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DIVISIÓN DE NUEVAS CREACIONES
SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
Bogotá, D.C.

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 07-002201- -00003-0000

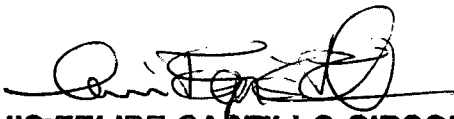
Fecha: 2008-06-26 14:37:34 Dep. 2020 NUECREACIONE
Tra. 11 PATENTEIYII Eve: 378 FASENACIONALI
Act. 538 PETICION Folios: 2

Re.: Expediente No. 07 2.201
Fase Nacional Solicitud de Patente PCT
a nombre de
SYNTHES GmbH
Código 011 – 378 - 538

En relación con la solicitud contenida en el Expediente de la referencia y, en particular, con la publicación del extracto de la misma en la Gaceta de la Propiedad Industrial No. 587 de 18 de Enero de 2008, por medio del presente escrito muy respetuosamente me permito solicitarle se sirva proceder a efectuar el **EXAMEN DE PATENTABILIDAD** de la solicitud aquí contenida.

Para tal efecto, acompaño el comprobante de pago por concepto de la tasa respectiva, Recibo No. 51,762

De Usted Atentamente,


LUIS FELIPE CASTILLO GIBSONE
T.P. # 68.995 del C.S.J.

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SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

NIT : 900176089-2

RECIBO OFICIAL DE CAJA : 08 - 51,162
FECHA : JUNIO 26 DE 2008

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***** CONSIGNACION *****

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PGO	Vr. PAGO
CASTILLO GRAU Y ASOCIADOS	CONSIGNACION	BANCO DE BOGOTA	062754387	67620	26/06/2008	103,000.00
CASTILLO GRAU Y ASOCIADOS	CONSIGNACION	BANCO DE BOGOTA	062754387	72752	26/06/2008	2,274,000.00
CASTILLO GRAU Y ASOCIADOS	CONSIGNACION	BANCO DE BOGOTA	062754387	2546120	26/06/2008	2,520,000.00

***** CONCEPTO *****

CANT.	RENTISTICO	CONCEPTO	TOTAL CONCEPTO
50005-01-01	SOLICITUDES	B5 EXAMEN DE PATENTABILIDAD DE INVEN	420,000.00
		TOTAL :	\$ 420,000.00

SON: CUATROCIENTOS VEINTE MIL PESOS

RESPONSABLE : _____

RECIBO DE CAJA APLICADO AL EXPEDIENTE No. _____

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DIVISIÓN DE NUEVAS CREACIONES

RADICACIÓN EXPEDIENTE No. 07-02201

EL EXTRACTO DE LA PRESENTE SOLICITUD DE **PATENTE DE INVENCION**

FUE PUBLICADO EN LA GACETA DE PROPIEDAD INDUSTRIAL No **587** DE

FECHA **18 DE ENERO DE 2008** EL TÉRMINO HÁBIL SEÑALADO POR LA LEY

EXPIRA EL **16 DE ABRIL DE 2008**

NOTA: Dentro del plazo de los seis (6) meses siguientes a partir de la fecha de publicación en la gaceta de Propiedad Industrial, deberá solicitar y cancelar el examen de patentabilidad so pena de que la solicitud caiga en abandono, de acuerdo con lo establecido en el Artículo 44 de la Decisión 486/2000.

SE PRESENTARON OPOSICIONES POR PARTE DE TERCEROS.

SI _____ NO X



US 20020099379A1

(19) **United States**

(12) **Patent Application Publication**
Adam

(10) **Pub. No.: US 2002/0099379 A1**

(43) **Pub. Date: Jul. 25, 2002**

(54) **LOCKING NAIL FOR THE REPAIR OF FEMUR SHAFT FRACTURES**

(30) **Foreign Application Priority Data**

May 12, 1999 (EP) 99 810 422.8

(76) **Inventor: Michael Adam, Heimberg (CH)**

Publication Classification

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(51) **Int. Cl.⁷ A61B 17/56**
(52) **U.S. Cl. 606/67**

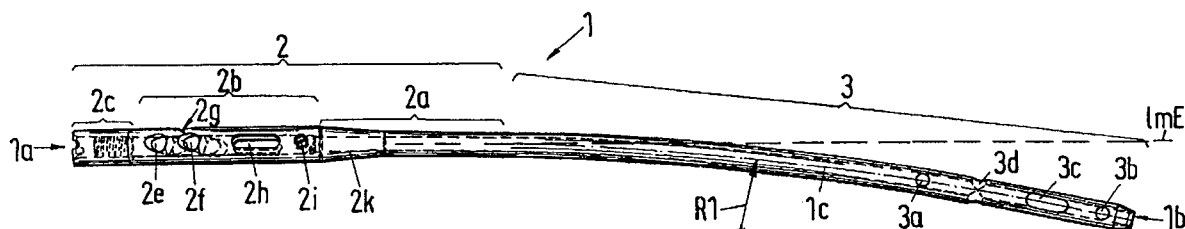
(57) **ABSTRACT**

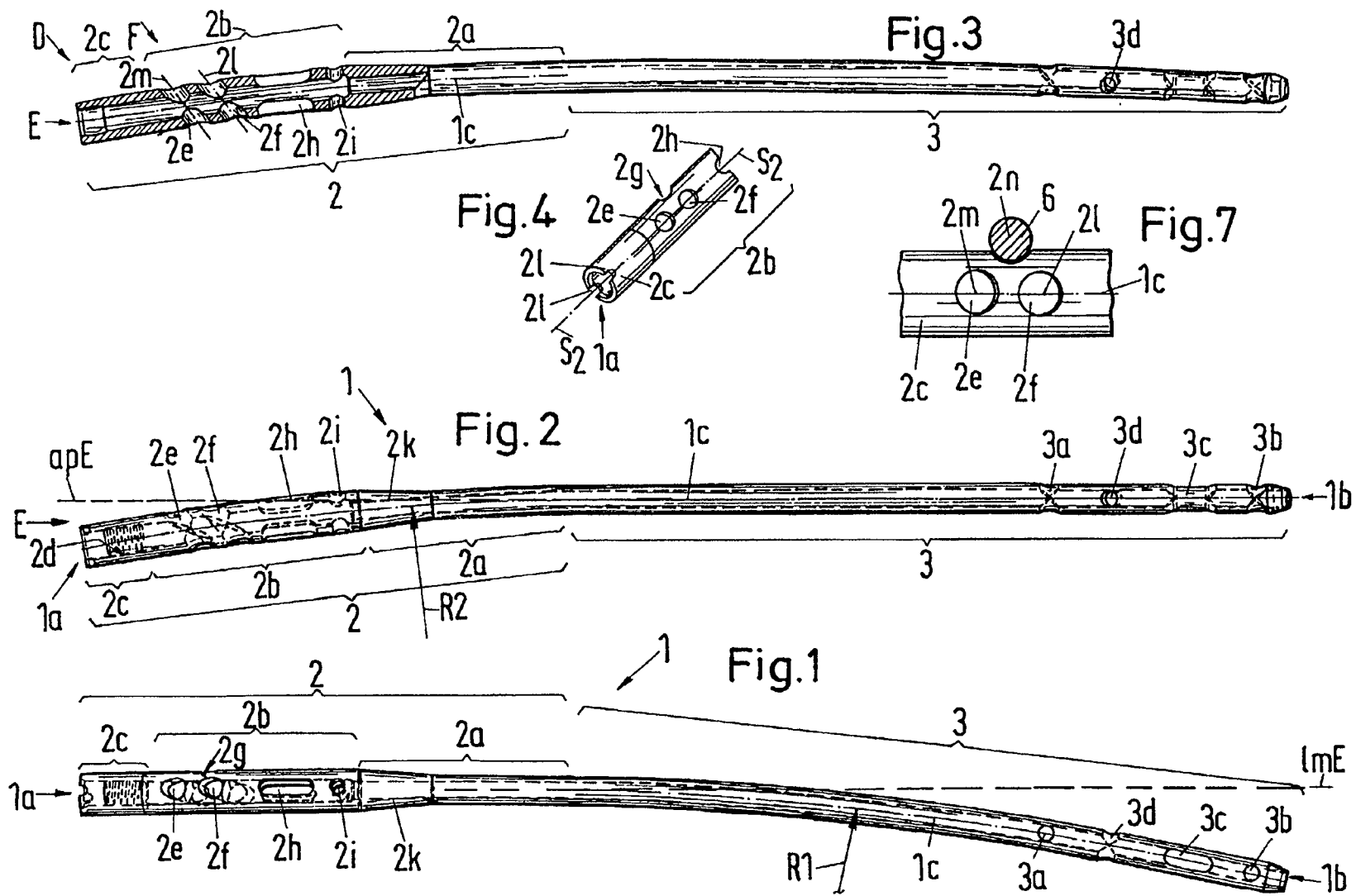
The locking nail for the repair of femur shaft fractures, also in connection with trochanteric femur fractures, comprises a proximal nail section (2) and a distal nail section (3) adjoining the latter, with the nail sections (2, 3) having bores (2e, 2f, 2h, 2i, 3a, 3b, 3c) for the reception of bone screws, and with the distal nail section (3) having a curvature extending in an anterior-posterior plane (apE) and corresponding substantially to the antecurvature of the femur, with the proximal nail section (2) having at least over a partial section (2a, 2b) a continuous curvature, in particular with constant radius of curvature (R2), extending in a lateral-medial plane (lmE).

(*) **Notice:** This is a publication of a continued prosecution application (CPA) filed under 37 CFR 1.53(d).

(21) **Appl. No.: 09/560,716**

(22) **Filed: Apr. 27, 2000**





centre lines 2m, 2n amounts for example to 8 mm. The proximal nail section 2 is firmly connected to the femur by one, two or three screws 6 which are arranged to pass through the two inclined bores 2e, 2f and the notch 2g. This arrangement of two inclined bores 2e, 2f and of the notch 2g has the advantage that the diameter of the proximal nail section 2 can be designed relatively thin and nevertheless a secure anchoring of the locking nail 1 by means of bone screws 6 is possible. The locking nail 1 can for example be designed in such a manner that the proximal nail section 2 has a diameter between 13 and 15 mm and the distal nail section 3 has a diameter between 9 and 13 mm. A locking nail 1 which is designed to be so thin has the advantage that it requires only a small opening of the operation field for its implantation. Thus a lower danger of infection is present during the implanting due to the small skin opening required. The securing section 2b with inclined bores 2e, 2f and ventrally arranged notch 2g, in particular in accordance with the embodiment illustrated in FIG. 4 and FIG. 7, could also be used separately from the other parts 2c, 2a and the distal nail section 3 in a differently designed locking nail. A securing section 2b of this kind could also be designed to extend in a straight line or curvilinearly respectively in the axial direction. FIG. 5 shows a front view of the proximal nail end 1a from the direction E. Starting from the proximal nail end 1a the locking nail 1 extends along the proximal nail section 2 in a left curve and extends after the transition to the distal nail section 3 in a downwardly pointing curve. A plane S1 extending in the direction of view perpendicularly through the distal nail section 3 and the plane S2 extending through the notches 2i, the inclined bores 2e, 2f and the oval transverse bore 2h intersect at an angle of 78 degrees. The proximal nail section 2 thus has an anteversion of 78 degrees with respect to the distal nail section 1. This anteversion is required in order that the inclined bores 2e, 2f and the transverse bore 2h respectively extend in the direction of the femur neck or of the femur head respectively when the locking nail 1 is inserted in the femur. The anteversion amounts preferably to between 75 degrees and 80 degrees, depending on the anatomical form of the femur. The German term "Antetorsion" is called "anteversion" in English.

[0028] FIG. 3 shows the locking nail 1 from the direction of view C, which extends perpendicularly to the plane S2. Relative to the illustration in accordance with FIG. 2 from the direction of view A the locking nail 1 is illustrated in accordance with FIG. 3 to be rotated by 12 degrees about its longitudinal axis. The plane of intersection through the proximal nail section 2 corresponds to the plane S2 and extends parallel to the plane of view.

[0029] FIG. 6 shows a section through a further exemplary embodiment of a distal nail section 3 having a gap 5 which extends in its longitudinal direction in order to lend a higher elasticity to the nail section 3.

[0030] The locking nail 1 illustrated in FIGS. 1 to 5 is intended for a left femur. As a result of the physiological antecurvature and anteversion of the femur a right and left version of the locking nail 1 are required.

1. Locking nail for the repair of femur shaft fractures, also in connection with trochanteric femur fractures, comprising a proximal nail section (2) and a distal nail section (3) adjoining the latter, with the nail sections (2, 3) having bores (2e, 2f, 2h, 2i, 3a, 3b, 3c) for the reception of bone screws,

and with the distal nail section (3) having a curvature extending in an anterior-posterior plane (apE) and corresponding substantially to the antecurvature of the femur, characterised in that the proximal nail section (2) has at least over a partial section (2a, 2b) a continuous curvature with constant radius of curvature (R2), extending in a lateral-medial plane (lmE).

2. Locking nail (1) in accordance with claim 1, characterised in that the partial section (2a, 2b) having a continuous curvature in the axial direction extends at least over about one fourth of the total length of the locking nail (1), preferably over about one third of the total length.

3. Locking nail (1) in accordance with any one of the preceding claims, characterised in that the proximal nail section (2), starting from the distal nail section (3), consists of a transition section (2a), a securing section (2b) adjoining the latter and a thread section (2c) adjoining the latter; in that the securing section (2b) contains bores (2e, 2f, 2h, 2i); and in that at least the transition section (2a) and the securing section (2b) have a common curvature with a constant radius of curvature (R2).

4. Locking nail (1) in accordance with any one of the preceding claims, characterised in that the proximal nail section (2) has at least one inclined bore (2e, 2f).

5. Locking nail (1) in accordance with claim 4, characterised in that the proximal nail section (2) has at its surface at least one notch (2g) which extends substantially parallel to the at least one inclined bore (2e, 2f).

6. Locking nail (1) in accordance with claim 5, characterised in that the notch (2g) is arranged to extend ventrally.

7. Locking nail (1) in accordance with any one of the claims 4 to 6, characterised in that the inclined bores (2e, 2f) extend parallel to one another.

8. Locking nail (1) in accordance with any one of the claims 4 to 7, characterised in that two inclined bores (2e, 2f) and a notch (2g) are arranged to extend parallel to one another and in particular to form an isosceles or equilateral triangle.

9. Locking nail (1) in accordance with any one of the claims 3 to 8, characterised in that the thread section (2c) is designed to extend in a straight line and runs out to the proximal nail end (1a), with the thread section (2c) having an inner thread (2d) for the reception of an aiming device or a tool for hammering in or out.

10. Locking nail (1) in accordance with any one of the preceding claims, characterised in that the bores (2e, 2f, 2h, 2i) are arranged to extend in the proximal nail section (2) in such a manner that their axes have an anteversion (α) of 75 degrees to 80 degrees, and in particular an anteversion (α) of 78 degrees, relative to the distal nail section (3).

11. Locking nail (1) in accordance with any one of the claims 3 to 10, characterised in that the transition section (2a) conically contractingly merges from the securing section (2b) to the distal nail section (3).

12. Locking nail (1) in accordance with any one of the preceding claims, characterised in that the latter is designed as a hollow tube.

13. Locking nail (1) in accordance with any one of the preceding claims, characterised in that the hollow tube has a slit (5) extending in the axial direction in the distal nail section (3).

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