UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DOUGLAS PHILLIPS

Appeal 2008-2094
Application 10/814,378
Technology Center 3600

Decided: December 22, 2008

Before: WILLIAM F. PATE, III, JENNIFER D. BAHR, and STEVEN D.A. McCARTHY, *Administrative Patent Judges*.

BAHR, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Douglas Phillips (Appellant) appeals under 35 U.S.C. § 134 from the Examiner's decision rejecting claims 1 and 3-20, which are the only claims pending in the application. We have jurisdiction over this appeal under 35 U.S.C. § 6 (2002).

The Invention

Appellant's claimed invention is directed to climbing cams used by rock climbers as protection against falls, and more specifically to visible indicia on a cam that allows a climber to quickly assess placement quality and size selection. (Specification 1.)

Climbing cams, which are well known in the art, typically include one or more pairs of opposed cam members having eccentric outer surfaces. The cam members are pivotally mounted to one or more transverse shafts so as to permit opposed cams to pivot in opposite directions. The cams are spring-loaded to an open, extended position. When a handle is pulled, the cams rotate from their open, extended position toward a closed or compressed position. The compressed cam is then inserted into a crack in a rock, and the handle is released. When the handle is released, the cam members rotate under the spring force back toward their open position until the opposed cam members contact the rock. Assuming the cam is correctly sized for the crack, the cam members engage opposite sides of the crack to frictionally engage with the rock, thereby providing an anchoring point. (Specification 1-2.)

Climbing cams are available in a number of sizes, with each size being appropriate for a given range of crack widths. The climber must select the properly sized cam for the crack in order to ensure a safe engagement and anchoring. (Specification 2.) The objective of Appellant's visible indicia is to provide a readily verifiable method to permit a climber to assess whether a particular cam is of the correct size for the crack in which it is disposed. (Specification 3.) Appellant's indicia indicate to the climber

whether the contact point of the cam members with the rock is sufficient to provide a safe engagement. (Specification 8-9; figs. 2-4.)

Claim 1, reproduced below, is illustrative of Appellant's invention.

> 1. A placement indicator for use with a climbing cam having opposed cam members, comprising:
>
> visible placement indicia placed on each of said opposed cam members, wherein said visible placement indicia indicates the quality of cam placement in a rock and includes indicia for indicating when cam placement is not safe.

The Rejections

Appellant seeks review of the Examiner's rejections of claims 1 and 3-20 under 35 U.S.C. § 103(a) as being unpatentable over Watts (US 2004/0035992 A1), Kensey (US 5,021,059), and Shivers (US 5,067,667) and of claims 1 and 3-20 under 35 U.S.C. § 103(a) as being unpatentable over Jardine (US 4,184,657), Kensey, and Shivers.[1]

ISSUES

The Examiner takes the position that the cam members (head 702 and cam 5, respectively) of Watts and Jardine have visible indicia, in the form of stepped gripping members or teeth (fig. 7 of Watts and fig. 4 of Jardine) formed at the surfaces of the cam members. (Ans. 4-6.) According to the Examiner, the stepped gripping members, or teeth, are capable of correlating the quality of cam displacement in a rock and can be observed from the side

[1] The Examiner does not refer to Shivers in the statements of the grounds of rejection, but does rely on Shivers for its teaching of color-coded indicia. (Ans. 5, 7; Final Rejection 3, 4.)

surface of the cam member. *Id*. Appellant argues that these grooved surfaces of Watts and Jardine do not satisfy the "indicia" limitations of independent claims 1, 9, and 14 because they do not provide any correlation with the quality or safety of the cam placement. (Appeal Br. 12, 17.)

In order to satisfy the color coded marking limitations of dependent claims 4, 6-8, 11-13, 15, and 17-20, the Examiner determines that it would have been obvious to use the well known concept of color coded zones as taught by Kensey along the stepped gripping means on the edge of each cam of Watts and Jardine to indicate the degree of safety of the device when placed in the cracked surface. (Ans. 5-6 and 6-7.) Appellant, on the other hand, argues that the references provide no teaching, suggestion, or motivation to make the combination proposed by the Examiner. (Appeal Br. 11-12 and 14-15.) Appellant further argues that none of the references teaches a colored zone that correlates to a predetermined portion of the rock-contacting surface, as called for in claims 8, 13, and 19. (Appeal Br. 16, 21.)

Appellant additionally argues that the grooves of Watts and Jardine are not indicia placed on a side surface of the cams, as called for in claims 3 and 20. (Appeal Br. 15 and 21.) The Examiner points out that the grooves, teeth, or stepped gripping means are visible from the side surface of the cam of either Watts or Jardine. (Ans. 5 and 6.)

Appellant also argues that there is nothing in any reference cited by the Examiner that shows a graduated scale, as called for in claims 5, 6, 16, and 17. (Appeal Br. 16 and 21.)

Accordingly, the issues before us are:

1. Has Appellant demonstrated the Examiner erred in the rejections by finding that the grooved or toothed peripheral surfaces of the cam members of Watts and Jardine satisfy the claim limitation of visible indicia for, or capable of, indicating the quality and safety of cam placement in a rock?
2. Has Appellant demonstrated the Examiner erred in the rejections by determining it would have been obvious to use color coded zones on the cam members of Watts and Jardine to indicate the quality or safety of the engagement of the cam with the rock?
3. Has Appellant demonstrated the Examiner erred in the rejections by finding that the grooves of Watts and Jardine are indicia placed on a side surface of the cams, as called for in claims 3 and 20?
4. Has Appellant demonstrated the Examiner erred in the rejections because none of the applied references teaches a graduated scale?

FACTS PERTINENT TO THE ISSUES

FF1 Appellant's Specification states that the visible indicia of the invention "may be placed on the cams in any appropriate manner." (Specification 7.) For example, the indicia may be printed or painted onto the cams. *Id*. Alternatively, the visible indicia "may comprise physical disruption of the surface of the cam." *Id*. Therefore, a physical disruption of the side surface of the cam, such as grooves formed in the peripheral surface of the cam member, constitutes visible indicia placed on the side surface of the cam.

FF2 Appellant concedes that Watts' gripping surfaces are visible from the side surface. (Appeal Br. 13.)

FF3 Figure 7 of Watts illustrates that the grooves or notches in the gripping surfaces of head 702 are visible from the side surface of the cam.

FF4 Appellant concedes that Jardine's gripping surfaces are visible from the side surface. (Appeal Br. 18.)

FF5 Figure 4 of Jardine illustrates that the grooves or notches in the gripping surfaces of cam 5 are visible from the side surface.

FF6 Neither Watts nor Jardine describes color-coded indicia on the climbing cams.

FF7 The Examiner finds that an experienced climber having understood the function of the climbing aids of Watts and Jardine would know through experience that:

a. When the aid is in its fully extended position or close to its fully extended position wherein the contact area of the stepped gripping means of the aid is close to the outer end of the contacting surface, the device is not situated within the crevice securely. When so situated, any slight movement due to force would allow the device to fall out of the crevice because there would be no other gripping teeth, disposed further from the axis of rotation of the cam member, to maintain the aid within the space. (Ans. 9-10.)

b. If the aid is disposed in the crevice such that the cams are in a more compressed state, the aid would be capable of expanding further and allowing the remaining teeth or gripping area to catch within the crevice or crack. (Ans. 11.)

FF8 Appellant does not dispute the Examiner's findings (FF7) with respect to the knowledge of the skill in the art. In fact, Appellant describes the claimed invention as providing "a visual verification system that supplements the climber's experience and judgment." (Appeal Br. 13 and 18.) Specifically, Appellant concedes that a climber using the cam of Watts or Jardine would rely on "experience and subjective judgment to determine the quality of the placement and whether it is safe." (Appeal Br. 13 and 18.)

FF9 The grooves or notches formed in the gripping surfaces of Watts and Jardine are distance markings along the periphery of the cam that are capable of being used to gauge how far from the outer end of the gripping surface the head or cam contacts the side of the crevice when the climbing cam is placed in a crevice.

FF10 Appellant concedes that Kensey is an example of a tool that uses a color-coded safety indication system. (Appeal Br. 14 and 19.)

FF11 Kensey describes a medical instrument for use in sealing an opening in tissue of a living being. (Abstract.) Kensey's device includes a plunger actuator 34 that is depressed by a user against a spring-bias to push a closure 200 out of the distal end of the device and into an artery. (Kensey, col. 9, ll. 41-64.) When the plunger actuator is released, it is moved in the proximal direction by spring 72. (Kensey, col. 9, ll. 65-68.) The degree to which the plunger actuator springs back depends on whether the anchor component 202 of the closure 200 is properly positioned against the free end of the carrier as shown in Figure 6. If the anchor member is properly positioned against the free end of the carrier, the proximal spring-back of the plunger will be

stopped after a predetermined amount of movement relative to the body 28 of the device. If, on the other hand, the anchor component was pulled back into the carrier, the plunger actuator will move further proximally relative to the device. To aid the user in determining whether the plunger actuator moved more than the predetermined amount, the plunger actuator is marked with a visual indication means 40. The visual indication means 40 includes a green indicia 78 and a red indicia 76. Movement of the actuator such that the red indicia 76 is visible indicates improper placement of the closure. (Kensey, col. 10, ll. 16-29.)

FF12 Based on our findings (FF11), Kensey describes placing visible indicia comprising color-coded regions on the side surface of a component of a device to aid the user of the device in ascertaining whether the component has moved more than a predetermined safe amount into an unsafe region.

FF13 Appellant concedes that the colors red, yellow, and green are associated with danger, caution, and safety, respectively. (Appeal Br. 14, 19.)

FF14 A "graduated scale" is a series of marks at regular intervals used in measuring something. *Webster's New World Dictionary* 607, 1269 (David B. Guralnik ed., 2nd Coll. Ed., Simon & Schuster, Inc. 1984).

PRINCIPLES OF LAW

While the requirement of demonstrating a teaching, suggestion, or motivation to combine known elements in order to show that the combination is obvious may be "a helpful insight," it cannot be used as a

rigid and mandatory formula. *KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1741 (2007). While there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness, "the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *Id*.

"A person of ordinary skill is also a person of ordinary creativity, not an automaton." *Id*. at 1742.

> When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

Id. at 1740.

ANALYSIS

Issues (1) and (3)

Consistent with Appellant's Specification, a physical disruption of the side surface of the cam, such as grooves formed in the peripheral surface of the cam member, constitutes visible indicia placed on the side surface of the cam. (FF1.) Moreover, as conceded by Appellant and illustrated by Watts and Jardine, the grooves or notches formed in the gripping surfaces of the head 702 of Watts and cam 5 of Jardine are visible from the side surface of

the cam. (FF2 through FF5.) Therefore, the grooves or notches formed in the gripping surfaces of the head 702 of Watts and cam 5 of Jardine are visible indicia placed on the side surface of the cam. Moreover, the grooves or notches are distance markings along the periphery of the cam that are capable of being used to gauge how far from the outer end of the gripping surface the head or cam contacts the side of the crevice when the climbing cam is placed in a crevice. (FF9.) Consequently, the grooves or notches are capable of being used by an experienced climber to judge whether the climbing aid is securely situated within the crevice by gauging how far from the outer end of the gripping surface the head or cam contacts the side of the crevice. (FF7 and FF8.)

In light of the above, Appellant fails to convince us that either Watts or Jardine lacks visible indicia placed on a side surface of the cam for, or capable of, indicating the quality and safety of cam placement in a rock. That Appellant's disclosed color-coded indicia may provide an improved or more user-friendly indication of the quality and safety of cam placement does not alter the fact that the grooves or notches in the cam members of Watts and Jardine are also capable of indicating the quality and safety of cam placement in a rock.

Moreover, for the reasons discussed below in addressing issue (2), Appellant fails to persuade us that the modification of Watts and Jardine proposed by the Examiner to provide color-coded indicia on the head 702 of Watts or the cam 5 of Jardine would not have been obvious. Thus, even assuming *arguendo* that Appellant's argument had convinced us that the grooves or notches provided in the gripping surfaces of Watts and Jardine are not capable of indicating the quality and safety of cam placement in a

rock, the argument still is not persuasive of error in the rejection of the claims as unpatentable over Watts, Kensey, and Shivers and over Jardine, Kensey, and Shivers.

Issue (2)

Neither Watts nor Jardine describes a color-coded indicia on the climbing cams, as called for in claims 4, 6-8, 11-13, 15, and 17-20. (FF6.) The Examiner finds that an experienced climber familiar with climbing cams would have understood that a cam that contacts the sides of a crevice in the nearly fully expanded state such that the cam member contacts the crevice walls near the outer end of the gripping surface is not situated securely in the crevice, while a climbing cam disposed in the crevice such that the cams are in a more compressed state would be capable of expanding further and allowing the remaining teeth or gripping area to catch within the crevice or crack in the event of slight movement within the crack due to force on the climbing cam. (FF7.) Appellant does not dispute these findings. (FF8.) In fact, Appellant concedes that a climber using the cam of Watts or Jardine would rely on experience and subjective judgment to determine the quality and safety of the placement of the cam and that the visual verification system of Appellant's invention "simply supplements the climber's experience and judgment." (FF8.) Stated differently, an experienced climber would gauge the safety of the positioning of the device within a crack on the basis of the distance of the point or region of contact of the cam members with the sides of the crack from the outer end of the gripping surface of the cam members. Even without the benefit of the teachings of Kensey, common sense would have suggested marking the cam of Watts or Jardine to indicate a degree of compression found by experience to be safe.

Such marking would provide an indicia for indicating when cam placement is not safe.

Kensey describes placing visible indicia comprising color-coded regions on the side surface of a component of a device to aid the user of the device in ascertaining whether the component has moved more than a predetermined safe amount into an unsafe region. (FF11 and FF12.) Moreover, Appellant concedes that the colors red, yellow, and green are associated with danger, caution, and safety, respectively. (FF13.) Accordingly, a person of ordinary skill in the art, being also a person of ordinary creativity, would readily appreciate that a color-coded indicia system placed on the cam members indicating a safe region of contact and an unsafe region of contact would improve the climbing cams of Watts and Jardine in the same way that the color-coded indicia means provided on Kensey's plunger actuator improves the device of Kensey. Appellant does not allege that the placement of color-coded indicia on the head 702 of Watts or the cam 5 of Jardine would be beyond the technical grasp of a person of ordinary skill in the art or yield unpredictable or unexpected results. Appellant thus fails to persuade us that the modification proposed by the Examiner would not have been obvious. Moreover, the modified device satisfies the limitations of claims 8, 13, and 19 of a colored zone correlating to a predetermined portion of a rock-contacting surface.

Issue (4)

Appellant's argument that there is nothing in any reference cited by the Examiner that shows a graduated scale is not persuasive of error in the Examiner's rejections. As noted in our findings above, the notches or grooves formed in the gripping surfaces of the head 702 of Watts and the

cams 5 of Jardine are visible from the side surface. (FF2 through FF5.) Further, the grooves or notches formed in the gripping surfaces of Watts and Jardine are distance markings along the periphery of the cam that are capable of being used to gauge how far from the outer end of the gripping surface the head or cam contacts the side of the crevice when the climbing cam is placed in a crevice. (FF9.) The series of notches or grooves thus satisfies the limitation of a "graduated scale." (FF14.)

CONCLUSIONS OF LAW

1. Appellant has not demonstrated the Examiner erred in the rejections by finding that the grooved or toothed peripheral surfaces of the cam members of Watts and Jardine satisfy the claim limitation of visible indicia for, or capable of, indicating the quality and safety of cam placement in a rock.
2. Appellant has not demonstrated the Examiner erred in the rejections by determining it would have been obvious to use color coded zones on the cam members of Watts and Jardine to indicate the quality or safety of the engagement of the cam with the rock.
3. Appellant has not demonstrated the Examiner erred in the rejections by finding that the grooves of Watts and Jardine are indicia placed on a side surface of the cams, as called for in claims 3 and 20.
4. Appellant has not demonstrated the Examiner erred in the rejections on the basis that none of the applied references teaches a graduated scale.

Therefore, Appellant fails to demonstrate the Examiner erred in rejecting claims 1 and 3-20 as unpatentable over Watts, Kensey, and Shivers or as unpatentable over Jardine, Kensey, and Shivers.

DECISION

The Examiner's decision is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2007).

AFFIRMED

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