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DIVING MAGAZINE

Vol. 1. No. 2.

OCTOBER—DECEMBER, 1951

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Diving Magazine

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Vol. 1. No. 2

OCTOBER—DECEMBER, 1951

STAFF LETTER

The Diving Magazine
H.M.S. Vernon
Portsmouth
Hants.

Dear Reader,

Herewith our second issue of the above magazine, our apologies for delay caused by various means over which we have had no control.

The third issue (we hope) will be much nearer to its proper date of issue than either of the previous two issues and will be despatched with all due haste.

We remain,

Yours faithfully,

THE EDITOR AND STAFF

EDITORIAL

Dear Readers,

The Diving Magazine, having been successfully launched, and the teething troubles surmounted, is now in its second edition.

May I remind everyone interested in the future of "our magazine" that it can only exist with your co-operation. Send in everything you can; material of all kinds is needed and welcome.

Any articles, sketches, jokes, photos etc., should be sent to "The Diving Magazine, Diving Section, H.M.S. Vernon, Portsmouth". Send them in NOW!

To divers in other ports and divisions I say "come on and join in, it's not a private magazine for Portsmouth but for all divers everywhere, and your support is welcome."

This magazine is the first of its kind and can be of interest and help to all of us. Let us ensure that we continue to support it.

Thanks are due to P.O. Allen, our last editor, for having helped to launch the first edition, always the hardest.

As an integral department of the T.A.S. Branch we welcome a fellow magazine named "Stylus". It will cover the work and activities of the T.A.S. Branch. I am sure that we all wish it good luck and long life.

Don't forget to send in that material now; rally round lads.

THE EDITOR

TREASURER'S NOTE

Dear Readers,

The old cash box is bulging at the sides but there is still lots of room for more, so, open up those wallets, wait for the moths to fly away, and send your subscriptions on.

Cheques, Postal Orders, cash (foreign coins, Co-op checks, and fag coupons not accepted) should all be addressed to:—

The Treasurer,
Diving Magazine,
Diving Section,
H.M.S. Vernon,
Portsmouth.

Postal Orders and cheques should be crossed / & Co./

With a rub of the hands and a stroke of the nose, I remain,

Gloatingly yours,

THE TREASURER

SECRETARIAL

It has been most pleasing to receive your letters of goodwill and your contributions to-date. Of course there are lots more to be enrolled as yet and it will be a bit of a surprise to all of you, no doubt, to learn that we have distributed 500 copies of the magazine to various parts of the world.

We have still 100 copies left for anyone who wishes not to be caught without the full issue or who may have been inadvertently left off our list, for which all I can say is, "Well! I didn't know".

For a first issue I do really think the response from all concerned has been, and will prove to me, an asset to our fraternity in the days to come, so "Come on all you young and old divers, wherever you may me, rally round the shot-rope and let's get weaving Let's have all your ideas, good or bad, we can only sort them out by corresponding and that's what I'M here for. If they are sticky I turn them over to the Editor anyway. So what?"

Cheerio for now, and keep breathing!

YOUR SEC.

COMMANDER F. C. GOODENOUGH, ROYAL NAVY

It was a great shock to all who knew him to hear of the sudden death of Commander Goodenough in a flying accident on October 6th.

Commander Goodenough was Superintendent of Diving for three years until the end of 1950 and commanded H.M.S. Reclaim until this time. During this period he contributed much to the diving world.

"Grumpy", as he was almost universally known, was grumpy only in name, and his rather rugged exterior concealed a charm which was completely genuine. Wherever he went he made friends and there are many in all walks of life who will deeply regret his loss.

It was not only those under him, but his superiors too, who thought very highly of him, and it is indeed sad that a career which showed great promise should so suddenly be brought to an end.

His wide interests all showed the adventurous spirit which permeated his character and he was afraid of nothing and no-one. In short—he was a man.

A BRIEF HISTORY OF DIVING

Most dipchicks know that diving is a pretty old job, but how many realise that a record was made of diving jobs as long ago as 333 BC? Alexander the Great employed divers to destroy the boom defences during the siege of Tyre. Another bloke called Xerxes used divers to salvage treasure from sunken Persian ships.

An early mention of a diving apparatus was made by a German in 1405. It consisted of a helmet with a leathern air pipe to an air bag on the surface. The famous Leonardo da Vinci made sketches of diving gear with the diver drawing down his own air from an air pipe floating on the surface. In 1802 another idea, by an Englishman called William Forder, used bellows to supply the air to the diver. What price "narks" in this gear? Heave round the bellows!

Getting closer to modern times, Augustus Siebe's dress in 1819 consisted of a metal helmet and a jacket. This gear was open at the waist, and the surplus air escaped at waist level.

The biggest step forward came in 1837 with the introduction of the "closed suit," practically the suit we use to-day.

A Diving Bell started off as long ago as 1599.

Makes you think, doesn't it?

MATELOTS

Matelots are big and hairy, but not always. Their clothes are blue, their eyes are blue and the ladies on their chests are very blue indeed.

Matelots draw. They draw their tots, a weekly pittance, short commons and the long bow. They will draw you one off if provoked. They are allergic to drafts.

Matelots drip. They drip about the food, their pay, their mail, their leave and mostly they drip about their ship because its nothing but a blank blank blank.

Matelots boast. They boast about the food because its better than the Army's, about the money they have to spend, about the leave, about not wanting any mail and not writing any anyway, and mostly they boast about their last ship because its better than this blank blank so and so.

Matelots hate. They hate foreigners, soldiers, canteen-managers, civilians, ticket inspectors, all officers, all men with shore jobs and the N.A.A.F.I.

Matelots wash. They wash paintwork, they wash decks, they wash their clothes in a bucket and they wash it out if the Jaunty has heard it before.

Matelots are fond of. They are fond of animals, children, beer—except the beer they are drinking—all girls and especially the one at home.

Matelots are curious. They are very curious on one point, which nobody can answed, "Why did I join?"

H.M.S. RECLAIM

By G. W.



The number of developments in underwater search techniques certainly staggers when one looks back over the past few months of search and subsequent location of "Affray"—techniques which might, in normal times, have taken years to develop.

Among the diving world they've attained a certain notoriety, though it was with mixed feelings that we first received them. Always prepared to give something new a fair trial, there was a suspicion of hostility this time. I wish it were possible to discuss them in this issue, but until we are sure of all the answers, the full story of our activities must remain a closed book. Only with the survey of "Affray" did we start using the observation chamber, all the previous wrecks having been investigated by the use of suited divers. And what a wide variety of wrecks there were—Cargo Ships, Landing Craft, Coasters, even a suspected Submarine, most of them the result of the last war, many of them obviously sunk by bombs, judging by the masses of twisted metal one encountered in these early dives, while some of the wrecks presented very little evidence of damage. Well, to get back to the Chamber, I know almost everybody has seen it by now, but for those who haven't, there's a picture of it on next page.

It's an Italian job and has been loaned to us by Risdon and Beasley, the Salvage Engineers. We have one of our own under way but it is not yet completed—should be the last word in Obser-

vation Chambers when it is ready. This one by Roberto Galleazi, of Italy, is pretty good and has been invaluable to us—with a few adaptations it could be ideal. An hour can be spent quite comfortably in it down to a depth of about 500 feet. It's an absorbing business, this Chamber, and one's allotted hour passes all too quickly. With the introduction of M.F.V.'s at the Diving School, there opens up more scope than ever for the use of Chambers in the Service. The day will come I hope before long.

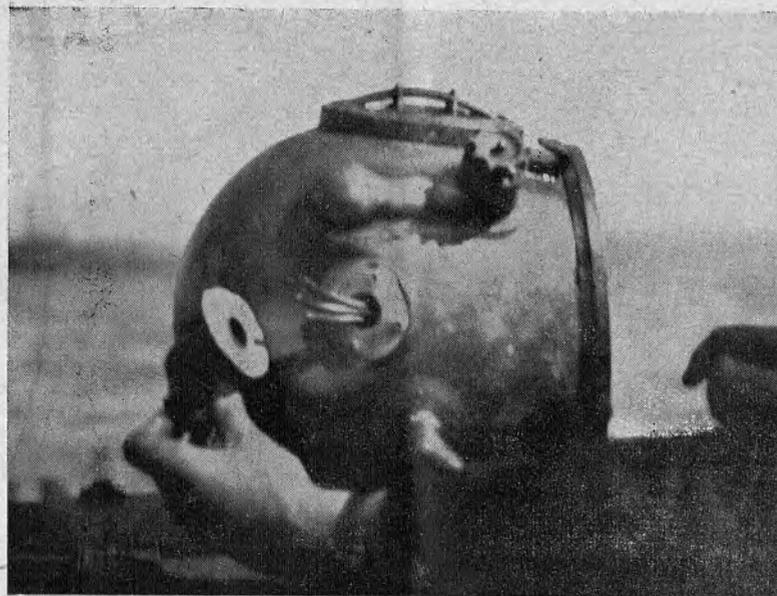
More changes in Ship's Company seem inevitable before long in "Reclaim", before this issue goes to Press possibly. At the time of writing Petty Officer Peach has just been promoted to



Chief—congratulations Johnny! Robbie and Nobby Hall shouldn't be far behind him. Bill Middleton goes to Devonport Diving School, being relieved by Scants. With these changes completed, and a few more trips out in mid-channel, it should be about time for a training cruise to Scotland. We cannot be quite sure about the programme, but with the weather getting progressively worse, and diving time getting shorter as Autumn approaches, it shouldn't be long before we wend our way North.

Nobby mentioned in the last issue about "all in a day's work" Hall. As you know he blew up from about 212 feet, the breast-rop connection to his helmet being torn off as seen in photograph. Had he not surfaced upside down he would have been playing a harp by now.

The ship lived up to her name inasmuch that during the "Sub-smash" operations she "reclaimed" the Snort Mast.



Once clear of the water, the Snort had so many lifting and steadying lines attached that it must surely have been considered the most important ton weight ever lifted.

The editorial staff of our diving magazine are to be congratulated on producing the first issue and from all aboard "Reclaim": "Cheerio for now and the best of luck with all future issues".

G.W.

Mistaken Identity

One of our very deep divers, whilst travelling "up the line" was sitting with his right hand propping up his poor tired head. Suddenly he was shocked to his innermost being, by a dear old lady who asked "Are you in the catering branch of the Navy?" "No Madam, what makes you think that?" "Well," said the old dear, "You have a milk jug on your cuff."

Turn your badge upside-down and see for yourselves, dipchicks.

Who was the dipchick who, on observing the pumps crew turning the pump handles the wrong way, said, with a voice dripping with heavy drama, "Don't turn 'em that way or you'll suck the diver back up his air pipe."

R. H. RICHARDSON

Dear Readers,

When you read this I expect you will say that it's all Hooey, but, believe me, this story is fact and as told to me (as far as I can remember) and also told to lots of other people in our diving world.

Maybe, if I told you his name you would remember him very well as the "Chippy" who could really spin a bender making his listeners believe it was true, and I have no doubt in my own mind that very often he actually convinced himself, still, lots of us do, don't we?

Anyway, here is the story as told to me—it is tall and far-fetched **but** it is original. I'll call it:—

THE MAN WHO STOPPED THE GERMAN ADVANCE or THE NORWEGIAN STOP-GAP

Time: 1500, 194?

Place: Somewhere in Norway.

Situation: Pretty grim.

The Germans had been advancing steadily for the past few days and the small detachment of British troops were hopelessly outnumbered.

Naturally the Navy was close by to assist where necessary and this is where our "hero" appears on the scene.

Landing Parties already having been detailed on board H.M. Ship, we find Chippy in charge of No. 1 Pioneer Section, and his section had been "standing by" since early dawn, you can bet your bottom dollar that even if they were a little bit weary they were far from being bored. "Who **could** be bored with Chippy i/c?"

Next! We find the Party ashore and having left a bewildered No. 3 Platoon back in the ship wondering who the honey-tongued Chief was who had persuaded them that it was his boat they were manning, see him and his boys alongside the roadway checking up on their gear, "YES" Tools all correct: The Temple-Cox's gun, complete with eight boxes of ammunition of varying sizes, also a few plates of steel that had caused so much trouble in handling to shore.

As Chippy and his platoon were waiting for orders a very tired and dispirited Army were wending their way toward the beaches backward from the advancing Germans, and Chippy was heard to remark on more than one occasion, "Oh! those poor boys!". Suddenly, in the distance, a heavy rumble, and Chippy told his lads to keep quiet whilst he himself stood up to hear the advancing noises better, only to promptly lie down again when a Jerry sniper took a pot-shot at him. Ah! that fleeting moment of observation. GERMAN TANKS rolling down the road from a distant hillside. Our hero once again knew it was up to him to stop those tanks at **all** costs.

A plan of action had already formed in his mind:—

First: He fenced himself in with those plates that had caused

so much trouble getting to shore, then he set his section to work loading Cox's gun-barrels. He was now ready for any onslaught that might beset him, and whilst waiting for the advancing tanks to approach he fired a few bolts, just to get the correct range, or thereabouts.

On came the tanks, 1000 yds. . . . 750 yds. . . . 500 . . . 250 . . . 100 . . . 50 . . . still he waited, surely those tanks must run his small caboose over, thereby getting rid of the Army's last line of defence. But NO, Chippy is a very patient man, 40 yds. . . . Chippy already loaded, fired, re-loaded, fired again, still the leading tank kept coming forward, fire, and at only 20 yards the tank suddenly went careering up the bank at the side of the road, rolled over, fell back into the roadway and burst into flames, first blood to No. 1 Section R.N. (don't forget Chippy).

The next tank advanced more slowly firing as it came, but all undaunted our hero never faltered. Fire, re-load, no need to fire again, he'd scored a direct hit with his first bolt, and the second tank suffered the same fate as the first.

The section were once again thinking that after all, they might still be able to draw tomorrow's tot, drinking it would be another matter, but who cares, tomorrow never comes.

The remaining tanks fell back, their drivers no doubt wondering what this new secret was that the British had in their possession.

Taking advantage of this, our friend changed his position (quickly); he also changed over plates, the others being rather full of holes—he did tell me that he only shifted them because it was raining and the holes let the rain in. Chiefy wasn't going to get wet for no blinking Jerry, and he had left his oilskin back in the ship.

Suddenly the look-out reported that two tanks were approaching rather rapidly. Chippy took a quick glance, aimed, fired, re-loaded, fired again, all in one movement, but still the tanks came on. Once more he loaded, FIRE, shift barrel, shift striker, re-load, FIRE. After taking careful aim he found that it wasn't necessary to fire again, as by this time both the tanks were burning brightly, completely blocking the road, thus giving the last of the defenders a chance to return to their ship in complete disregard for the enemy.

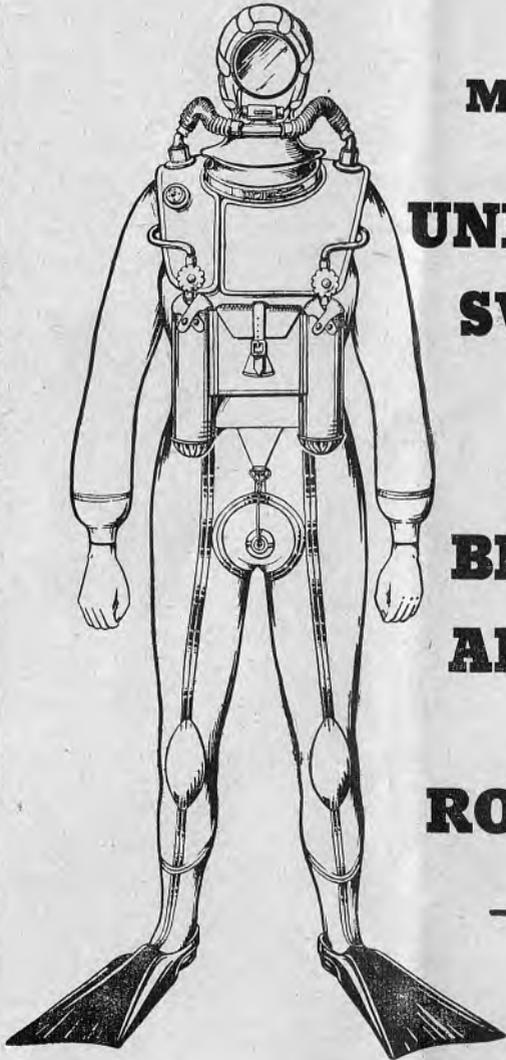
On return to the ship the Captain then recommended our hero for a medal; naturally he refused, remarking that after all he'd only done his duty. The Admiral insisted that he accept the medal. He did.

Apart from a little added fabrication, this is exactly how this story was heard by me.

Look out for the next story: It's even taller than this one. "The Motor Cycle That Disappeared".

"PUSSER"

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THE CLEARANCE DIVERS

Better late than never is not a proverb that should be used in the diving world, but is the one that best suits our contribution to this magazine. We missed the first number through no fault of our own, it was just a case of "Please Sir, we weren't told". However, here we are in copy number two to make our debut and introduce ourselves, so "How do readers, and greetings from 'Lochinvar' where the divers carry it on their back and like it!"

It is an impossible task to introduce each individual member of our party, but a few words about the more notable characters might not come amiss.

All our ranks are recruited from the Standard Divers and perhaps the most famous and certainly the oldest is "Mick" Cairns. This grand old man from the Emerald Isle, qualified in the days of crinoline dresses, this being part of the divers' dress and not ladies attire. He is our store king and is known as "Nothing without a signature" Cairns.

Next is "Deeps" Stanley, who must be known to all divers who support two or three badges on their left arm. No further comment is necessary. "Jock" Gribben, G.M., still sunburnt from his recent spell in the Mediterranean, is another of our distinguished company. He is one of the few remaining members of the war-time "P" parties. A recent addition to our ranks is P.T.I. McKinley, C.G.M., who has forsaken brawn for brain. He may be found any evening sitting on his bed writing mixture breathing formulae on his Indian Clubs.

The Officers are, with one exception, newcomers to the branch and the only name that will be known is that of Mr. McLanachan who, before his draft north, was the Admiral of Horse Lake. It is not to be wondered that with such an array of talent as this to train and guide us, the standard of the Clearance Diver is high.

As is known we are a comparatively new organisation, but already we have outposts at Portsmouth, Malta and Hong Kong. Reports from these bases indicate that the name and work of the Clearance Diving Branch is becoming known and it is no longer a mysterious band of underwater workers. Our growth has not been without its problems, but these have been overcome and bigger and better things are hoped for in the near future.

Stationed as we are at Port Edgar, some 10 miles from Edinburgh and about 400 miles from the nearest Diving School, we tend to lose touch with our companions of the "pump and pipeline" service. It is hoped that through the medium of this magazine this will be overcome and a stronger liaison between the two branches made.

CRICKET

By ROG

The long awaited cricket match took place on No. 2 U.S. Ground on Thursday, July 26th, between the Vernon Divers and H.M.S. Pluto, and we were severely beaten by a far better team, although with more practice we've certainly got the talent at the moment. P.O. Butler and P.O. Smee bowled well, but couldn't do much about the stylish batting of Pluto's Lt. Comdr. Durell and P.O. Warne, who settled down and showed us how runs can be scored. P.O. Hall bowled well after finding his length, and not once did the fielding let up. The Divers' outstanding player was Sapper Ayto, who scored a good 22 runs before being bowled by Barber who, with Amsworth, skittled the remainder of us out for a mere 47. But it was a very enjoyable game, and for our first match we were all well satisfied with the showing.

U.S. GROUND, THURSDAY, JULY 26th, 1951 at 1630

DIVERS v. H.M.S. Pluto

Divers		H.M.S. Pluto	
P.O. Hall c and b Barber	.... 0	Street c Allen b Smee	.... 17
Sapper Ayto c and b Barber	22	Keighley c Allen b Smee	.... 2
A.B. Warburton c and b Barber	9	Warne b Butler	.... 31
O.S. Cannon c and b Barber	.... 7	Lt. Cdr. Durell c and b Butler	43
P.O. Butler c and b Barber	.... 0	Barber lbw b Hall	.... 1
A.B. Wagstaff c & b Amsworth	1	Hadden b Butler	.... 1
P.O. Smee c and b Amsworth	.... 3	Tipps b Hall	.... 10
P.O. McGregor c & b Amsworth	0	Worth not out	.... 2
A.B. Allen c and b Barber	.... 0		
Cpl. Newlett not out	.... 0		
P.O. Colgrave b Barber	.... 0		
Extras	5	Extras	11
Total	47	Total (for 7 wickets declared)	118

Who?

Was the candidate for diver who thought that only half-revolutions were necessary for double-acting pumps?

Was the diver who thought a double-female-connection was a bigamist?

PEARL DIVING

Ever wondered if there was a story about your shirt button, or the string of pearls round my lady's neck?

That button, or pearl, had its beginning thousands of miles away with a kinky-haired Kanaka plunging from the gunwhale of a pearling lugger.

Pearling grounds and fisheries stretch from China and Japan, from Polynesia and Australia to Ceylon and the Persian Gulf. Black edged shell comes from Polynesia, but the finest milky white shell is found off Western Australia and Thursday Island.

No gear is used by the diver. Clad only in a loin cloth, he holds a stone for weight and plunges to the sea bed. Armed with a pointed stick, he prises the oysters loose, fills the bag at his side and returns to the surface to ease his straining lungs.

Among the divers are found Tamils, Japanese and Polynesians but no white men. The reason being that the average expectation of life of these pearl divers is "five years".

Pearls and pearl shells were worth nearly seven hundred thousand pounds to Western Australia in 1946, and this value is increasing as sanity returns to the world markets and trade booms.

So the next time you see that pearl, or do up that shirt button, remember those native divers that made them possible. Without S.9's too.

THE BOATSWAIN (Q.D.D.)

Yet another suffix has now been added to the long list denoting specialists in the Royal Navy — Q.D.D. — meaning "Qualified in Deep Diving", a title now applied to qualified Commissioned Boatswains, in lieu of Commissioned Gunners.

Prior to 1945, the duties of Officer in Charge of all diving both ashore and afloat, devolved upon the Senior Commissioned Gunner or Commissioned Gunner, who was responsible to the Gunnery Officer for diving and the correct functioning and maintenance of all diving apparatus. The evolution of the specialist Deep Diving Officer commenced in 1929, and in subsequent years research and development in diving, and deep diving in particular was carried out resulting in depths of over 300 feet being reached in tidal waters, using the flexible dress and submersible observation chamber from H.M.S. "Tedworth". The researches, in friendly competition with other Navies, were sponsored by the Admiralty and administered by the Captain, H.M.S. "Excellent", in collaboration with Sir Robert Davis, Siebe Gorman & Co., Ltd., Professor J. B. S. Haldane, Professor Sir Leonard Hill and Service Medical Specialists. The

diving was carried out and supervised by selected teams of diving Officers, Commissioned Gunners ex-Divers 1st Class and Divers, all of whom were volunteers.

In 1933, the results of the long series of deep dives were promulgated in an Admiralty Diving Report, and the depth of 300 feet recognised as feasible, under expert supervision by qualified personnel, principally to assist in the salvage of sunken submarines. Coincident with the deep diving experiments, the Davis Submarine Escape Apparatus was evolved, tested and proved by Diving Officers and Divers to depths of 18 fathoms and accepted into H.M. Submarine service as the approved submarine escape device. On the inception of this equipment into H.M. Service, the primary policy for submarine escape was modified, training tanks were built at H.M.S. "Dolphin", Malta and Hong Kong, for submarine personnel to inculcate a self reliant course of action in the event of disaster. In addition, a deep diving unit was instituted in all submarine depot ships at home and abroad, supervised by a qualified deep diving officer, who was in charge of the special deep diving equipment approved for general use. Deep divers were drafted to all stations, to form an experienced nucleus for deep diving in emergency. The deep diving officer, always a commissioned gunner, was usually gunner of the ship and with the additional notation "For Deep Diving Duties", in the Navy List. These conditions obtained up to, and in part, during World War 2, as far as appointments permitted, but generally, the few specialist diving officers were exclusively employed on training and operations relative to the enormous increase of diving activities. Such operations included enemy submarine location and search, development and training of human torpedo and midget submarine diving personnel, underwater swimmers and saboteurs, and, co-linking with the sister services, the training of all special units required for underwater offensive operations, using specially prepared apparatus breathing oxygen, oxygen-nitrogen mixtures or air as the occasion demanded. These equipments were developed at high priority by the Admiralty experimental diving unit, operating under the superintendent of diving, with diving officers as administrative and technical assistants, both ashore and afloat. At the end of the war, the whole diving organisation of the Royal Navy was merged into the director of underwater weapons' administration, under the Captain, H.M.S. "Vernon", thus severing all connections with H.M.S. "Excellent" which dated back to the sinking of the "Royal George," when Naval divers first commenced training in liaison with divers of the Royal Engineers, for work on the sunken ship at Spithead. This situation left a small number of diving officers, ex-commissioned gunners in between "Wind and water", and the Admiralty agreed, that until sufficient commissioner gunners T.A.S. had qualified for deep diving officers, they should remain in diving appointments. The number of diving specialist officers is very small, but nevertheless, suitable volunteers with requisite previous

**For a Glass of
Good Beer**

**— and a word of
Good Cheer**

VISIT "SAM"

at

THE EAGLE

St. George's Square



THE DIVING SCHOOL ANNEXE

diving experience are still not forthcoming, there being little incentive apart from natural devotion to underwater work. In 1947, a meeting was arranged by the Admiralty between representatives of H.M.S. "Excellent", H.M.S. "Vernon", H.M.S. "Dryad" and N.A.2.S.L., to determine and regularise the future of specialist diving branch officers, and it was decided that, as the duties of the boatswain and diving officer had many mutual links in the aspect of applied seamanship and salvage, that after 1st November, 1947, all future branch officers qualified Diver II (N.P.C.) or Diver I (N.P.C) prior to promotion should be eligible to carry on diving specialisation and qualify as boatswains. The syllabus, which pre-war was of 80 days duration, has now been modified to include all the latest developments in diving apparatus of all types, the field of research still being wide as greater depths are being attained by using synthetic mixtures. The brilliant results obtained in 1948, when the world's flexible dress deep diving record was broken by a handsome margin to 535 feet in H.M.S. "Reclaim", was the reward of painstaking and unremitting devotion to diving and its problems carried out under Commander (now Captain) W. O. Shelford, Royal Navy, the then superintendent of diving, his professional diving officers, divers and technical staff. As the establishment of boatswains has been increased to ten officers, it is hoped that future boatswain candidates who are experienced divers will consider the furtherances of their career wearing the suffix Q.D.D.

RECENT LETTER RECEIVED BY A DIVER

Dear Friend,

Perhaps you have heard of me and my nation-wide campaign in the cause of Temperance. Each year for the past 14 years I have made a tour of England and delivered a series of lectures upon "THE EVILS OF DRINKING".

On these tours I have been accompanied by my assistant, Norman Fortescue. Norman was a pathetic case, a young man of good family and excellent background, whose life was ruined by **excessive indulgence in Beer, Whisky, Gin and other Strong Drink.**

Norman would appear with me at my lectures and sit on the platform, drooping at the mouth and staring at the audience through bleary and bloodshot eyes, whilst I pointed out this poor wretch as an **example** of what **strong drink** could do.

Unfortunately last winter poor Norman died. A mutual friend has given me your name, and I wondered if you would care to accompany me on my Autumn tour to take poor Norman's place.

Yours very sincerely,
(Sgd.) J. McHAIGH

NAVAL MARRIAGE CEREMONY

Registrar: Wilt thou John, have this woman as thy wedded wife, to live together insofar as the Admiralty will allow? Wilt thou love her, comfort her, honour and keep her, take her to the pictures and come home on all 48's.

Man: I will.

Registrar: Wilt thou, Mary, take this matelot as thy wedded husband, bearing in mind liberty hours, ship sailings, restrictions, watches, sudden orders, uncertain mail and all other problems of Navy life? Wilt thou obey him, love, honour and wait for him? Learn to do his dhobying and press his No. 1's?

Girl: I will.

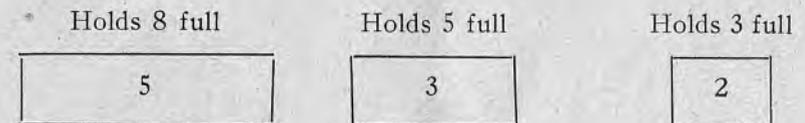
Man: I, John, take thee, Mary, as my wedded wife from 1630 to 0730, as far as permitted by my Commanding Officer, liberty hours subject to change without notice, for better or for worse, for earlier or later, and I promise to write once a week.

Girl: I, Mary, take thee, John, as my wedded husband, subject to the orders of the Officer of the Watch changing residence whenever the ship moves, to have and to hold as long as the allotment comes through regularly, in promotion or cells, and I give thee my troth.

Registrar: Then let no man put asunder these whom I and the Admiralty have joined together, by virtue of the authority in K.R. and A.I.'s and the latest C.A.F.O.'s concerning matrimony. You are now man and wife, by direction of the Commanding Officer.

PUZZLE CORNER

There are three tanks, they hold, when full, 8 gallons, 5 gallons and 3 gallons. Some has been taken from each and they hold at the moment 5 gallons, 3 gallons and 2 gallons. The object is to get one gallon in a tank in two moves, without spilling any or using measures.



* * *

Heard in a Diving Boat.
Instructor: "Is the diver all right?"
Attendant: "Oh yes, I can still see his bubbles."

REPORT ON THE FILM "THE FROGMEN"

By Cambell Dixon

The achievements of British and Italian frogmen are famous. The fact that feats as daring were performed by the Americans is quite unknown to most of us, partly because the very existence of the U.S. Underwater Demolition Teams was kept a secret until the war was over.

The technically minded may like to know that they were shot with a new camera independent of both air supply and electric cables from the surface. The camera—French by the way—was fitted with detachable wings and vertical rudder, and carried its own lighting set and air supply. The operator guiding it with one hand whilst swimming with the other, could sight his target through the view finder, kick his flippered feet, and guide himself by tilting and banking as he would a plane.

The scenes so obtained are as eerie as anything the screen has ever given us. We see the frogmen roll with the precision of machines off a speeding launch, screened from enemy batteries by a smoke screen. We follow them as they paddle under water, breathing from the sets strapped to their backs, we watch the placing of explosives, the white irruption of water, and at last the scooping up of the surfaced adventurers by the returning launch.

More remarkable still is an attack on a Japanese submarine base, told by cross cutting from the Japanese, hunting like terriers on the surface to the frogmen slowly going about their work below. The climax is a struggle between Americans encased in rubber and bare skinned Japanese divers sent down to kill them. Duellists on the screen are usually as swift as hawks. Here batrachians in a dim green underworld, grapple to the death in slow motion. The effect is as frightening as a struggle in a dream.

The film was directed by Lloyd Bacon, roles played by Richard Widmark, Dana Andrews and Gary Merrill.

No Salvation

Attendant to Diver, who is on the bottom at 300 feet: "Have you seen the light?"

Diver: "Yes! I have seen the light—it is out."

Class in lecture room and the Instructor picks up an ordinary poker. Shows it to the class saying,

"What is this?" The answer forthcoming was "A poker." Instructor asked, "What is it used for?" Bright boy of the class replied, "For testing gauges."

I MAKE MY FIRST DIVE

Having been informed during discussion with the only diver borne in our ship, that I should probably have to wait on the roster for approximately five years, it came as quite a shock to me when, three weeks later I was informed that I was on draft to Whale Island to qualify Diver 2nd Class. After volunteering, it might be thought that my reaction should have been anything but shock. The shock was, however, merely the result of being confronted with a situation that I had mentally pigeon-holed for the next five years. "Draft-chits," although taken as a matter of course in time of war, cause quite a stir in peace time and many varied and colourful descriptions of what lies ahead in the new sphere are hurled at the draftee from all sides and free of charge. If I was a trifle apprehensive about taking up diving in the first place, my messmates certainly took great care to consolidate this mental state.

The great day for shifting my nautical abode arrived and I duly repaired with kit bag and hammock to the sanctuary of Gunnery and Diving, known as Whale Island, or H.M.S. Excellent. By way of introduction to this renowned establishment, and probably as a salute to the fact that I was a Torpedoman, my first night-duty was to be sentry on the pig-beat. As the Royal Navy is never very personal I ignored this incident.

Monday, the day I was due to commence course, arrived and revealed the fact that I had as classmates, two very weather beaten types with two Good Conduct Badges, who struck me, a mere lad of nineteen, as being much better equipped than myself for the task in hand. We were taken by our instructor, who strangely enough did not look too fierce, to the Sick Bay, where began the most meticulous medical examination I had up to that time experienced. Having survived this medical probe and been pronounced "Fit for Diving," we were guided by our instructor to the Diving Shed, situated at the Pier Head.

Gathered in this not very imposing building was an odd assortment of men of all ages wearing beautifully clean sweaters who began to take stock of us in the best cattle-market manner. Whilst our instructor reported to the Officer-in-Charge, the result of our successful interview with the Medical Officer, I had time to reflect upon the numerous pictures of divers, in all sorts of predicaments, so ably painted for me by my late shipmates. This, together with what my imagination made of what I could see around me, did nothing to boost my morale. Fortunately in my deepest depths of despondency over such situations I usually manage to console myself with the thought that what others have done I can do also.

Our instructor's next step was to arrange us in front of an array of equipment, which apparently we were expected to wear during our submerged activities. He proceeded to give us a detailed des-

cription of all the bits and pieces, their functions and their weights, with rather sordid reflections on what was likely to happen if they were not correctly assembled and adjusted. Fortunately this brought us to lunch time, when by way of a parting shot, our instructor told us to muster in the diving boat at the Pier Head, ready for diving at 1315. This sounded like hanging without a trial, for it seemed to me that I ought to have at least a month of theoretical instruction before attempting to venture into the depths.

Contrary to custom I partook of a very small meal and then turned to my Diving Manual, where among other things I read that "a diver should not descend after a heavy meal," at least I had acted correctly on this point. Finding a mountain of matter in the Diving Manual that I should absorb, I closed the Manual in disgust and with very mixed thoughts made my way to the Pier Head. As I was the first to arrive I climbed into the gently bobbing diving boat and made a hurried survey of the equipment, endeavouring to remember what the Instructor had told us in the morning. It was not long before my classmates joined me, and it was with pleasure that I noted from their remarks that they were in the same mental state as myself, which fact I think established a bond between us which somehow gave me spiritual uplift.

It was not long before our instructor arrived with half a dozen of the seasoned looking types we had observed earlier in the day. One of these, a Chief Petty Officer, selected a diving dress and with the aid of two less senior divers started to get dressed. This seemed a favourable opportunity to study the technique of getting oneself into this cumbersome array of equipment. Alas, our observance of the experts was abruptly terminated by the instructor telling my two colleagues to get me dressed. So this was it. At least I consoled myself, I am first, which is the position I always like to occupy under such circumstances.

My partners produced a suit, and I obtained long woollen stockings and a sweater which fortunately were articles requiring no further directions as to their use. Next came the suit which the instructor, who was by now giving us his undivided attention, told me to pull on up to my hips, working my feet at the same time into their appropriate places. Owing to the stiffness of the suit this was not as easy as it sounds, but was eventually accomplished with the aid of my classmates, who were now to be known as "attendants". I was then told to stand up and hold my hands above my head whilst the attendants with the aid of the "bib" of the suit pulled it up above my head, for me to dive down inside and make myself as comfortable as possible, before inserting one arm in a sleeve and the other up through the neck opening. After a great deal of pushing by me and shoving by the attendants and final rounding off with a demonstration by the instructor, I eventually found myself in the suit. There followed boots, a cushion to take the weight of the helmet on the shoulders and finally the

corselet onto which the helmet screws. At this juncture the instructor called a halt in the proceeding and directed our attention to the other diver—he was now referring to me as a diver also—who, he said, would be waiting on the bottom for us. This was to be our experience dive, he said, he would therefore only tell us the bare essentials and not bother us with a lot of detail. These bare essentials he duly outlined to us and illustrated the descent by ordering the other diver over the side. We watched him keenly as he stamped his way to the ladder and swung himself over the side onto the ladder where he paused to have his weights and front glass put on before descending the ladder and slithering into the water. Surely it couldn't be as easy as all that. He was bobbing easily in the water, making himself buoyant, the instructor said, my manipulating his outlet valve to keep just the right amount of air in his suit, but we need not worry about that yet. His attendants then drew him gently to a rope which was referred to as the "shot rope," and with a wave of his hand, which seemed to elicit the order "heave round the pump full speed," he disappeared amid a cascade of foaming bubbles.

At this juncture two of the seasoned divers took over the duties of my attendant and proceeded to add an enormous amount of weight to my apparel and finally announced to the instructor that I was ready for the ladder, the latter gentleman indicating with a flourish of his hand that I was to get there. It was then that I realised, in part anyway, the necessity for the rigid medical examination. To walk seemed almost impossible and to maintain a perpendicular attitude under the weight seemed equally impossible, and I dared hardly admit to myself that I had more weight to come. With somebody lifting my second leg to clear the gunwhale of the boat, I eventually found myself on the ladder and having my weights put on; these I remembered weighed forty pounds each. The cushion that would have been taking the chafe of the corselet had somehow become displaced to one side and my shoulder felt as though it was holding a house up. The sympathetic observance of my classmates unfortunately failed to ease my burden.

In this position the instructor issued his final instructions, I was to go to the bottom of the ladder, get completely waterborne then let go, when the attendants would pull me to the shot rope which I was to grip with my knees and left hand, whilst my right hand pushed in on my outlet valve spindle, in which position I should be inspected for leaks. Everything being all right I should receive one pull on the life line indicating that I could carry on down to the bottom where I should find the other diver. Apparently this latter point was inevitable as I was not told what to do if I didn't find him. After the other diver had finished with me (I didn't like this term) I was to press in on my outlet valve spindle and wait until the air gradually lifted the helmet and corselet off

my shoulders, and finally me, off the bottom, at which juncture I was to use the spindle to keep my ascent at a nice smooth rate.

This all sounded very nice, but I was very pleased when they screwed my front glass on, and I was able to make my way awkwardly and laboriously down the ladder. I didn't quite know how to enter the water but I observed the attendants had me well in hand so I just let go of everything and made the pleasant discovery that I came to no harm, in fact, I experienced a great relief as the weight was lifted from my shoulders. I was then dragged to the shot rope which, after much groping around, I managed to clutch hold of. The next thing I remembered was to press in on my spindle, but where is it, it seems to have shifted. Ah! There it is, an impatient hand comes down over the gunwhale and places my fingers securely on the spindle—a pause—and then a tug on the lifeline which indicates I can descend. Letting the rope slither gently through my legs and fingers I gradually edge my way down the shot rope to the increased rhythm of the air inrush as the pump is heaved round faster. Before I have time to analyse my re-actions to this new experience, my feet hit the bottom and I almost overbalance, and indeed, only remain upright by what must have been an almost superhuman effort.

What happened from this point until my arrival on the surface again seems almost a nightmare. I forgot what little the instructor had seen fit to tell us, and failed almost completely to understand what the other diver told me to do. His communication was either by gestures, or grabbing hold of me, he would place his helmet against mine and shout.

At first I could hardly see the other diver, but felt him reach up and adjust my outlet valve, which must have been very necessary, as I had the impression that I was about to return to the surface any moment. He then grasped my hand and pulled me forward into almost a falling attitude, whereupon I quite naturally put a foot forward and so found myself walking in a somewhat cumbersome manner. This we continued to do, first in one direction and then the other, sometimes I could see the other diver and sometimes the stirred-up mud would completely obliterate him, but fortunately he never once let go that firm and comforting grip until he had guided me back to the shot rope, where he only did so to put my hand on this, my guide to the surface. He then reached up and using my lifeline gave it a number of pulls to which there seemed to be answering pulls whereupon, by gestures in an upward direction I thankfully realised that he wanted me to go up. After a lot of searching around I eventually found the spindle and pressed it in, the noise of escaping bubbles ceased, and after what seemed an eternity the helmet and corselet lifted from my shoulders and finally I was on my way up. On arrival on the surface I seemed to shoot clear of the water and bang on to my face. Air seemed to be everywhere, including in my arms which wouldn't bend to allow me

to do anything, and to made matters worse a trickle of water seemed to be pouring down my neck. I could do absolutely nothing, all I could hope was that the seasoned campaigners would prove my saviours without too much delay.

I was not kept long in suspense. My head hit the ladder as I was pulled in, whereupon a seaboot planted itself in the air bubble where my seat should have been, and my head was yanked uppermost, from which efforts I eventually found myself once more erect and somehow clear of the water. Mounting the ladder assumed proportions of climbing Everest, but eventually I flopped in a heap over the top rung where I was generally manhandled into the boat, to have my face glass removed and behold the grinning faces of everybody in the boat.

At least I had raised a laugh, even if I didn't much appreciate what it was all about, and furthermore my initiating experience dive had been completed.

Dear Readers,

The response for cover designs for our magazine was not too bad, but could have been a lot better. We have decided therefore that the competition shall remain open for a while—there may be entries from other parts of the globe than the one we are in, and it is hoped that we shall receive one or two attempts from “foreigners” before the design is chosen.

If **you** also have any further ideas on this matter do not hesitate to forward same to our:—

Competition Section.

We also require lots of material for future issues of the magazine and for goodness sake don't be lazy, it won't take you more than a few minutes to drop us a line before stepping off—wherever you may be. Not too many **native** excuses, I too am a married Secretary (male).

Heard in the Diving Boat

Diver qualifying carrying out stoppage drill, tapping the gauge nervously: “Stop the diver, haul the pump to twenty feet.”

A NEW BREATHING APPARATUS

When the late war ended the diving world found itself in possession of a very wide and varied collection of breathing apparatus. Some were designed for oxygen breathing and others for mixture breathing. One of the many problems which faced the Superintendent of Diving therefore was to produce a set which would embody all the good features of the existing material and any new ideas, and one which could be used for any purpose. It was naturally a very difficult job to produce something new which would satisfy all users, but after many trials and rude remarks we are at last in possession of a set of which (although there are one or two minor faults to correct) the Navy can be justly proud. The sets at the moment are in short supply, but all the Diving Schools are in possession of a small number, and the clearance teams are equipped and of course the supply will improve with time. It is to be hoped that ships will soon be able to demand them to replace their Salvus. Here are the details of the set so that if you are not fortunate enough to do a course at one of the schools before using the set you will at least know a little about its capabilities.

The set can be used for either swimming, shallow water diving or mixture diving.

The parts are as follows:—

THE BREATHING BAG—capacity eight litres when the relief valve lifts at three inches W.G.

THE CANISTER—capacity 1 lb. 10 ozs. of Patt. protosorb.

Single cylinder capacity two cubic feet when charged to 120 Ats.

Twin assembly cylinders for swimming or shallow water diving capacity two cubic feet each when charged to 120 Ats.

Twin assembly cylinders for mixture diving capacity 13.9 cubic feet when charged to 160 Atmospheres.

A reducer which can be used for either shallow water diving or mixture diving. The reducer delivers down to the last 12 atmospheres.

A quick release bag for carrying weights, spherical lead weights each weighing two lbs.

Rubber tubes fitted with H.P. connections for connecting the cylinders to the breathing bag.

TO RIG FOR SWIMMING

The cannister is filled and clamped into the breathing bag. The single two cubic foot cylinder is charged with oxygen to 120 Ats.

and inserted in the small front pocket then being connected to the right side of the breathing bag. The twin assembly two cubic feet cylinders are charged to 120 Ats., assembled in the large front pocket and connected to the left side of the breathing bag. The weight pocket is assembled and as many weights inserted as are required by the diver. Delivery of oxygen is direct from the twin assembly cylinders to the breathing bag, whilst the single cylinder is held in reserve. Used in this manner the set should last 112 minutes as the twin cylinders each hold two cubic feet of oxygen and the diver will use (spreading his energies over a period) one litre per minute, one cubic foot equals 28 litres (approx.). So our equation is:—

$$\frac{2 \times 2 \times 28}{1} \text{ equals } 112 \text{ minutes.}$$

TO RIG FOR SHALLOW WATER DIVING

The only difference from the above is that a reducer is inserted between the twin cylinders and the breathing bag. The reducer is set to deliver a 1.5 litre flow. The life of the set is now considerably reduced as the flow is 1.5, the reducer will not deliver the last 12 atmospheres and ten minutes must be allowed for the use of the BY-PASS. So the "Life" of the set now becomes:—

$$\frac{(2 \times 2 \times 28 \times 108)}{(1.5 \times 120)} - 10 \text{ minutes. equals } 57.2 \text{ mins.}$$

TO RIG FOR MIXTURE BREATHING

The large twin assembly cylinders are charged to 160 atmospheres with 60% oxygen 40% nitrogen and hooked on the back of the set. The reducer is connected to the cylinders and the reducer is in turn connected to the breathing bag by a rubber tube. The single cylinder is charged with the same mixture to 120 atmospheres and assembled as before. The large front pocket now becomes a bag for weights. The reducer is set to a four litre flow and the life of the set now becomes

$$\frac{(2 \times 13.9 \times 28 \times 148)}{(4 \times 160)} - 10 \text{ minutes equals } 170 \text{ minutes}$$

A.E.D.U. — "HOW IT ALL BEGAN"

By Captain W. O. Shelford, R.N.

In the first issue, the late Commander Goodenough contributed an article on the A.E.D.U. and how it functions. It all sounds a very cold-blooded and highly efficient piece of machinery and you may be interested to know something of how it all started and the vicissitudes through which it passed before it became a recognised and efficient organisation.

The first germ of the idea originated when the Admiralty started the very secret development of human torpedoes, and some sort of dress and breathing apparatus had to be developed in a great hurry. A small party consisting of the Inspector of Diving from Whale Island, myself, then D.S.E.A. Officer Dolphin, two divers and two D.S.E.A. instructors used to travel up from Pompey and try out dresses and other gear in Siebe Gormans tanks and pressure chambers. We all used to have a dip and then repair to the Victoria Hotel in Surbiton to compare notes over pints of "wallop". There were more Professors and doctors round the tank top than divers, and it gradually became apparent that we had hit some serious snags. When some of the party sat in silence in the corner of the bar leaving a small beer untouched we felt bound to ask for more help and more divers.

Step by step the party built up until we had two diving officers, two Naval doctors, Professor J. B. S. Haldane, F.R.S., with his team of assistants, four instructors, fifteen divers, two V.A.D.'s, a Wren, twelve goats, one Billy goat, some baby goats (later) and a multitude of rabbits, guinea pigs, and white rats. At one time we couldn't get any divers so the "subjects" were twelve cooks and stewards. They did remarkably well, and were most useful because they knew so little about diving that if told to stay down for three hours they did so, even if someone had forgotten to charge the oxygen bottles.

This excellent set-up, backed by Siebe Gormans-Dunlop factories and the National Institute for Medical Research at Hampstead, together with other scientific bodies in London achieved some really useful work. Every service authority brought its problems to us, and we developed gear for human torpedoes, X-craft, frogmen, submarine escape, amphibious tank escape, mine recovery parties, P-parties and landing craft obstruction clearance units, to mention but a few.

However this excellent set-up could not continue indefinitely once the war was over, and with regret we had to consider shifting to a service establishment. At this point, the T.A.S. department decided to wrest diving from the gunnery boys. Everyone knows the story of how diving first came to Whale Island. How the Sappers brought diving gear (Mr. Alexander Siebe's Patent Closed Diving Dress) to salve the wreck of the "Royal George" in Spithead, and how the Navy provided a humping party of matelots from "Excellent". When it was all over Their Lordships decided this

great invention would be of use in the Navy and asked the Sappers to train volunteers from "Excellent's" working party on the spot. Hence all diving came to rest on the "Island".

I'm afraid "Vernon" cannot claim anything so romantically historic, because it was a plain paper wangle in the Admiralty. The official excuse was the vast amount of diving gear required for mine recovery and clearance in future hostilities.

The change came about soon after D-day when very large numbers of British and Allied P-parties were being trained. A great deal of equipment was pouring out of the diving factories to supply them. A base was essential where all these activities could be centralised and Brixham in Devon appeared to offer facilities.

Brixham had been used as an invasion base and houses, hotels and holiday camps were still under requisition, while stores, piers, and landing craft "hands" were available for boat work and diving training. Fishing trawlers and motor yachts were also available for use.

Here then Mr. Torpedo-man decided to set up what was to be a Central Diving School, starting with P-parties and other shallow water divers, gradually building up till, according to the Admiralty idea, we were to have large white buildings, lawns and parade grounds. Here, all the divers would attend divisions fully dressed, and after Colours and Prayers would double away smartly to their respective shot ropes.

However it was not to be, and although Brixham made an excellent base for training P-parties on Mixtures and Cider, the experimental side was never able to expand there. Our office was in a delightful cottage on top of the cliff overlooking Torbay. S. of D. shared the best bedroom with the Wren Secretary, but it was unfortunately fitted out as an office. Downstairs the Superintendent of Diving and "Chads" who had been whisked away from Whale Island, tried to sort out where they were and to co-ordinate the training. The Diving Room made a good museum with captured enemy gear festooned about the furniture while the bathroom and kitchen made an effective lab and workshop. The back garden grew a flourishing crop of helium cylinders.

At first the experimental diving gear was stowed in the garage, but later we won a moored M.L. as a floating store and diving platform, with a small requisitioned motor cruiser as a tender.

A telephone circuit was rigged so that S. of D. could watch from his window for trawlers returning with their gear snagged, and could send Chads to offer his services for the price of some fresh fish in scallops.

There were 300 steps up from the harbour to the office, but the Brixham Yacht Club was conveniently placed as a first stop with safety and at dinner time Diving Officers could be seen exercising their elbows at their first stop.

In spite of the makeshift arrangements some very useful work was achieved under water in developing new gear, and some experiments on underwater swimming, oxygen consumption and shallow-water black-out were carried out which are still quoted. Richard Widmark was not with us but nevertheless, the Frogmen were finally put on the map as a going concern from Brixham.

Most important of all though, the new idea of S. of D. having a service manned experimental unit, independent of civilian firms and run by the Torpedo-men, was firmly established.

Early in 1945 we started to get ourselves better quarters in a more important establishment. The exodus to "Vernon" started in June that year, when Chads arrived with his two bottles of helium and a 5-ton lorry full of gear and pinched a number of stores while their owners were on long week-end. The office and workshop finished up in the attic of 21 building, where Jock Campbell joined us, followed by Tom Grosvenor, as general designer and draughtsman. The Wren was replaced by Fred Cole, which from the strictly non-business angle, left a certain amount to be desired. These three struggled to produce experimental models under most difficult conditions. There was no heating, a pile driver functioned continuously outside, and the other end of the building was being demolished. The general effect on some of the designs on the drawing Board was disastrous, and to this day some of the earlier designs have mysterious bumps and wiggles in them caused by the vibrations of the floor. When Jock "won" a lathe and "borrowed" a drilling machine conditions became almost impossible.

But with "Tedworth" moored across the harbour, and the mining tank for experiments and with the help of good friends in the workshops of "Vernon" and Blockhouse we began to get things made, and were soon demanding more space.

The doctors were called in from Siebe Gormans and were established in a windowless decontamination station where they could experiment with the effects of CO² to their hearts' content.

S. of D. paid flying visits to Italy and Germany and returned with much looted diving gear, and from the latter place with two captured German ships, the "Walter Hölzappel" and the "Lumme" now known respectively as "Deepwater" and "Clearwater".

Within a few months we had moved to the present block and had established diving as part of the "Vernon", while the Admiralty gave permission to commission "Deepwater" as a relief for "Tedworth", who had finished a long and adventurous career in the bottom of a dock from which she was only to emerge to be towed away to an inglorious scrapyard.

Such were the beginnings of the present set-up, which has emerged from the excitement of the war and enthusiasm of a handful of pioneers to become a permanent and efficient organisation which backs up divers all over the world.



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