

# SUNSHIELDS

The next challenge from Barkas was to devise a convincing way of camouflaging tanks. General Wavell, under pressure from Churchill, planned to bring his armour secretly into position against the Afrika Korps.

According to Fisher, Maskelyne found a way to transform a tank into an innocent truck by adding a lightweight cover or 'sunshield'. This was an effective method of mimicry, but was Maskelyne the inventor?

Barkas' account credits Wavell: *"On a buff slip Wavell had drawn a little sketch of a tank with a kind of canopy over it. Underneath he had written and initialled in blue pencil, "Why not some kind of quickly detachable cover fixed to A.F.V.'s to make them look like thin-skinned vehicles?" The whole idea was there. It was only a matter of design, development, and arrangements for manufacture."*

Even Fisher concedes that the impetus came from Wavell's notebook: *"On it the General had sketched the profile of a tank surmounted by a large flat board. A second sketch showed that an aerial view of a truck had been drawn on the board. Theoretically, at least, an observer flying overhead would look down on this and be fooled into believing it was a common lorry."* Maskelyne immediately saw the limitations of this design: *"The shadow cast by a tank in no way resembles that of a truck, and the shadow of a flat board looks like nothing else except a flat board."*

In 2004, I examined a declassified document on sunshields that included a photograph of Wavell's original note. Fisher's account is misleading. Wavell drew a canopy over the tank, not a flat board. Barkas' description is more accurate. Wavell actually wrote:

*"Is it a wild idea that a tank could be camouflaged to look like a lorry from air by light canvas screen over the top It would be useful during approach march, etc. Please have it considered."*

The Archive document, typed July 22<sup>nd</sup> 1941, gives precise dates on sunshield development and testing:

Wavell floated the idea on April 23<sup>rd</sup> 1941.

*"A design and sketch was prepared by Camouflage Experimental Section. A mock-up was produced with the assistance of Mechanical Experimental Establishment and was satisfactorily tested on 30 Apr 41."*

*"As a result, O.S. produced a Pilot Model which was tested over typical desert going on 3 May 41 ... ."*

*"The Pilot Model was of wooden frame construction surfaced with canvas hessian."*

(Maskelyne was the officer in charge of the Cam Exp Section. His prototype can be seen in the PHOTOS section of this website, under 'Sunshields'.)

This trial was impressive and an immediate order was placed for four hundred sunshields.

A close reading of the report reveals that *Magic-Top Secret* and *The War Magician* overdramatised the test by claiming that the ground observers and the pilot failed to detect the camouflaged tank.

The disguised tank could be spotted from side-on at ground level because of the

characteristic tracks. From high above, these tracks were also visible.

At ground level, head-on, the disguise was resilient. However, from a distance, the fake truck gave itself away by its manner of approach: *“in the demonstration, it kept a straight course over broken ground whereas the wheeled vehicles had to turn this way and that.”*

Nevertheless, the observers were impressed by the deceptive potential of the sunshield canopy.

**Even if the original idea for sunshields came from Wavell, I believe that Maskelyne and his Camouflage Experimental Section deserve credit for their clever design and swift implementation.**

**Looking at the original photo of the first sunshield, I am still struck by its brilliant simplicity.**

**The ‘sunshield’ prototype was a masterpiece of misdirection and may well be the most useful prop ever manufactured in wartime by a magician.**

The Archive report states: *“The first batch of ordnance-produced ‘Sunshields’ were fitted and went into action with 7 ARMD DIV IN WESTERN DESERT. The results were successful.”*

The actual combat report is missing, so the precise date of introduction is elusive. It seems probable that Sunshields were battle tested in June 1941 and might have been ready for Operation Battleaxe as Fisher claims. They were definitely used in large quantities by the time of Operation Crusader in November 1941.

If sunshields made their début at Battleaxe, then they made no difference to the result. This was no fault of Maskelyne’s design though. Rommel’s own signals intelligence team had warned that a major attack was imminent. His 88mm guns, originally designed as anti-aircraft weapons, proved to be devastating tank-killers. Operation Battleaxe, launched on June 15<sup>th</sup> 1941, was an embarrassing failure for General Wavell. 91 British tanks were destroyed. In contrast, the Germans only lost 12.

Churchill rewarded Wavell with the sack.

*(Magic–Top Secret commits an outrageous swindle when it claims that the mass introduction of sunshields enabled Wavell to smash through the Italian lines and drive the enemy back to Tripoli. It claims that the offensive “undoubtedly saved Egypt.” This is a misplaced reference to an earlier campaign.)*

## MASKELYNE’S WAR NOTES

In the wartime scrapbook, there is a typewritten page signed by Jasper Maskelyne on “THE HISTORY OF THE “SUNSHIELD.” Below are some extracts:

*“Early in April 1941, when I was O.C. of the Camouflage Experimental Section, I received instructions from Major Barkas that General Wavell wished to know if it would be at all possible to construct some sort of cover that could be put over a tank to make it look like a 10 tonner, and at the same time give the commander and driver a clear view. It was also to be remembered that the guns must be able*

*to go into action at a moments notice. I set to work on an idea of mine, and I designed the "SUNSHIELD" as we know it today*

*My first "SUNSHIELDS" were made of wood and canvas, but it was found that they shook to pieces during travel. So I redesigned them and had them made of ¾ inches gas pipe and sail cloth at the R.E. (Royal Engineer) workshops, Abbassia—these were successful.*

*These "SUNSHIELDS" in conjunction with my heavy tanks and my camouflage for A.C.V.'s have been used in several of our advances in the Western Desert. The most notable being our advance in CYRENAICA on November 20th 1941 and Alamein last year."*

This document was produced in 1943. We may quibble with the development dates—one or two weeks premature?—but it provides strong evidence that Maskelyne was responsible for introducing sunshields.

## TRACK MARKS

Tanks camouflaged beneath sunshields still left distinctive tracks in the sand. Maskelyne's neighbours in the Mechanical Experimental Establishment immediately tried to rectify this flaw. They added a weighted trailing device to erase the telltale track.

Unfortunately, these track erasers proved insufficient. Even by the end of 1942, a classified report stated: *"The problem of automatic obliteration of tracks still remains unresolved. Various rollers or scraping devices fitted as trailers have been tested but have either been impracticable or have not stood up to the wear."*

The same report candidly admits: *"The enemy has captured Sunshields and knows all about them."* As early as August 6<sup>th</sup> 1941, the British came across an Italian document warning its infantry units about the new method of tank concealment: *"The enemy to save its own heavy tanks from being observed from the air, has camouflaged them in such a way as to make them appear like heavy lorries."*

Despite this setback, the British believed that the 'sunshield' device was not completely compromised: *"The fact that the enemy knows all about this device is not thought to have seriously prejudiced its value. It is still just as hard to detect tanks from the air or in distant ground view."*

Jasper Maskelyne, the serving officer, was aware of these worrying developments and kept copies of these reports for his future scrapbook. However, the sanitized accounts of 'sunshields' in *Magic-Top Secret* and *The War Magician* gloss over these battlefield complications.

Note: Pictures of sunshields (the later tubular metal versions) and track erasers can be seen in the PHOTOS section of my website. The man in uniform crouching down beside the erased track is actually Jasper Maskelyne. This photograph appears in the declassified archives as well as Maskelyne's personal scrapbook. Erasing the tracks proved more difficult than the photograph suggests.