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19 December 2011

PATENTS ACT 1977

APPLICANT Stephen John Mason

ISSUE Whether patent application number GB 0702099.3 complies with sections 1(1)(a) and 1(1)(b)

HEARING OFFICER J Pullen

DECISION

1 Patent application GB0702099.3 entitled "Socket drive coupling device" was filed on 5th February 2007, claiming priority from an earlier application number 0621220.3 filed on 25th October 2006. The application was published on 30th April 2008 as GB2443171.

2 The examiner issued his first examination report on 12th January 2011 and a second examination report on 25th February 2011. Unusually, there is no correspondence on file from the applicant which attempts to amend the claims or challenge the examiner's objections. The application was sent to hearing and came before me on 21st October 2011. Also present at the hearing was the applicant Mr Stephen John Mason, the examiner Mr Michael Prior and my assistant Mr Paul Makin.

The invention

3 The invention enables hand tools, such as socket spanners, which are usually releasably attached to a hand-operated driver to be connected to a power drive source. A preferred embodiment is shown in Figure 1, replicated below.

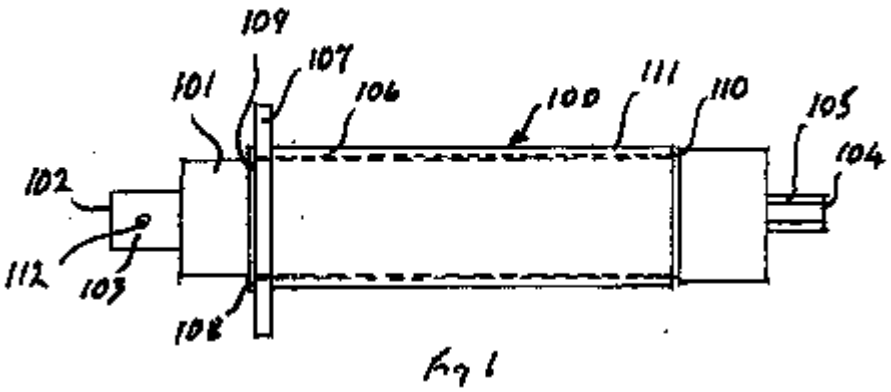

Fig 1

4 A shaft (101) has one end which is of square cross-section (103), suitable for attachment to a socket spanner or the like, and another of hexagonal cross-section (105), intended for connection to a drive source. A rotatable sleeve (106) surrounds the shaft. In use, the invention is intended to provide a means of transferring appreciable levels of torque in an accurate and unhindered manner which overcomes the disadvantages of several prior art solutions which are acknowledged on page 2 of the application. Some of these advantages were made clear by Mr Mason at the hearing when he demonstrated both the device of his invention and the prior art solution offered by D2 (discussed below).

The claims

5 The application contains only one independent claim. Claim 1 reads:

> *A device for enabling a socket spanner as hereinbefore described or other square-drive hand tool to be coupled to a power drive source, comprising a rigid shaft one end of which terminates in one component of an hermaphrodite coupling the other component of which is incorporated in the said socket spanner or other square-drive hand tool, the other end of the shaft being adapted to be connected to the power drive source and a sleeve surrounding the shaft, the shaft being rotatable within the sleeve.*

The law

6 Section 1(1) of the Patents Act sets out the requirement that an invention protected by a patent must be both novel and involve an inventive step, as follows:

> *1(1) A patent may be granted only for an invention in respect of which the following conditions are satisfied, that is to say -*
>
> *(a) the invention is new;*
>
> *(b) it involves an inventive step;*
>
> *(c) it is capable of industrial application;*
>
> *(d) the grant of a patent for it is not excluded by subsections (2) and (3) or section 4A below;*
>
> *and references in this Act to a patentable invention shall be construed accordingly.*

7 Section 2 sets out what novelty means; subsections (1) and (2) are relevant here:

> *2(1) An invention shall be taken to be new if it does not form part of the state of the art.*
>
> *2(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.*

8 Section 3 sets out how the presence of an inventive step is determined:

3. An invention shall be taken to involve an inventive step if it is not obvious to a person skilled in the art, having regard to any matter which forms part of the state of the art by virtue only of section 2(2) above (and disregarding section 2(3) above).

Novelty

9 The examiner cited four patent documents, all of which were published before the priority date of this application, which he used to demonstrate a lack of novelty.

D1 DE 10343154 A1 (Holland), published 14/04/2005
D2 US 2006/0169090 A1 (Kozak et al), published 03/08/2006
D3 US 6952986 B2 (Fu), published 11/10/2005
D4 GB 1230539 A (Atlas), published 05/05/1971

I will now consider each of these documents in turn.

10 D1 is considered, by the examiner, to be the most relevant document and discloses a device for enabling a socket 2 to be coupled to a powered rotary drive source 5 (powered socket wrench). The device includes a rigid shaft 3 one end of which is connectable to the powered drive source 5, the other end being connectable to socket 2. As far as can be understood, the end of the shaft 3 terminates in an adaptor shank (not shown) allowing socket 2 to be releasably connected to the end of shaft 3. The adapter shank constitutes one component of a hermaphrodite coupling, the other component of which is incorporated into the socket 2. A sleeve 8, to be gripped by the user's hand during use, is positioned to surround the end of the shaft 3 coupled to the drive source 5, the shaft 3 being rotatable relative to and within the sleeve 8. Therefore, D1 does appear to provide all the features as set out in claim 1.

11 The examiner has argued that adapter piece 10 surrounding one end of the sleeve 8 could be construed as the radially projecting collar of claim 2. I agree that claim 2 also appears to lack novelty.

12 D2 (see particularly figures 3-5 and paragraph 0033) discloses a flexible extension device for enabling a work device or tool which is releasable attachable to end 16 to be coupled to an electric screwdriver 5. The electric screwdriver 5 is connectable to the device via a male hexagonal shank 14b. Although D2 does not specifically disclose the attachment of a socket to end 16, the end 16 does terminate in one component of a hermaphrodite coupling 16b which would be suitable for the attachment of a socket with the corresponding component of the hermaphrodite coupling.

13 The flexible extension device includes a flexible sleeve 36 with a cylindrical fitting 40 secured thereto at end 44 thereof to receive a cylindrical body portion 16a therein (see figure 3 and paragraph 0037). In paragraph 0053 it is stated that the flexible sleeve 36 permits the user to grip shaft 12 during use without exposure to moving parts. Thus, it follows that cylindrical body portion 16a, during use, rotates within and relative to the cylindrical fitting 40, the cylindrical fitting 40 being secured to the flexible sleeve 36.

14 The cylindrical body portion 16a can be construed as the rigid shaft of claim 1 and the cylindrical fitting 40 construed as the sleeve of claim 1. One end of the rigid shaft 16a is suitable for connecting to a socket via coupling 16b while the other end of the rigid shaft 16a is connectable to the rotary power drive source 5 via the flexible drive shaft 12 and body portion 14a. ThereforeD2 does appear to provide all the features as set out in claims 1 and 3 as suggested by the examiner.

15 D3 discloses a flexible socket extension device for enabling a tool extension or tool member (such as a socket, not shown) which is releasable attached to shank 71 (see lines 11-15, column 4) to be coupled to a rotary drive source (not shown). The rotary drive source is attachable to the device at opening 61 of the connector 6. D3 does not specifically disclose the type rotary power source used, but simple states that opening 61 of the connector 6 is for "receiving tool driving shanks, and for allowing the connector 6 to be rotated by the other tools" (see lines 58-62, column 3). Such wording implies that either manual or power driven tools may be used to drive the flexible socket extension device.

16 The flexible socket extension device includes, at one end, a barrel 4 surrounding connector 6 and rotatable relative thereto (see lines 65-67, column 3) and, at the other end, a barrel 5 surrounding connector 7. D3 does not appear to state that the barrel 5 rotates relative to the connector 7. However, (at lines 48-49, column 3) it is stated that the user may hold barrels 4,5 while operating the flexible socket extension. Thus, for barrel 5 to be held by the user during operation, it follows that barrel 5 must rotate relative to the connector 7.

17 As suggested by the examiner, the connector 7 can be construed as the rigid shaft of claim 1 and the barrel 5 construed as the sleeve of claim 1. One end of the rigid shaft 7 is suitable for connecting to a socket via shank 71, while the other end of the rigid shaft 7 is suitable for connecting to a rotary drive source via elements 2 and 3 and connector 6. Therefore, D3 appears to provide all the features as set out in claim 1.

18 The examiner also asserts that D3 anticipates claim 3. I agree, as the elements 2 and 3, connector 6 and housing 10 form a flexible drive shafting connecting the end of the shaft 7 to the rotary drive source engaging opening 61.

19 In figure 1, D4 discloses an impact tool intended to carry a socket wrench on a square coupling 20 (see lines 27-30, page 2). The tool has a rigid shaft 38 driven by a power drive source. The shaft 38 rotates within and relative to what could be described as a sleeve 18. The examiner has cited D4 as it demonstrates the broad nature of claim 1. I agree that D4 shows all the features required by claim 1.

20 In summary, I find that claims 1-3, as they are currently drafted, do not comply with section 1(1)(a) of the Act insofar as they lack novelty. However, I believe that the novelty objections could be overcome by suitable amendment to claim 1 to limit the scope of the invention. For example, by incorporating the subject matter of claim 2 into claim 1, with an additional limitation that the collar is provided at the end proximate the hermaphrodite coupling, this has the advantage, in use, of protecting the operator's hand.

Inventive step

21 In the substantive examination report dated 12 January 2011 the examiner cited the following patent document in support of an inventive step objection:-

D5 GB 2421453 Mobiletron

22 D5 (see particularly figures 2 and 3) discloses an output adapter 30 for connecting a power tool 2 and hook 323 to a car jack 3. The adapter includes a rigid shaft 322 which, during use, rotates within and relative to handle 40. One end of the rigid shaft terminates with an integral connector 321 and hook 323, while the other end is adapted to be connected to the power tool 2 via connector 311. The handle 40 includes radially projecting collars at both ends thereof.

23 D5 does not disclose one end of the shaft terminating in one component of a hermaphrodite coupling for connecting the adapter to a socket. However, the examiner argues that it would be obvious to a person skilled in the art that the device could be put to driving other tools, by replacement of the connector 321 with an adapter suitable for engagement with sockets spanners, as called for by claim 1.

24 Having considered the disclosure of this document I am of the opinion that the differences between this device and the alleged invention constitute steps that would not have been obvious to a 'person skilled in the art' and would require a degree of invention.

25 The notional person skilled in the art would first have to appreciate that the device of this document could even be suitable for modification. The device of this document is intended for the very specific purpose of attachment to a jack via a hook, there is no suggested alternative use disclosed in the patent specification. He would then have to identify that the intended connection tool (hook, socket etc) did not need to be integrally connected to the shank, as is intended in the device of this document, but could be replaced by a universal connector which allowed a range of connection tools to be applied.

26 Therefore, I find claim 1 to be inventive with regard to the disclosure in this document.

Conclusion

27 I find that claims 1-3, as they are currently drafted, do not comply with section 1(1)(a) of the Act insofar as they lack novelty.

28 However, I believe that the novelty objections could be overcome by suitable amendment to claim 1 to limit the scope of the invention (as outlined in paragraph 20). Therefore I order as follows:

29 The application is remitted to the examiner for further prosecution and for the filing of suitable amendments.

30 If suitable amendments are not made before the end of the compliance period, the application will be refused for failure to comply with section 18(3).

Appeal

31 Under the Practice Direction to Part 52 of the Civil Procedure Rules, any appeal must be lodged within 28 days.

J Pullen

Deputy Director, acting for the Comptroller