

# Swarovski's marksman hits the right target – why Leica should define the correct problem to be solved

Swarovski-Optik KG v Leica Camera AG [2013] EWHC 1227.

## **Summary**

At the Patents Court before Vos J, Swarovski-Optik brought patent infringement proceedings against Leica Camera, who challenged the validity of Swarovski's patent. The patent related to riflescopes. The judgment focused on the importance of identifying the skilled person and defining the correct problem for the skilled person to solve.

## **Background**

A riflescope consists of an inverting optics system (relay) between objective and eyepiece optics systems. A first image is formed between the objective and inverting systems. A second image is formed between the inverting and eyepiece systems. The inverting system is needed for magnifying and flipping the image of the target being viewed, so that the target image is the right way up as seen through the riflescope. The image is formed over a curved surface, also referred to as field curvature, and the edges of the image can appear deteriorated.

Swarovski's patent was for a riflescope with a zoom factor above four and it enabled a field of view of at least twenty-two degrees at all magnifications. This was achieved by including a negative lens in the inverting system, where the negative lens causes beams to diverge and improves the edges of the image viewed, by curving the image formed over

the curved surface towards the user.

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## **Decision**

Commercially available scopes for zoom factors above four were not produced at the relevant time of July 2005. Commercially available scopes generally showed a negative lens positioned on the eyepiece side of the second image, or less commonly coincident on the plane of the second image. An IOR riflescope had a negative lens located at the second image, for which the image plane moved towards the eyepiece as the target was viewed at increasingly closer distances. This meant that the negative lens could in some circumstances be located on the objective side of the image. Vos J did not consider this to form part of the normal use of the riflescope, since it would not usually have been used to view such close targets. Thus, the subject matter of claim 1 was not clearly and unambiguously disclosed in the prior art IOR riflescope so the claim was novel over this.

The common general knowledge highlighted that the most common position for a negative lens was on the eyepiece side of the second image.

Swarovski's negative lens was positioned on the objective side of this second image and was part of the inverting optics system. It was not part of the eyepiece (see Figures 3a and 3c of the patent).

Vos J considered the skilled person and he/she was identified as an optical designer interested in the patent. Looking to expert evidence, an expert Professor Rogers was considered "too partisan" and in essence too expert to be the skilled person. Vos J concluded Professor Roger's "undoubted eminence ... made it difficult for him to see things from the point of view of the ... person skilled in the art." On the other hand, Vos J considered Dr Blandford, an optical designer for 31 years, to be able to give genuine assistance as to the likely approach of the skilled person. The identity of the skilled person was not in issue between the parties but there was a major difference of opinion between Dr Blandford and Professor Rogers over the correct problem to be solved (see points 200-208 of the decision).

Optical effects from field curvature, such as deteriorated image edges, are generally worse at high magnifications. The use of a negative lens was known to improve the image. However, an optical designer has many choices of where to position such a negative lens and may weigh up advantages or disadvantages for each position within a riflescope. The prior art showed that it was known to use a negative lens but none of the prior art used a negative lens in the same way as the patent.

Leica and Professor Rogers considered the problem to be field curvature, based on

creating a telescope with a zoom factor above four and field of view above twenty-two degrees at all magnifications. Leica argued, and it was agreed, that the obvious solution to that problem would be to include a negative lens.

On the other hand, Swarovski and Dr Blandford considered the problem to be creating a telescope with a zoom factor greater than four and field of view at least twenty-two degrees at all magnifications. These types of telescope were simply not commercially available at the time of the patent. Starting from the riflescopes that were available, in July 2005, none showed a strong negative lens integrated in the inverting system. The prior art showed that it was common practice to place a negative lens in the eyepiece module, and this is where the skilled person would also have placed the negative lens; the solution of placing a negative lens in the inverting system was therefore held to be not obvious.

Vos J ruled that the negative lens in Leica's riflescopes fell within the meaning of Swarovski's patent because the fact that the negative lens was positioned in a flared end of their scope did not prevent it from being part of the inverting system. Leica were found to infringe Swarovski's patent which was found to be valid.

### **Comments**

This case emphasises the importance of identifying the relevant skilled person and the problem to be solved in order to determine if an idea is obvious.

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