THE JOINT EXAMINATION BOARD
PAPER P6 - INFRINGEMENT AND VALIDITY

TUESDAY 1st NOVEMBER 2005
10.00 a.m. – 2.00 p.m.

Please read the instructions carefully. ***Time Allowed – FOUR HOURS***

1. You should respond to the instructions given at the end of the Client's letter.

2. Please note the following:
   a. Enter the Paper Number (P6), and your Examination Number in the appropriate boxes at the top of each sheet of paper. Number the sheets of your paper sequentially;
   b. The scripts are photocopied for marking purposes. Please write with a **dark inked pen** in the printed margins on one side of the paper only. Do not use highlighters in your answer;
   c. Do not staple or join pages together in any way;
   d. Do not state your name anywhere in the answer;
   e. Write clearly, examiners cannot award marks to scripts that cannot be read;
   f. Marks **are awarded for the reasoning displayed and the points selected for discussion rather than the conclusions reached.**

3. Under the Examination Regulations **you may be disqualified from the examination and have other disciplinary measures taken against you if:**
   a. you are found with unauthorised printed matter or other unauthorised material in the examination room;
   b. your mobile phone is found to be switched on;
   c. you copy the work of another candidate, use an electronic aid, or communicate with another candidate or with anyone outside the examination;
   d. you continue to write after being told to stop writing by the invigilator(s).
   NO WRITING OF ANY KIND WILL BE PERMITTED AFTER THE TIME ALLOTTED TO THIS PAPER HAS EXPIRED

4. **At the end of the examination assemble your answer sheets in page number order and place in the WHITE envelope provided.** Any answer script taken out of the examination room will not be marked.

5. This paper comprises:
   Client's letter: (2 pages)
   Document A: Client's proposal (3 pages)
   Document B: GB Patent No. 2000000B (4 pages)
   Document C: Bottle Caps Weekly, 20th July 1984 (3 pages)
   Document D: European Patent Application No. 85000000.0 A1 (4 pages)
   This paper consists of 17 pages in total, including this page.

CLIENT'S LETTER

Your Client writes to you as follows:

I am a small entrepreneur and have a few inventions for which I have obtained patents for myself at the UK Patent Office. I have been working on a tyre valve cap and tyre valve cap removal device which I have shown in confidence to car accessory manufacturers with a view to licensing them to make these items and sell them through high street shops. Considerable interest was generated. My proposal to them is described and illustrated in Document A attached.

The form of plastic or metal valve cap associated with vehicle tyre valves is very well known and has been in operation for quite some time. There are inherent disadvantages in this cap design since the cap itself is exposed to the elements and builds up soil deposits and the cap can easily become cross-threaded with the thread on the valve stem. In addition the amount of torque required to unscrew the cap may sometimes be quite high and causes problems for some drivers. There is also a tendency for the cap to become lost or broken whilst removed from the valve. I was hoping the tyre valve cap removal device and valve cap would be sold as a kit.

As you can imagine, I was rather dismayed to receive a letter yesterday from a well-known manufacturer of vehicle accessories, Motorbit. Motorbit was one of a number of companies I have visited over the last few weeks. Motorbit advises me to stop my activities because they say that the products in my drawings infringe their patent which is enclosed herewith (Document B). They want an undertaking from me within 14 days that I will discontinue my activities or they will take "action" against me.

I was aware of Motorbit's patent as a result of a search I did on a commercial database. It was listed under patents relating to vehicle accessories. Frankly, it doesn't look like my tyre valve cap removal device and it doesn't appear to cover valve caps designed to co-operate with my removal device. As a result I didn't pay any attention to it. As I see it the patent describes a different accessory to mine working on a different principle. My valve cap is just a modification of a conventional idea. In fact, I have enclosed an extract of European Patent Application No. 85000000.0 A1 (Document D) which I found in one of my searches and I think is much more like Motorbit's device than mine.

I need your advice about my situation.

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You check the UK Patent Office Register and find that Motorbit's patent GB 2000000B was filed on 10th November 1987 without claiming priority from any earlier application. It is currently in force.

You find that the only prior art cited in GB 2000000B is an extract from Bottle Caps Weekly, 20th July 1984 (Document C).

European Patent Application No. 85000000.0 A1 was deemed withdrawn at the European Patent Office on 19th October 1989 through failure to respond to an official action.

Write a memorandum of advice to your client covering the following points:

1. ***whether your Client's proposed tyre valve cap removal device infringes Motorbit's patent GB 2000000B;***
2. ***whether your Client's proposed valve cap infringes Motorbit's patent GB 2000000B;***
3. ***whether your Client's proposed kit containing the tyre valve cap removal device and the cooperating valve cap infringes Motorbit's patent GB 2000000B;***
4. ***whether Motorbit's patent GB2000000B is valid;***
5. ***what options Motorbit has for improving its position against your client by amendment of GB 2000000B.***

Give reasons and arguments to support your conclusions.

PROPOSAL: TYRE VALVE CAP REMOVAL DEVICE and TYRE VALVE CAP

Tyre valve cap removing devices involve the application of a larger amount of torque than can be delivered by the fingers of the hand directly to the valve cap. Generally this is achieved by using a rotational device on the valve cap which is larger than the valve cap and thus the greater torque transferred from the larger device to the smaller valve cap enables the valve cap to be turned more easily

My device operates on a slightly different principle, since I have noticed that the fingers are also capable of turning rotational devices which are smaller than the valve cap with great force and with more precision thereby applying variable torque (greater or smaller). Thus, the device has a portion of substantially larger external diameter than the cap and thus a greater turning force may be applied by gripping said portion between the fingers. A tapered diameter portion (stem) incorporated into the device allows a variable torque to be applied depending upon where the device is gripped by the user. If the stem is gripped between forefinger and thumb and quickly rotated the device "spins" and the cap is unscrewed or screwed on the valve more quickly and easily than would otherwise be the case. If the valve cap is difficult to loosen, the larger diameter portion of the device is gripped and turned to provide a greater mechanical advantage so that a greater torque can be administered. In addition, the stem could be suitably dimensioned to provide the secondary function of being a valve core extractor.

Figure 1 is a perspective exploded view of a device for removing a valve cap and cut-away portion of a tyre valve;

Figure 2 is a longitudinal sectional view of the device engaged on the valve cap.

The device 1 comprises a generally cup shaped base portion 1a joined to a central smaller cup shaped portion 1b having a relatively long, axial, tapered stem 1c. The free end of the tapered stem 1c is rounded and has longitudinal serrations 1d to enable a good grip to be achieved on the stem by the fingers of a user. The device 1 could be made of any suitable material (e.g. rubber or any composite material or metal alloy) but in this instance is of plastics or nylon and is integrally made.

The annular wall 1e of the base 1a is of uniform thickness except for four equally-spaced tapered gripping ribs 1f. The gripping ribs 1f grip onto the serrated surface S of valve cap C by engaging in grooves G between the serrations which threadably engages the cap onto the end E of tyre valve V. The internal surface of cup-shaped portion 1a is inclined at about 10° to the axis shown in Figure 1. Both cup-shaped portions 1a and 1b have external serrations 1g and 1h respectively. Four equally spaced, concentric, axially extending apertures 1i on the angular radial rim 1j of the base portion 1a aid the

manufacture of the device 1. The device 1 is introduced in the direction of arrow X axially onto the cap C once the ribs 1f have been aligned with the grooves G on cap C. The ribs 1f are a tight fit in grooves G. The device 1 is pushed onto the cap as far as it will go with the radial faces of the ribs 1f engaging the curved radial faces G' on the grooves G. Once the device 1 has been pushed onto the cap C as far as it will go the device 1 can then be rotated anti-clockwise in order to release the cap from the valve V. The cup-shaped portion 1b of the device is similar in diameter to that of cap C to give a similar turning force to initially loosen the threaded engagement by gripping and turning the portion 1b. The end of the device 1k can be inserted into the open end of a valve V to push the valve stem M downwards to let air out of the tyre.

Although my tyre valve cap removal device has been described and shown in Figure 1 using a specially designed valve cap C in which the ribs co-operate with the grooves on the removal device, I believe the device can be used with most currently available plastic valve caps. Therefore, I propose that the tyre valve cap and tyre valve cap removal device are sold as individual items and also as a kit containing the device and a number of co-operating valve caps, sensibly five valve caps, one for each tyre on the vehicle and one for the spare tyre.

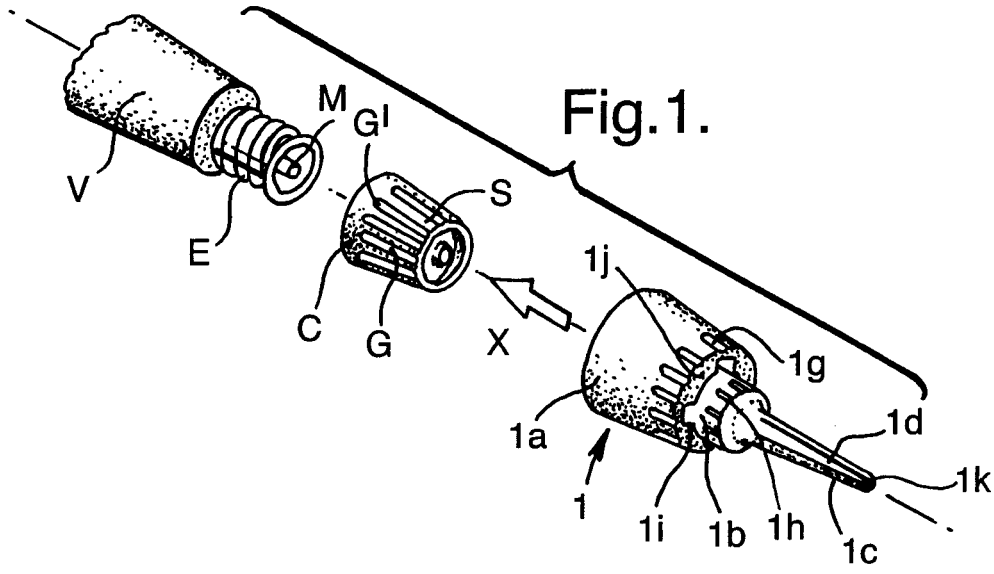
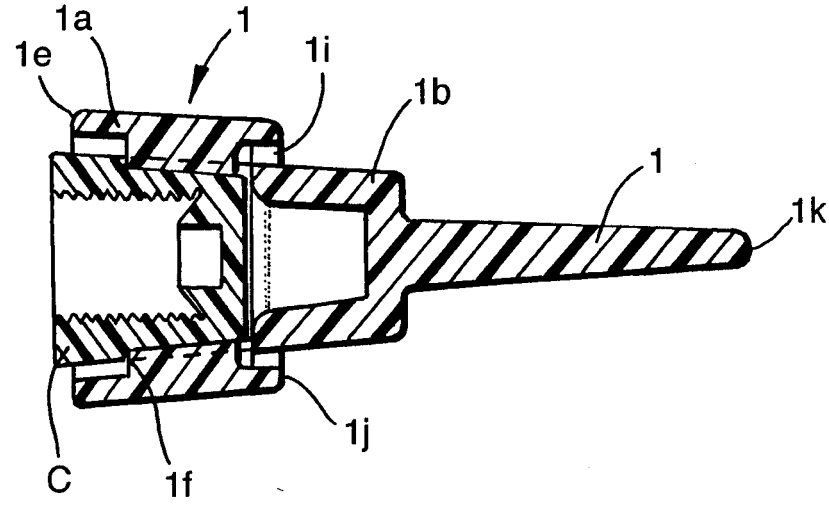


Fig.1.

Fig.2.



GB 2000000 B

Filing Date: 10 November 1987
Grant Date: 27 July 1990
Patentee: Motorbit

Vehicle Accessory

This invention relates to vehicle accessories and particularly to a device for facilitating the removal, storage and replacement of the dust cap of a vehicle tyre.

The conventional dust cap is a push on or screw threaded cap which is taken on and off the tyre valve manually. Dust caps become very dirty and greasy over time on the tyre which makes them difficult and unpleasant to remove in order to access the tyre valve. Also the dust cap is easily mislaid while accessing the tyre valve, for example to check the tyre pressure.

There is a need for a means for removing, storing and replacing the conventional dust cap which does not involve the user in touching the dust cap.

An object of the present invention is to provide a device which enables a conventional dust cap to be removed easily from the valve of a vehicle tyre, which enables the cap to be stored safely and which enables the dust cap to be replaced on the valve of the tyre after an operation such as inflation has been performed on the tyre, all without soiling the hands and ensuring that the dust cap is safely stored whilst the operation is performed.

A further object of the present invention is to provide a kit comprising a valve cap and a corresponding valve cap removal device.

According to the invention there is provided an accessory for vehicles comprising a tubular member having at one end retaining means suitable for removing and storing a tyre valve cap and the opposite end being adapted to facilitate rotation of the tubular member by reducing the amount of torque required to rotate the tubular member when removing the valve cap.

For example, the tubular member is preferably of circular cross-section but it would be understood that this is not a precise requirement and the diameter may vary along its length.

In a preferred embodiment of the invention, the tubular member is provided with a knurled portion to provide a gripping surface when screwing or unscrewing the dust cap from the valve of the tyre.

In a further embodiment, one end of the tubular member may be provided with an end dimensioned to be inserted into the tyre valve to release air therefrom, preferably, tapered to a pointed end for this purpose. However, in yet an alternative embodiment,

both ends of the tubular member may be provided with the tapered bore and divergent splines such that either end of the device may be used to retain and replace the dust caps of the valves of vehicle tyres.

The invention will now be described in detail by way of example with reference to the accompanying drawings wherein:

Figure 1 is a plan view of the device of the invention;

Figure 2 is an end view taken in the direction of arrow A of Figure 1.

The accessory comprises a tubular member 1 preferably cylindrical having an open end 2 formed with a tapered bore 3, the internal wall 4 of the bore 3 being provided with a plurality of spaced tapering splines or ridges 5 which diverge outwardly from the base 6 of the bore towards the open end 2 of the tubular member.

The splines or ridges 5 provide a gripping and locating surface for the dust cap (not shown) of the valve of the vehicle tyre, enabling the device to be located over the dust cap and the latter unscrewed by rotating the device and retaining the unscrewed dust cap therein. The unscrewing operation can be performed without touching the dust cap thereby preventing soiling of hands and retaining the dust cap in a safe place until the operation on the tyre has been performed and the dust cap is required to be rescrewed on the valve of the tyre. We have found in practice that with currently available soft plastic dust caps, the best grip is obtained if the splines or ridges 5 form an angle of between 10° and 20° with the axis of the tubular member.

The opposite end 7 of the cylindrical member 1 is provided with a knurled exterior surface 8 to allow the device to be gripped more firmly for unscrewing and replacement of a dust cap. The portion 9 intermediate the ends 2 and 7 is of reduced cross-section as shown, but may be continuous if required. The end 7 can be extended to a tapered point capable of being inserted into the tyre valve to release air.

A further embodiment provides an accessory as defined herein in which the retaining means has an internal shape designed to co-operate with the external shape of a designer valve cap. Such shapes could be, for example, hexagonal, octagonal or the valve cap could be provided with ridges, lugs or holes which co-operate with a "key" provided on the accessory. Such valve caps are known and can be provided as a kit together with the valve cap removal device of the invention.

What we claim is:

1. An accessory for vehicles comprising a tubular member having at one end retaining means suitable for removing and storing a tyre valve cap and the opposite end being adapted to facilitate rotation of the tubular member by reducing the amount of torque required to rotate the tubular member when removing the valve cap.

2. An accessory for vehicles according to claim 1 wherein the retaining means comprises a cup with an internal taper provided with a plurality of spaced ridges diverging outwardly towards the respective end of the member and providing a gripping and retaining surface.

3. An accessory for vehicles according to claim 2 in which the internal taper forms an angle of from 10° to 20° with the axis of the tubular member.

4. An accessory for vehicles according to any of claims 1 to 3 wherein the opposite end of the tubular member is of greater diameter and is provided on the exterior thereof with a knurled surface to allow the tubular member to be gripped and rotated.

5. An accessory for vehicles according to any of claims 1 to 4 in which the opposite end is adapted to be inserted into the valve of the tyre to depress the pin of the valve and thereby release air from the tyre.

6. An accessory for vehicles according to any of claims 1 to 4 wherein the opposite end is also provided with retaining means suitable for removing and storing a tyre valve cap.

7. A vehicle accessory kit comprising a conventional or designer valve cap and an accessory as defined in any of claims 1 to 6 wherein the accessory is specifically adapted to co-operate with the valve cap.

Fig.1.

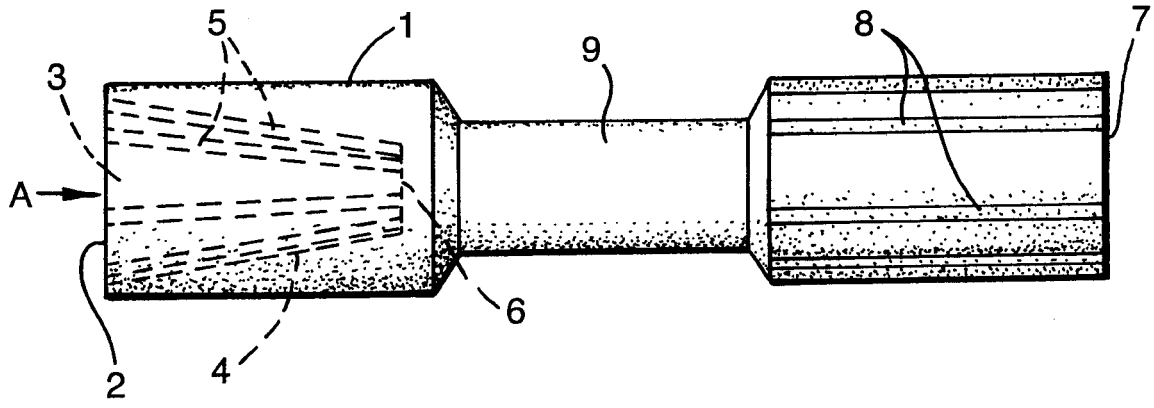
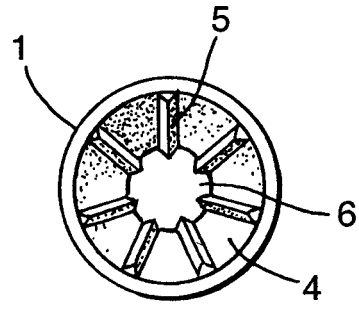


Fig.2.



Bottle Caps Weekly, 20th July 1984

Devices for removing screw threaded bottle caps

Today, it is frequently customary to provide a bottle containing alcohol or other liquids with a screw thread at its neck end and to close it by a screw cap provided with a seal. In addition to the thread this bottle is provided with a ring-shaped shoulder over which a lower extension of the screw cap is pressed. Between the screw cap and this lower part there is provided as a rule by cross sectional weakening, a predetermined breaking place, so that, by a powerful screwing movement, the lower part can be separated, the cap screwed off and consequently the bottle can be opened. A great disadvantage of this screw cap closure is that a not inconsiderable exertion is necessary in order to open such a closure for the first time and upon a later further use of this screw-cap closure for the closing of the bottle the danger exists of injury by the sharp edges which result upon the separation of the lower part.

A commonly available device for removing screw threaded bottle caps is shown in Figures 1 to 3 overleaf. Figures 1 and 3 represent the neck of a bottle, the upper end of which has screw thread which is limited at its lower end by a ring-shaped shoulder 2. Screwed onto this thread of the bottle neck 1 is a screw cap 3, the upper part 4 of which is somewhat greater in diameter and has a milled edge 4′. Mounted onto this screw cap is a device comprising a hollow body 19 and a detachable lid 21. The hollow body 19 has therein an opening 6 which is substantially the shape of a truncated cone tapering uniformly towards the upper end of the turning device, said body 19 having an annular peripheral wall, forming the wall of said opening 6, which is of truncated conical form for most of its depth, and of cylindrical form, as shown at 19′, at its lower extremity. The truncated cone has a cone angle of approximately 14°. The hollow body 19 has an upper mouth which is co-axial with, and forms a continuation of, the opening 6 and is closable by the lid 21 shown in Figure 2, and a lower mouth surrounded by the cylindrical portion 19′ of the aforesaid wall. The hollow body 19 is provided at its upper end with a short internal screw thread 20, and the lid 21 is provided with a short screw-threaded part 22, thereby providing screw means whereby the parts 19, 21 can be connected securely together. In order to achieve a frictional or even positive connection between the turning device and the screw cap 3, the wall of the opening 6 in the body 19 is provided, for engaging the screw cap, with a notching or grooving 7 which extends in the longitudinal direction of the turning device. In a similar way, the outer surface of the hollow body 19 is provided with a polygon-like profiling 8′, as shown in Figure 3 in order to increase the grip. The turning device shown in the Figures has a length of approximately 50 mm. The

diameter of the opening 6 amounts, at its upper end, to approximately 26 mm and, at its lower end, to approximately 40 mm, whereby there is a wide range of tolerance enabling the turning device to be engaged over the screw caps of various different bottles. Of course it is also possible to increase or reduce the range of tolerance further.

Both parts 19, 21 can consist of metal or plastics material. In the present case, the tubular body 19 consists of, for example, aluminium or aluminium alloy, and the lid 21 of plastics material. The hollow body can be produced very economically from a cylindrical tubular extruded section. The tubular body can be given the coned shape shown by means of a suitable press mould, preferably by expansion. In the case of this method of production, the thread 20, the inner notching or grooving 7 and the cylindrical edge part 19′ can be co-moulded.

The device is mountable on bottles having screw caps of different diameters and is frictionally or positively connectible to the screw cap, the device having substantially the shape of a truncated cone the internal wall thereof, being provided with longitudinal projections or grooves for engaging the screw cap, and the turning device being provided, at its upper end with an aperture which provides upper access to said opening.

The device may have a hollow body formed from an extruded tube. The device may be used both for opening for the first time of the screw cap (of a diameter compatible with the dimensions of the turning device) on a bottle and for the repeated use of the same screw cap as a closure for the bottle, the said turning device facilitating the turning of the cap and being mountable over the latter to provide protection against sharp edges which might be left by the initial removal of the cap from the bottle. The aperture facilitates removal of the bottle cap from the turning device when the bottle is not to hand.

The device is used by mounting it, if necessary with strong pressure, on the screw cap of the bottle that is to be opened, and subsequently rotating the hollow body in the opening direction. With such a device a screw closure can be opened without effort even when a strong predetermined breaking place exists between the upper and lower parts of the screw cap. The holding device advantageously remains connected to the screw cap until emptying of the bottle. If the bottle is empty, then the holding device can be removed by further rotating it with the screw cap screwed on the bottle in the screwing on direction and simultaneously withdrawing it.

Fig.1.

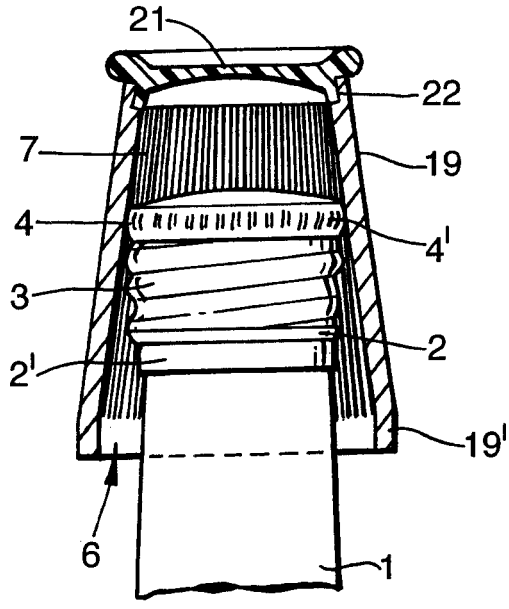


Fig.2.

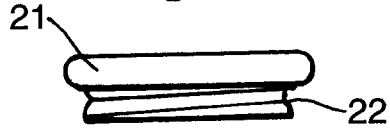
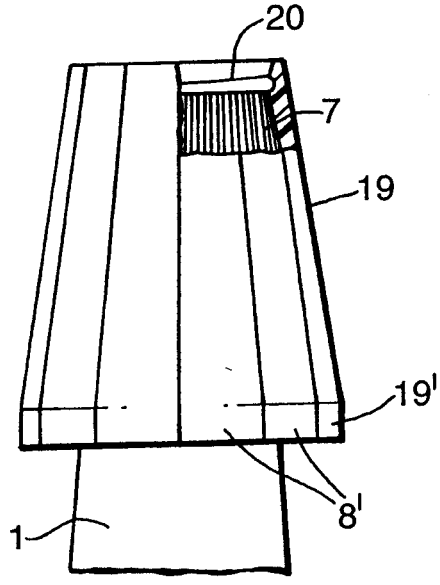


Fig.3.



European Patent Application No. 85000000.0 A1
Filing date: **11th October 1985**
Publication Date: **27th April 1987**

Tool

The present invention relates to a tool for opening and closing the cap of a valve of an air filled tyre.

Usually, to allow the air pressure in a tyre of a car, tractor or other vehicle to be checked or the tyre to be filled with air, the cap of the valve of the tyre must be opened manually. In good circumstances this is no problem, but often the valve cap cannot be removed with bare fingers because it is stuck to the valve with dirt, ice, excessive tightening or long time storage. In this case, it is necessary to use any tool that may serve the purpose, e.g. pliers. However, the width or design of many new ornamental hub caps is such that the valve is hidden deep inside the hub cap making it difficult to access the valve cap or to grip it with sufficient force using fingers. This difficulty is further aggravated by the fact that the valve is often placed in a very narrow hole, making it impossible to use tools such as pliers. Another problem is that the cap is often dirty and wet so that one's hands and clothes are soiled.

Previously known techniques for the opening of a valve cap include a tubular tool whose one end widens conically over a short distance so that it fits onto a valve cap, the conical end is provided with three longitudinal slits forming three jags on the interior surface of the conical part to improve the grip of the tool. This solution is helpful but is unreliable in operation. The three jags alone will not ensure a sufficient grip if the valve cap is very dirty or icy and if the tool is made of a soft material, the three jags may yield and the tool rotate on the valve cap without gripping.

The object of the present invention is to eliminate all the drawbacks mentioned above and to achieve a reliable and low-priced tool for the opening and closing of the cap of the valve of an air-filled tyre. The tool of the invention is reliable and versatile and enables the valve cap to be gripped securely whatever the location or environmental conditions. Moreover, it is possible to keep various small objects inside the tool or to attach an air pressure gauge or a flask of de-icer in the rear part of the tool.

Thus according to the present invention there is provided a tool for opening and closing the cap of the valve of an air-filled tyre, said tool comprising a tubelike shank and a gripper which is pressed onto the cap of the valve, characterised in that the gripper which forms the front part (3) of the tool is provided with teeth (6) placed on its interior circumference longitudinally relative to the tool.

The invention is described in detail by the aid of the attached drawings in which:

Figure 1 presents a partly sectioned side view of the tool of the present invention.

Figure 2 presents the same tool and pressure gauge mounted in it in axonometric projection.

Figure 3 presents the same tool in side view section.

The body 1 of the tool is a tubular, hollow object. Its suitable length is between 70 and 150 mm, preferably 100 mm. The end of the tool which engages the valve cap is the front end and the other end is the rear end. The tool is of a round form in cross-section and in its longitudinal direction, it has two parts, a front part 3 and a rear part 5 which have a fixed diameter through out the length of the part. The front and rear parts 3,5 are connected by a conical part 4 which has a changing outer diameter. The length of the front part 3 is 8 to 20 mm, the length of the conical part 4 is 40 to 80 mm and that of the rear part is 30 to 80 mm. The outer diameter of the front part is 10 to 17 mm and that of the rear part is 16 to 30 mm.

The interior surface of the front part 3 is conical in the longitudinal direction of the tool so that the inner diameter is slightly larger at the front end than at the rear end. The coning angle is 1-5 degrees depending on the material of the tool. In addition, the interior surface of the front part is provided with teeth 6 over the whole part with even spaces between teeth.

The interior surface of the front end of the rear part 5 of the tool is provided with three protrusions 11 lying longitudinally relative to the tool. The protrusions are low and have bevelled ends. The rear end of the rear part 5 is provided with a ringlike protrusion 10 on the interior circumference. These features enable a cylindrical object inserted into the rear end of the tool to be wedged in between the protrusions 11 without touching the interior surface and held firmly in place by the ringlike protrusion 10.

To ensure a more secure hold, the air pressure gauge has longitudinal protrusions 14 which correspond to protrusions 11 and are pressed against the interior surface of the tool when the gauge is inserted into the tool. The air pressure gauge is provided with a cylindrical part 15 corresponding to the cylindrical part 8 of the rear cover 2, and a cylindrical part 16 corresponding to cylindrical part 7 to prevent the air pressure gauge from being pushed too far into the tool. The air pressure gauge can be provided with a ringlike groove like that in the rear cover to lock it in place.

The ringlike protrusion 10 also performs the function of locking a rear cover 2 of the tool in position. The rear cover 2 has a short cylindrical part 8 fitting inside the rear part of the tool. While lending rigidity to the tool the rear cover 2 also allows small objects to be kept inside the tool.

Fig.1.

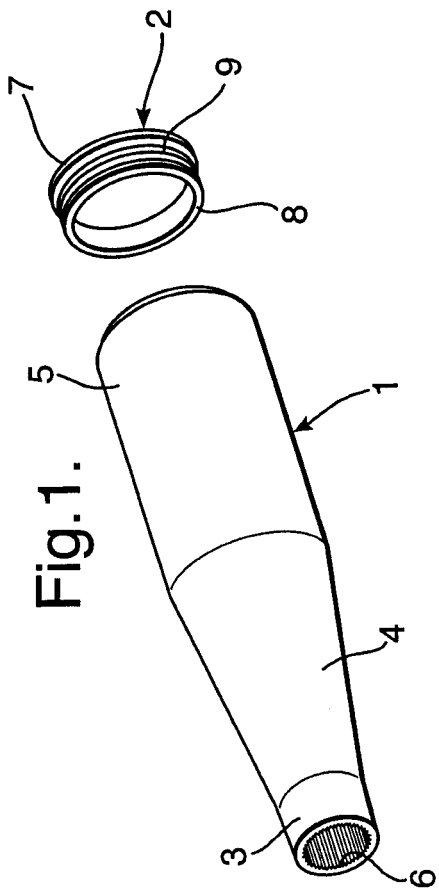


Fig.2.

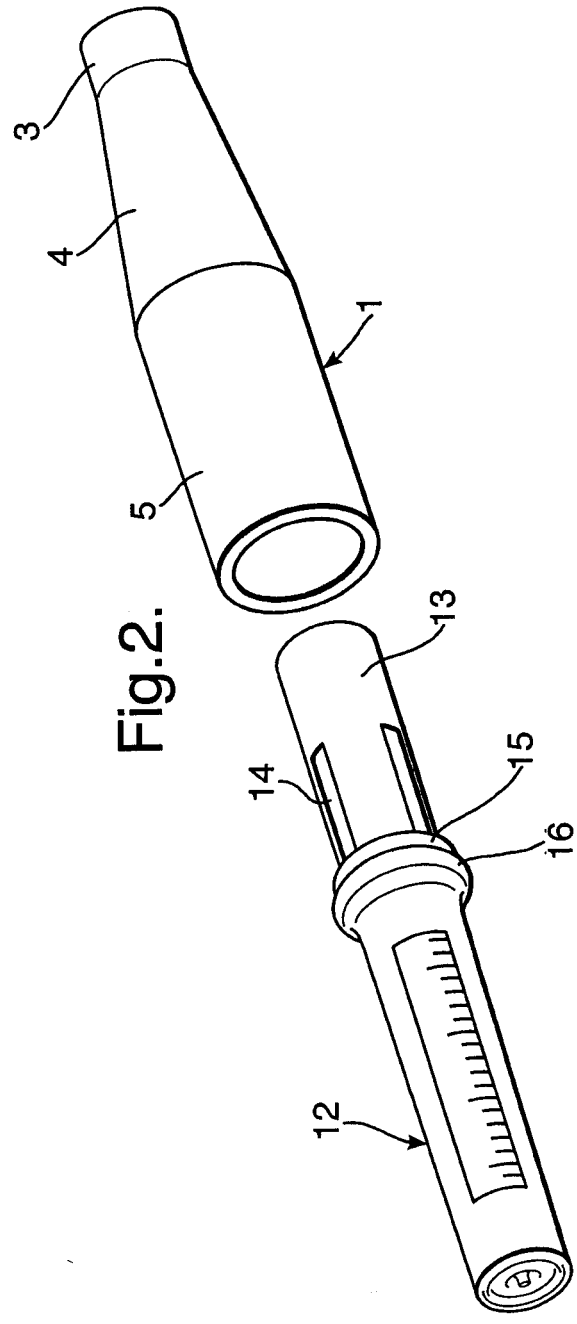
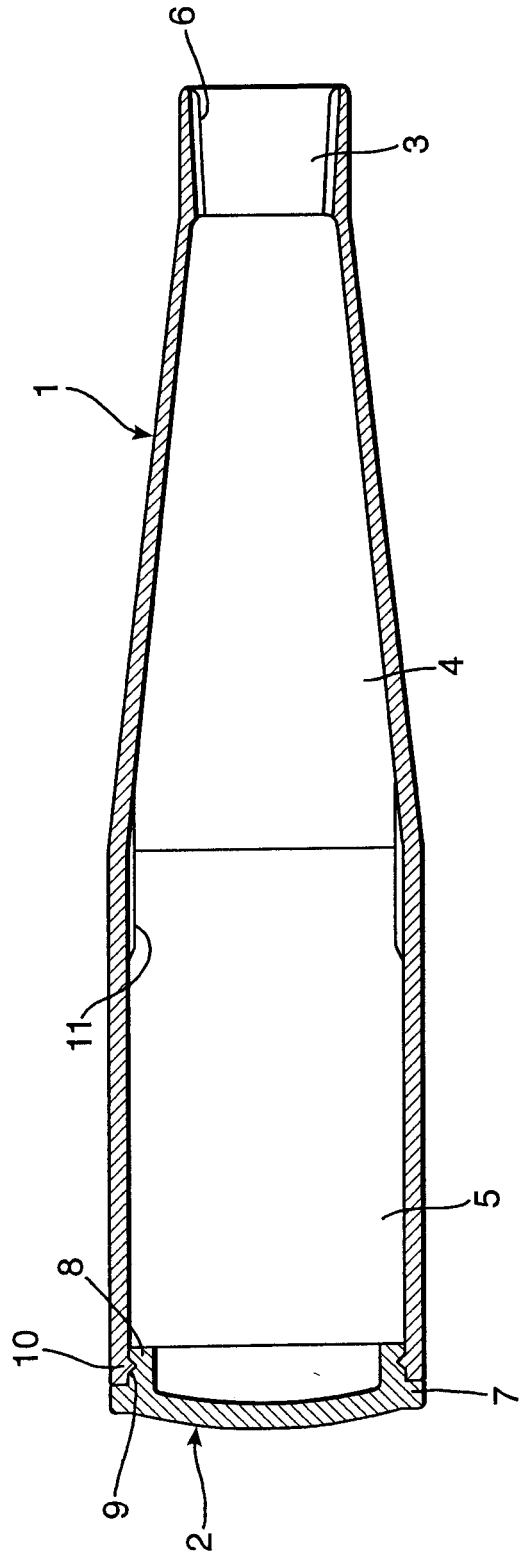


Fig.3.



P6 EXAMINERS' COMMENTS

I. General Remarks

In real life infringement and validity cases there are usually at least two possible arguments or approaches and this year's P6 was no exception. As a result a number of candidates concluded that claim 1 was not infringed. This was a perfectly acceptable scenario and if well reasoned, such candidates could pick up most of the available marks for analysis of that claim and achieve an overall pass, but if such candidates did not explore possible alternative interpretations that might lead to infringement, they generally lost the opportunity for significant numbers of marks for considering infringement of claims 2 to 7. Marks are available for considering infringement and validity (novelty and obviousness) of all claims.

While it is important to decide on a construction and apply it to the features of the claims, from the comments below, it can be seen that candidates who are blind to an alternative possible infringement interpretation will do their client a disservice and will lose the opportunity for marks by focussing only on a non-infringement argument. Candidates who found for non-infringement of claim1 but also identified possible infringement interpretations and advised how, in negotiation, counter-arguments would be presented in favour of non-infringement were able to pick up all or the majority of available marks (assuming an adequate use of interpretation was made).

On validity, many candidates found claims not to be new but failed to consider the possibility that a claim might be new, and so lost out on the opportunity for marks in discussing obviousness. The Examiners recognise that in some cases it is difficult to discuss obviousness when a claim is not new. However, candidates who ruled out any possibility of a finding of novelty on an alternative construction, and therefore did not attempt inventive step of claim 1 or 2, missed out on some of the marks available for a full discussion of inventive step.

For example, most candidates found claim 1 not to be new having regard to Document D. This is a sound conclusion. More thorough candidates raised the

possibility that the secure gripping provided by teeth (6) at the front part of the tool might provide gripping for purposes of rotation, but not necessarily amount to retaining means suitable for removing and storing. (Does the cap fall out when you tip the tool up?). A proper discussion of obviousness vis-à-vis Document D includes identification of a feature that may not be provided by Document D and analysis of whether that feature is obvious having regard to common general knowledge or Document C.

Similar comments can be made in relation to claim 2 (is the front end of the tool necessarily a cup? Are the teeth of the front end equivalent to a plurality of spaced ridges diverging outwardly?). Most candidates recognised that claim 3 was novel vis-à-vis Document D. Similarly, most candidates recognised that the "knurled surface" of claim 4 conferred novelty. A few candidates spotted that the air pressure gauge 12 of Document D has a pin that is adapted to be inserted into the valve of a tyre. Does this mean that claim 5 lacks novelty? It has to be considered whether the pressure gauge is "the opposite end" of the accessory and whether "the opposite end [of the accessory] is adapted… to release air from the tyre". Most candidates who addressed the question concluded it is not. In the case of claim 7 one can consider the obviousness/inventiveness of providing a kit of parts.

For each of these claims there is ample room for discussing inventive step. Analysis need not be lengthy. Indeed (in this case), a short paragraph or two is all that is required to select a point of novelty in claim 1 and analyse it vis-à-vis Document C and/or common general knowledge, whereupon the further analysis of each independent claim need amount to only a sentence or two.

The better candidates concluded that the Patentee could amend to the features of claim 5 (or the feature of a tapered point described at page 8 lines 60 to 61) or claim 6, to result in a claim that is new and has a reasonable chance of being found valid, but that claim 5 could easily be avoided by a re-design and claim 6 is not infringed.

Some candidates concluded that claim 1 is not new and "therefore" claims 2 to 7 are also not new, or that claim 1 is infringed and "therefore" claims 2 to 7 are also infringed. Not only did such candidates lose the opportunity for many marks by

failing to adequately discuss the dependent claims, but also little or no discretion was exercised in marking papers with such serious errors. Such candidates were likely to fail. Candidates should take great care not only to avoid unintentional errors in such statements, but also to avoid misunderstandings that might lead the Examiner to believe that the candidate does not understand the concepts behind dependent claims.

The following table shows how the marks were allocated for the four major sections of the paper. It can be seen from this that as usual the majority of marks are found for discussion and reasoning of features found in claims 1 and 2. In this year's paper the emphasis was on interpretation and novelty. Marks are spread relatively evenly throughout the paper which should be evident since there were clearly considerably more issues in claims 1 and 2 than the sub-claims and claim 7. The fact that claims 1 and 2 accrue higher marks is a result of the number of features to discuss and not a cue for candidates to write pages of general speculation. Candidates should address all features in a concise fashion, demonstrating the ability to judge which features are important by the reasoning provided.

Claims	Interpretation	Infringement	Novelty	Inventive step
1	8/9	5/6	8	3
2	5/6	5/6	9	2
3	2	2	3	2
4	2	2	4	2
5	1	1	2	2
6	1	1	2	2
7	3	3	2	2

The variation in marks for claims 1 and 2 for interpretation and infringement allow the Examiners to allocate marks flexibly. In addition to the marks identified below for sufficiency, amendment and the letter of advice, there were two further marks "floating" for the Examiners to use at their discretion. More specific remarks are provided below.

II. Interpretation

Candidates can accrue a good proportion of the available marks for the examination by methodically breaking up the claims and addressing the individual elements or words. Many nuances can be missed by not adopting a methodical approach. As a general rule (not absolute), if there are 8 marks for interpretation then there are probably about 8 features worth making a comment about ranging from stating what "comprising" means in the claim to an explanation of what "torque" means in the context of the patent. The following are a few remarks about specific features.

Claim 1. Candidates should note that the tubular member is a part of the accessory and that it is the tubular member that has "one end" and "the opposite end". Many candidates incorrectly applied these terms to the accessory, rather than the tubular member.

"suitable for" needs interpreting. Note that the bottle cap remover of Document C is not suitable for removing a tyre valve cap as a result of its size unless the tyre valve cap is exceptionally large (perhaps for an aircraft or a tractor).

The patent's description is unhelpful in determining what is meant by "reducing the amount of torque required". The candidate can be sure that if it is important to know the precise definition of a term of the art, the definition will be given. The Examiners appreciate that candidates are from different fields of technology and do not expect anything more than an expression of ability to think laterally. Therefore, it was not necessary for the candidate to understand that torque = tangential force x radius. Many candidates validly took the view that the author is using the term "torque" more colloquially to mean the applied force or effort required to rotate the valve, which might indeed include gripping force (i.e. radial force). Perhaps it is the knurled exterior surface 8 that improves grip and therefore permits rotation with reduced force (equal tangential force, but reduced radial force)? A detailed analysis of torques and forces was not required, provided the

candidate gave rational and consistent reasoning as to the interpretation based on the disclosure of the patent.

N.B. the term "torque" is used informally as a general expression in Document B and more correctly in Document A. Note also that a term can have different meanings in different documents.

Claim 2. Marks were available for discussing whether a cup necessarily has a base (relevant when it comes to considering novelty vis-à-vis Document D) and for considering "spaced" and "ridges" and "diverging outwardly". These terms are all relevant when considering infringement and when considering novelty vis-à-vis the "notching or grooving 7" of Document C and the "teeth 6" of Document D.

Claim 3. The interpretations applied to "from 10˚ to 20˚ with the axis" were many and varied. A great number of candidates stated that a purposive construction should be applied, and promptly threw the author's specific limitations out the window. Neither *Catnic* nor *Improver* nor *Amgen* permits the reader to disregard strict limitations set out in a claim. The client's device has an internal taper at "about 10˚" to the axis. At issue, therefore, is whether the lower end of the range "10˚ to 20˚" encompasses "about 10˚". In the interpretation section, one can consider rounding approximations. Later, when it comes to infringement, one can consider manufacturing variations/tolerances or possible re-design.

Claim 4. Greater diameter than what? Some candidates took the view that the repercussive effect of claim 4 on claim 1 is that torque reduction does not require that the opposite end is of greater diameter [than the cap]. This is an intelligent discussion, but not the only conclusion. Claim 4 may simply give structural clarity to the functional definition of claim 1.

Claim 5. Some candidates had difficulty identifying how the "opposite end" could be adapted to be inserted into the valve of the tyre, when the arrangement of Figure 1 is not so adapted. Page 8, lines 60 to 61, explains how the end 7 can be extended to a tapered point. Clearly this is not the embodiment shown in Figure 1.

N.B. One might consider whether the "tubular member" is the end 1 or the end 1 in combination with the middle 9 and the end 7. All are possible. All are consistent with the embodiment in which the end 7 extends to a tapered point. Many candidates, however, failed to notice that the end 1 is in itself a tubular member. Some candidates even considered that "tubular" does not necessarily mean hollow. A tube that is not hollow is more properly called a "bar".

Claim 6. This claim presented few difficulties.

Claim 7. Many candidates wrote at length interpreting "conventional" and "designer" and "specifically adapted to cooperate" but failed to consider the term "kit". A collection of items made and sold separately do not necessarily form a kit of parts. Consideration should be given as to whether a "kit" means that the parts are packaged, sold, or offered for sale as a set.

III. Infringement

Candidates had to decide whether the client's device contained two of the claimed features in particular, i.e. did it "comprise a tubular member" and explain why; was the "opposite end" "adapted" to facilitate rotation by reducing the amount of "torque" required – how and why; was the retaining means suitable for "storing" – how and why. It can be seen straight away that here are five features to discuss using your interpretation and then in addition it is necessary to mention that the remaining features are present and why e.g., the client states that his device is a vehicle accessory, candidates should mention this pointing to the statement in the client's proposal. By providing reasoning, the five or six marks available to the candidate are

easily obtained. Candidates should remember that in order to prove infringement it is necessary to show that all features of the claim are present in the client's device.

Candidates who found infringement of claim 1 generally followed one of two lines of argument, and the Examiners were prepared to accept either, for example:

(A) "comprising a tubular member": "tubular" means something which is shaped like a tube, like a pipe or a cylinder but it does not have to be exactly cylindrical – i.e., tube like. Base portion 1a is effectively a short tube, albeit it does not have parallel sides, but it is tube like and therefore a tubular member. "at one end" and "the opposite end" referred to ends of the tubular member. Part 1a has an end (1g/1i or 1b) which is adapted to facilitate rotation of the tubular member. The part (1j) of the tubular member is wider in diameter than the cap, so a reduced amount of torque is required to rotate the tubular member (vis-à-vis rotating the cap) when removing the cap. This line of argument was generally the better argument for finding infringement.

(B) The opposite end of the entire accessory (1c, 1d and 1k) is adapted to facilitate rotation of the tubular member. It is described (Document A lines 13 to 14) how this tapered stem allows a variable torque to be applied, depending upon where the device is gripped by the user. It can be quickly rotated, whereby it "spins" and the cap can be removed quickly and easily. Thus, once initial loosening of the cap has been achieved, the cap can be easily rotated at low torque. Thus (it can be argued) the tapered end is adapted to facilitate rotation of the tubular member by reducing the amount of torque required to rotate it.

After interpreting the claims and, all being well, applying the interpretation to the client's device, many candidates concluded their infringement section with a summary of infringement, listing who may be infringing what and who may be a contributory infringer. Often these summaries added little or nothing that was not already stated in the infringement section and merely served as a summary for general advice at the end. Candidates perhaps find such a summary to be a useful aide-memoire before moving on to validity, but if this is the purpose, it is best kept

very brief. No marks were awarded for re-stating the law on contributory infringement.

IV. Validity – General

Many candidates summarised the separate items of prior art before discussing validity. There are no specific marks available for listing the various items, but a good discussion of the prior art referenced in D1 at page 14, lines 18 to 24 in many cases merited one or two bonus marks.

IV.A Novelty

It can be seen from the marking scheme that this paper had more emphasis on novelty than inventive step. Marks were available for a detailed analysis of novelty of each claim with respect to Document C and Document D individually. Candidates should remember to not only indicate why certain features are not present based on use of interpretation but also why the other features are present.

Candidates should have borne in mind that the Patent Office Examiner had apparently already found there to be novelty with respect to Document C. Any contrary conclusion flies in the face of the Examination, which is acceptable provided it is reasoned and based on use of interpretation. In particular novelty of claim 1 over Document C was dependent on whether the bottle cap could be considered to be suitable for use as an accessory for vehicles and capable of storing a tyre valve cap. Novelty over Document D revolved primarily around whether the gripper was suitable for removing and storing, however, to maximise marks for claims candidates still had to identify *inter alia* whether Document D contained a "tubular member", whether the opposite end was adapted to facilitate rotation and why (based on interpretation) and whether it reduces the amount of "torque" required (again as interpreted). While it might seem like a lot of marks are allocated to claim 1 for novelty, the marks are split between consideration of two documents available for novelty and for consideration of a number of points. The Examiners are looking for a reasonable explanation of why there is novelty or not as the case may be, they are not looking for a precise number of features to be addressed so candidates who do a less

thorough explanation do not gain all the available marks but are not penalised in any other way.

IV.B Inventive Step

Many candidates found that Claim 1 lacked novelty over Document D based on their interpretation but then did not consider whether, if they were wrong and a court found claim 1 to be novel, it would lack inventive step. For example, it was possible to consider that if claim 1 was found to be novel because the gripper was in practice (e.g., shown by the defendant's evidence) to be incapable of storing the tyre cap and marks were available for considering if this feature was obvious over Document D or Document D and Document C (as common general knowledge). Similarly with claim 2, candidates who found also claim 2 to lack novelty also had an option to consider inventive step under this claim.

Many candidates started their inventive step analysis at claim 3 with a consequence that up to five marks were not available. However, this could easily be compensated by using that time to create a better inventive step argument with the remaining claims or in a different section of the paper. Having said that, a number of candidates decided that Document C was not available as prior art in a related technical field to be combined with Document D. This is despite the fact that candidates were expressly advised that the Patent Office search had found Document C and it had been cited. The new features of claims 3 and 4 could be found in Document C thereby providing a lack of inventive step argument. Even if your own view is that the documents should not be combined, the better approach to this was to mention your reservation but also carry out the analysis as if the documents are combinable. The new feature of claim 5 was in neither prior art document and the client did not apparently infringe claim 6 although if the candidate had sufficient time it was worth mentioning whether this claim had an inventive step. As ever, the best approach to assess inventive step is the four step test set out in Windsurfing v Tabur Marine ([1985] RPC 59 (CA)). Candidates are not penalised for using a problem solution approach and it is understood that elements of this approach have been used occasionally in the UK.

IV.C Internal Validity/Sufficiency

This was not a major issue in this paper, but some candidates identified points of possible insufficiency and were able to gain a mark.

V. Amendment

Three marks were available for indicating the possibilities for amendment by the Patentee. There were a few possibilities but marks are awarded to any answer which is sensible and which explains whether the client would infringe the amended claim(s).

VI. Letter of Advice

This is the simplest section of the paper as marks are awarded for summarising conclusions and giving general advice. There should be a summarised assessment of the infringement, novelty and inventive step analysis, mention of potential amendment issues. In addition the following points could be addressed: Does the client infringe yet or is it a potential future infringement? Is there a possiblity for an interim injunction against your client ? What considerations are there for interim injunctions ? Should your client give the undertaking? Could your client file an application for revocation of the patent ? Is Motorbit likely to obtain relevant amendments ? Is there a potential threats action against Motorbit ? All or various combinations of these points would secure all or most of the six marks for this section. A number of candidates usefully noted that the patent expires in two years. (Some candidates considered this a short time and others considered it a long time. It is for the client to make such subjective assessments. Similarly, there is no merit in speculating over how deep are the client's pockets).