



Patent detaljer i sak



## Nøkkelinformasjon

Saken / databasen er sist oppdatert	2024.03.23 13:28:00
Tittel	<b>Well tool device for opening and closing a fluid bore in a well</b>
Status	I kraft
Hovedstatus	2019.06.24 Meddelt
Detaljstatus	2019.06.18 Patent meddelt (B1) (sjekk også detaljer i saken)
Patentnummer	343864
Søknadsnummer	20180579
Levert	2018.04.25
Prioritet	Ingen
Sakstype	Nasjonal
Løpedag	2018.04.25
Utløpsdato	2038.04.25
Allment tilgjengelig	2018.05.18
Meddelt	2019.06.24
Søker	Interwell Norway AS (NO)
Innehaver	Interwell Norway AS (NO)
Oppfinner	Stig Ove Bjørgum (NO)
Fullmektig	ONSAGERS AS (NO)
Patentfamilie	Se i Espacenet

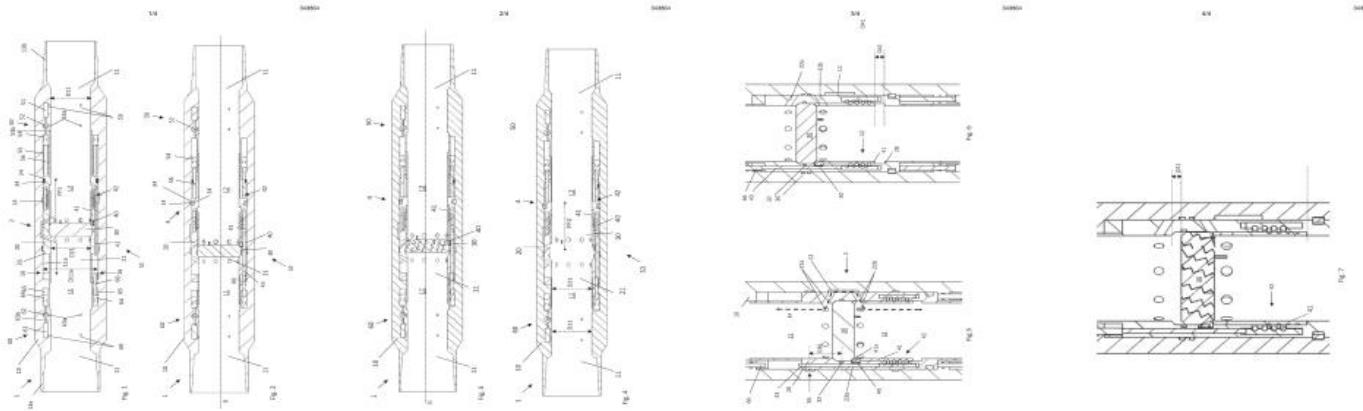
## Sammendrag og figur

### Patent Translation picture

The present invention relates to a well tool device (1) comprising a housing (10) having an axial through bore (11). It comprises a sleeve section (20) axially displaceable relative to the housing (10), where the sleeve section (20) comprises an axial through bore (21) aligned with the axial through bore (11) of the housing (10). It comprises a fluid flow preventing frangible disc (30) provided in the bore (21) in sealing engagement with the sleeve section (20). It comprises an axial fluid passage (2) bypassing the frangible disc (30) when the well tool Device (1) is in an initial state (S1), thereby allowing a fluid flow (FF1) between a first location (L1) above the frangible disc (30) and a second location (L2) below the frangible disc (30). The axial fluid passage (2) is closed when the well tool device (1) is in a subsequent state (s2). It comprises a disc supporting device (41) for supporting the frangible disc (30) in relation to the sleeve section (20), where the disc supporting device (41) is releasably connected inside the sleeve section (20) by means of a releasable connection device (42). It comprises a disintegration device (40) for disintegration of the frangible disc (30), where the well tool device (1) is in a final state (S3) when the frangible disc (40) has been disintegrated by means of the disintegration device (40).



Se forsidefigur og sammendrag i Espacenet



## Beskrivelse og krav

B1

### Beskrivelse

#### FIELD OF THE INVENTION

The present invention relates to a well tool device for opening and closing a fluid bore in a well. In particular, the present invention relates to a well tool device having a temporary open state, a temporary closed state and a permanent open state.

#### BACKGROUND OF THE INVENTION

In different types of well operations, it is a need for well tool devices having a valve function, i.e. the well tool device needs to be reconfigured between an open state and a closed state.

Typically, the closed state is used for pressure testing purposes to ensure that the well integrity is intact. The open state is typically during production, to allow hydrocarbon fluids to be transported from the well to the topside of the well. During the installation of the completion string or tubing, it is preferred that the tubing is open, so well fluid can flow into the tubing during the lowering of the tubing into the well.

When the tubing is landed in the well head and the pressure control equipment is installed above the tubing/well head, it is desired to replace the heavy well fluid with a lighter completion fluid before the production packer is installed. In such a case, completion fluid is pumped down into the tubing and return fluid is received through the annulus. Again, during such operations, the tubing must be open.

~~In some operations, the open state is also used for pressure testing purposes~~

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### Krav

CLAIMS1. Well tool device (1) comprising a housing (10) having an axial through bore (11), where the well tool device (1) is comprising:- a sleeve section (20) axially displaceable relative to the housing (10), where the sleeve section (20) comprises an axial through bore (21) aligned with the axial through bore (11) of the housing (10);- a fluid flow preventing frangible disc (30);- an axial fluid passage (2) bypassing the frangible disc (30) when the well tool device (1) is in an initial state (S1), thereby allowing a fluid flow (FF1) between a first location (L1) above the frangible disc (30) and a second location (L2) below the frangible disc (30);where the axial fluid passage (2) is closed when the well tool device (1) is in a subsequent state (S2);characterized in that- the fluid flow preventing frangible disc (30) is provided in the bore (21) of the sleeve section (20), in sealing engagement with the sleeve section (20);- the well tool device (1) further comprises a disc supporting device (41) for supporting the frangible disc (30) in relation to the sleeve section (20), where the disc supporting device (41) is releasably connected inside the sleeve section (20) by means of a releasable connection device (42);- the well tool device (1) further comprises a disintegration device (40) for disintegration of the frangible disc (30);- the disintegration device is fixed to the sleeve section (20) on the same side of the frangible disc (30) as the disc supporting device (41);- where the frangible disc (30) is configured to be pushed axially relative to the sleeve section (20) towards the disintegration device (40) after release of the disc supporting device (41);where the well tool device (1) is in a final state (S3) when the frangible disc (40) has been disintegrated by means of the disintegration device (40).2. Well tool device (1) according to claim 1, where the well tool device (1) comprises a sleeve locking system (41) for preventing relative axial displacement between the

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Hva betyr A1, B, B1, C osv?

## Klasser

IPC-klasse

**E21B 33/12**

**E21B 33/134**

CPC-klasse

**E21B 33/12**

**E21B 33/1208**

**E21B 33/134**

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Historikk

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Org.nummer: 934603729

Din referanse: P25897NO00

## Anførte dokumenter

US 9194205 B2 (B2)  
US 2011/0000663 A1 (A1)

## Innsigelse/Protest

Saken har 2 innsigelser/protester

Patentstyrets saksnr. 2018/00363

Protest

Levert 2018.10.29

Gjeldende status 2018.10.29 Avgjort

Kravstiller(e)

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### Statushistorie for 2018/00363

Hovedstatus	Beslutningsdato, detaljstatus
2018.10.29 Avgjort	2019.07.01 Patentsaken endelig avgjort, behandling av protest avsluttes
2018.10.29 Under behandling	2018.11.05 Saksbehandlingen er stilt i bero.
2018.10.29 Under behandling	2018.11.01 Mottatt

### Korrespondanse for 2018/00363

Dato	Type korrespondanse	Journal beskrivelse
2018.11.05	Utgående	Melding til søker
2018.11.05	Utgående	Informasjon til innvender
2018.10.29	Inncommende, AR286235586	Nytt overprøvningskrav (OP)

Patentstyrets saksnr. 2020/00144

Innsigelse

Levert 2020.03.24

Gjeldende status 2020.06.26 Avgjort

Kravstiller

TCO AS

Storaneset 20

5260 INDRE ARNA

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## Kravstillers fullmektig

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## Statushistorie for 2020/00144

Hovedstatus	Beslutningsdato, detaljstatus
2020.06.26 Avgjort	2020.06.26 Detaljstatus ikke tilgjengelig
2020.03.24 Under behandling	2020.03.31 Brevveksling/utgående brev i saken
2020.03.24 Under behandling	2020.03.25 Mottatt

## Korrespondanse for 2020/00144

Dato	Type korrespondanse	Journal beskrivelse
2020.06.26	Utgående	OP09: Oversendelse med avgjørelse
2020.06.19	Utgående	Generelt brev
2020.06.19	Utgående	Bekreftelse
2020.05.19	Innkommande, AR374449959	Korrespondanse (Hovedbrev inn)
2020.04.15	Innkommande, AR369771943	Korrespondanse (Hovedbrev inn)
2020.03.31	Utgående	Oversendelse av innsigelse IN01P
2020.03.31	Utgående	Oversendelse av innsigelse IN01P
2020.03.31	Utgående	Oversendelse av innsigelse
2020.03.31	Utgående	Mangelbrev
2020.03.24	Innkommande, AR365986088	Nytt overprøvningskrav (OP)

## Informasjon om ikke tilgjengelige dokumenter

## Sakshistorikk

### Statushistorie

Hovedstatus	Beslutningsdato, detaljstatus
2019.06.24 Meddelt	2019.06.18 Patent meddelt (B1)
2018.04.25 Under behandling	2019.05.06 Godkjent til meddelelse
2018.04.25 Under behandling	2019.03.21 Andre og senere realitetsskriv foreligger
2018.04.25 Under behandling	2018.11.19 Første realitetsuttalelse foreligger
2018.04.25 Under behandling	2018.04.27 Formaliakontroll utført
2018.04.25 Under behandling	2018.04.27 Mottatt

### Korrespondanse

Dato	Type korrespondanse	Journal beskrivelse
2020.03.03	Utgående	PT Varsel om betaling av første årsavgift (3317) (PT20180579)
2019.06.28	Utgående	PT Registreringsbrev Nasjonal Patent (15) (PT20180579)
2019.05.13	Utgående	PT Meddelelse om patent
2019.04.15	Utgående	Bekreftelse på patentsøknad
2019.04.11	Inncommende	Korrespondanse (Hovedbrev inn)
2019.04.11	Inncommende, AR315268362	Korrespondanse (Hovedbrev inn)
2019.03.26	Inncommende, AR312369952	Korrespondanse (Hovedbrev inn)
2019.03.21	Utgående	Realitet patent
2019.01.30	Inncommende, AR303513643	Korrespondanse (Hovedbrev inn)
2019.01.25	Inncommende, AR302657832	Korrespondanse (Hovedbrev inn)
2018.11.19	Utgående	Realitet patent
2018.06.27	Utgående	Infobrev til oppfinner
2018.06.22	Inncommende, AR268900229	Korrespondanse (Hovedbrev inn)
2018.05.18	Inncommende, AR260583508	Korrespondanse (Hovedbrev inn)

2018.04.27	Utgående	Formalia 1
2018.04.25	Inncommende, AR257177734	Søknadsskjema Patent

## Informasjon om ikke tilgjengelige dokumenter

## Betaling

Til betaling:

Betalingshistorikk:

Beskrivelse / Fakturanummer	Betalingsdato	Beløp	Betaler	Status
Årsavgift 7. avg.år.	2024.02.07	2200,0	ONSAGERS AS	Betalt og godkjent
Årsavgift 6. avg.år.	2023.02.15	2000	ONSAGERS AS	Betalt og godkjent
Årsavgift 5. avg.år.	2022.02.17	1650	ONSAGERS AS	Betalt og godkjent
Årsavgift 4. avg.år.	2021.03.15	1350	ONSAGERS AS	Betalt og godkjent
Årsavgift 1. tom 3. avg.år.	2020.03.16	2100	ONSAGERS AS	Betalt og godkjent
31908151	2019.05.16	3450	ONSAGERS AS	Betalt
31807307	2018.05.09	4900	ONSAGERS AS	Betalt

Denne oversikten kan mangle informasjon, spesielt for eldre saker, om tilbakebetaling, internasjonale varemerker og internasjonale design.

## Publikasjon(er)

Lenker til publikasjoner og Norsk Patenttidende (søkbare tekstdokumenter)

Siste publiserte versjon av patent

Allment tilgjengelig patentsøknad

Norsk Patenttidende - ved meddelelse

Lenker til publikasjoner (ikke søkbare tekstdokumenter)

B1

A1

Hva betyr A1, B, B1, C osv?

Kapitler uten data er fjernet.

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