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Commissionaire Corporal
(See Page 16)

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OFFICERS OF THE BRITISH ARMY N° 53.
Royal Waggon Train

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"THE MILITARY TRAIN"

"THE Military Train" was first raised in 1794 with the title of "The Royal Waggoners". Previous to this date, the transport wagons, horses and drivers of the Army were obtained by contract. The original corps had a short life, and a new body was raised in 1799 — this time known as "The Royal Wagon Train". The unit's dress was similar to that of the Light Dragoons: a blue jacket with white lacing and red cuffs, and a fur-crested helmet. The Corps served in the Peninsula campaigns and at Waterloo. In 1811 the blue jacket with red facings was changed to a scarlet jacket with blue facings.

The senior officers of the Train wore cocked hats with a red and white plume. After the Napoleonic wars the officers' jackets were closely laced with silver, and the shako adopted a deep band of silver lace around its top together with silver cup lines, and a tall, upright plume of red and white.

When gold lace was reserved for the Regular Army, the Train wore the uniform shown in our print. They also had blue housings for the horses with an edging of wide gold lace. Gold embroidered devices were worn on the front and rear corners.

The Military Train, after various titles, raisings and disbandings finally became the present RASC.

Date of this print is 1832.

THE British Army is not much given to boasting that it has the world's biggest anything, but it might make an exception in the case of the Royal Army Service Corps.

The RASC totals about an eighth of the British Army. Its duties are more varied and its men are spread over more of the globe than those of any other regiment or corps.

A Combined Service

Wherever there are British troops, there are RASC men to serve them, to supply them with food, petrol, ammunition; to do the vast amount of clerical work that keeps the Army's machinery working; to carry men, munitions, clothing, medicaments and mail. Not only does the RASC serve the Army but the RAF and, sometimes, the Royal Navy too.

Whatever the operation, on land, at sea or in the air, soldiers of the RASC are ready to take part, for, like Lord Louis Mountbatten in Mr. Churchill's words, the RASC is "triphibious." Besides its ground work, it has men who fly in the transport planes to serve the Army's airborne and air-supplied troops;

The RASC Story

it runs the Army's amphibian vehicles and its 50-year-old fleet of ships, ranging from launches to 200-ton sea-going vessels.

Yet, though it has grown to a size and versatility unprecedented in military history, the RASC is, relatively, a young organisation.

Until the 18th century, Britain's armies lived on the country over which they were fighting, either by plunder or by local purchase. Results were often disappointing to the stomach on which the army marched, both because of local shortages and the high rate of graft which characterised local purchase.

The idea of organising supply and transport before instead of during a campaign was first tackled seriously in the wars against Napoleon. The "Royal Waggoners" did good work but faded out after Waterloo.

The many 19th century campaigns all illustrated the need for some supply and transport organisation, but not until the Crimean War was a Land Transport Company formed — to fail in its object through a lack of forage which reduced the horses to eating each other's tails.

After the Crimea the Land Transport Company was rechristened The Military Train, and its work in the Indian Mutiny and other campaigns began to earn recognition. In 1869 the first Army Service Corps was formed of seconded officers and men. It was recreated in 1888 by General Sir Redvers Buller, VC, then QMG, who gave it an establishment that offered a career to regular soldiers, with full combatant status. That was the start of the Corps that exists today.

Mechanisation Begins

In the Ashanti campaign and the South African war the ASC began to receive praise for the first time. ASC landed in South Africa before the first fighting troops, and it was largely because of the foresight of an ASC officer that Ladysmith was able to hold out during a four-month siege.

After South Africa the ASC made its first steps towards mechanisation, first with four-mph traction engines, then steam lorries with speeds of three to eight mph, and cars. By 1905 the RASC had mobile workshops, and when war broke out in 1914 it had about 400

mechanical vehicles. War-time mechanical expansion was rapid, and in 1918 the RASC had 120,000 MT, including lorries, cars, vans, tractors, ambulances and motor-cycles.

In the First World War, ASC units served on every front, delivering the goods by motor-vehicle, horse, mule, bullock, motor-boat, barge and, in North Russia, by sleigh. In France alone the ASC's statistical department accounted for about £80,000,000 worth of goods a year.

In 1916 another new company of the much-expanded ASC was formed at Thetford, specially to develop and provide drivers for a new machine called the tank. From that company grew the Heavy Section Machine-Gun Corps, which later turned into the Tank Corps and the Royal Armoured Corps.

By 1918 the ASC's manpower had expanded from 65,000 to 326,000 and the manpower situation was such that the OC of one home district was 88 years of age and a 70-year-old subaltern did a good job of work at Rouen.

In recognition of its services during the war, the King granted the ASC the title "Royal" in December 1918.

The RASC shared the disappointments of the rest of the Army between the two wars, but it still kept up with the times. The last of the Corps' Horse Transport Companies was disbanded in

(CONTINUED ON PAGE 4)



RASC men flew with the gliders and paratroops. Here are some of them collecting supplies parachuted by bomber into a dropping zone.

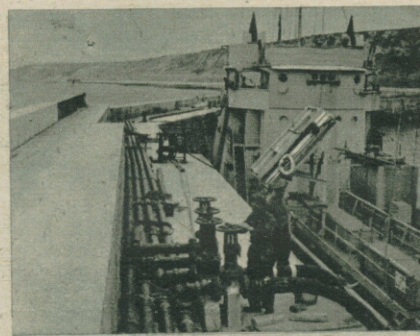


Above: An RASC launch, pulling Rhine bridge sections into position, has a hard struggle with the current.
Below: Lorries leaving a landing ship at a Normandy beach-head.



Continuing —

The RASC Story



Petrol distribution from Normandy jetty to spearhead was handled by the Corps.

1929 and the RASC set up a centre for MT training at Feltham, where most of the drivers who served in the early days of the Second World War were schooled.

When the possibility of another world war became obvious in 1935, the RASC, with its personnel and equipment dangerously low in quantity, began the planning which brought its rewards in 1939 and 1940. Training programmes, for regulars and Territorials and later conscripts, went ahead; civilian vehicles it was proposed to "impress" at the beginning of war were earmarked to expand the Army's peace-time vehicle establishment about six times; and supply bases were planned overseas.

Sinews of the Armies

Since then, the RASC has carried the goods across the bleak, dusty miles of the Western Desert, under constant threat of air attack; in the hills of Greece and Crete, where its men fought side by side with the Infantry; across Syria and the Lebanon and Iraq; through the jungles of Burma and Malaya; through the slush and snow of Italy; from the Normandy beach-head to the Baltic; and wherever British troops have fought or been stationed on garrison duties.

As its work increased and spread out across the world, so its numbers grew. From a total of 2,429 officers and 45,890 other ranks—regulars, Territorials and reservists—at the outbreak of war, it grew to 15,791 officers and 309,371 other ranks on VE-Day, a total of 325,162.

In addition, on many fronts were Empire Army Service Corps which the RASC had "mothered" and to which it had supplied officers and NCOs—the Royal Indian Army Service Corps and the East African and West African Army Service Corps among them.

How does it work, this vast Corps? The best illustration, perhaps, is the story of the RASC on one section of the Normandy beach-head, where nearly every kind of RASC activity was going on.

Two hours after the first Infantry went ashore, 52 trucks of a General Transport Company went on to the beach under shell and mortar fire, loaded with anti-tank guns and ammunition for the assault brigade.

They unloaded at sites on the perimeter of the small beach-head and went back to the beach where, under continuous fire, they began to unload ammunition from beached landing-craft and ferry it to a temporary dump in the dunes.

While they were doing this work a platoon of DUKWs had landed with ammunition and a DUKW control-point was set up at one of the best exits from the beach. The DUKW's began a ferry service to and from the ships.

Food and petrol dumps were planned and established, and everything went well until night, when the Luftwaffe bombed the beach, nearly wiped out the ammunition depot with a direct hit and fired the petrol dump. Tired but undismayed, the men worked on without rest all that night and the next

day, unloading more ships to make good the losses. Then they used their first breather to repair their vehicles.

As the bridgehead grew, so new dumps were established further inland and points for unloading DUKW's and putting their cargoes into lorries were set up near the beach, with prefabricated platforms, roller conveyors and cranes.

Dump-truck companies helped the Sappers and Pioneers building roads. Bridge companies were carrying forward bridging material for the RE. Field bakeries were set up and local bakehouses examined to see if they were of use to the Army; water supplies were laid on.

Co-operating with American and RE technicians, RASC men chose landing points for petrol, oil and lubricants, laid ship-to-shore fuel lines, and others—a separate line for each grade of fuel—to inland sites where mobile centres started filling thousands of



RASC brains managed the complex organisation of railheads during the invasion.

jerrycans. Road tanker companies carried petrol in bulk to other filling stations.

Most of the RASC system was at work on the beach-head, feeding the soldiers, supplying petrol and ammunition, building up reserves and providing a full transport service for men, tanks, bridges, wounded and every movable thing from the shore to the front line.

In Planes and Boats

Overhead, men of the RASC were crossing the beach-head in transport planes, dropping or landing by glider with the airborne forces, to carry out their specialised work, or dropping the supplies from the bully-bombers.

Out at sea, the RASC's motor-boats shepherded the DUKW's to and from ships three miles out, provided transport for officers with duties at sea, worked for Movement Control and the Port Constructional Staff; for a month some of the crews never stepped ashore from their craft, although the boats had no living accommodation.

Some of the boats went into the Channel and brought in 140 Gunners isolated on sections of Mulberry harbour by a storm. Hope of rescuing the Gunners had been given up before the RASC men made their successful attempt; six BEM's were awarded the crews for this job.

Those were some of the more obvious jobs the RASC was doing on the beach-head. But the Corps' duties include a lot that are not so obvious.

Its drivers convey commanders and staff officers in staff-cars; RASC platoons, attached to RAMC units, carry medical supplies and equipment, and drive ambulances to carry patients to hospital; its tank transporters not only save precious track wear by carrying tanks into battle but also go into No-Man's-Land, often under fire, to recover damaged tanks; its clerks, from the War Office to the smallest formation, handle vast masses of paper needed to keep an army working; its "barrack services" see that troops get all they need in barracks, from brooms and frying-pans to water and electric light.

Functioning in every kind of battle condition, the RASC works with a remarkable combination of standardisation and flexibility. A company, commanded by a major, may have more than 500 men and 200 vehicles and be spread over a country the size of England. Standardisation of methods and equipment enables them to cope efficiently with their jobs wherever they are; flexibility enables them to adapt themselves to local conditions.

Heavy responsibility falls on the junior commanders of the Corps. An RASC subaltern, with 75 men and 39 vehicles in his platoon, has twice the responsibility of the normal subaltern.

The whole organisation of the Corps is based on the platoon, which takes complete responsibility for doing the Corps' work in detail. In areas where platoons have to be sub-divided, the onus falls on the NCO's. A single driver may be sent off with his vehicle to do a job and left entirely to his own resources.

"Not in the Book"

Nothing dismays the men of the RASC. Not that they claim a genius for improvisation—neat and tidy souls, they dislike the word—but they pride themselves on foresight. In the same way as the Corps higher-ups, in the Supply and Transport branches of the War Office, prepared for the war as a whole, so the junior members take great pains to be fully prepared for each operation.

However, there are occasions when the RASC does things which are not "in the book."

In Ceylon, for instance, a shortage of vegetables for the troops' diet had the RASC worried. So they set to work with native labour clearing jungle and established their own vegetable farm. Overcoming the difficulties of high-altitude farming near the Equator, they reached a production of 10,000 pounds of first-class English vegetables a day.

Then there was the RASC-REME service battalion formed on the Geilen-



The petrol fans out. Transport tankers filling up at an intermediate station.

kirchen sector in Germany to relieve over-tired Infantry battalions. Commanded by an Infantry major, it took over a defensive front-line position for a fortnight, patrolling No-Man's-Land. Not exactly an RASC job, but every member of the RASC gets full Infantry training, except in mortars, and is fully combatant, so the praise this battalion received from pukka Infantrymen was no surprise.

Early in the Tunisian campaign a company of RASC covered a minefield for a time; the OC used his own men as Infantry and had under command a troop of 25-pounders and some anti-tank guns.

The Corps provides its own protection as it goes about its duties, and in the sometimes vague desert and jungle campaigns the RASC's combatant training has been put to good use. From Italy comes the story of an RASC pack transport column, returning with 50 mules after delivering stores in forward areas, which ran into a German fighting patrol of an officer and 24 troopers. The RASC corporals got busy with their tommy-guns and eventually took the surrender of the whole patrol.

Without fuss or spectacle, the RASC has undertaken some very big jobs. One

transport company moved a complete railway from Palestine to another part of the Middle East—lines, rolling-stock and all. Another carried a battalion 2,500 miles from Baghdad to Tunisia to take part in the last stage of the North African campaign.

Labour of Hercules

The stories of the tank transporter units, carrying their 40-ton loads over negligible roads in all parts of the world, would make some travel books look feeble. The men pride themselves that they deliver the tanks, and the story of one sergeant illustrates their determination. A transporter in Italy had skidded and thrown its Sherman over a 150-foot cliff, where it landed upside-down in a river. With the aid of a bulldozer the tank was winched two miles along the rocky river, up a 45-degree slope and back on to the road and on the transporter in five days.

Another story of RASC determination is that of five bulk petrol transport companies situated on the rearward side of a 100-foot Dutch river when Canadian Sappers removed the Bailey bridge they used to erect it elsewhere. This meant several thousand vehicle-miles added to the companies' turn-round on their trip forward. The local RE were too busy to build another bridge, so the RASC "borrowed" a WO 1 to supervise, and some RE bridging material, and built themselves a wooden bridge in eight days, thus saving a great deal of time, rubber and petrol.

The RASC is proud of its mule columns, which operated successfully in many countries where the going was rough. With "horsey" officers and NCO's in charge of native muleteers, the pack companies maintained the Corps' reputation for getting the goods where they were needed.

When one mule train in Italy came under such heavy fire that all the drivers were killed or wounded, the major in command himself rounded up the animals and took them to their destination.

The standard of training the mules received is shown in the story of Souvenir, a mule with a reputation for having evacuated more wounded from the Longstop Hill action than any other. Souvenir's driver was killed by shellfire while wounded were being evacuated, but Souvenir carried on by himself and delivered his wounded man to the advanced dressing station.

This article is incomplete, because a full description of all the jobs the RASC does would be a long catalogue, in need of constant revision as new tasks were added, while the stories of its men at war would occupy a writer for a year. But if they were written, the theme would be throughout: The RASC delivers the goods.

RICHARD ELLEY (Capt.)

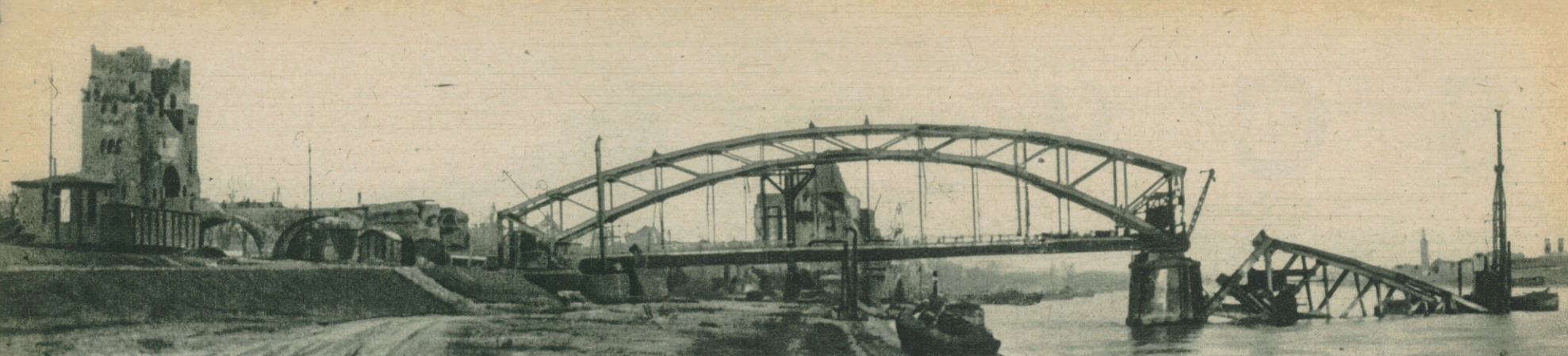


Landing craft for the Rhine assault were hauled out of Antwerp docks and loaded on to tank transporters for the long journey.



Above: One of the scores of roadheads at which material was concentrated and dispersed with speed and efficiency.
Below: Unloading supplies in Dieppe docks.





BRIDGING

The South Bridge, one of Cologne's life-lines across the Rhine, lies rusting in the flooded waters. By early summer it will have been raised, the channel completely cleared, and a new steel girder bridge erected by RE. The 1,500-ton span on the left was due to be raised 21 feet before it could be placed into position to join up with the main permanent way.

THE gaunt shape of one of the most celebrated cathedrals in the world rises up from the western bank of the Rhine and looks down on the jagged ruins of devastated Cologne.

To the east it sees the twisted wreckage of Cologne's once-proud bridges which spanned the Rhine to link Germany's left bank provinces (and hence France, Belgium and Holland) with the central and eastern parts of Germany and the lands beyond. Those bridges today lie rusting in the swirling waters, pitiful and grim reminders of the price of war.

Monuments in Steel

But to Cologne and its thousands of inhabitants who live like rats underneath the ruins of former glory the bridges across the Rhine mean much more, for they are the very threads of life on which the existence of the city and its people depend. In order to live, Cologne must receive the vital supplies of coal, food and re-building material from the Ruhr and the north.

Yet Cologne is optimistic about the future, for new bridges are being erected to serve the purpose of those which the RAF destroyed before and during the last onslaught on Hitler's Third Reich. These new bridges, first evidence of the rebuilding of Cologne, are being put across the Rhine by British Army Sappers and when they are finished some time this summer

they will stand as monuments to the ingenuity, industry and careful planning of the Royal Engineers.

Before the war five bridges crossed the Rhine hereabouts. There was the famous Hindenburg Bridge, which collapsed into the waters below with 300 people when bombed by the RAF; the Hohenzollern Bridge, which carried heavy road traffic from the Ruhr and was blown up by the Germans in the final stages of the war; the Adolf Hitler Bridge, which carried the autobahn across the wide, fast-flowing Rhine; the South Bridge, which linked railway goods traffic between east and west Germany; and the Mulheim Bridge further north, used for light road traffic.

All except the Hohenzollern Bridge were destroyed by RAF "pin-point" attacks, and when the British Army occupied the city they found that it was virtually cut off from the rest of Germany. American forces had erected a wooden Bailey-type bridge sufficiently strong to carry vehicles up to 24 tons, but this was insufficient to enable Cologne to carry out even its day-to-day work. Last October the British Army decided that two new bridges should be built to assist in the city's rehabilitation, and instructed the Royal Engineers to supervise work to be carried out by German specialists in bridge-building and repairs.

First priority was given to the erection of the South Bridge, so that railway goods traffic could be started up again, and a detachment of No 151 Railway Construction Company RE was sent to Cologne to organise the project.

Many of the Sappers responsible for the supervision of construction and direction of labour were employees of British railway companies and civilian

engineers before they joined the Army. All had had experience in building and repairing railway bridges from the day they landed on the Normandy beach-heads shortly after 6 June 1944, and had worked, many times under heavy shell and mortar fire, on railways at Caen, Le Manoir, Antwerp, Emmerich, Tilburg, Rheine and important rail centres up to Hamburg.

Building the new South Bridge is the biggest job 151 Company have yet tackled, for when it is finished it will have taken eight months to erect, and will stretch nearly 1,500 feet from bank to bank.

The bridge will be of a German design known as SKR, which was made for bridging operations in Russia, and it is being built in sections which are bolted together. It is intended to be a permanent structure, but the main piers, only slightly damaged, will remain to enable the Germans to erect their own bridge if they wish in some 15 years' time. When completed the bridge will carry a single-track railway across the Rhine, with turn-abouts at either end.

40-Foot Foundations

Already the greater part of the work has been finished. The main channel has been swept of debris and the four main piers, made of reinforced concrete inside huge steel casings, have been driven 40 feet into the river bed by gigantic, electrically-driven pile-drivers attached to a floating crane. Most of the steel girders have been manufactured by Krupp, of Essen.

One of the most difficult problems is the raising of the giant 1,500-ton span

Spr. Horfield, of Cheshire, one of the team formed to blow up any ice-floes which might damage the new bridge.



Left: A stretch of the new South Bridge at Cologne which will carry a single rail line. Above it is shown the 1,500-ton end span being raised a few inches a day by 500-ton jacks.

Spr. Ernest Barrett, of Hertford, helped to build his first railway bridge at Bayeux soon after the invasion.



which fell with a broken back across the main Cologne-to-Bonn highway when the Germans blew it up to sever it from the main causeway. After several months' labour the twisted steel-work has been straightened and damaged parts repaired, and, when SOLDIER's representative saw it, it was resting on hydraulic jacks, each capable of lifting 500 tons. Every day the structure was being raised a few inches, propped up with iron girders, and then raised again, almost imperceptibly. Soon it will have been lifted 21 feet from the roadway until the end can be rested on the main

THE RHINE

land pier where it joins the main railway. The new bridge will have four piers, each 90-feet long.

All the labour is being provided by leading German contracting firms, and thousands of tons of cement have been supplied by local factories to form the main piers.

In addition to directing the German workers, many of them ex-POW, the Sappers are supervising the building of another 100-ton floating crane in the Deutsche Harbour, on the eastern bank of the Rhine. During the recent cold weather, when there was a danger of ice-floes damaging the newly-erected piers, a party of Sappers from 151 Coy stood by, ready at a moment's notice to explode depth charges, 100 of which have been submerged in the Rhine to break up the ice. Fortunately they had not then had to resort to this measure, although they had been held up in their

Cpl. Jack Morris, head of the ice-breaking team, was a blacksmith at Avonmouth docks before he joined up.



work by heavy floods which raised the level of the Rhine at Cologne to nearly 15 feet above normal.

Major T. G. White, civil engineer with the LMS Railway in North Wales before the war, is commanding 151 Company. His second-in-command, Captain H. E. Warren, civil engineer with the Great Western Railway at Taunton, is chief supervising officer in the building of the South Bridge.

The Men on the Job

CSM Edward Taylor, of Camberwell, a regular soldier with 20 years service, has been in Railway Construction Companies since the outbreak of war, and when in England helped to repair railway tracks destroyed and damaged by Luftwaffe raids.

Sgt. Sam Corderoy, of Bow, London, joined 151 Company three years ago and landed with them in Normandy. He has helped erect railway bridges at Caen, across the Seine at Le Manoir, at Antwerp, Nijmegen, Ravenstein, Emmerich, Rheine, Culenburg. A scaffolder before the war, Sgt. Sam will be demobilised soon. "I reckon I've had my share of building bridges," he told me, "but I'd like to help finish this one because it's the best we have done."

Cpl. Jack Morris, of Avonmouth, Bristol, was in No. 9 Mobile Workshops, carrying out railway maintenance, before he was posted to 151 Company. A blacksmith before the war, he is waiting for Group 29 to be

Right: CSM Taylor, of Camberwell, London, who supervises the building work, has been a Railway Sapper for 20 years.

Below: Sapper Alf Cawley, from Cardiff, inspects the work and helps to supervise the German bridge-builders.

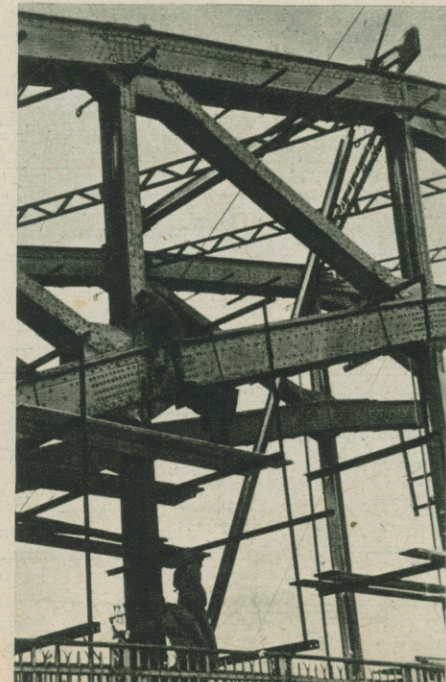


released before going back to the smithy again at Avonmouth docks. His present job is NCO in charge of the ice-breaking team, and direction of German labour.

One of the ice-breaking party, Spr. Ernest Barrett, of Hertford, landed in France soon after D-Day and helped build his first bridge at Bayeux. From there he went to Caen, Rouen, Antwerp, Oss and Tilburg, Nijmegen and Bedburg, laying and repairing railway lines.

The second bridge which will soon span the Rhine at Cologne will be a triple-double Bailey to carry a double roadway, a cycle path in the centre and footpaths on each side. It will replace the Hohenzollern Bridge. Concrete piles have been driven into the river bed, which has been swept clear of obstacles, and already the approaches on either bank have been completed by German Labour units acting under the direction of Royal Engineers from 18 GHQ Corps Troops. Thousands of tons of concrete, manufactured out of

The German workers, all trained men, are accustomed to the particular risks of bridge-building and know the danger of a false step.



Above: This German worker injured his legs while working on the bridge. Below: Sgt. Sam Corderoy, of Bow, London, watches labourers position a girder.



the rubble that was once Cologne, have gone into the construction of the approaches and embankments to take the new bridge. In the 60-ft space between the abutment and the approach on each side, the new Bailey will be joined together and gradually pushed out over the river until the gap between the two sections is 240 feet wide.

Searchlights will be Used

When this work is complete a section of SKR bridge, now being built by German experts at Mulheim, will be towed to the bridge by six tugs and eased into position until it can be joined up with the two Bailey bridge parts. As soon as the flood waters subside sufficiently, searchlights will be employed to enable work to be carried on throughout the night. When this bridge is erected it will also carry telephone and electric light cables suspended from the underside. Its total span from bank to bank will be 1,491 feet.

The people of Cologne know that it will take at least 25 years before all the ruins can be cleared away and new buildings erected, and that the rebuilding will be a severe strain on their individual and collective finances. The large majority of them have already donated thousands of marks towards the cost of building these two new bridges, and are now organising a scheme to finance the rebuilding of others.

But the future of Cologne depends in the end on the rapid erection and durability of the bridges now being built across the Rhine by the Royal Engineers.

E. J. GROVE (Capt.)

Above: Hohenzollern Bridge, Cologne, blown up by the Germans, is next on the replacement programme.

Below: Sgt. Corderoy talks to Herr Gasperi, a civil engineer, who is interpreter for 151 Railway Construction Coy.



BLACK LIGHT

NEW RAY BEATS BLACKOUT

V-MISSILES were by no means the only secret weapons the Germans had up their sleeves when the war ended. They had spent millions of marks on Cat-Eye or black light research to enable soldiers to see in the dark without being seen themselves.

Thirty-nine groups of scientific workers throughout Germany spent most of the war working on black light research. The chief results were on show at an exhibition of captured German electronic equipment held at Earl's Court, London: the Vampir, a black searchlight mounted on a rifle for night patrolling and sniping; the Falke, a night aiming searchlight for co-axial mounting on a heavy machine-gun; the Uhu, a large black searchlight combined with fire control equipment for use on tracked vehicles; and various adaptations on the same principle.

Press Button And—

The equipment on show was first-rate. It was beautifully made and accurate. SOLDIER's representative tested it in a special dark room at the exhibition, and by pressing buttons saw the black searchlights silhouette in ghostly, greenish light objects that were invisible in the dark. Fortunately for us, little black light equipment ever reached the Germans in the field. The reason, we know now, was poor co-ordination.

How did the Germans go about the business of producing Cat Eyes for their soldiers?

The answer is—by infra-red research. The colour of light, as you may know, depends on its wavelength. The shortest wavelengths are the violets and the longest the reds, and beyond the reds is infra-red, which is invisible to the eye but is still light to the scientists.

Put in non-technical language, what the Germans did was to invent a searchlight that would send out infra-red (or invisible) light and pick up what the beam revealed in the form of electrons on a fluorescent screen. High voltage applied to the reflected electrons speeded them up and got them into focus on the screen, and the result was a picture in a greenish glow.

Like Electric Bulb

Black light equipment designed for use on an automatic rifle is cumbersome. It weighs altogether, back and front, about 35 pounds. The searchlight itself is mounted on the telescope, which in turn is mounted on the rifle, but the main weight is carried on the user's back in the form of a six-volt battery and a vibratory unit for stepping up the power. The part of the equipment that accomplishes the miracle looks rather like a small electric bulb.

To use the Vampir, the soldier switches on and sights by looking down the telescope at the fluorescent screen.

Panthers and other tanks issued with black light were equipped with a combined vehicle-driving telescope, which enabled them to use headlights without being seen, and to pick out targets at 100 yards and hit them.

The bigger Uhu searchlights with 800 yards range were also issued to Panther squadrons, and the Germans say that, one night, they destroyed 67 Russian tanks with the aid of Uhus.

The Germans adapted black light for a number of warlike purposes. Coast defence units were equipped with what they called the "big picture converter," an enormous searchlight, fully 10 feet long, mounted on small caterpillar wheels; range claimed was 13,000 yards.

Will black light be of value now that the war is over? The back-room boys say it will not. Photographers may be able to use some of the discoveries and the police, equipped with black searchlights, may be able to spot burglars at work without being seen. But that is about all.

R. JACKSON (Capt.)

Black light from the Uhu searchlight will penetrate the darkest night for a distance of 800 yards. The Germans mounted Uhu searchlights on Panthers and other tracked vehicles.

Sighting at night with an unseen searchlight. Only the machine-gunner, with his eye to the telescope, can see what the black light uncovers. The Germans called this black searchlight the Falke.

Seas around Hitler-held Europe's coasts were swept by this enormous black searchlight. Its range was claimed to be 13,000 yards.

On the target with a Vampir. A REME craftsman tests German black light equipment for an automatic rifle.



During a recess at the Camberley Conference, Gen. Horrocks (left), of 30 Corps and Eighth Army fame, walks in the grounds with Gen. Leese, Eastern Command, and Gen. Nicholson (right) representing Gen. Dempsey, of ALFSEA.



General view of the Conference. In the foreground F.M. Montgomery, retiring C-in-C of BAOR, is seen with his successor, Gen. McCreery.



Three generals share a joke. Left to right: Gen. Sugden, Director of Military Operations; Gen. Lyne, Director of Staff Duties; and Gen. Ritchie.

CAMBERLEY CAMERA

THE informal photographs on this page were taken by SOLDIER's staff photographer, Sjt. D. O'Neill, during "fall-out-for-a-smoke" intervals at the second of the Army chiefs' conferences at the Staff College, Camberley. Behind the guarded doors of the Allenby Room Field-Marshal Viscount Alanbrooke presided, as Chief of the Imperial General Staff, over these unreported talks on high Army policy. More than 30 Field-Marsals and Generals took part in the three-day conference.



Front row, left to right: Gen. Auchinleck, C-in-C in India; F.M. Lord Alanbrooke, Chief of the Imperial General Staff; and Gen. Paget, C-in-C Middle East.



Generals Leese and Nicholson talk over the morning's session while taking a turn round the extensive grounds of the Staff College.



F.M. Montgomery and Gen. McCreery discuss a knotty point.



Gen. Kirkman (left), Deputy Chief of the Imperial General Staff, and Gen. MacMillan, Assistant CIGS.



One of the guards outside the Conference Room.



Patrolling the Staff College while the Conference was in progress.

They're!

Out

FREED FROM THE FORCES, ENTERTAINERS JOSTLE FOR THE 'MIKE'



Members of this saxophone trio, Sgt. Jimmy Goss, ex-L/Cpl. Geo. Clouston and ex-Cpl. Benny Daniels, were all RAOC men.

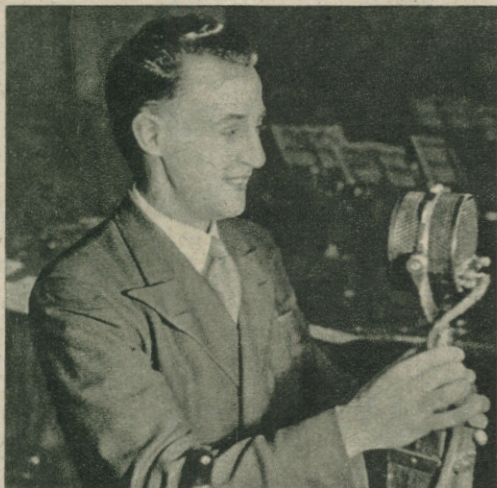
WHEN a programme called "They're Out" comes on the BBC's light wave-length or on one of the overseas services, men in Army, Navy and RAF camps all over the world sit up and listen, and here and there one of them says, "I know him—he used to be in my mob."

For "They're Out" is the most completely ex-Service show on the air. It gets its name because everyone taking part, from the co-producers (ex-Sgt. Gordon Crier and ex-F/Lt. John Burnaby) to the humblest bandsman, and from the script-writers to the junior engineer (ex-Sgt. Bill Flannagan, whose job includes such details as seeing studio doors are shut) has been recently demobbed from one of the fighting services or the Merchant Navy.

"They're Out" has a big job in reintroducing to the public men and women who earned their living in the entertainment world before the war and who have fallen out of the public eye because of their war service.

In the first four editions, the programme brought back into circulation, among others, Oliver Wakefield, the Voice of Inexperience; Cyril Grantham, singer, who won the DSC and was twice mentioned in despatches when he was commanding some of the Royal Navy's small boats; Gerry Fitzgerald, crooner; Michael Moore, impersonator; S/Ldr. Martin

Bob Roberts, who left the RAOC in Group 25, is the man with the bass.



Frederick Ferrari, tenor, of "Stars in Battledress" fame, adjusts a civilian microphone.

Boddy, tenor, who was with the BBC Singers before the war; and Capt. Bill Currie, who was with Harry Roy's band.

Besides musical and variety acts, "They're Out" gives 10 minutes of its time to the Reunion Theatre, an organisation of ex-Services actors who put on a short sketch in which many of them take their first post-war bow.

Competition to get time in "They're Out" is fierce. Between them Gordon Crier and John Burnaby receive about 50 letters a day from artistes and would-be artistes just leaving the Forces.

Some of the letters are promising; some are not. None of them is answered right away, because neither of the producers has the time, but they are all carefully filed according to what the writers claim they can do.

The co-producers hope to work through the applications and invite all the more promising artistes to an audition.

For the first few editions of "They're Out," the cast was made up of experienced artistes whose ability the producers already knew.

"We want to give the first chance to the people who had established positions in entertainment before the war and who want to start getting back to normal," explains Gordon Crier.

But now, with everything running smoothly, Crier and Burnaby are starting to give auditions to the people who write the letters—about a day a fortnight, so far. In addition, they are keeping their eyes open generally and taking such opportunities as an invitation to adjudicate at a Fighter Command talent-spotting contest in order to pick up talent for the programme.

Gordon Crier saw a good deal of entertainers in uniform during his own war career. After doing his basic military training at Glasgow he was transferred to Army broadcasting to make recorded programmes for Forces' radio stations overseas. He joined a mobile broadcasting unit with which he went to Western Europe and helped set up the BFN. Later he was an instructor on the Army's course for broadcasters in London. Since he has been demobbed he still takes time off from the BBC to go and lecture to the Army students.

John Burnaby, BBC dance-band expert before the war, joined the RAF in 1940 and served as intelligence officer with Wing-Commander Guy Gibson, VC, the man who bombed the Mohne dam. Tired of being on the ground, Burnaby volunteered for flying duties and went to South Africa for training. He got back to England fully qualified, but VE-Day was near and he was classed as "redundant aircrew" and sent back to Intelligence for a while, before re-

joining the BBC in November.

Resident commère of the show is ex-Cpl. Sally Rogers, who spent six months as an instructress at an ATS basic training depot before joining "Stars in Battledress." She started broadcasting by introducing the Army edition of "Merry-go-round," and now performs a similar service for Vic Oliver's programme.

The show has a resident comedian in ex-F/Lt. "Scruffy" Dale, who was a navigator in the RAF and won the DFC. "Scruffy" was shot up and grounded, so, to raise money for charity, he



Ex-Sgt. Gordon Crier and ex-F/Lt. John Burnaby, co-producers of "They're Out," discuss a script.

started a show called "Raff-Happy" in his Group, and spent the rest of his time in the RAF on entertainment work.

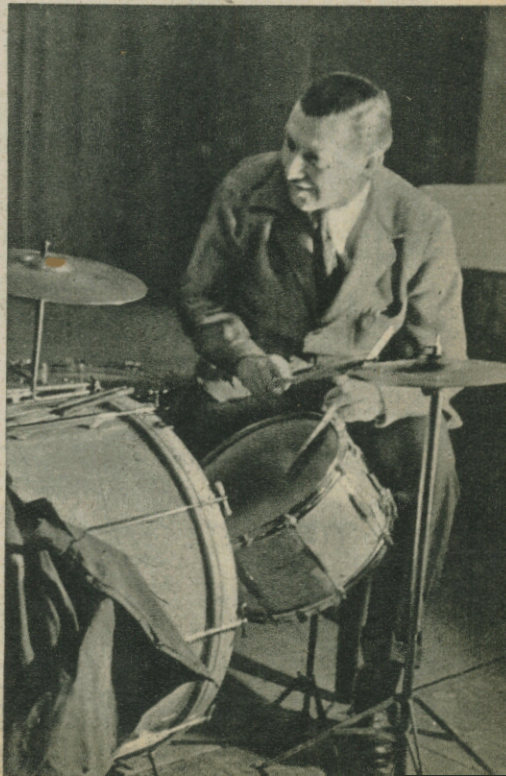
Meeting a typical "They're Out" cast, you find many of them are going into shows which have a nostalgic connection with their Service life.

For instance, Frederick Ferrari, whose tenor was heard in more than 1,800 performances for the Services in "Stars in Battledress", is shortly starting a tour in a show called "Happy Returns—Stars from the Battlefields"

Below: Ex-Cpl. Sally Rogers, commère of the show, and ex-F/Lt. "Scruffy" Dale, DFC, comedian, open a programme.



Right: Ex-Cpl. Lou Stevenson, an "old boy" of the RAOC, has lost none of his skill with the drums.



GOERING LOOKS BACK

1946



1916



GOERING faces Goering over a span of 30 years in these historic pictures. As a young pilot in the First World War (left) he relaxes in his mess and dreams of fame in the years to come. But it is a story of infamy which he hears unfolded in the Nuremberg Court where he is charged with crimes against democracy (above).

With map outspread (left and below) he plans his next bombing trip against the Allied defences of the Western Front. He found this experience useful when, as Luftwaffe chief, he ordered the mass blitz on Warsaw, Rotterdam, Coventry, London.

Hermann tries his hand at the mouth-organ (bottom left). Later in his more sunny days as Nazi No 2 life was full of melody. Today the music plays a different tune.



FIRST OF THE AIR COMMANDOS

**February 1941 — British Parachutists land in Italy:
A Submarine is to take them off...**

THE earth below was bathed in a silvery sheen of moonlight. The waters of the River Sele winked up at the six Whitley bombers as they droned through the cold, still night. Above, the hard, bright stars twinkled at the snow-capped mountains, and watched history being made, for the occupants of the six planes were parachutists carrying out the first British airborne operation of the war.

It was on this night five years ago that seven officers and 28 other ranks from No. 11 Special Air Service Battalion set out from Malta to strike at the heart of Italy's power to make war.

Their plan was for a force of parachutists carrying explosives to destroy the aqueduct crossing the Tragino River in the Italian Province of Campagna, and to cut the main water supply for the whole of Apulia, where more than two million Italians lived, mainly in Bari, Brindisi, Foggia and Taranto. There were the dockyards, military establishments and factories vital to Italy's war potential. It was hoped the destruction of the aqueduct would deprive the province of its regular water supply for several months, force the population to depend on the inadequate local resources, and create such confusion and dislocation as seriously to affect Fascist Italy's strength.

Malta was Base

Training in the specialised form of parachute warfare began in July 1940. Volunteers came from practically every regiment in the British Army. By careful selection the 50 officers and men originally detailed were whittled down to 38.

Major T. A. G. Pritchard (now Lt-Col Pritchard, DSO, Comd 7 Bn. Royal Welch Fusiliers in Germany) was placed in command of a ground party composed partly of Royal Engineers under Captain J. F. K. Daly and a covering force of Infantry commanded by Captain C. J. Lea, of the Lancashire Fusiliers.

At dusk on 7 February 1941, Britain's first airborne force climbed into the six Whitleys at Ringway aerodrome and flew to Malta, 1,600 miles away, where all plans for the operation were ready. Aerial photographs of the target area showed two aqueducts standing out in the surrounding desolate countryside, and it was decided that the larger and more easterly aqueduct should be blown up. During the operation two other Whitley bombers would create a diversion by attacking the railway yards at Foggia, and after the aqueduct was destroyed the party would make its own way back to the mouth of the River Sele, where the British submarine "Triumph" was to embark the parachutists.

At dusk on 8 February the eight Whitleys left Malta in formation, and just before the Italian coast was reached the two bombers swung away towards Foggia while those carrying the parachutists pushed on towards the target. Straightening out at 400 feet, the first Whitley disgorged its passengers and containers of explosive on the frozen hillside within 250 yards of the aqueduct.

Let the story now be taken up by Lt-Col Pritchard, who was following in the second aircraft.

"It was a beautiful sight. As our plane circled and lost height before flattening out between the two mountains which towered on either side of the aqueduct, I could see the men floating gently to earth.

"I watched my men drop through the hole in the fuselage of our aircraft, and, uttering a little prayer, followed them. I landed very close to the aqueduct and set about contacting those who had already dropped. After a few minutes I met Captain A. J. Deane-Drummond."

While Pritchard and Deane-Drummond were carrying out a recon, the parachutists from three other planes landed within 300 to 1,000 yards of the target. The sixth Whitley containing Captain Daly's party, lost its way and arrived 45 minutes later, off course, and its occupants parachuted into the next valley.

"I took 2/Lt. Patterson, a Canadian RE officer, with me to have a look at the aqueduct," continues Lt-Col Pritchard. "We

found it was made of concrete and not masonry. This presented a problem because the concrete was more difficult to break, so Patterson decided to concentrate all the available explosive on the western pier and abutment. He and his Sappers placed over 600 pounds of the stuff against the pier and 160 pounds against the abutment, and everything was set for blowing.

"The covering party was withdrawn and the detonator on a one-minute fuse was exploded. As we got over the brow of the slope protecting us there was the most enormous bang. We just stood and gaped while pieces of the shattered aqueduct crashed down. When we examined the aqueduct we found it had been broken in two and the water was rushing down the ravine. We had done a good job."

The vital part of the operation completed, the party prepared to make its way to the mouth of the River Sele, 60 miles away, for its rendezvous with the submarine "Triumph". It was decided to split into three sections—one under Major Pritchard, one under Captain Deane-Drummond and one under Lieut. Jowett.

Major Pritchard's party reached cover in a small wooded valley just before dawn and "lagaared" for the day. That night they plodded their way across heavy ploughed fields, up steep ravines and through rained-drenched streams, flooded up to chest height. Their aim was to reach what was shown on the map as a small wood. But what was shown as a wood turned out to be a desolate waste. There they took cover, however.

Shortly after dawn a farm hand approached. "We told him we were German airmen on a special exercise, but I don't think he quite swallowed the tale," says Lt-Col Pritchard. "Soon after he had made off we saw more men and knew the alarm had been raised. We prepared to fight to the last man. We didn't bargain, though, for the method of capture the Italians adopted. First of all some mangy dogs came up the hillside from the village. A score of young children followed; behind them dozens of tearful, protesting mothers; and a little way behind them the fathers, armed with shot-guns, pitchforks and bits of wood. Still further behind were the Carabinieri and a few regular troops. We were absolutely foxed. We couldn't open fire for fear of hitting the women and children, and were taken into custody by the Italian troops and sent to Naples."

Meanwhile, having heard the explosion, Captain Daly and the five men who had parachuted into the valley adjoining the Tragino stream, over which the aqueduct passed, decided to make their own way back to the mouth of the Sele. They travelled unchallenged until they met a number of soldiers and policemen in a village. Captain Daly explained they were Luftwaffe troops engaged on secret and urgent work, and demanded a motor car. But as no papers were forthcoming on demand, the men were handcuffed, chained together and taken to Naples, where they joined Major Pritchard's party in a prison camp.

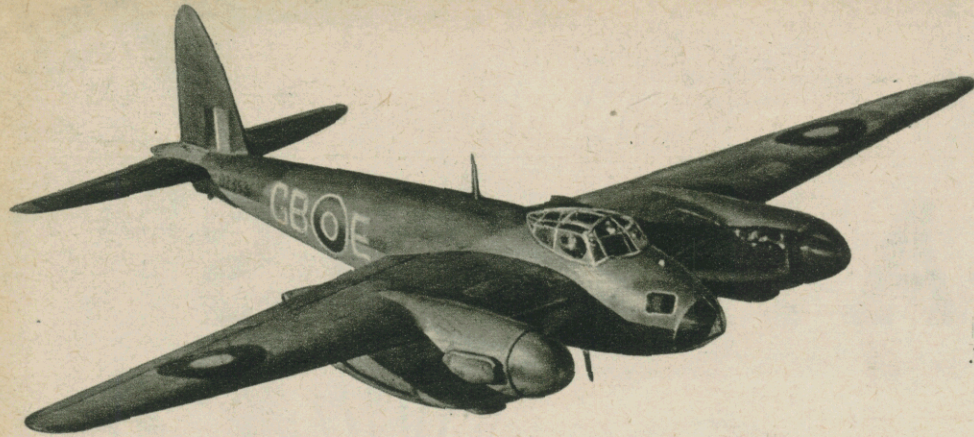
Signal Spoilt Plan

The third party under Lieut. Jowett were arrested by Carabinieri after an exchange of shots in which two Italians were killed and one wounded. Twice driven off, the Italians—once again—led an attack with women and children. Captain Deane-Drummond and his men were taken prisoner by similar means within 15 miles of the mouth of the Sele.

Subsequently the party of prisoners were separated. Captain Deane-Drummond later escaped to Switzerland, and Major Pritchard was sent early in 1944 to Stalag Luft One, Rostock, where he was liberated by the Russians. He was awarded the DSO for his part in the air commando exploit.

Had the parachutists been able to reach the Sele River mouth they would not have found the submarine waiting for them, for at the last moment its sailing orders were cancelled. One of the two Whitley aircraft which bombed Foggia developed engine trouble and the pilot sent out a cipher signal that he was about to land within a short distance of the submarine's rendezvous. The pilot did not know that the "Triumph" was to pick up the parachutists. The signal was in fairly simple cipher, and, as there was a chance that it would be deciphered and enemy troops sent to the area where they might sight the submarine, the High Command decided not to send the "Triumph".





R A D A R

RADAR is helping to make maps. The magic eye that tracked the enemy air-fleets in 1940, and from 1943 onwards guided the RAF Avengers to pin-point targets in the heart of Germany, has now been adapted to air-survey, and the result is probably the greatest advance in map-making since air-photography became possible.

The new survey method makes the old-fashioned triangulation system unnecessary for large-scale mapping. Surveyors need no longer trek the countryside for months measuring base-lines and angles. By radar all the data for a 125,000 map can be collected in a short time without one map-maker setting foot on the land covered. Thousands of hours of heavy and relatively profitless labour will be saved, and inaccessible areas will be easily mapped.

The basis of the scheme is to take a series of overlapping air-photos. The position of the aircraft is fixed by radar at the moment each photograph is taken. This shows the distance travelled by the plane in the interval. If the plane was flying level its position must have been vertically above the centre of each picture. The distance between the centres of the overlapping photographs can be measured and, since the height at which they are taken is known, the scale of the map can be calculated. Of course, it isn't as simple as that, since the camera is seldom level, but by identifying various common points stereoscopically on pairs of photographs the amount by which the camera was tilted can be calculated for each photo and compensation made.

Millionth-Second Timing

Various types of radar apparatus are employed. The two most used so far are called GH and Oboe. In the Oboe system two ground stations send radar pulses to a sub-station in the aircraft which transmits them back to the ground stations; while for GH the main station is in the aircraft and sub-stations on the ground retransmit the main station signal to the aircraft. By measuring with extreme accuracy the time taken in each case for the signals to do the double journey between plane and ground station it is possible to calculate the range from each. The position of the plane can now be determined to within a few metres. The timing of the radar pulse is recorded in millionths of a second, and,

as the survey camera takes each picture of the ground, an auxiliary "slave" camera synchronised to it records the radar readings, airspeed indicator, thermometer and other instruments.

The first radar survey experiments were initiated by Major C. A. Hart, RE, of the Directorate of Military Survey, and Major E. A. Miskin. They were assisted on the radar and flying side by the Air Ministry and the Telecommunication Research Establishment (TRE) at Malvern. Preliminary trials were so successful that Chiefs of Staff became interested and asked for the possibilities of using radar survey for map-making in South-East Asia to be investigated.

Experiments Successful

Oboe was unsuitable for overseas use, since the mobile transmitting stations weighed 10 tons each and were not suitable for the tropics, so work was concentrated on GH.

As GH apparatus became available for survey use, ground stations were set up at Swindon and in the Pennine mountains near Ashbourne, and a special Mosquito aircraft was fitted with the newly-developed automatic observer and "slave" camera. An experimental map was made of the area around Norwich, and later two complete maps of the Isle of Anglesey. Using Oboe methods, an area in Norfolk, including Norwich, and another in South Wales were mapped. The results were good, Oboe proving rather more accurate than GH.

"This showed that we could make maps," said Major Hart, "and a Radar-Controlled Air-Survey Unit was formed in July 1944 to work with the Radar Air-Survey Liaison Section, RE."

The Air-Survey Unit was provided with four specially prepared Mosquitos, RAF aircrews, and two complete ground stations. The RE unit messed with the RAF and the combination underwent its operational trials in October 1945. By this time the GH ground stations had been modified until they could be stowed into a jeep or dismantled into packages small enough for coolies to carry; but, with the end of the Japanese war, the original purpose of these preparations had vanished.

Number Six Radar Air-Survey Liaison Section RE is now in a Thames-side house at Nuneham near Oxford. All its men are specially picked for their mathematical ability

Makes Maps

and two of them have had university training in the subject. The unit is commanded by Major Miskin, who worked with Major Hart throughout the experimental stages.

Describing how the section works, Major Miskin said, "By using any available map or by flying over the ground we decide where we can best site two radar stations within range of the area we are plotting."

"The section then works out the exact paths which the surveying aircraft is to fly and the points at which pictures are to be taken. At present the pilot of the aircraft flies on arcs of fixed radii about one station. He wears headphones which sound an even note so long as he is on course; if he goes off course to the right he hears dots and if he deviates to the left he hears dashes."

"The navigator can alter the radar apparatus to sound for any circular course desired. He can also check his progress along each arc of flight by means of the radar pulse from the second station, which is shown on a dial. As the dial tells him he has reached one of the fixed points, the navigator takes a picture and he will be accurate to within 100 yards. As a matter of fact, we have now reached the stage when we can release the camera from a ground control station, so he scarcely needs to be there at all."

Special Survey Film

The film used for this work is specially prepared "Survey Base" film which expands very little. After a flight the negatives, nine inches square, are developed by the RAF photographic section and one set of rough prints is made. The RE section sets out a block of 110 photographs in a "mosaic", fitting them together as nearly as possible to form a map-plan. The prints are then examined for quality and, if they are satisfactory, fresh ones are made on aluminium foil, which does not stretch and so gives a more accurate print.

The survey pictures are taken so that each overlaps 60 per cent of its neighbour. Pairs of these photographs can then be examined in a complex stereoscopic apparatus known as a "stereocomparator". "This gives a stereoscopic view of the ground we are surveying," said Major Miskin. "When you look at something you have an impression of depth because your eyes are some distance apart. We get an exaggeration of this effect. It is as if a giant with eyes a mile apart were looking at the earth from a height of 30,000 feet."

A special sub-section undertakes this photogrammetric work, as it is called, and makes measurements correct to one

hundredth of a millimetre of the relative positions of six points common to each pair of photographs. The angle at which the camera was tilted can then be worked out correct to one-sixtieth of a degree.

Once this angle of tilt and the height of the aircraft are known, the exact position of any point on the ground shown in the photograph can be calculated. For this work there is a computing sub-section using automatic electrical calculating machines.

The Finished Map

When sufficient points have been determined on the photographs to give enough facts for map-making, the foil prints and calculations are sent to a cartographic unit, which produces the finished map.

The calculations which have to be made are extremely complex, and, even by machine, it takes from four to eight hours for one man to work out the exact position and height of six points on the ground as shown on any pair of photos. The greater the tilt the longer the calculations take, so it is important that a skilled survey pilot is employed who can keep the plane within two degrees or less of the horizontal.

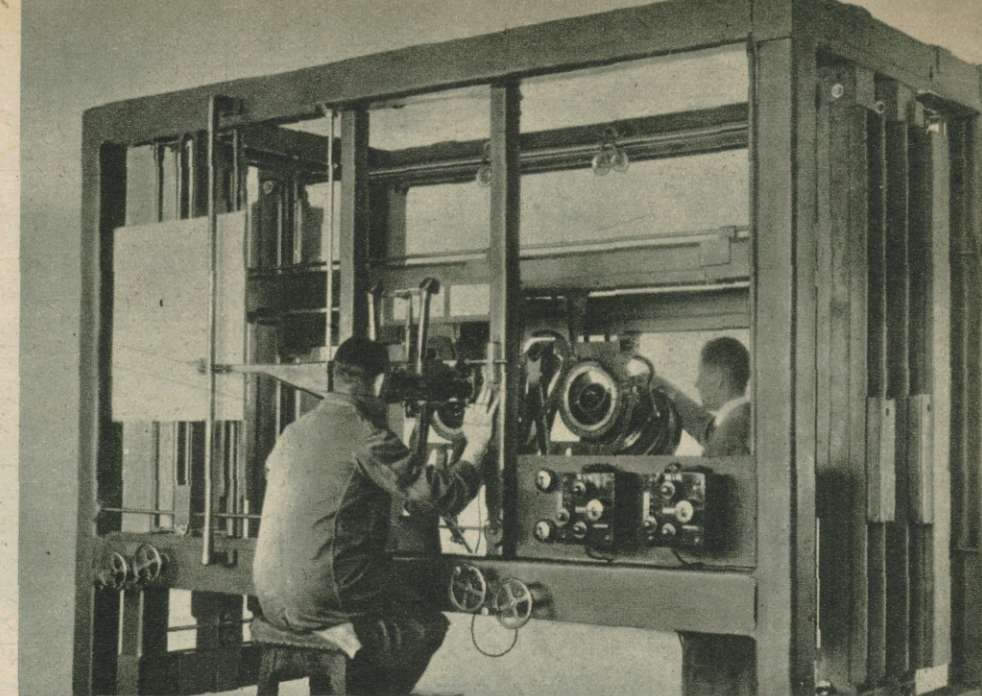
"Given good flying weather," said Major Miskin, "my section can produce sufficient data to enable 3,000 square miles to be photographed per day. We usually take the pictures from a height of 30,000 feet, so the aircraft crew have to wear oxygen masks and the survey camera must be kept in a heated jacket. Even so, hedges, roads, woods, scrub and water can be easily picked out from the pictures by experts and drawn on the map. Special information can be deduced if required. For instance, the heights of river banks can be calculated, provided they are four feet or so above the normal level. If a large table stood in a field, we could give not only the length and breadth but also the height."

But this is not all. From the data of the stereocomparator relative heights of points on the ground can be worked out and contours plotted correct to plus or minus 10 or 15 metres. "Our present limit of accuracy is to fix points on the ground to within about 25 metres of their true position," Major Miskin concluded, "but there is no doubt that future improvements will make much greater accuracy possible. And there is no doubt that this is the map-making method of the future. It is swifter, easier, and will be cheaper than the other methods."

The time has not yet arrived when surveyors can send up pilotless planes and make a radar survey of North Africa while sitting in an armchair in a Bloomsbury flat—but it may be coming soon.

S. E. WEBSTER (Lieut.)

Spr G. K. Kingdon with a calculating machine works out readings which Cpl R. Page takes on the stereocomparator.



This complex machine is called a "photogrammetric plotter." It is used to prepare maps from air-photos.

Directs Gunfire

RADAR can do more than track aircraft, guide bombers, and make maps. It can even spot mortars hidden behind hills, detect troop movements made in darkness, and observe shell-fire in thick fog.

During research it was found that some radar sets could "see" mortar bombs in the same way as they picked up aircraft. Thus, when the bomb passed through the radar beam, its trajectory could be plotted and its point of origin determined. RRDE experts Mr G. H. Beeching, Mr R. G. Friend and Mr C. G. Tilley worked at high pressure to convert existing ack-ack radar sets to this use.

One of the first snags was that radar could not see through hills and woods; when mortars operated from behind such cover the vital part of the projectile's flight was screened. Even this difficulty was overcome by Mr R. I. B. Cooper and Mr W. T. S. Stone with a new attachment to the radar equipment.

Night Movement Observed

During the final stages of the war, Mr D. R. Chick, of RRDE, was working on a highly mobile radar unit for mortar location—and development goes on.

A fully mobile radar unit which strips the secrecy from night movement results from the work of Mr C. A. Walley, Mr E. W. Chivers and Dr. A. E. Kempton. It can detect distant troop, train or vehicle movement in darkness or fog, and warns its operators by a

note on a loudspeaker when movement starts.

This means that heavy and accurate fire can be directed swiftly on to troops or transport at times when visibility is nil. Night movement will no longer give safety.

Radar has been used operationally to observe and correct artillery fire; and the enemy have been astonished to find themselves under heavy gunfire which had obviously been corrected on to the target when it was impossible for an observer to see more than a few yards.

This radar device, which in some circumstances can take the place of a human spotter, was evolved by Dr. Kempton and Mr F. J. M. Farley. It enables radar operators to see both the target and the shell-burst represented on a cathode-ray tube. Range and line corrections can then be applied until the two images in the cathode-ray tube coincide—which means that the shells are falling on the target.

Most of these new developments arose from the use of radar equipment in a role for which it was not originally designed, but the modern apparatus is so flexible that it has been possible, by close co-operation between the Research Establishment at Malvern and Army users, to adapt ordinary sets for new uses in the field until special equipment becomes available.

One of the Mosquito aircraft which were specially adapted for radar survey.

This stereocomparator operated by Cpl R. Page is a £2,000 precision instrument for measuring the relation between pairs of overlapping air-photos.

L/Cpl A. Sturrock and Spr J. C. Mayo lay out air-photos in a "mosaic."

One of the air-photographs taken during the survey of the Norwich area in East Anglia. Note the air-field on the left.

This folding stereoscope shows from air-photos what a giant with eyes a mile apart would see from 30,000 feet.



Life in the offices of the Corps of Commissionaires is just like life in an Army office. Here Serjeant-Major Cross stands smartly to attention as he receives instructions from Major Apsley, the Adjutant.



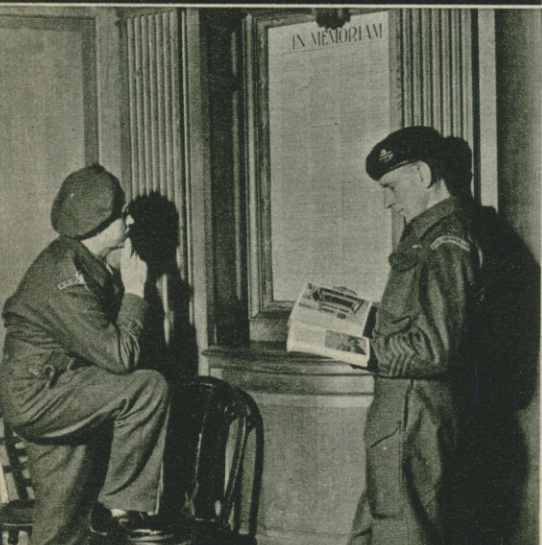
Serjeant-Major W. Churn, who is responsible for each Commissionaire's assignment, gives instructions to a recruit. SM Churn was in the West Yorkshire Regt. for 21 years. Recruit is Sjt. C. Bayley.

EIGHT Men Marched To WESTMINSTER

- To Found THE CORPS OF COMMISSIONAIRES



Passing through the narrow passage which leads from Exchange Court into the Strand, Sjt. Bayley goes off to his first assignment in the Corps. He served seven years in the RTR and fought in the Middle East, France and Germany.



On release leave, Tpr. L. E. Porter, 17/21 Lancers (right), who has 15 years' Army service, waits beneath the Corps' Roll of Honour to see an officer who will tell him about prospects of joining the Corps. With him is a friend, Pte. J. H. Welch, RAOC.

ON a February day in 1859, Londoners paused on the streets to look at eight men marching smartly towards Westminster.

They wore an unfamiliar uniform, dark, with shiny cross-belts; medals dangled from their chests. The eight men had one thing in common — each had an arm missing.

When they came to Parliament Square a ninth uniformed man, who was marching with them, gave a word of command and the party halted. Breaking ranks, they filed into Westminster Abbey.

Those Londoners who were curious enough to follow them inside discovered that the men were the members of a new body called the Corps of Commissionaires — old soldiers who had come to give thanks that they had honourable work to do and had no longer to depend on charity.

Salvaged from Scrap Heap

The ninth man, who was in command of the parade, was Capt. Edward Walter, member of a family which had a distinguished connection with "The Times," who had resigned his commission in 8 Hussars to care for the ex-Regular Serviceman.

The problem of the time-expired man, in Edward Walter's day, was one which was generally ignored. "Brutal and licentious" was still held to describe the soldiery. The man who had served his country until he was too old to do so any longer was an outcast.

Unemployed and unwanted, many an old soldier lost his self-respect and went to the gutter, Edward Walter believed that if he were made a soldier again, given a uniform, a commanding officer and a corps with a reputation to maintain, the time-expired man could become a useful and trusted citizen.

Results showed he was right. Edward Walter laid special emphasis on the virtue of thrift, and each member of his Corps must save money, partly as a guarantee of honesty, but mainly to provide himself with a nest-egg.

Walter's first recruits were wounded men. By canvassing his friends he got them jobs, guaranteeing the personal fitness of each Commissionaire. For five years he ran the growing Corps single-handed, he and his family paying the expenses. Then its growth made it necessary for him to get assistants. Appealing to the public and to regiments, he started an Officers' Endowment Fund, which today pays the salaries of the Corps' officers.

Throughout the 45 years he commanded the Corps, Edward Walter managed



SOLDIER cover picture shows No. 1162, Cpl. W. Upchurch, at the magnificent door to the Corps HQ in Exchange Court. Upchurch served in 6 Dragoon Guards and then the CMP. He left the Army a lance-corporal and became a corporal in the Corps of Commissionaires, which does not have lance-corporals.

Photograph: M. Berman

its finances astutely. He bought its headquarters in Exchange Court, just off the Strand, and a good deal of land fronting the Strand. Today New Zealand House belongs to the Corps and also the ground on which stand a number of Strand shops. These and other investments now pay three per cent on the Commissionaires' savings in the Corps savings bank.

When the founder, by then Sir Edward Walter, KCB, died in 1904, his nephew, Major Frederick Walter, MVO, who had helped him in his work for 13 years, was appointed Commandant, to be succeeded on his death in 1931 by his son, Lt-Col. Edmund Walter, CIE, who had been an officer of the Corps since 1927. Thus the three Walters have served the Corps for 104 years in its 87 years' existence.

From the original eight one-armed men, the Corps grew steadily, reaching its peak total of 5,150 on the day war broke out in 1939. More than 30,000 men have passed through the Corps and today its membership is 4,700.

The Corps is open to all ranks, except officers, of the Regular Services. Every member on joining must pay a £2 entrance fee and deposit £10 in the Corps savings bank, adding at least 12s. a quarter while he is employed. He pays half-a-crown a month to the

General Fund and, at present, 13s. a month for uniform.

The Corps is run on regimental lines. At the headquarters in London are the Commandant, the Adjutant, Quartermaster and Paymaster. This headquarters is also the headquarters of the London Division of the Corps, and there are nine other Divisions in Britain and Ulster, each under an officer or warrant officer.

Recruits are coming in at the rate of about six a week at present. The numbers depend on the demand from employers and no man is allowed to join the Corps unless there is a job for him.

Men who are unemployed through no fault of their own return to their Divisional offices where they are given such temporary jobs as may come the Corps' way — at race-meetings, football and cricket matches, exhibitions, weddings, shows, sales and similar functions. Until the members are back in full employment; recruiting stops.

The word "commissionaire" was introduced into English by the founder of the Corps. The Concise Oxford Dictionary defines it as "a member of the Corps of Commissionaires." It does not mean the gaudily-dressed men who stand outside cinemas marshalling queues; in fact, the Commandant doubts if there is a single member of the Corps employed by a cinema.

There is much variety in the jobs the Corps offers, among them posts as enquiry or reception clerks, store and gate keepers, staff supervisors, time-keepers, messengers, bank guards, hall porters and watchmen. There is no fixed wage for members — the wage is a matter to be settled between the Commissionaire and his employer — but the average starting wage is about £4 10s.

34 Years a Soldier

In the Commandant's office I met a typical recruit — RQMS W. Lawrence, MM, RA, who has just joined the Corps after 34 years in the Regular and Territorial Armies. Mr. Lawrence went to Singapore with 18 Division and has spent the last six months getting over the effects of life in a Jap prison camp. "I am going to work at Vauxhall Motors, Luton," he told me. "There are about 30 members of the Corps there."

That the members of the Corps are satisfied with what the Corps does for them is shown by membership records. More than 1,000 of the members have been in the Corps over 20 years and 750 between 15 and 20 years. A few months ago a staff-serjeant at the London HQ reluctantly retired at 83.

In this Centre soldiers who have lost limbs are fitted with —

SINEWS OF STEEL

A man without arms who can shave himself, a one-legged girl who can run, jump and skip, and a one-armed man who can swing a pick—these are just a few of the successes of the Roehampton limb-fitting centre which gave air-ace Douglas Bader his legs and has helped thousands of disabled ex-Servicemen to overcome their handicaps.

Founded by the War Office during the 1914-18 war, the Roehampton centre



Sqn-Ldr. D.R. St. Bader, famous "graduate" of Roehampton, has two artificial legs. Replacement was parachuted for him when he was captured.

dealt with 26,262 of the 41,050 soldiers who lost their limbs. In 1925 it was taken over and financed by the Ministry of Pensions. Since then it has considerably extended its field of activity and has acted as the parent body to many similar establishments all over the country, but the great majority of its patients today are again Servicemen.

Vast knowledge and experience have shaped the sequence of the various stages through which a patient goes while under treatment, and much thought is devoted to the psychological approach.

Amputations may take place at Queen Mary's Hospital, which adjoins the limb-fitting centre. As soon as the amputation has healed the patient is encouraged to make full use of the stump that is left. He must try to feed himself without help, and, if he has lost his right arm, he is taught to write on

a blackboard with chalk fitted to the bandaged stump. If he does not do this his good arm will become too proficient and harmful effects may occur. For instance, if a patient has trained himself to write with his good hand, headaches and eye-strain may result because more or less idle brain tracts have been strained to use.

When each patient is physically fit the limb-fitting surgeon sends his prescription to the centre's artificial limb factory, which employs 800 men, including a percentage who are themselves disabled.

The patient is temporarily supplied with crutches or a plaster peg-leg and goes home until the limb is made. Later he returns for his first fitting, when the surgeon checks and records any alterations which may be necessary.

Then, as an out- or an in-patient, he attends the walking- or arm-training school, where, if he has lost one leg, he will take, on an average, eight-and-a-half days to learn to walk. If he has lost both legs the average will be 28 days. A patient with a single amputation below the knee can learn to walk in three days, but a patient with an amputation above the knee takes longer, and so forth.

Before they leave, all patients must undergo tests to see if they are capable of doing normal daily tasks, such as climbing to the top of a double-decker bus kept in the grounds.

When the surgeon is satisfied that the patient can use his new limb with ease his case is reported to the Ministry of Labour, giving them full particulars of his physical capabilities, ambitions and interests, including hobbies.

He is then interviewed by a Ministry of Labour representative, and arrangements are made for him to be trained in his chosen occupation at any of the disabled persons' rehabilitation centres. Later he is found suitable employment.

The limb-fitting centre supply the patient with a spare artificial limb and, in the case of an arm, with a complete set of fittings to enable him to do any special work his job or hobbies may demand. They undertake maintenance, and if any mechanical defects develop he sends his limb back to Roehampton.

On an average a patient visits the centre once a year, when he can see the surgeon and discuss any alterations desirable. A patient's limb is, in fact, maintained here without any cost to himself for the rest of his life.

Another service which this organisation gives to Servicemen is the treatment of their children who may suffer from congenital deformity. This treatment not only makes the children more agile but also improves their outward appearance. One small boy aged two-and-a-half was sent from Malta with congenital deformity of the feet. At Roehampton his feet were amputated and he was given artificial replace-

ments. His appearance is much improved and his capabilities far greater.

The legless fighter-pilot, Douglas Bader, was fitted at Roehampton with artificial limbs after a motor accident 15 years ago. On 9 August 1941 he had to bale out over St. Omer and smashed one of his artificial limbs. The Germans took him prisoner and sent a request through the Red Cross for one of his reserve limbs. On 19 August, during a sweep by Blenheim fighter-bombers, a plane broke away from the formation, which was flying at a high altitude, and dropped Bader's spare limb by parachute. The Germans, who had been informed of the arrangements, collected it.

Four days later Bader made a successful escape and travelled 100 miles before being recaptured. Roehampton had Bader's limb specifications, and made a spare pair which were later sent to him through the Red Cross in case of further accidents.

A Commando serjeant who served in North Africa had an amputation above the right elbow. He is now able to throw a pick and do heavy manual work. On leaving Roehampton he got a job in a factory, although he now prefers his new job in the catering business. A Sapper, who lost both forearms and a leg below the knee, is now able to wash, shave, and brush his hair himself, with the aid of a box of gadgets he carries around with him. Today he is employed in an office doing bookkeeping and typing.

A 12-year-old girl bomb victim, whose right leg was amputated below the knee, had an artificial limb with a telescopic shin fitted. She is now able to run, jump and skip like any other child. Found landing on her artificial leg when skipping, she was asked why and replied, "I always have done."

A man whose right leg was amputated above the knee as a result of wounds in the 1914-18 war has had a job in the limb-making factory for over 25 years. He stands at his bench all day and, like thousands more, owes a debt of gratitude to the centre.

A constant stream of patients flows through Roehampton, entering badly injured and often helpless, to emerge with many of their former capabilities restored and able to do useful work in the community.

C. D. MARSHALL (Lieut.)

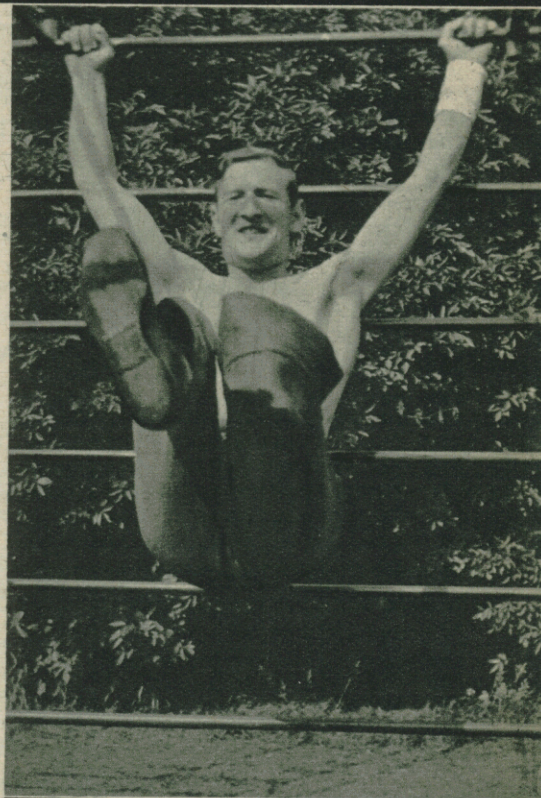
Commando serjeant who served in N. Africa was employed in a factory after leaving Roehampton, and works in a catering firm.

This Birmingham lad lost his right arm in a 1941 air raid, but is making good progress as a draughtsman.

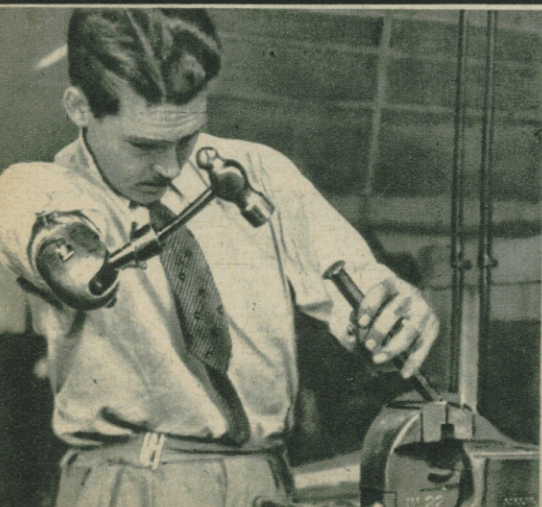
Right: Officer with high-level amputation learns golf. Bus in background is used for stair-climbing training.



First attempt to walk with an artificial leg is an adventure. But this patient will be striding out with confidence after a few days' practice.



Before a limb is fitted special exercises are done to strengthen and tone up the system.



IN OFLAG 79

POWS PLANNED FOR YOUTH



WE hadn't expected to pass the winter of 1944 "in the bag." Our camp—Oflag 79, near Brunswick—had been blasted by near-by bomber attacks. Some of the roofs and nearly all the glass had gone. Sanitation and heating hardly existed. Many of the buildings were still cluttered with debris. Outside were gaping bomb craters filled with ice-covered water.

I know that nearly all of us felt exceedingly sorry for ourselves. This was one of those times when no Red Cross parcels had arrived for several weeks, when actors and musicians could not play for hunger and cold, when the last scrounged bed-board had been burned and there was nothing to do but sit hunched in a blanket by the bomb-shattered window, staring at the dirty sky, the wire and the snow. Morale had fallen very low.

Then some half-wit suggested we should do something for other people. Yes, it's true. Someone actually thought we weren't too badly off, that we could still give someone else a helping hand if we tried. I thought, "The man must be mad; it's like going to a beggar to beg." Surely no one we knew lived as wretchedly as those in prison camps?

But people got organised and a camp general meeting was held at which a lot of us learned for the first time that millions of our own race had lived and still were living in conditions just as bad as those in camp. Though there is no wire round an English slum, it is not easy to escape from its dirty and crowded conditions.

This was the idea which had found life in the still unchained mind of that "half wit" I mentioned—that we in Oflag 79 should get together and raise funds to found and endow a boys' club.

At first it was not easy to kindle enthusiasm in 2,000 half-starved "kriegies," most of whom had never even heard of a boys' club. A colonel got up and told us about the movement; how the NABC (National Association of Boys' Clubs) ran 2,000 clubs all over the country. He spoke of the need for training boys from 14—18 in character and physical and moral fitness. Occasionally his voice was lost in the rumble of not-far-distant bombs breaking up a little more of the dear old Reich.

The thing was touch and go. Some of us were interested, some apathetic. Then a husky young private, captured at Arnhem, got up and told us a thing or two. He had been a member of Eton Manor Boys' Club before the war. He told us just what the club had meant to him and something of the aims and ideals behind the whole movement. The lad was no orator. He was flushed, he fumbled for the right words, but he was very sincere. "If you officers found and endow this boys' club you will be doing the best thing you have ever done," he said. He sat down and for a minute

you could not hear the bomb bursts for the cheering.

We signed on the dotted line to the tune of £13,000 and written promises of £700 a year in subscriptions.

People gave generously because for the time being there was nothing save money that they could give (many are now working voluntarily for the NABC), and since two-thirds of our pay was accumulating in England we had a lot to give. During the year we raised over £12,000 for the Red Cross and several thousands for other good causes.

It was curious, but the more we subscribed the better we felt: not quite so cold somehow, not quite so miserable and depressed. The boys' club scheme gave us a new faith in ourselves, a new justification of existence and struggle. I only hope it will soon be doing as much for a few of the youngsters of Britain.

Slum conditions are not dissimilar to those found in a prison camp. The NABC is doing for the prisoners of poverty what the Red Cross did for Britain's prisoners of war.

Nation-Wide Appeal

And now it looks as though we really started something.

The NABC is going to use the Oflag 79 effort as part of an appeal to raise money all over the country. The target is £250,000. Famous men have given the scheme their blessing. At a meeting in London, Lord Aberdeen read a congratulatory message from the King. Mr Attlee said the Brunswick Boy's Club would be "a living memorial to the heroic spirit of the men of the camp."

Not a great deal of prison life is pleasurable to recall—the decline of manners, the growth of cynicism; physical things like the bayonet proddings from guards we despised, the queuing up at the cookhouse for potato swill, or travelling handcuffed in cattle trucks. But it does a great deal of good to remember the day the boys' club idea was born and to know that the dream of a year ago is approaching a reality today.

Through all the years in enemy hands, while we were useless to our country, the people at home never forgot us. The founding of the Brunswick Boys' Club does a little to repay the debt which all ex-prisoners owe their country.

GORDON HORNER (Lieut.)

In the Walworth Boys' Club, lads gather round the fire for a chat with a clergyman who works among them.

Games and PT classes help to develop the bodies of boys whose only gymnasium might otherwise have been street corners.

Billiards and table tennis arouse great enthusiasm in boys' club members and there is keen rivalry when tournaments are played.



Lovely Grub!

BRITISH SOLDIERS RUN A GERMAN SAUSAGE FACTORY

FIFTY years ago Fritz Ahrberg, owner of a small butcher's shop in Hanover, was faced with ruin. Heavily in debt owing to severe trade competition, Fritz's only assets were a healthy, fat sow, and a firm belief in his ability to make good.

Fritz killed the sow and turned it into sausages. The Hanoverians liked them and asked for more. So Fritz borrowed some money from some friends, bought two pigs and made sausages out of them. From that day his success was assured. Within 20 years he became the owner of one of the largest sausage factories in Germany, and Ahrberg's sausages, Frankfurter Würstchen, and smoked hams were famous throughout the Reich.

Today, in the superlatively equipped factory of Ahrberg and Company on the outskirts of Hanover, German sausage-makers working under the supervision of British officers and NCOs

are producing a daily total of 23,370 sausages for the British Army. Since last November, when the British Army took over the Ahrberg factory, they have provided the Army with over 800 tons, or something like 1,250,000 sausages, each representing the breakfast ration for one man.

16 Tons for Berlin

Apart from the sausages made for the British Army, the Ahrberg factory manufactures weekly between 60 and 70 tons of sausages for German civilians. Sixteen tons are sent weekly to Berlin, and the remainder are distributed in the Rhineland and Hanover.

When a SOLDIER representative visited the factory recently to see how Army sausages are made Cpl K. Dalton, of 39 Field Butchery, RASC, a butcher himself before the war, was supervising the storing of hundreds of sides of bacon which had been received that morning by rail from Hamburg, where they had been landed from refrigerator



Sausages in strings of 10 being dried on wooden racks before collection. Over 23,000 are produced daily for the Army in the Hanover factory.

ships. Suspended from steel runners, the sides of bacon are kept in the huge ground-floor cold storage until they are gradually thawed out in four or five days. At this stage, when the meat is in condition for being made into sausages, the sides are removed to the "trimming shop", a vast, marble-tiled room whose floors are kept scrupulously clean by repeated washing with hot water. Here teams of German civilians, all expert butchers, strip the meat from the bone and cut it into small pieces the size of a man's fist. It is then dumped into large trays mounted on wheels and sent to the mixing room, where it is put into electric mincers, weighed and mixed with biscuit meal, water, pepper and salt. The first mixing is done by hand to ensure an equal distribution of ingredients, and the second by electrically-operated bins which whirl the mixture round and round to produce a solid-looking mass of sausage meat.

The meat content is high—higher than in the British pre-war sausage. This is the rigid standard adhered to in mixing every 132 kilos of mixture: lean pork, 52 kilos; fat pork, 34 kilos; biscuit meal, 19.5 kilos; water, 24.5 kilos; pepper, .825 kilos; and salt, 11.25 kilos.

Pleasurable Inspection

British NCOs inspect the mixture before it is put once more into large containers and wheeled away to the air-compressor machines which transform the sausage meat into the slim, glistening shapes destined for the soldier's breakfast plate next morning.

German girls, many of whom worked for the Ahrberg factory before and during the war, feed the machines with the mixture and dexterously twist each

"piece"—the official name for a sausage—as the sausage meat is pumped into the skins threaded on the end of the ejecting spindle.

The sausage skins are received from Denmark, packed in their dry state in large barrels. Before use they are soaked in water for 24 hours to make them pliable.

Cpl Jack Sugars, who comes from Derby and has been in the Army for six years, is NCO in charge of the manufacture of sausages for the British Army. Under him are a number of RASC privates, all butchers before they joined the Army, and nearly 200 German civilians.

Makers Eat Them

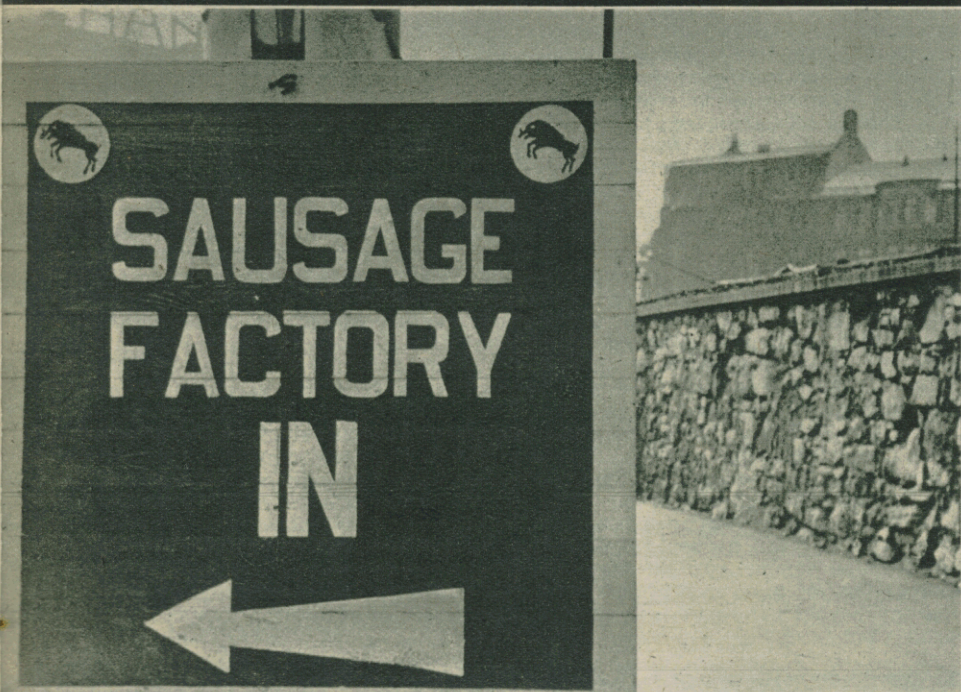
"The sausages we make here," says Cpl Sugars, "are the very best obtainable anywhere, and I include the sausages made before the war. In fact, they are so good that we eat them ourselves—and like them!"

In the same factory, cold storage rooms and preparation sheds are set aside for the manufacture of German sausages for German civilians. They are inferior in quality, containing a much smaller percentage of meat than the British Army sausage, and are made with beef and not pork.

Another important part of the work carried out at this factory is the provision of free meals to school-children to supplement their meagre rations. All the bones from both the British and German sections are boiled down in huge vats and the fats and meat juices extracted to make soup. Each day 6,000 Hanover school-children receive free of charge a hot, nourishing meal.

After the boiling-down process is over the bones are sent to local factories for making glue and fertiliser.

Among the thousands of Army signs this one must be unique. 30 Corps' wild boar might have been specially designed for it.



In the thawing-out room hundreds of sides of prime Danish pigs are inspected daily. They take several days to become fully de-iced.

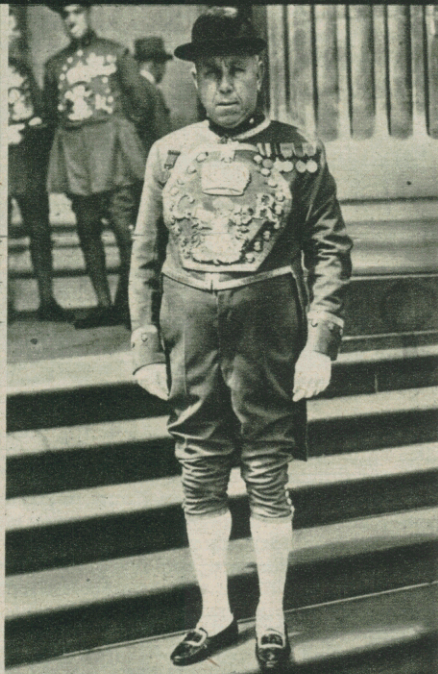


German civilian butchers cut the pork into fist-sized chunks before it is sent to the mincer. The large trays of meat are mounted on wheels.



BOAT-RACE MEMORIES

Left: Building the Oxford boat for a pre-war race. University boats are masterpieces of combined strength, lightness and streamlining. Below: The late "Bossie" Phelps, the King's Bargemaster, knew the river like the palm of his hand.



March 30 has seen the first boat-race since 1939. A great sporting event has returned to gladden enthusiasts after years of war-time austerity. This year both crews were trained by soldiers. Colonel R. T. Raikes coached Oxford, whose boat he stroked in 1920-21-22. The Cambridge coach, Colonel G. L. Thompson, rowed Number Three for the university in 1909 and trained the crews in 1922-23. This article revives boat-race memories of former days.

THERE is a stretch of the tow-path at Putney where one may commune with boat-race ghosts. From the Star and Garter Hotel to the Thames Rowing Club is not more than 500 yards, but every step awakens a memory.

Before the war hundreds of Londoners flocked daily to the riverside to watch the Dark Blues and Light Blues putting the final touches to their training for those testing four-and-a-half miles of the Thames from the University Stone, just above Putney Bridge, to the once-white post opposite Mortlake brewery. Now the crews are back again and it is almost like old times.

The Oxford crew are guests of the Westminster Bank Rowing Club, while the Cambridge oarsmen are staying at the Leander Club where, in the old days, they used to lounge before the ecstatic eyes of City typists. From the little balcony of the club you can look down upon the spot at the foot of the wooden steps, where the presidents spun a coin to decide the choice of stations on the great day.

Unless you were of the élite of university rowing or happened to be standing just on the other side of the low fence you probably missed that all-important, unobtrusive little ceremony. The Oxford President would stroll nonchalantly — outwardly at any rate — from the riverside headquarters of the Dark Blues a few yards away. A quick handshake with the President of Cambridge, a toss of a coin into the air. It was all over in less than a minute.

Poems in Wood

If you were a very privileged person, "Cooee" Phillips and Dick Talboy, the Cambridge and Oxford boatmen, would permit you to inspect their precious boats. No woman ever received the devoted and jealous care that those slim craft received from "Cooee" and Dick. Dick Talboy always wore the smart dark blue reefer jacket and cap of the Oxford University Boat Club. He would quote Shakespeare to me over our evening libations. "A poem in wood, that's what she is," he said, caressing the gleaming symmetry of his darling. "Cooee" Phillips is no more, but it will be many a year before he is forgotten on the Cam.

The genius who made those boats for both universities, "Uncle Bill" Sims, has passed to a better world, too. Three to six weeks it took "Uncle Bill" and his able staff to build a racing eight. They wrought their miracles in a long, low workshop just big enough to house the frame. Under their skilful hands inanimate wood became a thing of beauty. These boats, I remember, cost £120 apiece.

I never got more than a wink out of "Uncle Bill" when I asked him banteringly whether he obtained the greater part of his income out of boat-building or playing snooker. No man could pot a ball with such deadly and consistent accuracy. On one occasion he beat the whole of the Cambridge crew, one after the other.

Knew River's Secrets

To know the river before the war was to know "Bossie" Phelps. The river held no secrets from "Bossie." Each morning, and often again in the evening, he would enfold himself in a huge coat, cram a cloth cap over his close-cropped head, and go over the course in the launch with the Oxford coxswain, explaining the mysteries of currents and eddies. For the river between Putney and Mortlake contains many traps for the novice, and a cox who steered a bad course could bring about the defeat of the best crew in the world.

Memory opened the familiar door of the office of Bowers and Phelps when I passed and took me into the little room beyond the workshop, where I have been solaced with tea on many a raw morning. On Boat-Race Day itself Mrs. Phelps transformed that workshop into a free buffet for countless friends, and, indeed, for anyone who could, or dared to, walk in.

The bar of the club from which I have watched so many boat-race starts is just as it always was, with the same comfortable leather chairs on which we took our ease on rainy days when the crews were not going out. One member has actually witnessed 48 boat-races.

I took a last look at the boathouses in the evening light and felt glad that at last the days have returned when the Blues can give Londoners their one free sporting event of the year.

GERARD WALTER

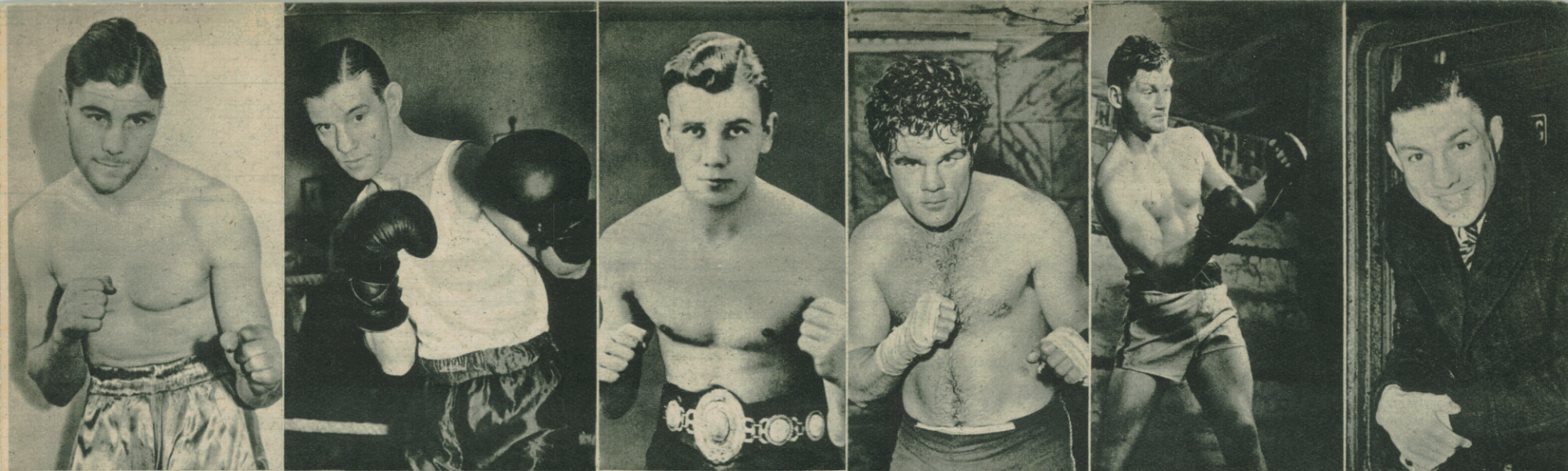
Finish of the boat-race in 1938, when Oxford won by two lengths, repeating their victory of 1937 which broke a long succession of defeats.



Below: This year's Oxford crew setting out for a practice run on the course at Putney.

Right: Cox and stroke of the Cambridge crew discuss the course before a trial.





Johnny King, Manchester, British bantamweight champion.

Nel Tarleton holds the featherweight title in his 41st year.

Ronnie James, Swansea, lightweight champion, is an APTC sergeant.

Freddie Mills, back from India, is to meet American challenger.

Bruce Woodcock, also going to America to seek the world title.

Ernie Roderick holds welter and middleweight championships.

BOXING HAS NEW FACES

BOXING is on its way up again, gentlemen. I'm not talking about the crowds or the bank balances of the promoters. Just the lads who do the fighting, get the cauliflower ears, broken noses and bruised ribs. For boxing will always draw the crowds, provided the fights are right, and that means the fighters must be right. Now those of us who make a habit of struggling into Britain's sporting arenas have been just a bit jaundiced about what we have been watching since we got home.

No doubt about it, the standards in all the glamorised forms of exercise have been considerably lowered. More so in boxing. A year ago the leather-pushing game was at its lowest. Pre-war champions were still wearing the purple and were apparently safely seated on their thrones for years and years and years. Then Bruce Woodcock stepped up among the royalty to signalise the new boxing era in Britain. He will be followed shortly by others. I'm not going to forecast which of the old war horses will go first but I will say that the fighters are there now to take their places.

What do we find, then, in the Fancy? Six titles still held by men who were already among the stars of the pre-war punching palaces. Paterson, Johnny King, Tarleton, Ronnie James and dual champion Ernie Roderick. Flyweight champion Paterson is still in the RAF, and lightweight kingpin Ronnie James in the APTC. Both are getting on for 30 but wearing well. No one can tell how they will fare when they can devote all their time to fighting. The Lancashire trio—Tarleton, King and Roderick—are in the veteran stage and cannot hope to last much longer. Tarleton, champion featherweight at 40, is an astonishing man for his age. It is a reflection on the class of the opposition just the same.

Tarleton, you might say, is the likeliest to be dethroned, but his foremost challenger, Aldgate's Al Phillips, has yet to win the critics in complete admiration. He is a swinger and a hooker, but still far short of a Berg or a Crowley. Ronnie Clayton, of Blackpool, has done some clever things, but the boy star with the brightest twinkle is Cliff Curvis. This 17-year-old Swansea "southpaw" has all the makings of a great fighter. He hits cleanly and quickly; he hits hard, and is a cool customer in the ring. He stopped Jim Brady, former Empire bantamweight champion, in four rounds and has a lot of first-class performances to his credit. Curvis is little more than a youth and with that stringy youthful build, but he can hit.

Up-and-comers among the middleweights include the two unbeaten Croydon ex-amateurs, Mark Hart (former ABA heavies champion) and Albert Finch, and an Islington knock-out specialist, Alby Hollister. But it will be from the welterweights that Roderick will find his most serious challengers. The contenders for the 10st 7lb title are a talented and young lot. There are the two former lightweight stars, Eric Boon and Arthur Danahar—Boon slower but punching harder than ever—and the ex-amateurs Henry Hall, Cyril Gallie and Claude Dennington. Hall, former ABA champion from Sheffield, is undefeated as a pro. That includes a points win over Boon.



Henry Hall, former ABA champion, is undefeated as welterweight pro.



Billy Thompson, 20, is one of Britain's most promising lightweights.



Ken Shaw, Scottish heavy-weight champion, is a Clyde draughtsman.

The other bright boxing lights are in the lightweight division awaiting the return to action of Welshman Ronnie James. They are Billy Thompson and Billy Biddles. Thompson, with the great spread of shoulders and the tapering waist, is a miner from Hickleton Main, near Rotherham, and a former ABA champion. He is undefeated as a pro and has won over Syd Worgan, Wales; Ben Duffy, Jarrow; Stoker Grimes, London; Don Cameron, Glasgow; and Biddles, who lost to him on a foul at the Albert Hall last month. Biddles, a Birmingham lad of 24, reached his peak in a wonderful display of straight hitting and cool boxing against Dave Crowley. Another North Country star is Stan Hawthorn, North Shields, who knocked out Billy Thompson in his last amateur contest. He has quite a variety of punches and he gains extra speed in his hitting by an abnormally extended guard. His left does not have to travel far to reach its mark.

Johnny King is said to have retired from boxing, but he has not officially resigned his championship. He has several challengers, including world flyweight champion Paterson, who won the European bantamweight crown on the floor the other night at the Albert Hall. Paterson, apart from being British, European and world flyweight champion, is also European and Empire bantamweight champion, so the sooner he meets King and tries to straighten the bantamweight muddle the better. But he will have to dispose of chunky Joe Curran, of Liverpool, first for his flyweight titles, and that fight is booked for Glasgow in June.

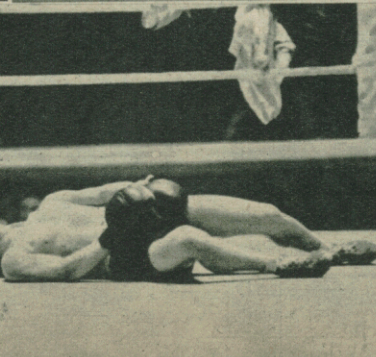
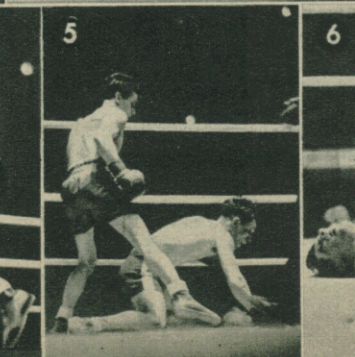
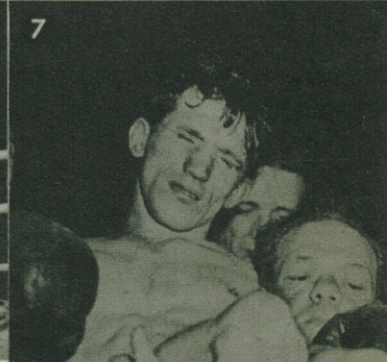
So you see, boxing has the material worthy of this post-war boom we are going to have. With Mills as a light heavyweight and Bruce Woodcock among the heavies we may make the world at large sit up before very long.

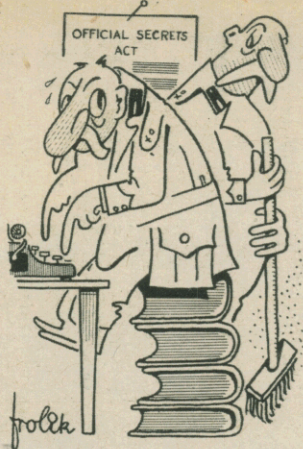
PAT GARROW (Capt.)

DOWN FOR THREE COUNTS — BUT HE WON THE CHAMPIONSHIP

In a blood-sweat-and-tears fight at the Albert Hall, London, on 19 March, Jackie Paterson, Scotland, won the European bantamweight championship on a foul in the eighth round. Theo Medina (Le Gitan), the French gipsy champion of France, had Paterson down for three counts when he threw away the fight by striking the Scot low. Medina wept bitterly in his corner at his misfortune.

1. Medina (left) shakes hands with Paterson at the weigh-in.
2. A clinch.
3. Medina blocks a left swing.
4. Paterson lands a right hook. This punch was exploited well by the Scot, who raised a lump under Medina's eye.
5. Beginning of the end. Paterson down for the second time. He complained to the referee that Medina rushed him off his balance when he rose from the first count.
6. The end. Paterson writhes on the floor as his seconds prepare to go to his assistance.
7. Paterson, in considerable distress, is lifted from the ring.





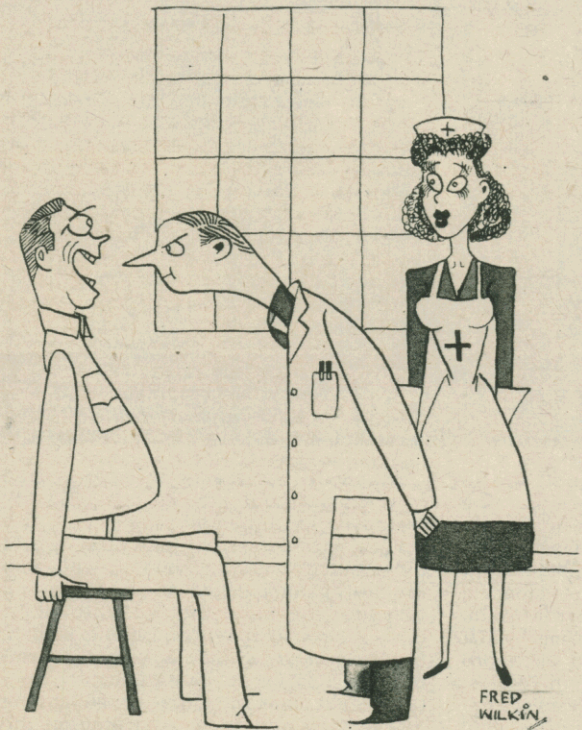
"I knew we'd feel the pinch when they let the 26's go!"

B
A
O
R



"Finest crew on the Zambesi, sir—never been known to catch a crab."

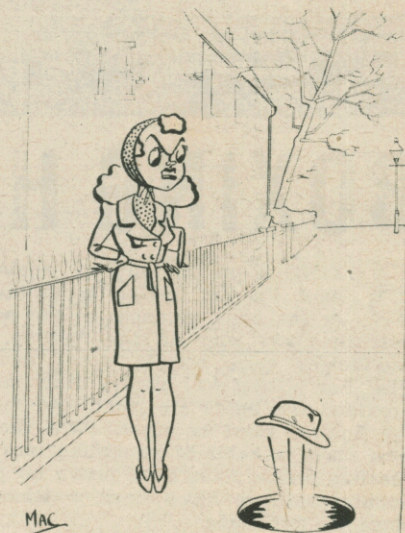
Cartoonists



"What a funny way you have of saying 'Ah!'"



"Once a type like that gets fashionable you see them everywhere."



"George dear, DO try to forget you were in the Paratroops."



"No Cecil, I think it will make your hands dirty."

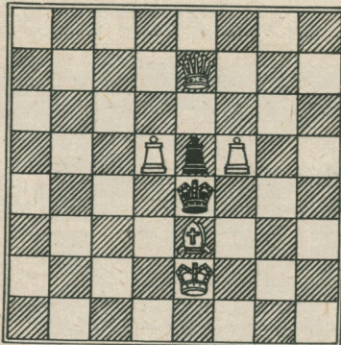
HOW MUCH DO YOU KNOW?

- Do you use a squog to go squoyling or a squoyle to go squogging? What are they?
- Who was Adam's first wife? It's no good saying "Eve."
- Primogeniture is: (a) an old Scottish custom whereby a woman had to prove her fertility before marriage; (b) the principle by which real estate is willed to the eldest son to the exclusion of the younger sons and daughters; (c) a proclamation issued by the Government of ancient Rome to boost the birth-rate; (d) the production of new varieties of plants by crossing. Which?
- What was macon?
- On being introduced to a man who practised ophiolatry, which of these remarks would be appropriate? (a) "Doesn't the broken glass hurt your feet?" (b) "I hope you haven't brought a cobra with you." (c) "Will you have a look at my Willie? I'm sure you could do something for him." (d) "Well, I expect you have your reasons, but water's always been good enough for me."
- Correct these quotations if necessary: (a) in the sweat of thy brow shalt thou eat bread; (b) to gild the lily; (c) pride goeth before a fall; (d) screw your courage to the sticking-place; (e) an ill-favoured thing, sir, but mine own.
- Paludrine refers to: (a) a carriage used on ceremonial occasions in India; (b) marshes south of Rome; (c) an improved form of creosote for preserving wood; (d) a new anti-malarial drug; (e) a method of slaughtering cattle now condemned as inhumane. Which?
- Who founded the Tower of London? Was it King Canute, Henry I, William the Conqueror, The Bastard of Orleans, William Rufus?
- "I come from haunts of cool and hern." Who or what came?
- "Not a drum was heard, not a funeral note" refers to: (a) the death of Nelson; (b) the relief of Mafeking; (c) the storming of the Bastille; (d) the burial of Sir John Moore at Corunna. Which?
- Are these statements true or false? (a) the Dornier DO X flying-boat carried 160 passengers over Lake Constance; (b) the term "thug" formerly referred to the members of a religious organisation; (c) a depilatory is one who eschews the use of medicine; (d) an iambic is something to make you sick; (e) the natives of Styria can consume quantities of arsenic that would be fatal to ordinary people without suffering harm.
- A genteelism is "the substituting, for the ordinary natural word that first suggests itself to the mind, of a synonym that is thought to be less soiled by the lips of the common herd." Which of these words are genteelisms? (a) Anent; (b) perspire; (c) napkin; (d) college; (e) recreation; (f) carafe; (g) sofa; (h) beer.
- If you had a cigarette, a fire, a lamp, and a pipe to light, and possessed only one match, what ought you to light first?
- Is the girl in the picture prone, supine, or in extremis?



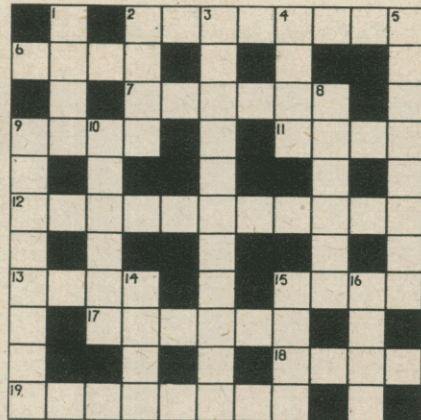
(Answers on Page 23)

CHESS AND CROSSWORD



White to move and mate in three.

ACROSS: 2. Some colour work by the Army? — 6. Extremely light, perhaps. — 7. Essential, nowadays, if the troops are to get a move on. — 9. Instrument associated with the drums. — 11. Often applicable to a Highlander. — 12. The regiment of the "knot" (two words). — 13. Guardee badge. — 15. Command no soldier should treat thus? — 17. Strike tents? — 18. Major, perhaps, but no officer. — 19. Transport animal.



DOWN: 1. May be seen in the French Zone of Occupation. — 2. Pretty perfect specimen. — 3. Straightforward place for the recruit (three words). — 4. Footslog. — 5. Static soldiery? — 8. Skeleton in the bath? — 9. Royal, Welsh, Irish, Scottish or Lancashire. — 10. Descriptive of a barrel, following a discharge. — 14. Full of zest in the Yankee navy. — 15. Replaced, among mechanised Cavalry, by the accelerator? — 16. Whence the Red Army comes.

(Solutions on Page 23)

LETTERS

FOOD FUND?

The startling fact is that the world food situation is deteriorating and that millions may die of starvation. All are implicated in this great problem, the solution of which is "win or lose the peace". Why don't the Forces start a food fund of their own, which could be collected by units and passed on to UNRRA? — **Sgt. R. W. Pagan, 2 Reg. Rly. Control Team, Hanover.**

LETTERS TO GERMANS

What is now the position regarding British troops who have German relatives living in Germany and wish to write to them? I understand that it is now permissible for German civilians to write to their relations in BAOR. — **Cpl. A. Haggett, W/S PI, 257 Coy RASC.**

★ No facilities exist at the moment, but the position is likely to be reviewed in the near future. — **Ed., SOLDIER.**

DUTY ON A RADIO

I want to take a radio set to England with me. Can you tell me what Customs duty would be payable on it? — **"Infantryman" (name and address supplied).**

★ If the set is entirely British it is duty-free, but if it contains foreign-made accessories it would be dutiable. A duty of 33½ per cent is payable on sets of German origin. — **Ed., SOLDIER.**

SO SECRETIVE

Can ENSA explain why they are so secretive about the casts of their shows? Admittedly it's understandable enough with the average performance, but exceptions do occur. For example I went recently to see "Turn on the Sound", billed with bags of posters saying "ENSA presents..." — but not a word to suggest that the stars were Nellie Wallace, Joan Winters and a lot more clever people whose names we'll never know.

What we want is less of the "By the courtesy of EFI/NAAFI, ENSA presents the ENSA this and the ENSA that" and a little more information about the people who are doing the job. — **Capt. Jack Dane, RE.**

DOWN "FLASHES"

In view of the shortage of woollen and cotton goods wouldn't it be a good thing if the Army was to help economise by prohibiting the wearing of formation signs on battle-dresses? — **Tpr. K. Fletcher, "B" Sqn. 3 RTR.**

BAOR HOCKEY

Hockey—the green grass, white bail, squared shirt variety—has been claiming quite a bit of attention among the Rhine Army sporting men. Leading light is Major P. C. Benham, MBE, RA, who captained a team which toured the Netherlands successfully the other week. Major Benham's side beat Leyden University 4–1 and Batavieren, which is the equivalent of the English Touring Club, 5–1. They lost to a strong team of probabilities for the Dutch National Eleven by six goals to two. Major D. H.

Stuart Brown, MBE, RA, organised the tour. He is attached to HQ Rhine Army. — **Capt. E. J. Grove, BANU, BAOR.**

CONTINENTAL HOLIDAY

Can I spend some of my release leave on the Continent? — **Cpl. A. W. Kingdom, 700 AW Coy, RE.**

★ All personnel must be released in the UK. To return to the Continent, even while on release leave, you would have to get a permit through the Civilian Permit Office. — **Ed., SOLDIER.**

RESERVE DOESN'T COUNT

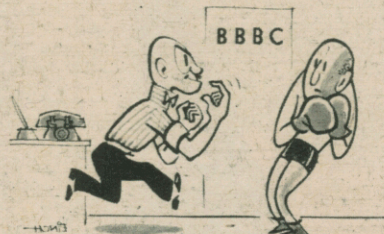
I joined the Army for six years with the Colours and six with the Reserve, my service expiring in 1940. On 31 August 1939 I was recalled and served until 1 Oct. 1940, when I was ordered back to my civil employment in the Post Office on W(T) Reserve. On 7 June 1943 I was again recalled to the Colours. I have a total of 10½ years Regular service, including 5½ abroad. My release group is 33, but I contend it should be 17. — **L/Cpl. A. Mackay, 4 AGRA, R. Sigs.**

★ Your release group is 33. Time spent on W(T) Reserve cannot be counted towards your release group, as this would be unfair to other Regular soldiers who have served in the Army without a break through the war. — **Ed., SOLDIER.**

FIGHT FIASCO

It occurred in England recently. The main event of a boxing programme was between a well-known British heavy-weight and a big fellow from the Continent. What promised to be a thrilling and hard-fought contest (according to the admission prices) turned into a complete fiasco owing to the Continental being (1) unable to box; (2) fight; (3) unable to defend himself against an opponent who had qualifications 1 and 2.

Surely the British Boxing Board of Control can investigate the ability of boxers before a contest starts. Better still, surely they could keep their eyes open for the undeserved publicity some

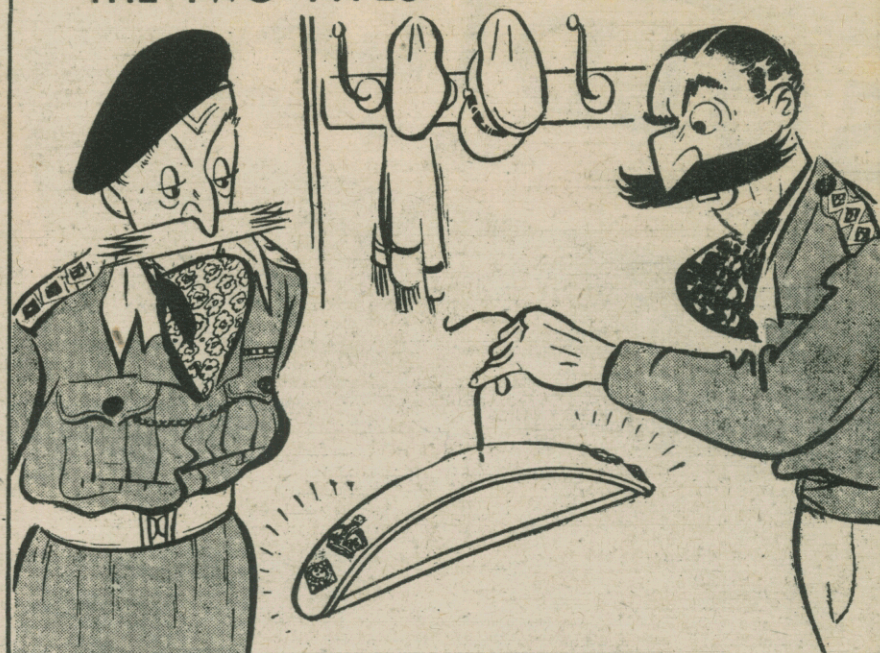


so-called promoters flourish before an unsuspecting public. — **Gnr A. J. Halligan, F Group, HQ BAOR.**

★ Pat Garrow replies: "The fight in question was quite genuine. The Continental boxer had appeared in Scotland a few months previously and performed satisfactorily. The BBB of C investigate the records of pugilistic importations. It is not their fault if a man performs like a novice on any one night. Travelling and food are factors which may come into it. If a promoter wishes to engage a boxer from some other country against a British boxer he must name the two fighters. Then the Board of Control write to the Boxing Commission of the country concerned requesting information about the proposed fighter. At the same time they state the name of the British boxer he will oppose and give

THE TWO TYPES

BY JON

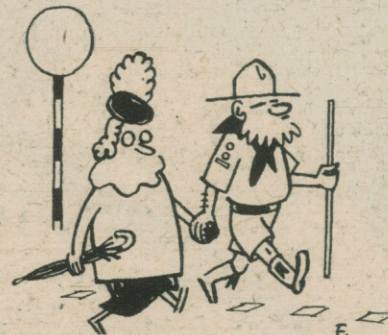


"That's the trouble with the old man — he just can't forget his rank."

his record. The fight does not materialise unless the Board get satisfactory answers to their questions. This, in the main, prevents unequal contests—but anything can happen in the ring! — **Ed., SOLDIER.**

HE'S A BOY SCOUT

I applied for the 28 days' end-of-war leave granted to all Regular Army



officers and men, but it was disallowed on the ground that I was not a Regular soldier. My record is that I joined the Regular Army in 1926, aged 19. I went to India for five-and-a-half years and in 1933 finished with the Colours and transferred to the Reserve. I finished Class B Reserve in 1938 and at the same time signed on again for another four years in section D. On 18 August 1939 I was recalled to the Colours. I was group 14, but before that group was released I signed on for two more years, my service expiring in August 1947. If this is not being in the Regular Army I must be a Boy Scout. — **L/Cpl. S. Smith, 155 Transit Vehicle Park, RAOC.**

★ Sorry—you're a Boy Scout! The 28 days' end-of-war leave is a form of compensation for Regular soldiers who will not be able to take advantage of the normal demobilisation scheme. In your case, your Regular service has expired, and you are at present serving under a special emergency arrangement. — **Ed., SOLDIER.**

Answers

(From Page 22)

HOW MUCH DO YOU KNOW?

1. Squoyle to go squogging. Squoyle is a club used for knocking squogs (squirrels) out of trees. 2. Lilith. 3. The principle by which real estate is willed to the eldest son to the exclusion of the younger sons and daughters. 4. The not-very-successful substitute for bacon made from mutton in the early part of the war. 5. "I hope you haven't brought a cobra with you." Ophiolatry is the worship of snakes. 6. (a) In the sweat of thy face shalt thou eat bread; (b) to gild refined gold, to paint the lily; (c) pride goeth before destruction, and a haughty spirit before a fall; (d) correct; (e) correct. 7. Paludrine is a new anti-malarial drug. 8. William the Conqueror. 9. "The Brook" by Tennyson. 10. The burial of Sir John Moore at Corunna. 11. (a) True; (b) true; (c) false—a depilatory is something which removes hair; (d) false—iambic is a kind of verse; (e) true. 12. (a) Anent—normal word is about; (b) perspire—normal word is sweat; (d) college—normal word is school; (e) recreation—normal word is amusement; (f) carafe—normal word is water-bottle. 13. The match. 14. Prone.

CROSSWORD

ACROSS: — 2. Trooping. 6. Very (Light). 7. Petrol. 9. Fife. 11. Dour. 12. South Staffs. 13. Leek. 15. Shun. 17. De-camp. 18. Ursa. 19. Reindeer. DOWN: — 1. Kepi. 2. Type. 3. On the square. 4. Plod. 5. Garrison. 8. Loofah. 9. Fusilier. 10. Fouled. 14. Keen. 15. Spur. 16. USSR.

CHESS

Key-move: Q—B6.

Two-Minute Sermon

"Whosoever looketh on a woman to lust after her hath committed adultery with her already in his heart." A hard saying? Yes, but Our Lord doesn't adapt His teaching to the weaknesses of human nature.

Like a surgeon He goes mercilessly to the root of the cancer. What is the root cause of lust? A man may argue that he was carried away by the impulse of the moment, or that his resistance was lowered by drink. But would he have given way unless he had been deliberately inflaming his passions beforehand? The mind that feeds on the smutty story, the salacious cabaret, the suggestive pin-up is ripe for lusting.

The Puritans went about the streets with downcast eyes; the Moslems veil their women from

public gaze. Neither expedient is necessary. It is possible to look on women with admiration, yet without lechery. Christ does not demand the impossible. "All His commands," it has been said, "are enablings."

When St Joan's accusers tell her (in Shaw's play) that her "voices" are only imagination, she replies that that is how God comes to her—through her imagination. Because the reality and nearness of God are mediated through our imaginations we must keep them clean. Yes, even if we have to be ruthless—"If thine eye offend thee, pluck it out." There are some sins that demand a frontal assault; like that of which Temple Gairdner wrote in his diary, "Take it out into the desert with Christ, and strangle it."

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