broke her back just before the superstructure of the after superimposed 4-inch gun, and destroyed the after part of the ship. She took a heavy list and appeared to be settling by the stern. H.M.S. "Velox" was ordered alongside H.M.S. "Warwick," and the wounded, of whom there were a large number on board, were transferred to the former. H.M.S. "Whirlwind" then took H.M.S. "Warwick" in tow, and the latter being unable to steer, H.M.S. "Velox" was kept alongside while navigating the channels through the shoals to the open sea.

I arrived at Dover in H.M.S. "Warwick" at 4.30 p.m.

16. I have again to refer to the fine work done by the motor launches and coastal motor boats, as reported in paragraph 29 of the Commodore's letter. Their conduct in the late operation confirms the opinion I expressed of them in my despatch on the previous operations.

17. The co-operation of the Air Force, under Brigadier-General Charles L. Lambe, C.M.G., D.S.O., R.A.F., was of great value during the operation. In spite of the fog the 214th Squadron (Squadron-Commander Herbert G. Brackley, D.S.O., D.S.C.) continued to attack in accordance with the programme until after the completion of the operation.

18. I greatly regret the loss of so fine an officer as Commander Godsall. His zeal to retrieve the failure of the "Brilliant" on the 23rd April impelled him to disregard all protection in order to secure success on this occasion.

19. As on the 22nd/23rd April, I am much indebted to Vice-Admiral Pierre Alexis M. A. Ronarc'h, Commandant Supérieur de la Marine dans la zone des Armées du Nord, Dunkerque, who placed at my disposal all the available vessels under his command, and assisted me in every possible way. The French torpedo craft and M.Ls. performed valuable service in connection with the monitor bombardment.

20. I commend Commodore Hubert Lynes to their Lordships' favourable consideration.

The officers and men mentioned by him are being included in my list of recommendations, which will be forwarded as soon as possible.

I have, &c.,

ROGER KEYES,

Vice-Admiral, Dover Patrol.

Enclosure to Vice-Admiral, Dover, letter No. 2305/003, dated 15th June, 1918. (No. 053.)

Office of Commodore,

Dunkirk,

15th May, 1918.

SIR,

I have the honour to forward the following report on the operations for blocking Ostend Harbour, carried out on the night of the 9th-10th May, 1918.

2. It will be remembered that on the night of the 22nd-23rd April, when the forces under your command so successfully achieved the blocking of the Zeebrugge-Bruges Canal, the Western Squadron, under my Command, was unsuccessful in its attack; simultaneously delivered, and with the same object on Ostend.

3. The failure on that occasion was due, firstly, to the adverse shift of wind that blew all our smoke screens across the harbour entrance at the critical moment, and secondly, to the displacement—whether by design or chance on the enemy's part—of the Ostend Buoy, whose normal position had formed a convenient departure point for the blockships.

4. Our lack of success was the fortune of war, not the fault of anyone concerned; indeed, no one could have carried out their duties more admirably than did the Ostend forces that night, and I am deeply grateful that, in recognition of this fact, you were so considerate as to place the organisation and leadership of another attack in my hands.

5. In the first operation, the blockships had advanced under cover of a smoke screen, guided by the lights and signals made by the small craft (C.M.B.'s and M.L.'s) working close inshore. I decided to adopt in general a similar plan for the new attack, but previous experience, and the necessity for assuming that the enemy would make counter preparations against an exactly similar attack, called for modification in detail.

6. In preparing for the new attack, particular attention was paid to perfecting the navigational arrangements; numerous small, but important, improvements were introduced into the smoke gear, and the alternatives for guiding the blockships into the entrance were made so numerous as to reduce chance of failure, in that respect, to the smallest possible dimensions.

7. The quicker the delivery of the new attack, the greater the element of surprise, and, consequently, of success. Realising this, special efforts were made both at Dover and Dunkirk, so that within a few days of the first attack, "Vindictive" had been prepared for her new rôle of blockship, all the small craft had been completed with their smoke-lights and other fittings, and reorganised according to the new plan of attack, which had been promulgated to all concerned.

The alternative plans of attack, "V.O." and "V.S.," were submitted to you in my operation orders 0/54 and 0/58 respectively.

8. For this rapid and satisfactory work of preparation at Dover, I beg particularly to offer my grateful thanks to Commodore the Hon. A. D. E. H. Boyle, C.B., M.V.O., Chief of the Staff, who left no stone unturned to have all my numerous requests carried out; for that at Dunkirk, I am chiefly indebted to the energy of Commander J. L. C. Clarke, D.S.O., R.N., my Second-in-Command; to Lieutenant-Com-

mander F. H. Sandford, D.S.O., R.N., the staff officer you were good enough to lend me, who was mainly responsible for the smoke screen organisation; and to Lieutenant H. F. Witherby, R.N.V.R., my staff intelligence officer, whose knowledge of the enemy's coast and close association with air reconnaissance work of the 61st (Naval) Wing were invaluable.

9. The elements were, however, against us—for despite all these preparations, strong northerly winds, with rough seas, precluded all possibility of the enterprise up to a period when the conjunction of darkness and tide, in its turn, demanded postponement until the second week of the present month.

10. This enforced period of inaction was occupied in perfecting and testing the arrangements, and, above all, in the preparation of a second blockship, which on your representation, was ordered to be prepared and fitted out by His Majesty's Dockyard, Chatham.

11. The conjunction of darkness and tide made the night of the 9th-10th May the first favourable night of the new period. By good fortune the weather conditions on the 9th gave every indication of promise, and accordingly on the afternoon of the 9th the operations were put in progress, firstly by the passage of "Sappho" to Dover, and later by the passage of both blockships, with their supporting and escorting forces, from Dover to Dunkirk. It was at first doubtful whether "Sappho" could be completed in time, but Chatham Dockyard made great efforts, and "Sappho" arrived at Dover with several hours in hand.

12. For days preceding the operation, rain, cloud, and mist had prevented more than the scantiest air reconnaissances, but towards sunset on the 9th, *i.e.*, when the blockships were already steaming eastwards, an air reconnaissance announced that all the buoys off Ostend had apparently been removed. At considerable risk of having to land after dark, Squadron-Commander Ronald Graham, D.S.O., D.S.C., himself at once went out, returned safely, and confirmed the report.

This new move on the enemy's part had to be countered; we accordingly arranged to lay a special (calcic-phosphide) light-buoy of our own, which subsequently made a satisfactory departure point for the blockship and smoke screens.

13. The weather conditions as night advanced continued excellent, wind N. by W., sky clear, atmosphere good, both for air work and navigation, sea smooth enough for the small craft to operate, barometer steady, and conditions likely to remain stable.

14. "Vindictive" and "Sappho" arrived in Dunkirk Roads in good time, disembarked their surplus crews, and then proceeded with their escorts at the appointed time in the programme. "Sappho," however, had scarcely left the anchorage than a man-hole joint in the side of her boiler blew out, reducing her speed to about six knots, and therefore putting her participation that night out of the question.

15. This very serious reduction of blocking material required consideration whether or no it was advisable to proceed with the operation.

I decided to continue with "Vindictive," and signalled to Commander Godsall that I had every confidence he would do his best without "Sappho." I also informed you by W/T of my decision.

16. This done, I proceeded on board "Faulknor" (Commander Henry G. L. Oliphant, M.V.O., D.S.O.), leader of the off-shore supports, to overtake the other forces, who, in accordance with orders, were already well on their way to their various stations. Commander Clarke and Lieutenant-Commander Sandford accompanied me in "Faulknor" to carry out staff work, and were of great assistance to me in conducting the operations.

17. After the sudden removal of the buoys, and in the knowledge that nine enemy destroyers had been seen in the offing late that evening, I had fully expected enemy interference with our plan before reaching the place off Ostend where we should lay our buoy and spread the small craft. But no, nothing occurred. The enemy star shells and "flaming onions" fired intermittently from the coast during the approach were evidently only part of his new searching routine. Once again his preparations against surprise included no patrol craft in the offing.

By 1.30 a.m. all preliminary dispositions had been completed, and the (advanced) in-shore forces, *i.e.*, the C.M.B. and M.L. divisions, sent in to carry out their various duties.

18. One new feature of the present plan was that there should be no *preliminary* bombardments or air raid; we were to make no attacks until our sea force were discovered by the enemy.

19. At 1.35 a.m. there was still no firing from the shore, but a searchlight lit up, and commenced to search. The C.M.B.'s had arrived, and were running their smoke screens. The noise of their engines, and those of the M.L.'s approaching on their heels, was, of course, carried ashore by the breeze.

At 1.43 a.m. I gave the pre-arranged signal to "open fire," which was immediately responded to by the monitors, siege guns, and the air squadrons. Bombs and shells, whose bursts could be seen over the top of our smoke screen, were undoubtedly giving the enemy a warm time, and constituting a protection to the small craft inshore.

20. Shortly before this, I had noticed with some anxiety the gathering of light-drifting "clouds"—but good-sized gaps, through which stars shone, could be seen at 1.45 a.m., when the sky became completely overcast, and five minutes later we were enveloped in a thick sea fog which, for the next all-important hour, reduced our means of keeping in touch with events to sound alone.

21. I felt that we could hope for no more air or monitor bombardments, and that thus deprived of their valuable support, the small craft in-shore would suffer in proportion, but fortunately this was not the case. The fog proves to have been merely a local patch, not extending to the monitors to the westward, and was also sufficiently low-lying to enable the airmen to continue their attacks between it and the true cloud system at some 10,000 feet altitude.

To realise these conditions, and the darkness due to absence of moon, and to know that the Royal Air Force carried out its whole programme is, in itself, a very high tribute to the efficiency of the air squadrons, who, under the orders of Brigadier-General Charles L. Lambe, C.M.G., D.S.O., took part in the operations. All our aeroplanes eventually returned to their aerodromes; some landed well to the westward

naturally under difficulties, one crashed so badly that the pilots were both severely injured.

The monitors, too, did good and useful work—particularly "Prince Eugene." Captain Ernest Wigram, D.S.O., led his division well inside range limits, in order that guns of the secondary armament might play a part as well as the big guns. This they did with good effect, and it is really rather wonderful that his division escaped without injury, for his front rank position put him inside the enemy's long-ranged star shells, and brought his division under a heavy fire from the shore batteries.

The R.M.A. siege guns, under Colonel Pryce Peacock, also maintained a valuable fire on the enemy's heavy coast batteries throughout the operation.

22. To return to Ostend. 2 a.m., *i.e.*, "Vindictive's" programme time to arrive at the piers, was signalled by a heavy cannonade of quick-firers and machine-gun fire near the entrance. The enemy had now almost certainly realised the nature of the attack, and since the smoke screens and fog prevented him aiming at definite objectives, except when the small craft ran close alongside to fire torpedoes at, or engage, the pier-heads with their machine guns, he concentrated his effort in a continuous barrage fire across the entrance from the whole of the exceedingly formidable array of batteries in the neighbourhood of Ostend.

23. For the next twenty minutes, the critical period during which "Vindictive" must succeed or fail, the off-shore destroyer forces were ordered to fire star shell over the entrance, and shell at the enemy's batteries—the former to light up the pier-heads for "Vindictive," and the latter to divert the enemy's attention further seaward. This firing was useful; the in-shore forces were encouraged by having audible proof of our support close behind them, and the enemy diverted a small proportion of his fire. Very few shells came near us, however, either at this time or later; there were no casualties either to material or personnel among the off-shore forces. I attribute this mainly to the fog and smoke screens.

24. Meanwhile, "Vindictive," after passing our calcic-phosphide buoy, had arrived "on time" at where she expected to find the entrance. The fog, and apparently also some of the smoke borne on an easterly draught of air (the result of wind impinging on the tall houses on the sea front), had reduced the sea-shore visibility to two or three hundred yards at the most, and nothing could be seen.

"Vindictive" accordingly reduced speed, turned about, and searched to the westward. Still finding nothing, she again turned about, steered slowly eastward, and gave the "last resort" signal to her C.M.B. escort. This signal was obeyed by lighting a million candle-power flare close inshore to the westward of the entrance. In most circumstances, the illumination of the whole sea front by this intensely brilliant flare would probably have brought very heavy casualties to the inshore craft and "Vindictive" herself, through placing them under accurate gunfire, but on this occasion the fog, hitherto our enemy, now proved our friend, for while the flare showed "Vindictive" the piers, the small craft still remained ill-defined or invisible, except at closest range.

25. "Vindictive" now became clearly visible to the enemy's batteries, who concen-

trated all efforts on her, but she had only two hundred yards to go, and Commander Godsall immediately turned up for the entrance.

Communication between the conning tower and the after control soon failed, and, the entrance being passed, Commander Godsall went outside the conning tower and gave the necessary orders for placing the ship in her blocking position.

At this moment a very heavy shell burst, either on the conning tower or close to it. This must have killed Commander Godsall, for he was seen no more; and later, after the ship had been sunk in the channel, careful search failed to reveal his body.

This very gallant officer must have known before being killed that his efforts were crowned with success. Lieutenant Sir John Alleyne was knocked out, severely wounded in the stomach, and all the occupants of the conning tower were badly shaken by this shell. Lieutenant Victor Crutchley then took command, and endeavoured to place the ship across the channel. The sinking charges were fired by Engineer Lieutenant-Commander William A. Bury, and preparations made to abandon ship.

26. All this time "Vindictive" was continuously fired at, both by heavy and machine guns, and repeatedly hit; the after control had been completely demolished, killing Sub-Lieutenant Angus Maclachlan and all with him, and the whole upper deck was a mass of debris.

Notwithstanding this, perfect order was maintained, and a careful search for wounded was made before embarking in the two M.L.'s (Nos. 254 and 276), who had run in through the fire zone to effect the rescue.

27. Motor Launch 254 (Lieutenant Geoffrey H. Drummond, R.N.V.R.), coming alongside "Vindictive's" inshore side, embarked Lieutenant Crutchley, Engineer Lieutenant-Commander Bury, and thirty-seven men. With his First Lieutenant (Lieutenant Gordon Ross, R.N.V.R.) and Deckhand J. Thomas killed, his coxswain wounded, and himself wounded in three places, Lieutenant Drummond backed his now heavily laden motor launch out of the harbour, still under a tremendous fire, cleared the entrance, and made straight to seaward.

Arriving outside the fire zone, Lieutenant Drummond found his launch gradually filling forward from her injuries. Standing on at slow speed through the fog, and contriving somehow or other to pass close to the offshore destroyers without either getting in touch, M.L. 254 was most fortunately picked up in a sinking condition about forty minutes after leaving Ostend by your flagship "Warwick." Rescuers and rescued were quickly taken on board, and M.L. 254 then sank.

28. M.L. 276 (Lieutenant Rowland Bourke, R.N.V.R.), having followed "Vindictive" into Ostend (engaging both piers with his machine guns *en route*), went alongside "Vindictive" after M.L. 254, with her first-rescued party, had shoved off.

After much search and shouting, and still under a very heavy fire, Lieutenant Bourke and Sub-Lieutenant Petrie managed to find and embark the last three of "Vindictive's" survivors (Lieutenant Alleyne and two ratings), all badly wounded, in the water clinging to a capsized skiff.

This fine rescue effected, M.L. 276, hit in fifty-five places and with three of her crew killed or wounded, cleared the harbour, and was able to continue steering to the westward

until picked up and taken in tow by "Prince Eugene."

29. The small inshore craft—C.M.B.'s, under Lieutenant Arthur E. P. Welman, D.S.C., R.N., and Lieutenant Francis C. Harrison, D.S.O., R.N., and the M.L.'s under Commander Ion Hamilton Benn, D.S.O., R.N.V.R., as before, carried out all their duties splendidly; to them must be given the chief honours of having guided "Vindictive" in.

Daring exploits of these small craft, all contributory to the general success, are numerous; they are recounted by the senior officers of divisions in their detailed reports, but I would specially mention the following:—

C.M.B. No. 25 (Lieutenant Russell H. McBean, R.N.) escorted "Vindictive" with smoke screen close up to the entrance, where she assisted her with guiding lights, then torpedoed the piers, and finally engaged the machine guns there with his own machine guns with apparently good effect, during which Lieutenant McBean was wounded and Acting Chief Motor Mechanic G. E. Keel killed. Having seen "Vindictive" inside the piers, and her work being completed, Sub-Lieutenant George R. Shaw, R.N.R. (second-in-command), brought her safely back to harbour, Motor Mechanic A. J. Davies filling Chief Motor Mechanic Keel's place, and keeping the engines running most efficiently.

C.M.B. No. 24 (Lieutenant Archibald Dayrell-Reed, D.S.O., R.N.R.) and C.M.B. No. 30 (Lieutenant Albert L. Poland, R.N.), both carried out successful torpedo attacks on the pier ends, afterwards laying and maintaining good smoke screens close inshore throughout the remainder of the operation.

C.M.B. No. 26 (Lieutenant Cuthbert F. B. Bowlby, R.N.) escorted "Vindictive" close up to the entrance, then ran ahead, and, finding one of the piers, fired his torpedo at it. The water being shallow, and range short, the explosion shook the boat so severely as to damage her engines and open her seams. She commenced to sink, but by his presence of mind, and the cool perseverance of Chief Motor Mechanic G. W. McCracken, Lieutenant Bowlby got the leak stopped, engines going again, and brought his boat out of the fire zone, where Commander Bertram H. Ramsay, leader of one of the offshore divisions, took her in tow.

C.M.B. No. 22 (Lieutenant William H. Bremner, R.N., with Lieutenant Arthur E. P. Welman, D.S.C., Senior Officer of C.M.B.'s, aboard), when carrying out her smoke screen-

ing of the shore batteries, encountered close inshore an enemy torpedo boat, who switched on her searchlight and opened fire. C.M.B. No. 22 had no better weapon than her Lewis guns, but with these she attacked and peppered the torpedo boat to such good effect as to drive her away from the harbour entrance, and prevent her interfering with the blocking operation.

C.M.B. No. 23 (Lieutenant the Hon. Cecil E. R. Spencer) escorted "Vindictive" close inshore, and kept touch with her until "Vindictive" gave the "last resort" signal, on which C.M.B. No. 23 laid, and lit, the million candle-power flare, by whose light "Vindictive" eventually found her way in.

30. To recount the foregoing exploits of the small craft is in no way to detract from the praise due to all, particularly to the senior officers of units, for the care and precision with which they carried out my necessarily rather elaborate orders.

31. The general retirement was well executed, and without further casualties or incident, the supporting forces remaining out until daylight to pick up any disabled small craft who might still be out. There were none, however; those who were unable to return by their own power had already been towed home.

32. No interference by enemy craft was experienced throughout the operation, but from subsequent reports of some of the inshore craft it appears that several German torpedo boats were lying close under the shore batteries the whole time, and made no move to come out.

33. Our casualties were remarkably light—2 officers and 6 men killed, 5 officers and 25 men wounded, 2 officers and 9 men missing, believed killed. Our only loss in material is M.L. 254. A number of the small craft were considerably damaged by gunfire, but all these are, or will be shortly, ready for action again. The light casualty list must be attributed to the efficient smoke screens, and probably also to the fog.

34. Of the "Sappho," I can but record the bitter disappointment of all aboard her at the accident that prevented her following "Vindictive." One and all, they begged to be given another chance, and when the day comes for their request to be granted, I am sure they will not be found wanting.

I have, &c.,

HUBERT LYNES,

Commodore.

To Vice-Admiral Sir Roger Keyes,
K.C.B., C.V.O., D.S.O.

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