Intellectual Property Office

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31 October 2023

PATENTS ACT 1977

APPLICANT	Gordon George Baldwin, GKA Rubber & Plastics Ltd; and Daniel Albert Charlesworth
ISSUE	Whether GB2013457.3 complies with Section 1(1)(a) of the Patents Act 1977
HEARING OFFICER	Ben Buchanan

DECISION

Introduction

1 Patent application GB2013457.3 ("the application") was published on 4th August 2021 as GB2591536A. The application is titled "Horse shoe" and was filed on 19th May 2020, claiming a priority date of 24th May 2019.

2 The latest amendments to the claims were filed on 16th February 2023. Three examination reports have issued since then maintaining that the claims lack novelty under Section 1(1)(a) of the Patents Act 1977 ("the Act"). The applicant asked to be heard and, whilst skeleton arguments were not provided, the attorney helpfully indicated that the main arguments to be discussed were those set out in their response of 20th July 2023. Whilst the issue of inventive step was covered for completeness in this response, the examiner did not pursue the objection to inventive step in their latest examination report and no further arguments were provided at the hearing. Thus, the only issue before me is whether the claims as amended are novel over the prior art.

3 The hearing took place on 10th October 2023 by video conference. It was attended for the applicant by their attorney Mr David Fry and his colleague Mr Jack Brown of Agile IP LLP. Sally Vinall attended as assistant to the hearing officer, and the examiner and an observer also attended.

4 Should I find that the application is allowed to proceed, it will be remitted to the examiner for further processing. I note that the search has been completed and the compliance period for the application will expire on 24th November 2023. A retrospective extension under rule 108(2) to that period will be available until the 24th January 2024 upon filing of the requisite form and fee, if required.

The Invention

5 The invention relates to a horse shoe intended to improve safety, particularly during racing, by providing a two-part shoe having a metal inner and a less rigid and less hard rubber or plastics outer. The application asserts that if the shoe comes off in use and strikes a horse or jockey it is less likely to cause injury. In the latest amendments to the claims the rubber or plastics outer has a tread in the form of studs.

6 The claims currently on file are those submitted on 16th February 2023. There is one independent claim, which reads as follows:

> *Claim 1*
>
> *A horseshoe having a rubber or plastics material outer and a metal inner, wherein the outer has a rubber or plastics tread in the form of studs on a bottom surface.*

The Law

7 Section 1(1) of The Act sets out what is required of a patentable invention.

> *1 (1) A patent may be granted only for an invention in respect of which the following conditions are satisfied, that is to say –*
>
> *The invention is new;*
> *…*
> *And references in this Act to a patentable invention shall be construed accordingly.*

8 Section 2 of the Act sets out what 'new' means as follows:

> *2 (1) An invention shall be taken to be new if it does not form part of the state of the art.*
>
> *(2) the state of the art in the case of an invention shall be taken to comprise all matter (whether a product, a process, information about either, or anything else) which has at any time before the priority date of that invention been made available to the public (whether in the United Kingdom or elsewhere) by written or oral description, by use or in any other way.*
>
> *(3) The state of the art in the case of an invention to which an application for a patent or a patent relates shall be taken also to comprise matter contained in an application for another patent which was published on or after the priority date of that invention, if the following conditions are satisfied, that is to say –*
>
> *(a) That matter was contained in the application for that other patent both as filed and as published; and*
>
> *(b) The priority date of that matter is earlier than that of the invention.*

Arguments and analysis

The claims

9 Having summarised the issues at hand, I noted at the hearing that there was some question in my mind as to the clarity of the claims which may affect the assessment of novelty, particularly with respect to the “inner” and “outer” parts of the shoe, the optional selection of rubber or plastics and the “bottom surface”.

10 It was not entirely clear to me from the claim whether “inner” required the metal part to be encased within the outer part, such that the inner was surrounded by the outer at least to some extent; whether the “inner” was concentrically inside the “outer”; or whether, as in some of the citations relied upon earlier in the proceedings, “inner” could refer to the part of the shoe that in use is located against the horse’s hoof, such that it is effectively sandwiched between the hoof and the plastic or rubber part but is not necessarily partially or wholly surrounded by the outer. These questions were not entirely resolved at the hearing, largely due to the brevity of the description.

11 The description does state that the *metal inner may be in the form of an insert* and that the *rubber or plastics outer may cover all or part of the metal*. In light of figures 2 and 3 in particular, it seems that the claim covers the arrangement where the inner is at least partially encased within the outer. For completeness, this is how I have construed the claim. The arguments made no more of this, and I do not believe they turn on this point, there being no dispute that the prior art anticipates these features.

12 The specification of rubber *or* plastics is not difficult to understand, although it broadens the scope of the claim, and would be anticipated by the provision of one *or* the other alone. The “bottom surface” is understood to refer to the surface of the horse shoe which is disposed towards the ground in use, although I note that the tread and studs are not shown in the figures, nor elaborated upon in the description. It is not clear from the wording of the claim whether the tread includes the bottom surface between the studs, or just the studs which are mounted on the bottom surface. I will interpret it to include the surface between the studs, as I think this makes sense given this will influence the characteristics of the tread and the shoe. However, I think the tread may not necessarily comprise the whole of the bottom surface (otherwise they would be one and the same). I believe this construction to be compatible with the argument presented to me; the meaning of “tread” and in particular its purpose was the subject of much discussion and I consider it further below.

13 I have otherwise construed the claims as read and in line with the comments above.

The prior art

14 The majority of the citations raised by the examiner have been overcome and the two remaining are closely related and in the name of the same applicant. The earlier citation, US4616709A, relates to “podded cleats” formed in an outer portion of a horse shoe to provide cushioning for the horse when the weight of the horse is placed upon the shoe on the ground. The later application, US4844172A, being the primary one relied on both in the examination report and discussed in the hearing, is similar but further provides heel pads which may increase a gripping effect.

15 Figure 3 of US4844172A, showing the podded cleats (13), heel pads (29) and toe pad (26) is shown below. The podded cleats are specifically arranged to provide support to the horn of the hoof, but it is clear that they are formed on a significant portion of the base of shoe and are not just a localised feature.

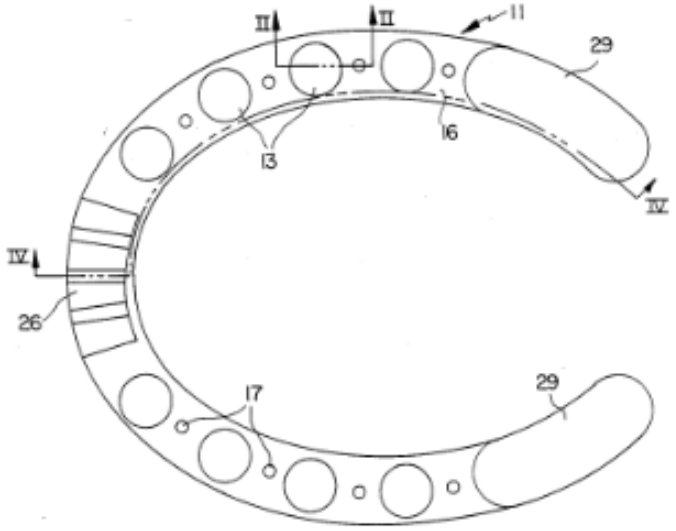

Figure 3

16 I will not repeat the examiner's objections here; they are available to view at the office's online inspection service[1]. In summary, the question for me to decide is whether the arrangement of podded cleats in the prior art can be considered to provide a tread in the form of studs. The attorney asserts that the purpose of the tread/studs is for grip, although this is not explicitly defined in the application. I must take this into account when considering whether the two arrangements are different.

Arguments

17 The main argument, and alleged novel feature, centred on the fact that in the claimed invention the outer has a "tread in the form of studs on the bottom surface". The attorneys asserted that the tread is more than just a bottom surface of a shoe, defining it as formations on the bottom surface designed to provide grip. Analogy was drawn with a tyre, where the tread was said to be for the purpose of providing grip, and it is commonly understood that if a tyre is 'bald' or has no tread, then grip will be compromised. It was also argued that the tread is distinct from the bottom surface of a shoe, and that if the skilled person, who would be a farrier or the like, were to be asked to provide a tread they would understand this to be a portion to improve grip. It was noted that it is important not to conflate the sole of a shoe with the tread. The implication was that the tread is a part of the bottom surface of the shoe for the purpose of providing grip.

18 It is noted that there is no suggestion that a "cleat" (as defined in the prior art) is substantially different to a "stud" in a general understanding of the terms. Indeed, it would appear that these terms are synonymous, the term "cleat" generally being used in place of "stud" particularly in the United States. In their letter of 20th July

[1] Intellectual Property Office - Patent document and information service (Ipsum) (ipo.gov.uk)

2023 the attorney pointed out that it is not the difference between a “cleat” and a “stud” that is relevant, but the fact that the citations relied upon have *podded* cleats, which are cushioning elements rather than grip-improving protrusions. This was reinforced in the hearing where the argument was made that the use of the word “cleat” in the prior art is incidental. The “podded cleats” could equally have been called cushioning elements or any other suitable term; what they are not is “studs”, which improve the grip of a shoe, because they are “podded” so as to be compressible.

19 In the hearing, in support of this, the attorneys explained that one of the problems with the earlier of the two applications, US4616709A, was reduced grip due to the harder material used for the podded cleats, and the later application, US4844172A, overcomes this difficulty by including a heel pad which can (in some cases) provide improved grip. This heel pad is designed so that it does not extend from the base of the horse shoe enough to interfere with the compression of the podded cleats but forms a “tread” of the horse shoe and helps effect grip. The word “tread” is not actually used, let alone defined, in either citation. According to the attorney’s argument, the podded cleats are merely cushioning elements specifically placed to support the horn of the hoof and do not provide the grip expected of a tread. Indeed, the use of a harder resilient material which allows them to be sufficiently durable means that they have a “low frictional resistance”, in the words of the application itself, and may not primarily provide grip. Therefore, the argument goes, the podded cleats cannot be said to be a “tread in the form of studs”.

20 This is a compelling argument and I can see how a compressible feature formed on parts of a horse shoe to provide a cushioning effect to the horn of the hoof, particularly if it specifically reduces grip in some circumstances and requires additional features to be incorporated to compensate, would be considered different to studs incorporated into a tread of a shoe with the express purpose of providing grip. I must ask myself whether this difference is clearly defined by the claim, or whether the prior art may fall within its scope.

Analysis

21 There are two questions to be addressed then.

i) Is a podded cleat a kind of stud?
ii) Is the purpose of a tread to provide grip?

22 Turning first to the question of whether the “podded cleats” of the prior art can be considered “studs” in the sense of the present invention, I note that the present application gives no further information about the form that the studs should take. There is no indication in the claim that a stud must be rigid or resilient and no further information in the specification which would support such amendments to be made or lead the applicant to construe the claims to be so limited. I queried the attorneys on this point in the hearing and they agreed, pointing out that in contrast, in the prior art, the podded cleats are clearly for the purpose of providing cushioning, and that their material is selected at the expense of grip. This is true, but it does not necessarily distinguish “studs” from “podded cleats”. The fact remains that the physical characteristics of the studs of the invention are undefined in the application and must thus be interpreted broadly. It seems to me that a broad interpretation of

the claimed studs, as supported by the description and drawings, does not preclude their being compressible, or “podded”.

23 I therefore consider that the arrangement of “podded cleats” in the prior art does anticipate the feature of a horse shoe with studs on a bottom surface, in the sense that they are both studded protrusions from the bottom surface of a shoe, and there are no further features of the present invention which would sufficiently define the form the studs should take to distinguish them.

24 And so to the second question above. As also argued at the hearing an important distinction is that the studs of the present invention *form the tread*. In other words, they are distinguished because their *purpose* is to provide grip. The question, therefore, is whether the podded cleats of the prior art can be considered a “tread in the form of studs”, when a separate gripping means in the form of a heel (and optionally toe) pad is specifically provided.

25 Turning to the citation primarily relied upon, US4844172A, it is noted that the only mention of providing an increased gripping effect is found at column 2 line 12 which states that the toe and heel portions are *for increased wear resistance, and in some cases increased gripping effect, in these areas*. The remainder of the specification discusses the heel pad in relation to increased wear resistance. I am therefore not convinced that the heel pad is designed to overcome the problem of reduced grip as asserted in the arguments presented at the hearing. However, I am similarly unconvinced that this passage teaches that the shoe with the cleats as a whole is intended to provide an increased gripping effect as suggested in the examiner’s latest report.

26 The reduced frictional resistance of the high durometer elastomer selected for the podded cleats is acknowledged in this citation, but I can find no reference to this being sufficiently problematic that an additional gripping part is required to stop the horse from slipping. It is clear from this document that the podded cleats may be formed *as an integral part of the horseshoe* and *protrude downwardly from the base of the shoe so that each protruding section shall provide initial contact with the ground*. Whilst the heel and toe portions will also contact the ground once the podded cleats are compressed, the cleats themselves form a significant part of the ground-contacting part of the shoe (see figure 1 above).

27 The examiner pointed out that the podded cleats will necessarily provide some grip, and I agree. I did ask in the hearing whether the podded cleats would inevitably “bite” into the ground, particularly soft ground, and therefore provide some grip. On reflection, I think even on hard ground the compression and elastic memory would maintain force at the interface between the shoe and the ground over the area of each cleat and effect some grip. The attorney’s response was that any grip was insufficient, hence the provision of a heel pad in the second citation. Whilst I acknowledge the specification of effecting grip as one of the advantages of a heel pad in the prior art, the primary purpose stated seems to be wear resistance. On balance I am willing to accept the attorney’s point, but the laws of physics preclude me from accepting that the podded cleats provide no grip at all. Whether or not it is their primary purpose, I am sure that on all ground, and in particular on soft ground, they would bite into the surface and improve grip compared to a flat bottom surface as the pressure on each cleat would be increased at the interface. If the definition of

a stud is that it provides some grip then, I still consider the podded cleats to fulfil that definition. But if that is not their primary purpose, do they constitute a tread?

28 The attorneys pointed out that the partial compression of the cleats referred to in the document could equally be on uneven ground, allowing the shoe to support the horn of the hoof and distribute the pressure on the hoof. The document doesn't resolve the question of the balance between stability and grip provided. I take this point, but do not consider the issue turns on this. The podded cleats are clearly part of the formation of the bottom of the shoe that contacts the ground and allows it to perform its function, which would include providing sufficient grip to allow the horse to move around without slipping excessively whether on a hard surface or on soft ground, but I agree there is no evidence that they are designed specifically to improve the grip of the shoe. So, again, if their purpose is not *specifically* to provide grip (even though I think they do) does that preclude them forming a tread?

29 The question of whether the citations anticipate the claim rests on what the skilled addressee would understand to be meant by the specification of "tread in the form of studs" in the present application. Would the skilled addressee, in reading the present specification, understand the claims to be limited to an arrangement which is designed to provide grip? And if so, does such a reading imply features of the tread in the form of studs that differentiate it from the podded cleats of the prior art?

30 I note the present application is silent as to the function of the tread. I did ask in the hearing whether there was support in the application for the studs being to provide grip. The attorneys responded yes – because the tread is formed of studs; the implication being that tread is for grip.

31 There is no discussion of improved grip, the only guidance being given on page 2 which reads *any suitable design of tread may be employed, for example as may be required by a trainer or an owner. Thus, for example the tread may be in the form of studs or a peripheral groove*. There is no other teaching in the document which would direct the skilled addressee to pay particular attention to the tread of the shoe other than to ensure it minimises injury should it come loose by forming it from the rubber or plastics outer. In fact there is no disclosure of any specific features which would suggest that the stud or the tread perform any particular desired function. Therefore I can see no reason in the application in suit to construe these features narrowly.

32 Given this, whilst the skilled addressee may appreciate that one of the requirements of the owner or trainer may well be to improve the grip of the shoe for when the horse is racing, they would not consider that the tread should necessarily be limited to this purpose. I do not agree that in the normal use of the word "tread" an *improved* or particular high level of grip is essential to its function. The analogy drawn earlier with tread on tyres providing grip does not help the applicant as, whilst this is clearly one purpose of tyre tread it may have other purposes such as reducing road noise, rolling resistance or even aesthetics and the features of the tread may be designed accordingly. I therefore consider that the skilled addressee would understand that the tread of the claimed horse shoe is simply that part of the shoe which is designed to contact the ground. This will necessarily provide some grip through the coefficient of friction and any penetration of the ground, being the only contact the horse has with the ground, but a tread does not have to be primarily designed with improved

grip in mind to fulfil this definition. It may be designed with noise levels, comfort, longevity, or minimising damage to a ground surface in mind. Certainly, the application in suit does not suggest otherwise. I am therefore of the opinion that the term must be construed broadly in the claim. The purpose of a tread is not necessarily to provide grip, although providing some grip is inevitable. A tread is indeed the gripping part of a shoe, but that is not necessarily its only purpose. I find then, that a *tread in the form of studs on a bottom surface* will provide some grip, but that grip is not necessarily its primary purpose. It is not implicit in the claim that the studs are optimised for grip.

33 For example I do not consider, in a normal reading of the claimed invention, that the skilled addressee would consider that the studs must be limited in some way, such as being sufficiently rigid to be ground-piercing to improve grip, nor that the tread must be limited to the function of *improving* grip, although they would understand that the tread is the portion of the shoe that provides grip. The podded cleats of the citations are the portion of the shoe which primarily contacts the ground. Indeed in the earlier citation, US4616709A, the podded cleats may well be the only portion of the shoe that contacts the ground. Thus they necessarily provide what grip the shoe affords, even if that is not the purpose for which they are primarily designed and even if they do not provide as much grip as other prior art horse shoes. Nonetheless, they form the tread. They are distinct formations in the ground-contacting portion of the shoe and are not merely the sole or bottom surface of the shoe. Therefore, I consider that the horse shoes of both US4844172A and US4616709A provide a "tread in the form of studs on a bottom surface" of the horse shoe. I find that both documents anticipate claim 1.

Conclusion

34 Having concluded that the amended claims of 16th February 2023 are anticipated by US4616709A and US4844172A and thus that the claimed invention lacks novelty under section 1(1)(a), I refuse the application under Section 18(3).

Appeal

35 Any appeal must be lodged within 28 days after the date of this decision.

BEN BUCHANAN

Deputy Director, acting for the Comptroller