

FD4 Infringement and Validity

FINAL Mark Scheme 2023

CONSTRUCTION

CLAIM 1

A peg, comprising	Description mentions ground pegs p. 3, l. 2-3 and suturing devices p. 4, ll. 1-2 but claim not limited to this. Term “peg” can be construed broadly to include a device that can be inserted into a substrate for securing something to the substrate.	1
a body portion having a tubular shaft connected to a penetrating head; and	tubular shaft - to accommodate one or more side bars p. 5, l. 1; p. 6, ll. 13-14 Penetrating head – end of tubular shaft to assist into insertion into substrate (ground p. 4, l. 22; or wound p. 6, ll. 22-24) exact shape not defined. Can be integral (3, Fig. 2, p. 4, ll. 22-23) or separate part (52 Fig. 4, p. 6, ll. 11-12)	1 1
a side bar having a driving end, a shank, and a head end, the head end extending at an angle to the shank;	Separate part. Not limited to a single part. One side bar, Fig. 2, p. 5, l. 1; two (a pair) side bars, Fig. 4, p. 6, ll. 13-14 Driving end = end engaged by ramrod or driving tool (p. 6, l. 25) to which force is applied to push side bar along and out of tubular shaft. Not explicitly described in patent Shank = part extending between the driving end and the head end, not explicitly described in patent Head end = tip opposite to driving end (bent head 6, Fig. 2, p. 4, ll. 27-28) includes removable tip 6a Fig. 3, p. 6, l. 5; pointed penetrating ends 57 (Fig. 4, p. 6, l. 14) Extending at an angle = bent away from axis of shank p.4, ll. 27-28. Angle not disclosed. Bent head 6, bent side bars 57. Fig 5 does not show “bent” head end and side bars are flexible so may not construe as permanently bent.	1 1 1 1
wherein the side bar is located within the tubular shaft;	Claim only covers device with side bars within shaft. Does this mean entirely within (i.e. no part projecting)? Both embodiments have side bars entirely within tubular shaft when inserted into	1

	substrate. Give reasons for conclusion.	
so that when the driving end is forced along the tubular shaft, the head end is forced from the shaft in a tightly curved path.	Describes device in use. Construe as "configured to". Defined by result to be achieved. How does this limit the structure of the device? Holes (3, 55) and deflecting surfaces (4, 54) not defined in claim. Is claim limited to these features? Interaction of side bar with tube. Tightly curved path – relative term (p. 3, l. 23), no range of deviations mentioned. Explain how this limits or impacts the claim scope.	1 1
Total		10

CLAIM 2

A peg according to Claim 1	Claimed peg has all the features of claim 1, plus the following.	
wherein the side bar carries a flexible cable.	Is there a difference between a line, a cable, a wire and threads of suture material? (p. 4, l. 8; p. 6, l. 3; p. 6, l. 29) Carries: extend along length or through bore (p. 6, ll. 3-4), should be broader than this	1
Total		1

CLAIM 3

A peg according to Claim 1	A peg having all the features of claim 1 (not claim 2), plus the following;	
comprising a pair of side bars	Pair? Only described in embodiment of Figure 4/5 (p. 6, l. 13). Does "pair" imply a relationship between the side bars or just two? Must give reasoning	1
Total		1

CLAIM 4

A peg according to Claim 1 or 2	A peg having all the features of claim 1 or claim 1 and claim 2 (not claim 3), plus the following;	
wherein the end of the side bar is provided with an asymmetric screw thread.	Asymmetric screw thread defined in patent (p. 4, ll. 3-6). "End" must be head end.	1
Total		1

CLAIM 5

A peg according to Claim 4	A peg having all the features of claim 4, plus the following	
wherein the asymmetric thread has a thread pitch which increases along each of the side bars.	Lack of antecedence for "...each of the side bars"; Claim 3 is only claim that needs more than one side bar but claim 4 not dependent on claim 3. Decide if claim 4 dependency is an error or if claim 5 should only refer to the side bar. Thread pitch – distance between adjacent turns of the thread (p. 5, ll. 4-5) "Increases along" in which direction? Toward head end or toward driving end? (away from bent end; p. 5, ll. 5-6); not explicit for S1, S2 Fig. 4 but drawing shows increase away from head end, same as Fig 3	1 1 1
Total		3

CLAIM 6

A method of securing a flexible wire; comprising	Wire – same as line, cable, or suture thread? (p. 4, ll 14-15) P. 6, l. 3 describes a cable;	1
locating a peg in a cavity formed in a substrate,	Locating – does this cover both forcing (ground peg) and sliding into (medical device)? Not explicitly limited to peg of claims 1-5 Ground peg use does not mention "cavity" Is this the logical conclusion of p. 5, ll. 14-15.	1
the peg comprising a side bar having an asymmetric screw and carrying a flexible thread;	Asymmetric screw (note: claim 1 does not have asymmetric screw) Construe as claim 4/5 Carrying consistent with claim 2 construction Flexible thread (note different to wire)	1 1
forcing the side bar along a hollow shaft of the peg so that it extends from the tubular shaft of the peg along a curved path	Hollow shaft/tubular shaft – (c.f. tubular shaft of claim 1) Curved path is not explicitly limited to "tightly curved" as in claim 1.	1
and out of the substrate to expose an end of the flexible thread	Out of the substrate: Protrude from surface and remove tip 6A to expose cable p. 6, ll 8-9; protrude from skin adjacent wound p. 6, ll. 28-29; Fig 5b. Construe location of "out" to cover both embodiments. How is end of thread exposed? Removal of tip 6a p. 6, ll. 5-6; pulled through side bars 561, 562 p. 6, ll. 29-30	1 1
Total		7

Dependencies:	1
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CONSTRUCTION: TOTAL = 24 marks

INFRINGEMENT

CLAIM 1

	ACCU-Stitch	
A peg, comprising	p. 13 Figs A-C show device inserted into wound (substrate)	1
a body portion having a tubular shaft connected to a penetrating head; and	Elongate body receives needles p. 14, l.1 = tubular shaft Penetrating head – rounded leading end p. 13, l. 7	
a side bar having a driving end, a shank, and a head end, the head end extending at an angle to the shank;	Needles = side bar Driving end not explicitly disclosed (opposite end p. 14, l. 2); how needles are driven not disclosed; not clear but probably present; part extending between ends = shank Pointed end = head end; Angled away from base p. 14, l. 5	1
wherein the side bar is located within the tubular shaft;	p. 13, Fig A consistent with construction if entirely within shaft or not	1
so that when the driving end is forced along the tubular shaft, the head end is forced from the shaft in a tightly curved path.	p. 13, Fig B; p. 14, ll. 8-9	1
Infringed	Y/N	
Total		4

CLAIM 2

A peg according to Claim 1	Features present/not present	
wherein the side bar carries a flexible cable.	Medical suture material attached to opposite end; p. 14, l. 2	1
Infringed	Y/N depending on Claim 1	
Total		1

CLAIM 3

A peg according to Claim 1	Features present/not present	
comprising a pair of side bars	Pair of flexible plastic needles (p. 14, l. 1)	1
Infringed	Y/N depending on Claim 1	
Total		1

CLAIM 4

A peg according to Claim 1 or 2	Features present/not present	
wherein the end of the side bar is provided with an asymmetric screw thread.	Helical grooves p. 15, l. 3 = thread Only on curved part so asymmetric per definition in patent (p. 15, ll. 3-4; Figs E-G)	1
Infringed	Y/N depending on Claim 1	
Total		1

CLAIM 5

A peg according to Claim 4	Features present/not present	
wherein the asymmetric thread has a thread pitch which increases along each of the side bars.	Groove spacing in Figs E & G p. 15 appears constant	1
Infringed	N	
Total		1

CLAIM 6

A method of securing a flexible wire; comprising locating a peg in a cavity formed in a substrate,	p. 13, ll. 1-5 suturing p. 13, Fig A-C, Body located in wound	1
the peg comprising a side bar having an asymmetric screw and carrying a flexible thread;	Needles in body p. 13 Figs A-C Grooves p. 15, Figs E-G Needles have suture material attached p. 14, l. 2	1
forcing the side bar along a hollow shaft of the peg so that it extends from the tubular shaft of the peg along a curved path	Needle forced along body p. 14, l. 8 Path through wound p. 14, l. 9; p. 13 Fig B	1
and out of the substrate to expose an end of the flexible thread	Needles protrude from skin of patient p. 14, ll. 10-11; Fig C, p. 13 Needle grasped and pulled free to drag suture material through wound; p. 14, ll. 15-16; Does the 'forcing' of the needle along the body cause the suture material to be exposed? – probably not in view of "grasping" step but depends on construction	1 1
Total		5

Dependencies:	1
Excluded Subject matter: (award marks if discussed in construction; infringement; or advice sections) IMPORTANT: Discussion of excluded subject matter (s.4A UKPA) and to what extent Claim 6 can cover the method of suturing a wound, rather than locating an earth anchor in the ground.	1
Actavis: If no infringement under normal interpretation, does Actavis suggest equivalents can be considered in this case? Discussion of relevant Actavis considerations (may address in Advice). Esp. cl 6 with brief reasoning on facts	2
Conclusions:	1

INFRINGEMENT: TOTAL = 18 Marks

NOVELTY

Prior Art Issues

Date for assessing novelty	1
Prior art: Doc C; Fig 1 Doc A (“well-known earth anchor” p. 3. ll. 19-20)	1
Thigh Bone Screw (p. 2) does not disclose tubular body or a side bar so no further detailed analysis needed for novelty	
Total	2

CLAIM 1

	A		C	
A peg, comprising	Figure 1 “earth anchor” = ground peg	1	Stake for anchoring object to the ground p. 16, l, 6	1
a body portion having a tubular shaft connected to a penetrating head; and	p.9 Fig 1: shaft, head		tube 3 p. 16, l. 7 penetrating tip 8 p. 16, l. 13	
a side bar having a driving end, a shank, and a head end, the head end extending at an angle to the shank;	Side bar (driving end and head end implicit) Configuration of head end not shown before deployment; nothing to suggest it is at an angle (Not present)	1	Rods 4 = side bar, Driving end implicit “pushed axially ...” p. 16, ll. 28-29 For the most part straight = shank p. 16, .l. 22 curved end 4a p. 16. L. 22	1
wherein the side bar is located within the tubular shaft;	Not explicitly disclosed entirely within shaft, consider what is implicit		Rods 4 are engaged in this tube 3 p. 16, l. 7	1
so that when the driving end is forced along the tubular shaft, the head end is forced from the shaft in a tightly curved path.	Bent as they exit the shaft p. 3, l. 20 No information on how tight the curved path (Not present)	1	Deform in a more or less helical trajectory p. 16, l 37 No information on how “tight” the curvature is or how it compares to other devices	1
Conclusion	Claim new		Claim new/old	
		3		4
Total				

CLAIM 2

A peg according to Claim 1	No		No/yes	
wherein the side bar carries a flexible cable.	"Cable" Fig 1, p. 9	1	No disclosure of cable connected to rod(s)	1
Conclusion	Claim new by dependency		Claim new	
Total		1		1

CLAIM 3

A peg according to Claim 1	No		Yes/No	
comprising a pair of side bars	2 Side Bars in Fig 1, p. 9	1	2 rods 4 shown	1
Conclusion	Claim new by dependency		Claim old/new by dependency	
Total		1		1

CLAIM 4

A peg according to Claim 1 or 2	No		No	
wherein the end of the side bar is provided with an asymmetric screw thread.	No thread shown or suggested	0.5	No screw thread disclosed	0.5
Conclusion	Claim new		Claim new	
Total		0.5		0.5

CLAIM 5

A peg according to Claim 4	No		No	
wherein the asymmetric thread has a thread pitch which increases along each of the side bars.	No thread shown or suggested	0.5	No screw thread disclosed	0.5
Conclusion	Claim new		Claim new	
Total		0.5		0.5

CLAIM 6 (marks)

A method of securing a flexible wire; comprising	Yes (cable = wire)	1	Attachment of a cable to stake p. 16, ll. 9-10	1
locating a peg in a cavity formed in a substrate,	Inferred		Engaged in ground same as ground peg of patent	
the peg comprising a side bar having an asymmetric screw and carrying a flexible thread;	Yes to side bar and flexible thread (cable) No to asymmetric screw	1	No screw. (see cl. 4, 5) No thread/cable (see cl. 2)	
forcing the side bar along a hollow shaft of the peg so that it extends from the tubular shaft of the peg along a curved path	Forcing – p. 3, ll. 6-8 Curved path – p.9 Fig 1	1	Rods pushed axially by means of the forcing tool p. 16, ll. 28-29 Deform in a more or less helical trajectory p. 16, l 37	1
and out of the substrate to expose an end of the flexible thread	No suggestion that it is out of the ground or exposes the cable	1	No disclosure of rods pushed out of substrate (& no flexible thread)	1
Conclusion	Claim new		Claim new	
Total		4		3

Dependencies:	1
Conclusions:	1

NOVELTY: TOTAL = 24 Marks

INVENTIVE STEP

Date	1
PSA is either a mechanical engineer working in ground anchoring devices, or a medical engineer/surgeon (while not strictly a team, will accept definition as team provided both areas of expertise mentioned)	1
CGK of PSA? Ground pegs (Doc A, p. 3, ll. 3-20, Fig 1 “well known”); Thigh bone screws (p. 2); suturing at different depths in deep wounds	1

Assessment of inventive step will depend on view of novelty. Answers must be consistent with this, the construction, and be reasoned accordingly, e.g.:

Claim 1

Concept: force side bar from shaft at higher angle	1
State of the Art: Doc C	1
Difference: Side bar has a tightly curved path when forced from shaft	1
Obviousness: Skilled person would know that angle of rod in Doc C depends on relative position of holes 10 and hole 6, tightness of curvature would appear to be a matter of design choice. Obvious so not inventive	1
	4

Claim 2

Concept: e.g. use of tightly curved sidebar to improve placement of the cable within substrate; use of sidebar to make cable accessible at surface; depends on construction	1
State of the Art: Doc C	
Difference: No cable attached to rod in Doc C	1
Obviousness: Skilled person knows that is possible to attach cables to ground pegs from CGK (Doc A, p. 3, ll. 3-20, Fig 1). Same effect would be achieved connecting a cable to the device of Doc C so obvious: not inventive	1
	3

Claim 3

Concept: Improve anchoring effect	1
State of the Art: Doc C	
Difference: same as claim 1	
Obviousness: same as claim 1 – obvious/not inventive	1
	2

Claim 4

Concept: modify side bar to cause tighter turn	1
State of the Art: Doc C	
Difference: Asymmetric thread	1
Obviousness: Asymmetric thread known for anchoring use (thigh bone screw), but effect on radius of curvature not disclosed. Skilled person would not consider this feature of a thigh bone screw when considering the concept, therefore not obvious. Inventive	2
	4

Claim 5

Concept: same as claim 4	1
State of the Art: same as claim 4	
Difference: same as claim 4	
Obviousness: same as claim 4	1
	2

Claim 6

Concept: depends on construction, how to bring cable to surface from deep in substrate	1
State of the Art CGK Ground pegs (Doc A, p. 3, ll. 3-20, Fig 1)	1
Difference: using side bar (with asymmetric thread) to bring cable out of substrate.	1
Obviousness: using this (or any) sort of device to bring a cable or suture thread to the surface through the substrate does not seem to be part of the CGK. Most of these devices are for securing the side arms deep or securely in substrate so no reason why they would be modified to come back to surface. Not obvious so inventive	1
	4

INVENTIVE STEP: TOTAL = 22 MARKS

SUFFICIENCY

While no angles, screw pitches, or other dimensions are given, it appears to be a simple matter of trial and error to perform the invention.

No sufficiency issues

SUFFICIENCY: TOTAL = 1 MARKS

AMENDMENT

Any allowable amendment to provide inventive step and infringement.

Possible amendment to state that peg of claim 1 is a suturing device (p. 4, l. 2) or side arms carry cables of visual differentiation eg different colours – technical effect of colours? (p. 4, l.11; p. 7, ll. 6-11)

Both appear to be patentable and infringed. Either one is sufficient to get mark

AMENDMENT: TOTAL = 1 MARKS

ADVICE (cover client questions)

Up to 10 points selected from:

Document A is in force – no renewals are yet due	1
Patent is invalid for lack of inventive step so will need to be amended before it can be enforced.	1
Outline possible procedures for making amendment	1
Could sue immediately with application to amend. Is interim injunction available? Status quo is to be preserved.	1
Possibility of use as ground peg depends on how patent is amended	1
Claim 6 is invalid insofar as it relates to a method of surgery; patent potentially rescued by amendment to exclude methods of surgery or by deletion of claim 6	1
Device claims are unaffected by excluded subject matter issue so manufacture and sale still (potentially) infringe product claims	1
Does threat at conference constitute unjustified threat. What can client do about this?	2
Start revocation action to see if you can force amendment to avoid infringement	1
File own patent application + explain how this improves position What was discussed at conference?	1
Attempt to negotiate licence + explain why patentee might agree, what is the benefit to the patentee?	1

ADVICE: TOTAL = 10 MARKS