

THE RAILWAYS AND THE WAR EFFORT, 1939-1945¹

Background

South Africa's armed forces were small, and their material resources meagre, when the country entered the Second World War on 6 September 1939. The Permanent Force was nearly 50% under strength; the shortage of trained infantrymen was estimated at over 39 000; ammunition for artillery pieces and anti-aircraft guns was sufficient for one day's shooting, and only two obsolete armoured cars were available. Two experimental armoured cars had been built locally.²

During the first years of the war it was not possible to obtain much equipment from the United Kingdom or the United States. Local ingenuity was heavily taxed as attention concentrated on preparing the South African armed forces for long campaigns. Gradually regiments were mobilized and equipped, and an extensive munitions production drive was launched.³

The Railways and Harbours Brigade before World War II

The Railways and Harbours Administration was involved on both the domestic and the fighting fronts. Members of the Railways and Harbours Brigade saw service in Abyssinia, North Africa and Italy, while the railway workshops in South Africa played a key role in production and construction.

During the First World War, when the SAR & H made an important contribution to the war effort, recurrent difficulties were experienced in relations with the Department of Defence.⁴ After the war steps were taken to establish a Railways and Harbours Brigade as an Active Citizen Force unit which would serve as the military arm of the SAR & H in time of emergency and so obviate involved negotiations and agreements with the Defence authorities. By 1929 a comprehensive scheme had been evolved whereby the Brigade had a peacetime strength of two Infantry Battalions and two armoured trains, with eight Transportation Battalions, an Intelligence Section, one Supply Company and one

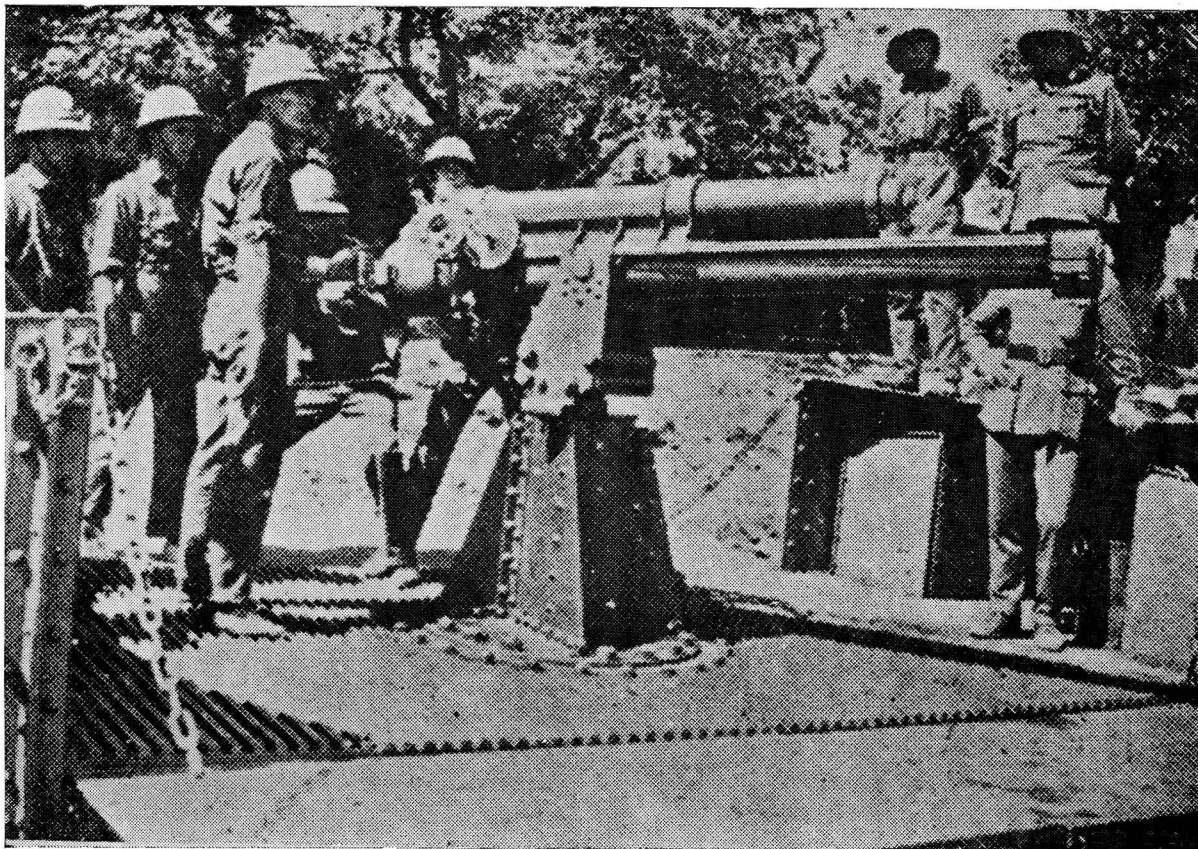
Stores Company to be added to the establishment in wartime.⁵ This scheme did not survive the Great Depression, which forced the Defence budget to a very low level and prompted extensive revision of South Africa's military requirements. By 1933 the Brigade had ceased to exist. All that remained of the military rail establishment were the two armoured trains, which continued as Active Citizen Force units until the outbreak of war. No 1 Armoured Train was based at Cape Town and No 2 Armoured Train at Johannesburg.⁶

Despite the collapse of an organized Brigade scheme, contingency planning proceeded. On the outbreak of war in 1939 a Railway Movement Section went into operation and facilities for the movement of large numbers of troops were quickly made available.⁷ But as more and more men volunteered for service the need for a railway organization along military lines became apparent.

Re-establishment of the Railways and Harbours Brigade

Thousands of railwaymen volunteered for service with regular units on the outbreak of war, but ultimately most of them served with the Railways and Harbours Brigade, which was gazetted as a part-time unit of the Active Citizen Force on 1 April 1940. The Brigade was of a composite nature and was intended to handle all branches of railway and harbour operation, maintenance, and engineering.⁸

The original establishment resembled that of 1929 and may well have been based upon it. Three sections were planned — an Operating Group, a combatant section, and ambulance trains. The Operating Group comprised Group Headquarters (at Railway Headquarters in Johannesburg); a Railway Operating Company; a Mechanical Workshop Company; a Maintenance Company; a Shore Company; a Stores Company; a Shore (docks) Company; a Marine (Floating Craft) Company; and a Light-house Company. The last three of these indi-



This photograph of 'Active', No 1 Armoured Train, appears on a Christmas and New Year greeting card for 1927-1928

cate that even at an early stage it was realized that South African ports would have to handle substantially more work than in peacetime, although it was not until Allied control of the Mediterranean became tenuous after the fall of France and Italy's entry into the war that the real effects of wartime exigencies became felt. Even greater pressure was exerted on port facilities after Japan entered the war and protection of the Indian Empire assumed new importance in the Allied War effort.

Two infantry battalions were established as part of the combatant section. The first battalion had its HQ at Johannesburg and drew its men from the Transvaal, Orange Free State, and Natal. The second battalion had its HQ at Cape Town. Two of its Companies were based on Cape Town and one each of two further Companies were based at Port Elizabeth and East London. Four armoured trains, based at Johannesburg, Cape Town, Port Elizabeth and Durban, completed the establishment of the combatant section. Ambulance trains were employed in the same

capacity as in 1914 — transferring casualties from the ports to hospital. Several siddoor coaches were converted into ward-cars, and vans were converted into dispensary vehicles. 13 ward-cars and 4 dispensary vehicles, which made up two complete hospital trains, were built. Each train could accommodate 150 lying patients, while additional walking patients were catered for by the attachment of standard main-line sleeping stock. The staff of the ambulance trains were Railway servants who served as and when necessary and resumed their civil duties after each journey. Most of them were qualified members of the Railways and Harbours Division of the St. John Ambulance Brigade. One train was based at Voortrekkerhoogte (later at Mapleton, near Johannesburg), and the other at Durban.⁹

The place of the Railways in the war effort

A sound and efficient railway transport system is vital during wartime. Troop and supply movements have to take place quickly and reliably. The particular services provided



Inside an ambulance train

by South Africa to the Allied war effort caused a variety of unusual demands to be placed on the Railways Administration. An inadequate service would not only have jeopardized the success of the South African armed forces, but would have been a real blow to the British and Dominion forces in the Middle East and Pacific theatres. South Africa was an important link between Britain and the Middle East, and until the surrender of Italy in 1943 made the Mediterranean reasonably safe for Allied shipping and the Suez Canal could be used, the port facilities at Cape Town and Durban (and Port Elizabeth and East London, to a lesser extent) were used by numerous convoys. The Railways and Harbours Administration was responsible for operating the ports and for ensuring that coal and other supplies were delivered to the waiting shipping. Repairs to ships were also carried out.

The other major contribution on the home front was the production of great quantities of ammunition and equipment not only for the South African forces but for the Allied forces as a whole. On the fighting front, the Railways and Harbours Brigade accompanied the regular units in all their campaigns, doing construction and repair work to facilitate communications.

Railway organization

In July 1940 the Chief of the General Staff instructed that a training camp be established at Mapleton, a small station twenty miles from Johannesburg on the main line to Natal. A composite Railway Company was mobilized for this task, and moved into camp on 9 July 1940¹⁰. Mapleton Camp became the central training point for the Railways and Harbours Brigade. It was also used as a reception camp for Railways and Harbours personnel returning to the Union.¹¹

From an early stage it was evident that the railwaymen, because they possessed specialist knowledge in their several fields, should be drafted to units where their potential usefulness would be fully exploited. For this reason the Railways and Harbours Brigade was expanded through the creation of Railways and Harbours Workshops, Railway Operating Companies, Docks Operating Companies, Railway Construction Companies, Harbour Construction Companies and Railway Telegraph Communication Companies.

This policy of forming specialized units from Railways and Harbours personnel was adhered to wherever possible, but a larger number of railwaymen volunteered for service (14 000) than could be absorbed, and therefore the surplus were drafted to regular combatant units. Personnel were also made available for Reconnaissance and Anti-Tank Battalions. Throughout the war the Administration released as many men as possible for active service.¹²

In 1942 the Railways and Harbours Brigade was re-organized. It was clear that the 1940 establishment was outdated and could be simplified to make administration easier and to release men from tasks where they were not fulfilling a useful role. The Operating Group and Infantry Battalions were combined into three Composite Battalions; only one armoured train was retained; and new Marine Companies were formed. The final organization was as follows:

Brigade Headquarters : Johannesburg
 1st Battalion HQ and
 5 Companies : Johannesburg (embracing the Transvaal, Orange Free State and Northern Cape)

- 2nd Battalion HQ and
4 Companies : Cape Town (embracing the Cape Province — except the Northern Cape — and South West Africa)
- 3rd Battalion HQ and
4 Companies : Durban (Natal Province area)
- Armoured train : Johannesburg (Mapleton)
- Ambulance trains : Mapleton and Durban. (Teams at Johannesburg, Pretoria and Durban)
- Marine Companies : Two each at Cape Town and Durban; one each at Port Elizabeth and East London
- Lighthouse Company : Headquarters at Cape Town.

Each company of the combined Brigade was a composite formation, including in its War Establishment Table personnel required for operating, constructing, and maintaining railways.¹³

Although the home Brigade organization could be finalized without serious complication, it proved less straightforward to arrange matters in the fighting areas. Steps were required to avoid wastage of R & H manpower, and co-ordination of manpower requirements between R & H and other units on one hand and R & H units and the Railway Administration on the other hand, became necessary. In addition it was found that departmental matters relating to Railways servicemen were not being dealt with at any speed. To improve matters an extended internal liaison service was planned.¹⁴

In June 1941 a first attempt had been made to co-ordinate R & H requirements in the field, but it had little success. A Composite Railway Operating Company left for the Middle East in that month, accompanied by a Headquarters Group under Lt Col T. G. McEwen and Capt A. S. Robinson. For various reasons the Group never fully functioned in this role, and Lt Col McEwan was later seconded to the British forces.

Direct representation became a reality when Brigadier C. M. Hoffe, General Manager of the

SAR & H, and Commander of the Railways and Harbours Brigade, arranged for Major D. O. Hogg to be posted to the Middle East as Staff Officer to the Brigade [SO (R & H)]. Major Hogg left South Africa in July 1943. In February 1945 he was succeeded by Major G. B. Kelly.¹⁵

The Railways units in the field were not confined to any single Corps. They were spread between the Engineering, Technical, Tank and Signals Corps. (Later on they would be attached to the Artillery Corps as well). SO (R & H) could not therefore be affiliated to any one Corps, and he was placed directly on the UDF Administrative staff. His duties were:

1. Co-ordination of personnel requirements as relating to R & H Units, as between the UDF and the SAR & H Administration.
2. Holding a watching brief to ensure that such use was being made of R & H Units as would justify their retention in the field as specialist units.
3. Ensuring that personnel released by the Administration specifically as re-inforcements for R & H Units were actually drafted to such Units, where their experience or trade qualifications could be used to the greatest advantage.
4. Liaison with the Railway Administration in regard to the employment of R & H Units, reinforcement requirements, and similar matters.
5. To attend to all matters relating to civil employment and domestic affairs as they affected R & H men on service in the Middle East and Mediterranean areas.¹⁶

In addition the SO (R & H) supervised personnel management in units which the Railway Administration had undertaken to maintain. This often involved cross-posting men to units which would make the best use of their skills. It followed naturally that most of the men so involved were artisans and the specialist railway operating and engineering grades.¹⁷ Such men were in fact the core of the Railways and Harbours Brigade. The majority of the units of the Brigade were attached to the SA Engineering Corps, and it was appropriate therefore that later on in the war the SO (R & H) functioned in

many matters under the aegis of the Staff Officer of Engineers.¹⁸

Unfortunately it is not practicable to analyse the merits of the military railway organization in World War II on the basis of published material alone. But it may be mentioned that Major Kelly, the second SO (R & H), had a favourable opinion of the scheme and recorded his verdict that from the points of view of the Defence authorities and the Railway Administration, 'the work that was accomplished will probably go to show that the appointment of this representative was mutually advantageous and beneficial.'¹⁹

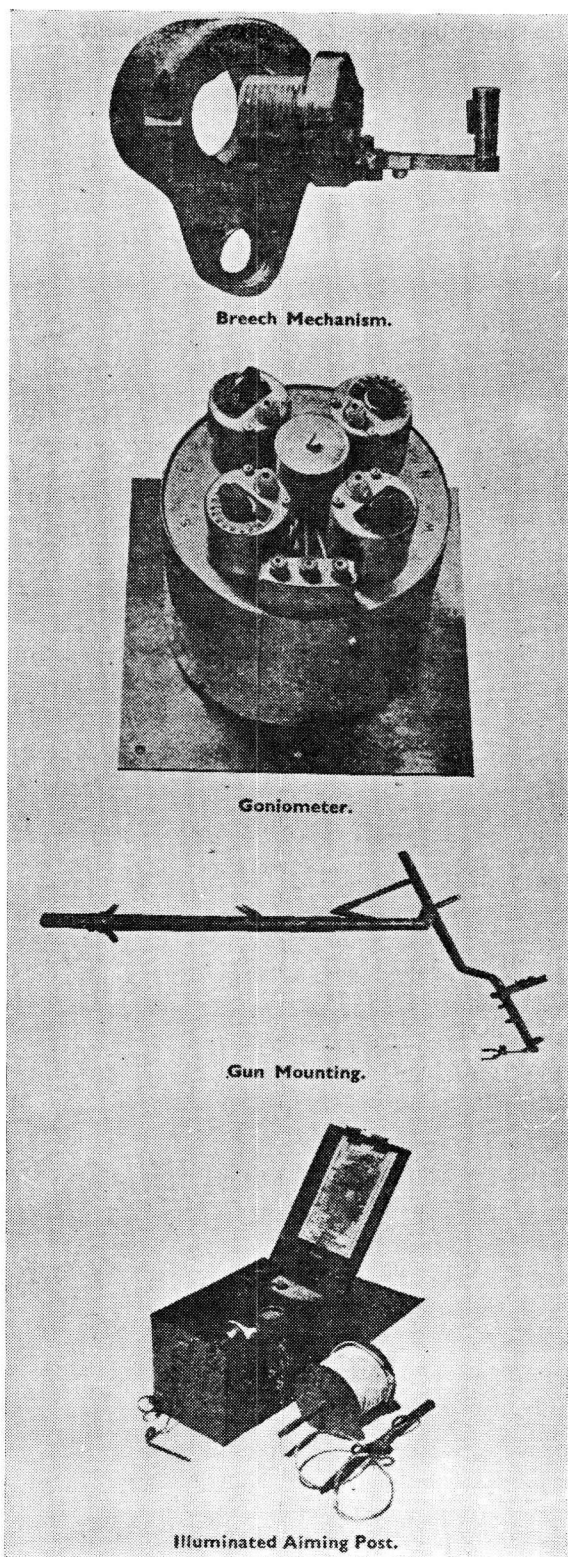
Equipment and munitions production

During World War I the Railways furnished so much of the Union's war material that the then General Manager remarked that the railway workshops 'have, to a certain extent, served as the Woolwich Arsenal of the Defence Force.'²⁰ The remark would have been equally valid if made about World War II. Railway workshops were the obvious place to manufacture war material. It was also clear that production would have to be on a vast scale if the serious shortages of September 1939 were to be overcome.

Because South Africa in 1939 was not heavily industrialized, depending on imports for complex machinery, tools were not available. These had to be built before war production could start, and artisans had to be trained in new machine methods. But once these initial problems were dealt with, a high rate of production was attained. Millions of component parts were made for guns, tanks, ships and bombs. Numerous smaller items, some requiring precision work, were made; these included bayonets and scabbards, oil cans, signalling equipment, anti-submarine patrol boats, hospital trolleys, hydro-cookers, gun sights, clinometers, and jaw splints.

By the end of the war the workshops had built about 10 000 complete mortars, and had also manufactured about 40% of the components of the 3.7" howitzer and about 33% of the parts of the six-pounder anti-tank gun. 320 howitzer trailers were designed and built.

Armoured car construction was decided on early in the war, the units being based upon



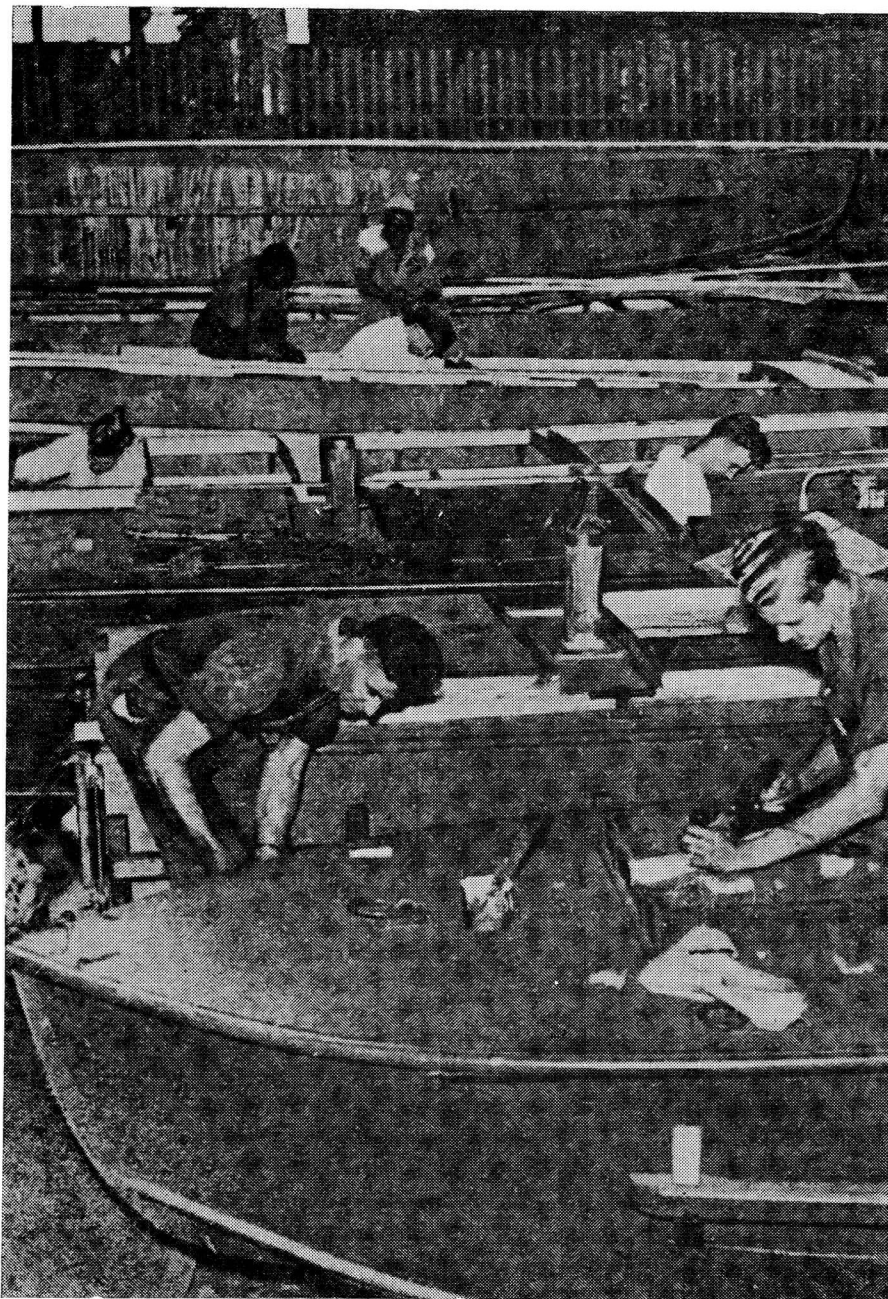
Four items of a specialized nature manufactured in the Railway workshops

the experimental vehicles built locally shortly before the outbreak of war. More than 200 000 armoured car jobs, consisting mainly of welding bodies and turrets, were undertaken.²¹

Harbour work

Durban and Cape Town, the Union's biggest ports, bore the greatest burden during

the war. A total of 400 convoys, carrying about 6 000 000 men, called at South African ports. Ships of all descriptions — merchant ships, aircraft carriers, battleships, transports, and others — required a variety of services ranging from victualling to complicated repairs. New facilities were built at Durban, including a 17 000 ton floating dock. The following figures give an indication of the work undertaken at Durban.²²



Forty-one motorboats were built for river work in Burma

Graving dock	Gross Tonnage
501 merchant vessels	3 358 780
183 naval vessels	1 213 199
97 harbour vessels	121 870
Floating dock	
319 merchant vessels	327 965
337 naval vessels	232 148
148 harbour vessels	75 239
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1 585	5 329 201
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Work in the field

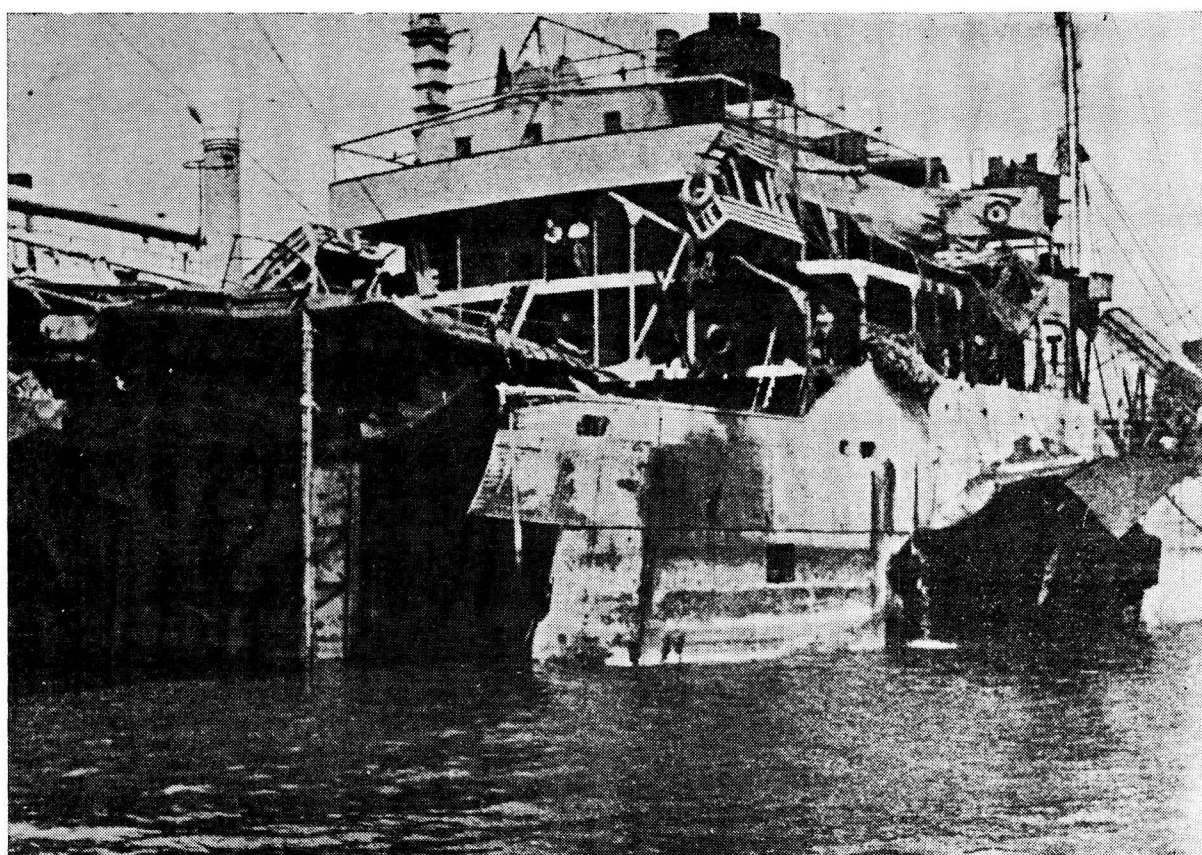
A detailed account of the work done by railwaymen in the field would fill many pages. This resumé can do no more than to touch on certain particularly noteworthy undertakings.

In January 1941 a Railway Construction and Maintenance Group was sent to Kenya to build a strategic railway in Abyssinia. Campaign strategy was revised, however, and this project was abandoned. Thereafter the Rail-

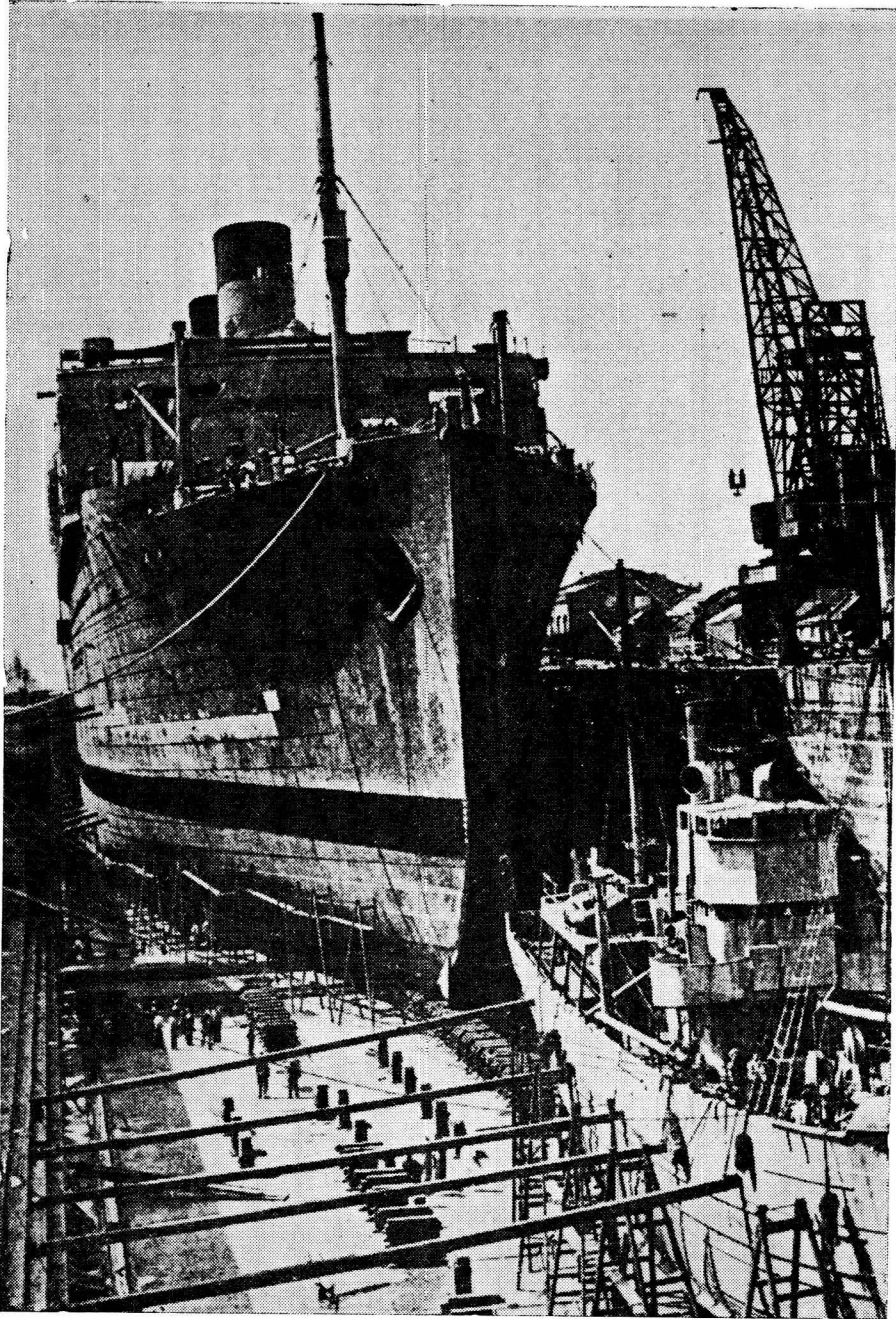
waymen in Abyssinia concentrated on reconstruction and maintenance of rail communications. The retreating Italians destroyed bridges and lengths of track to delay the South African advance and repairing the damage because a time-consuming task.²³

In co-operation with Australian railwaymen, the South Africans built a new railway in Palestine. The line connected Haifa and Tripoli, covering a distance of 150 miles. Construction was difficult, for it involved two tunnels and a sea-wall, built in places in water more than eight feet deep. The line was completed in just over six months.²⁴

Railway construction teams faced their greatest challenges in the Western Desert and in Italy. They arrived in the desert theatre during Eighth Army's retreat to El Alamein, and after that battle were fully occupied rebuilding the Western Desert Railway, which had suffered from German demolitions and Allied bombing. Near Tunis the South African railwaymen were withdrawn to build station yards behind the lines and subsequently to rest and re-equip for the Italian campaign.²⁵



Some ship-repair tasks were of great magnitude

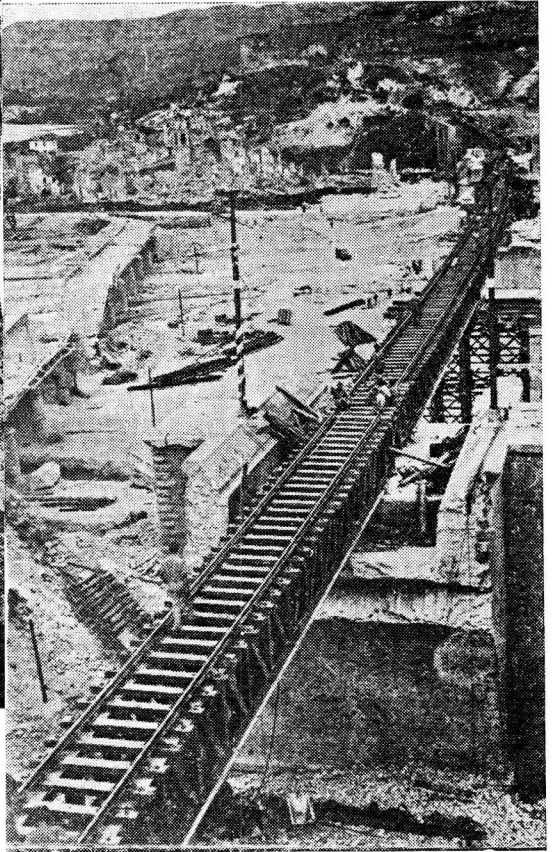
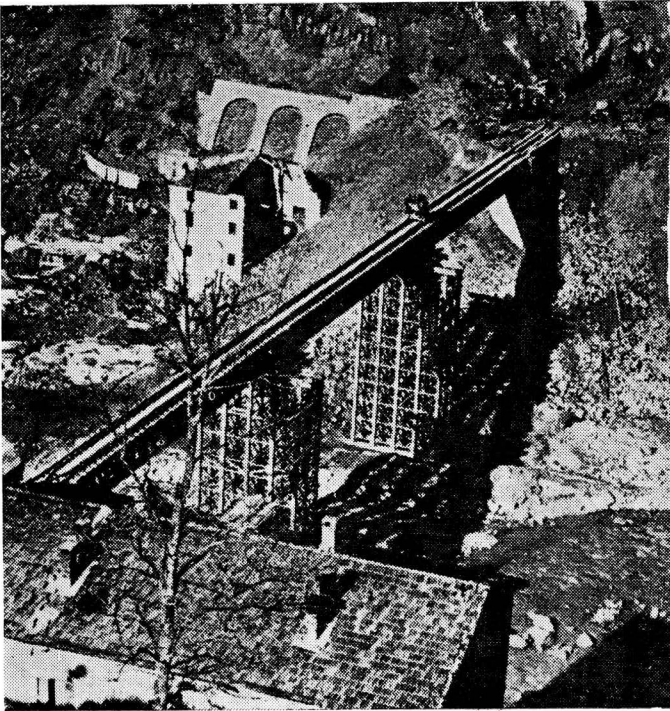


The Ile de France in the dry dock at Durban

Similar work, although of a more extensive nature, was undertaken in Italy. The retreating German forces destroyed as much as they could in order to hold up the pursuit. They were aided in this by the terrain; Italy's mountains demand extensive use of bridges and tunnels in railway construction, and as these were damaged the quantity of repair work increased. Repairs were necessarily hurried, and policy laid down that only quick repairs be made on the spot. Permanent re-

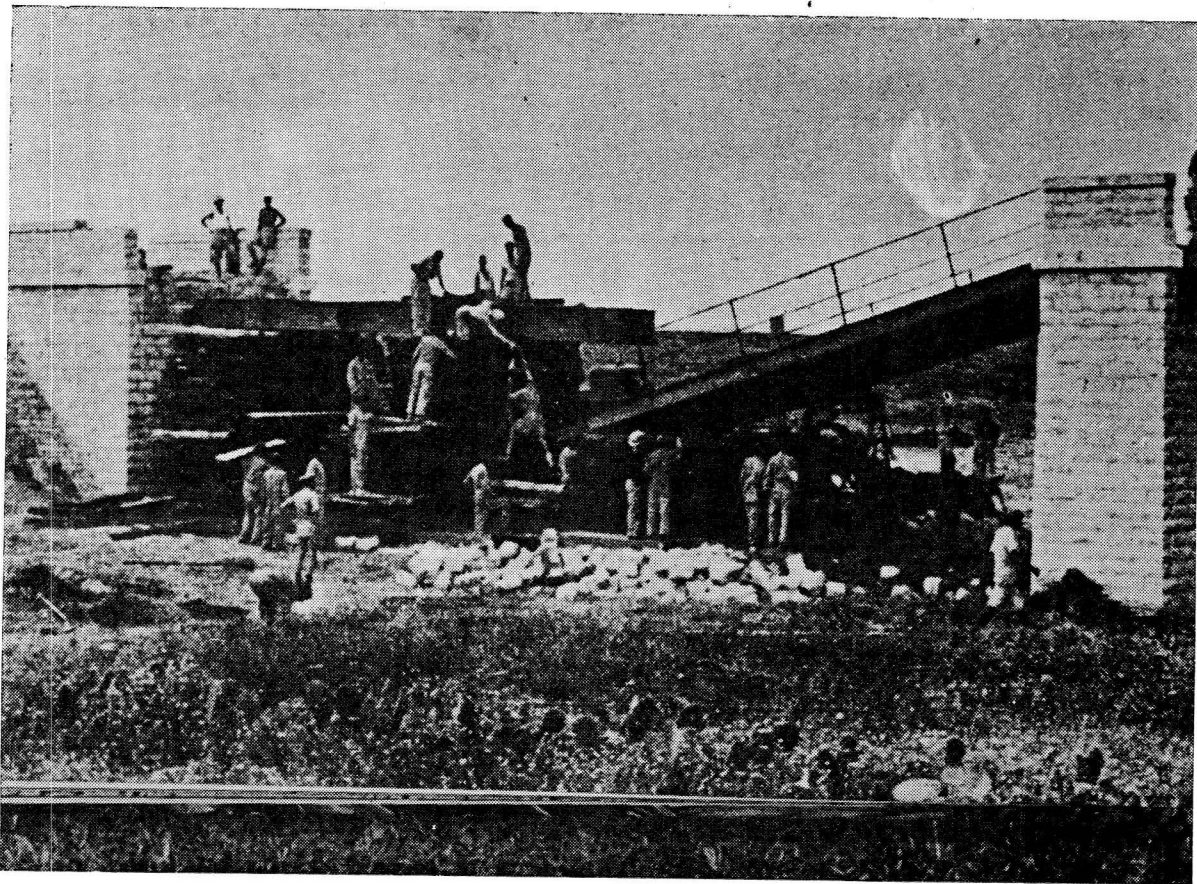
pairs were left until after the end of hostilities. Tunnels, bridges, entire stations and station yards, culverts, and long lengths of line had to be repaired.²⁶

Valuable harbour work was carried out by the railwaymen serving with the 41st Harbour Construction Company, who repaired damaged harbours in East Africa, North Africa and Italy. Two Docks Operating Companies helped to load and discharge hundreds of ships at ports in all the operational areas.²⁷



Three typical scenes of demolition and reconstruction in Italy. Note that the tunnel at the end of the bridge in the above picture has collapsed





A damaged bridge on the Western Desert Railway

The foregoing account, which is not by any means exhaustive, furnishes an outline of the work done by the SA Railways and Harbours to further the South African war effort. It should be clear that the services provided were essential, 'primary' services which could not have been furnished by any other organization at that time. South Africa in 1939 possessed relatively little heavy industrial plant. Without the aid of the Railways, South Africa's war effort could have been of only very restricted value to the Allies.

1. Unpublished wartime records have not been consulted for the writing of this article, which is based on an account written in August 1945 by the Staff Officer of the Railways and Harbours Brigade. It is housed in the archives of the SADF Documentation Service under the title **NAREP/UNFO 14**: pp 11649-11655, and is henceforth referred to as **N/U**. Most additional information is drawn from the history of the SA Railways during the Second World War, **We Fought the Miles**. (No place or date of publication).

2. N. D. Orpen, **East African and Abyssinian Campaigns**, (Cape Town and Johannesburg, 1968), pp 2, 3.
3. Details of the war production programme may be found in **A Record of the Organisation of the Director-General of War Supplies (1939-1943) and Director-General of Supplies (1943-1945)**. (No place or date of publication).
4. See the present author's article, 'The Railways and the War Effort, 1914-1915', **Militaria**, 4/4 (1974), pp 1-14.
5. **Officers' List, Union Defence Forces, January 1929**, pp 20-21, 58-59, (Government Printer, Pretoria, 1929).
6. **Officers List, Union Defence Forces, January 1933** p 46. (Government Printer, Pretoria, 1933).
7. **We Fought the Miles**, p 16.
8. **N/U**, p 11649; **We Fought the Miles**, pp 23, 59.
9. **N/U**, pp 11649, 11650; **We Fought the Miles**, pp. 51, 59.
10. **N/U**, p 11651; **We Fought the Miles**, pp 11, 59.
11. **N/U**, p 11651.
12. *Ibid.*
13. **N/U**, p 11650.
14. **N/U**, p 11653.
15. *Ibid.*
16. **N/U**, p 11654.
17. *Ibid.*
18. **N/U**, p 11655.
19. *Ibid.*
20. UG 25-1915, p 81.
21. **We Fought the Miles**, pp 42-50.
22. **We Fought the Miles**, pp 27, 29.
23. **We Fought the Miles**, pp 61-63.
24. **We Fought the Miles**, pp 65-67.
25. **We Fought the Miles**, pp 69-71.
26. **We Fought the Miles**, pp 73-85.
27. **We Fought the Miles**, pp 87-93.