

OPINION UNDER SECTION 74A

Patent	GB 2312909 B
Proprietor(s)	Schlumberger Technology BV
Exclusive Licensee	
Requester	Freshfields Bruckhaus Deringer
Observer(s)	Harrison Goddard Foote LLP
Date Opinion issued	14 January 2016

The request

1. The Comptroller has been asked to issue an Opinion on whether GB 2312909 B (the Patent) has been infringed by the “Completion Barrier Valve (the CBV) made and offered for sale by Caledyne Limited.

Allowance of the request

2. The Patent was granted on 12 May 1998 and is still in force. The arguments presented have not been considered previously and the request is allowable.

Observations and observations in reply

3. No formal observations or observations in reply were filed. Instead, the requester and observer have asked me to consider previous correspondence between the two parties which predates the present Opinion request. As both parties are apparently content for me to consider said correspondence I will do so as part of this Opinion.

Evidence

4. I have been provided with the following evidence

A factsheet relating to the CBV which is also available from <http://www.caledyne.com/uploads/files/FACT-028-CBV-Web-A.pdf>

A video (the Movie) showing the operation of the CBV available from www.caledyne.com/products/cbv

The patent

5. The Patent relates to an apparatus and a method of using the apparatus for isolating a first section of wellbore from a second section of wellbore. This is achieved by use of a valve assembly which includes a valve. Specifically, the valve can be moved from an open position to a closed position by running a shifting tool upwardly therethrough. The valve assembly also includes a hydraulic section which is responsive to an increase in pressure in the wellbore above the valve assembly to re-open the valve.

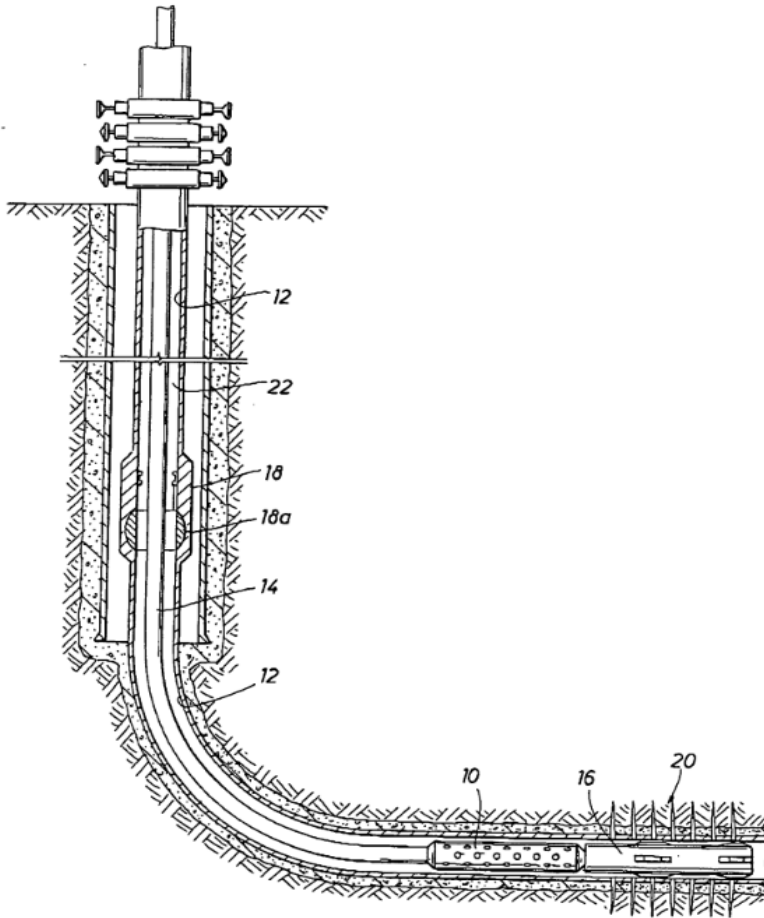
6. There is one independent claim which reads:

Claim 1: A valve assembly for use in a wellbore, the assembly comprising: a valve adapted to be moved from an open position to a closed position by running a shifting tool upwardly therethrough; and a hydraulic section responsive to a predetermined increase in pressure in the wellbore above the valve to re-open the valve.

7. The following drawing helps illustrate the invention, where:

18a is the valve

16 is the shifting tool



Claim construction

8. There has been some discussion regarding the meaning of one aspect of the claim, that being the meaning of “a hydraulic section responsive to a predetermined increase in pressure in the wellbore above the valve to re-open the valve”. In order to come to a view on how the skilled person would interpret said feature I will follow the guidance set out in *Kirin-Amgen and others v Hoechst Marion Roussel limited and others* [2005] RPC 9. The key point being “what a person skilled in the art would have thought the Patentee was using the language of the claim to mean”. I will therefore interpret these aspects of the claim in a purposive manner and interpret them in light of the descriptions and drawings, taking in to account the Protocol to article 69 of the EPC.

9. The observer in correspondence with the requester has stated that the CBV, in contrast to the Patent, requires:

“pressure cycling above the valve to activate a mechanical trigger mechanism to allow fluid communication to a hydraulic chamber. Pressure cycling involves applying and removing existing tubing pressure a predetermined number of times. The first stage does not and cannot lead to re-opening the

valve. A subsequent, second stage utilises existing annulus pressure which is below the valve, to reopen the valve. Therefore, the hydraulic section in the CBV is itself not responsive to a predetermined increase in pressure in the wellbore as recited in claim 1 of GB-909B (the Patent)."

10. The observer also states that:

"From this it is understood that claim 1 of GB_909B (the Patent) refers to a single application of fluid pressure to be effective in re-opening the valve".

11. The requester has argued in reply to the observer that:

"the claim does not contain any limitation restricting the manner in which the valve operates, other than that it is responsive to a predetermined increase in pressure in the wellbore. There is no reason to give "responsive" a narrow or artificial reading as your analysis seeks to do."

12. The requester also states in reply to the observer that:

"You also say that "pressure cycling involves applying and removing existing tubing pressure a predetermined number of times". It follows that the valve opens in response to a series of pressure changes, and in particular to a final cycle, and that series necessarily comprises a predetermined increase in pressure in the wellbore."

13. Despite the above disagreement in interpretation it is my opinion that the person skilled in the art would not find the claim problematic in terms of interpretation. The claim clearly requires that there is a hydraulic section provided that is responsive to a predetermined pressure increase in the wellbore to reopen the valve. I therefore agree with the requestor that it would not be appropriate to read any further steps into the invention as claimed in claim 1.

14. The requestor has also argued that the claim requires a single application of fluid pressure, in contrast to pressure cycling. Again, I do not think the person skilled in the art would find this part of the claim problematic in terms of interpretation. I think the person skilled in the art would understand there to be a requirement of a pressure increase and this would be met by the pressure increase as a consequence of pressure cycling. Even if I am wrong in applying said interpretation, I also draw attention to the Movie where in relation to pressure cycling it states that the pressure cycles can "be adjusted between 1 and 20 cycles (my emphasis)". It is therefore clear that the CBV can be actuated with a single pressure increase.

Infringement

15. It would seem that requester has asked for an Opinion on infringement under section 60(1) of the Act.

Section 60(1) reads:

Subject to the provision of this section, a person infringes a patent for an invention if, but only if, while the patent is in force, he does any of the following things in the United Kingdom in relation to the invention without the consent of the proprietor of the patent, that is to say –

(a) where the invention is a product, he makes, disposes of, offers to dispose of, uses or imports the product or keeps it whether for disposal or otherwise;

(b) where the invention is a process, he uses the process or he offers it for use in the United Kingdom when he knows, or it is obvious to a reasonable person in the circumstances, that its use there without the consent of the proprietor would be an infringement of the patent;

(c) where the invention is a process, he disposes of, offers to dispose of, uses or imports any product obtained directly by means of that process or keeps any such product whether for disposal or otherwise.

16. To come to an Opinion on infringement I shall consider each aspect of claim 1 in turn, followed by the method claim 11.

A valve assembly for use in a wellbore,

17. The CBV is clearly a valve assembly and is referred to in the factsheet as a bi-directional downhole barrier valve.

the assembly comprising: a valve adapted to be moved from an open position to a closed position by running a shifting tool upwardly therethrough

18. The factsheet together with the Movie demonstrating the CBV shows and states that “The CBV may be mechanically opened and closed with a shifting tool, both before and after it is cycled open.” I also agree with the requestor that the upward movement of the shifting tool closing the valve, is also shown in the Movie.

19. The CBV would therefore seem to show the above aspects of the claim and the observer has not specifically disputed this.

a hydraulic section responsive to a predetermined increase in pressure in the wellbore above the valve to re-open the valve.

20. The factsheet states that “The CBV may be opened remotely by applying tubing pressure cycles, which actuate an opening mechanism at the top of the tool”. The Movie states and shows “The piston is actuated by applying and removing tubing pressure”.

21. The observer also argues that in contrast to the patent:

“the CBV utilises static reservoir pressure via the annulus to open the valve”. As such the CBV does not involve any increase in pressure in the wellbore to open the valve. Moreover, annulus pressure, which is utilised by the CBV to open the valve, is below the valve.”

22. These statements are no doubt correct but the claim is not limited in such a way. The claim merely requires that a hydraulic section is provided that is responsive to a predetermined pressure increase in the wellbore to reopen the valve. The claim is silent on any additional steps between the increase in pressure and the valve reopening. As discussed above, the factsheet clearly states pressure cycles (from 1-20 cycles) are applied which has the end result of the valve re-opening.

23. The Movie also clearly demonstrates this aspect of the claim, specifically a hydraulic section which is responsive to a predetermined increase in pressure in the wellbore above the valve and the valve re-opens as a consequence.

24. Claim 1 would therefore appear to be infringed by the CBV.

25. Turning to method claim 11, which reads:

A method of performing operations in a wellbore, the method comprising the steps of: installing a valve assembly in accordance with any of the preceding claims in the wellbore at a depth greater than the length of a tool string to be used in the wellbore, the valve in said valve assembly being open; running a shifting tool down through said open valve, withdrawing said shifting tool through said open valve, closing said valve with said shifting tool while doing so; building up said tool string in the wellbore above the closed valve; increasing the pressure in the wellbore above the valve to open the valve; and lowering the tool string through the open valve to perform said operations in the wellbore beneath the valve.

26. With regard to claim 11, I agree with the requestor that the CBV in the Movie shows the installation of a valve assembly according to claim 1. I also agree that factsheet and Movie shows “*increasing the pressure in the wellbore above the valve*

to open the valve;”

27. Turning to the other aspects of the claim.

“the method comprising the steps of: installing a valve assembly in accordance with any of the preceding claim in the wellbore at a depth greater than the length of a tool string to be used in the wellbore the valve in said valve assembly being open ”

28. The requestor has argued *“According to the Fact Sheet The Caledyne Completion Barrier Valve (CBV) is a down hole barrier valve which uses a ball to provide isolation between the upper and lower completion”*.

29. I agree with the above statement by the requestor but it does not address the requirement that the valve is installed *“at a depth greater than the length of a tool string to be used in the wellbore”*

30. Claim 11 further requires:

said valve assembly being open

31. The requestor has argued that *“it is inherent that the valve is run downhole for installation in the open position”* Running the valve in a closed position would cause damage to the valve and other downhole components”.

32. Claim 11 further requires:

running a shifting tool down through said open valve, withdrawing said shifting tool through said open valve, closing said valve with said shifting tool while doing so

33. The requestor has stated it would be *“normal operational deployment”* to run a shifting tool down through said open valve, withdrawing said shifting tool through said open valve, closing said valve with said shifting tool while doing so”

34. Claim 11 further requires:

“building up said tool string in the wellbore above the closed valve”

35. The requestor has stated that *“any tool string to be run through the valve*

would be built above the closed valve”

36. Finally, Claim 11 requires:

“lowering the tool string through the open valve to perform said operations in the wellbore beneath the valve.”

37. The requestor has stated that “it is implicit that a tool would be lowered through the valve after opening. It is the reason for opening the valve”.

38. The requestor has therefore made a number of assertions and statements that various aspects of the method claim are either implicit or “normal operational deployment”. I have not however been provided with sufficient evidence to support these assertions. I do note that the observer has not disputed the assertions and indeed has made no comment whatsoever on Claim 11 in the correspondence with the requestor. Despite this, without evidence to back up the assertions made by the requestor I am not in a position to offer an opinion on Claim 11.

39. With regard to the appendant claims, no argument or evidence has been put forward by either party therefore I have not considered them.

Opinion

40. It is therefore my opinion that Claim 1 of the Patent is infringed by the Completion Barrier Valve (the CBV) made and offered for sale by Caledyne Limited.

Lyndon Ellis
Examiner

NOTE

This opinion is not based on the outcome of fully litigated proceedings. Rather, it is based on whatever material the persons requesting the opinion and filing observations have chosen to put before the Office.