



(19) **UA** (11) **83 551** (13) **C2**  
(51) i i E

IEIEŃOABŃOAI IADACIAIIEB E IAOEE  
OEBAEIU

AINOAABŃOAAIIE AEIADOAIAIO  
EIOAEAEEOOAEUIIE NIANOAIIINOE

(12) **IIENAIIEA ECIADAIAIEB E IAOAIOO OEBAEIU**

(21), (22) Çà àêà: **a200610678, 29.09.2005**

(24) Ààòà ià-àèà ààéñòàè iàòáíòà: **25.07.2008**

(30) Ìðèíðèòàò: **06.10.2004 DE 10 2004 048 618.2**

(46) Ààòà íóáèèèàòèè: **25.07.2008** B22D 11/128  
20060101CFI20070115BHUA B22D 11/16  
20060101CLI20070115BHUA B22D 11/12  
20060101CLI20070115BHUA B21B 37/00  
20080101CLI20080321BHUA

(86) Çà àêà ÑŃŃ:  
**PCT/EP2005/010533, 20050929**

(72) Èçíáðàòàòàèù:  
**Àáéàò Àèñáèù, DE**

(73) Ìàòáíòíàèàààèàò:  
**ŃiŃ ÀAiÀÀ AA, DE**

(54) ŃiŃŃiá iðàààèáíè ñiŃií iè çàòààðàáíè iŃááíè çííù è/èèè ièæíááí èííòà æèáéíè òàçù á çàáíòíàèà iðè íáíðàòùáííí èèòùà iàòàèèè-àŃèèò iàòàðèàéíà, á +àŃòíŃòè ñòàèè, è ñááíáíò iŃíðíè ðíèèèíáíè ñèŃòáíù æè ááí iŃòùáŃòàèáíè

(57) Ðàòàòàò:

ŃiŃŃiá è ðíèèèíáíè ñááíáíò (1) iŃíðíè ñèŃòáíù (2) æè iðàààèáíè ñiŃií iè çàòààðàáíè iŃááíè çííù è/èèè ièæíááí èííòà æèáéíè òàçù á çàáíòíàèà iðè íáíðàòùáííí èèòùà iàòàèèè-àŃèèò iàòàðèàéíà, á +àŃòíŃòè, ñòàèè, iðè ýòíí áíóòðè ðíèèèíáíí ñááíáíòà (1) ñèŃòáíù (2) iŃíðíð ðíèèèíá iðààòŃiíòðáíà áàððí ðàíà (3), èíòíðà íáŃàò áàððíèà ðíèèèè (4), iŃíæáíèà èíòíðíè ðáðòèèðòàòŃ ñ iŃiíùù ðèáíáà +àðàç ðàŃiŃíæáííùà á óáèàð (5a-5d) iŃíáíòáíèùèèà áèáðàáèè-àŃèèà ðèèèíáðíðŃiáíùà áéíèè (6) iòíŃèòàèùí ièæíèð ðíèèèíá (8) ièæíáè ðáíù (7) ià ñiíòààòŃòàòðùòð ðíèùèíó çàáíòíàèè, iðè ýòíí æè iŃiíùáíè ðí-íŃòè ñ iŃiíùù íàçààèŃèííè iàòù (14) èç ðèèèíáðíðŃiáíùð áéíèíá (6) ñ áíáèíè

èèè áíóòðáííè èçíáðèòàèùííí óŃòðíèŃòáíí (13, 13a) æè ðáðòèèðíáíè iŃíæáíè iòààèùííáí áàððíáí ðíèèèà (4) ó-èòùáàðò áàèè-èíù èçíáðáíè iðè ðáðòèèðíáíèè iŃíæáíè èèè ñèèù áààèáíè ñ òàèù ñiíðààèáíè iŃíæáíè çàòààðàáíè iŃááíè çííù è/èèè iŃíæáíè ièæíááí èííòà æèáéíè òàçù á iðèèáááíè çàáíòíàèà.

Ìðèòèàèùííè áðèàòáíù "Ìðííùèáííà ñiáŃòàáííŃòù". Èíèàà 1 "Èçíáðàòáíè, iŃèáçíùà iŃáàèè, òiŃiáðàòèè èíòáðàèùííð ièèðíŃòáí", 2008, N 14, 25.07.2008. ÁíŃòààðŃòàáííùè ááíàðòáíò èíòàèèàèòàèùííè ñiáŃòàáííŃòè ièíèŃòàŃòàá íáðàçíááíè è iàòèè Óèðàèíù.

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MINISTRY OF EDUCATION AND SCIENCE OF  
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(12) **DESCRIPTION OF PATENT OF UKRAINE FOR INVENTION**

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| 20080101CLI20080321BHUA |      |       |

(86) PCT application:  
**PCT/EP2005/010533, 20050929**

(72) Inventor:  
**Weyer Axel, DE**

(73) Proprietor:  
**SMS DEMAG AG, DE**

(54) **method and roll segment for determining the core solidification and/or the liquid crater tip in continuous casting of metals, particularly steel materials**

(57) Abstract:

A method and roll segment (1) for determining core solidification and/or the liquid crater tip in the continuous casting of metals, particularly steel materials, inside a roll segment (1) of a support roller gantry (2), wherein the upper frame (3) thereof supporting the upper rollers (4) can be drivingly adjusted via hydraulic piston-cylinder units (6), which are arranged in the corners (5a-5d) of a polygon, counter to the lower rollers (8) of a lower frame (7), according to the thickness of the billet, working in a more accurate manner, using an independent pair (14) of piston-cylinder units (6)

with an external or internal measuring device (13a, 13) in order to adjust a rotationally driven, individual upper roller (4), taking into account the measuring values for positional adjustment or force adjustment in order to determine the position of core solidification and/or the liquid crater tip in the cast billet.

Official bulletin "Industrial property". Book 1 "Inventions, utility models, topographies of integrated circuits", 2008, N 14, 25.07.2008. State Department of Intellectual Property of the Ministry of Education and Science of Ukraine.

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(51) IIE

IPHNOADPHOAI INAHOE 2 IAHOEE OEDATIE

ADAEAAIEE AAIADOAIAIO  
IOAEAEEOAEUII AEAHINHO

(12) IIEH AEIAOIAO AI IAOAIOO OEDATIE

(21), (22) Aai PHOHAIH CH AEE:

**a200610678, 29.09.2005**

(24) AAOA IAHOEO +EIHINO: **25.07.2008**

(30) Aai PHOHAIH IOHOEOAOO AAIHAIH AI IAOEUEI  
EIAIO: **06.10.2004 DE 10 2004 048 618.2**

(46) IOAEHOE AAIHINOAE IO AEAHO IAOAIOO

(AAEOHOEOEIAH IAOAIOO): **25.07.2008** B22D 11/128

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20080101CLI20080321BHUA

(86) IIAO OA AAOA IIAAI IOAIOIAH CH AEE AAIHAIH  
AI AIAIAHO ONO:

**PCT/EP2005/010533, 20050929**

(72) AEAIOHAE(E):

**AAEO AEAHO, DE**

(73) AEAHAE(E):

**NIH AIAA AA, DE**

(54) NIHN AAEIAAIB NOAIO OAADAHIN INUIAI CHIE AAI IEAUIAI EIOR DAEI OACHE O CHAIOIAO IDE  
AAIAADAHIO EEOO IOAEAAEO IOADAAEA, CHEDIA NOAE, 2 NAAIAO IIOIH DIEEIAI NENOAI AE  
EIAI CHAENIAIB

(57) DAOAOO:

NIHN A 3 DIEEIAEE HAAIO (1) IIOIH HENOAE  
(2) AE AECIAAI HOAO OADAHIN IHOIAH CHIE  
AAI IEAUIAI EO OAEH OACHE O CHAIOIAO IOE  
AAIAADAHIO EEOO IOAEAAEO IOADAAEA, CHEDIA  
HOAE, IOE OUIO AHADAAE OIEEIAH HAAIOA (1)  
HENOAE (2) IIOIE OIEEIA IADAAA+AI ADHI OAIA  
(3), UI IAH AADHI OIEEIE (4), IIEAIAH EI  
DAHOEPON CH AIIHAIH IOEIAO +ADH OIOAHIAH O  
EOAO (5a-5d) AADHIOOIEA AHOAAE+I  
OEOIAHIOIAH AEIE (6) AAIHIN IEAHO OIEEIA

(8) IEAUIH OAIE (7) IA AAIHAIH OIAUEIO  
CHAHIAEE, IOE OUIO AE IOAEUAH OI+IHO CH  
AIIHAIH IACHAAHIAH IOE (14) CH OEOIAHIOIAH  
AEIEA (6) CH CHAHIAH AAI AHOHOHIAH AEHOEPAAEUIH  
IOEHODHI (13, 13a) AE DAHOEPAAH IIEAIAH  
IOEIAH AADHIAH OIEEIE (4) ADHIOAPOU AAE+IE  
AEHOEPAAH IOE DAHOEPAAH IIEAIAH AAI HEE OEHIO  
CH IOHP AECIAAI IIEAIAH OADAHIN IHOIAH CHIE  
AAI IIEAIAH IEAUIAH EO OAEH OACHE O  
CHAHIAO, UI AAEAAON.

## UA 83551 C2

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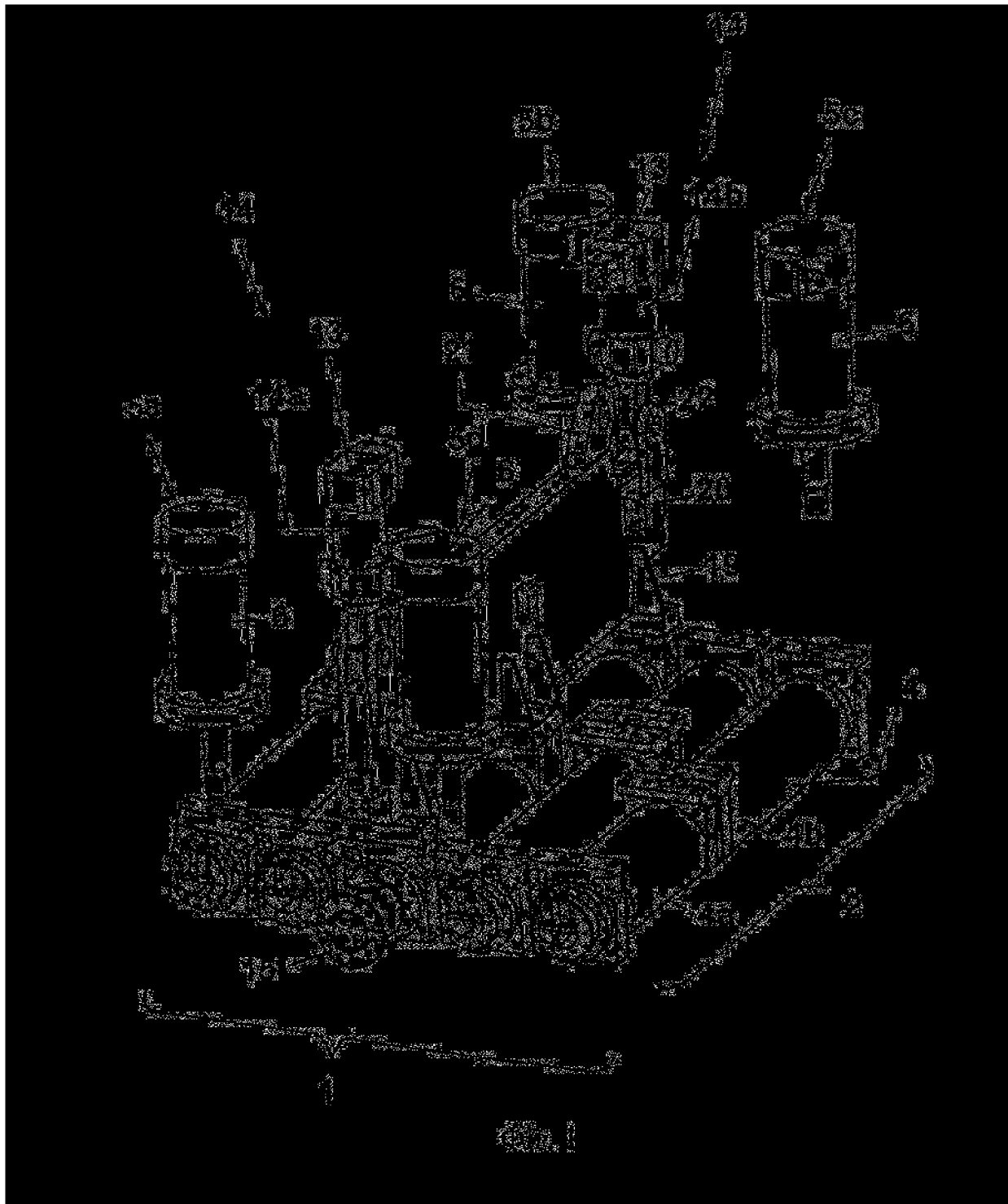


[illegible][illegible]

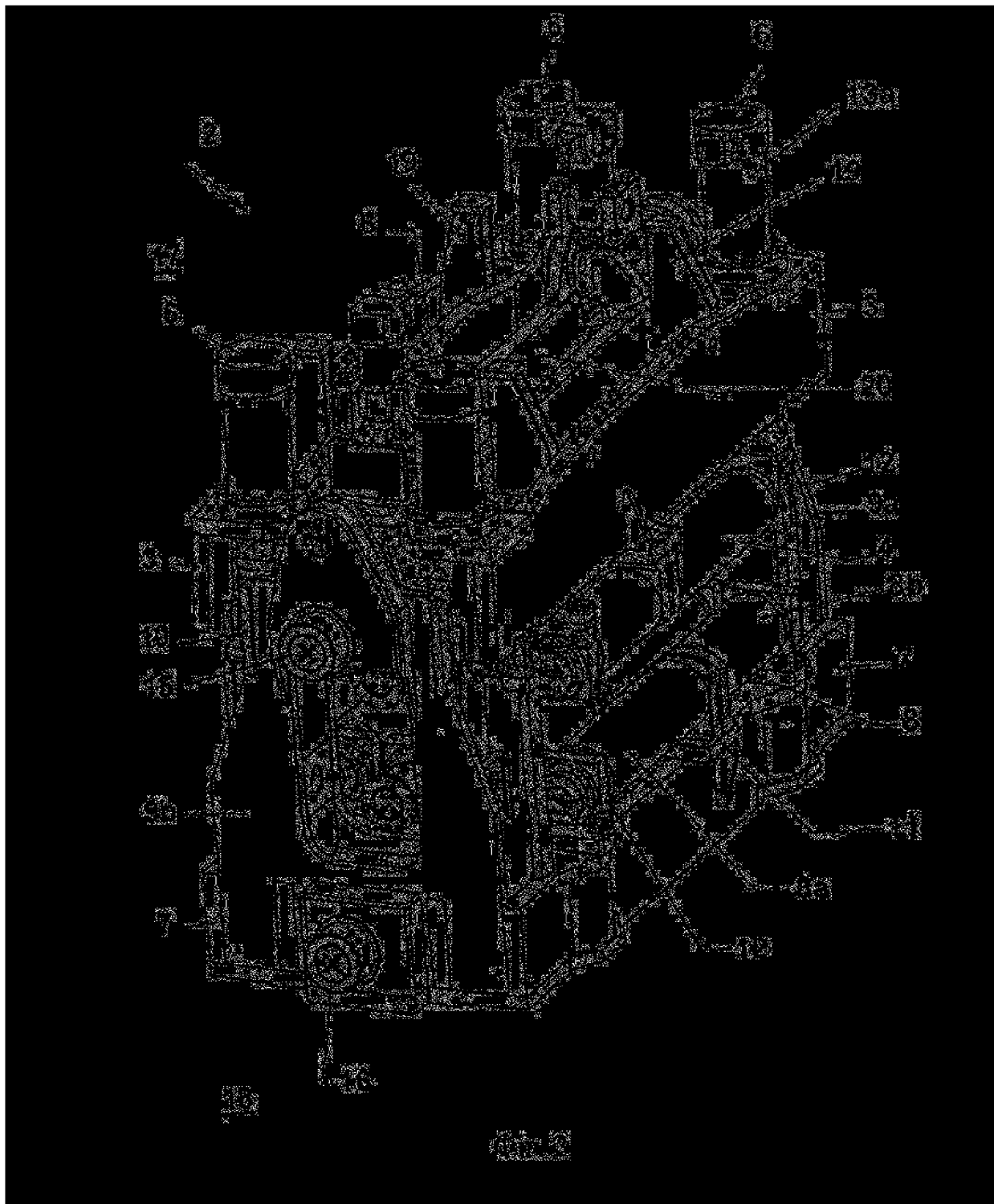
3. Nāāīāio çà i. 2, èèè ā<sup>a</sup>āō<sup>c</sup>i ōūñ òèi, ūi iðè īāīāōīīō +ēfē<sup>s</sup> āāōōī<sup>o</sup> òīēēē<sup>a</sup> (4) <sup>3</sup> īēēē<sup>o</sup> òīēēē<sup>a</sup> (8) ó òīēēēīāīō kāāīāīō<sup>s</sup> (1) ūīīāēīāīōā īāēī kāāāīā<sup>e</sup> āāōōī<sup>e</sup> òīēēē (4) <sup>3</sup> iðīōēēāāēīē īēēē<sup>e</sup> òīēēē (8) īāēāāīāī<sup>s</sup> iðēāīāī īāāōōāī .

4. Nāāiaio çà t. 2 aāi t. 3, eēē ā<sup>a</sup>ā<sup>o</sup>çī °ōūñ òēi, uī òīēēēīāēēē nāāiaio (1) ç āēi°ōpāāēūēiēi òēēōñōi°i (13, 13a) òīçōāōīāāēēē ē īñōāīi°ē òīēēēīāēēē nāāiaio (1) ò īēēñōōīç āāçīāōāōāīfāī ēēōō çāāīōīāīē īāōāēāēēē īāōāōāēā.

20 1998 UN



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Γδ³δ³είεε άπεάοαίυ "Γόμλεήείάα αεάήι³ήου". Είεää 1 "Άείάδίαε, είδεήί³ ίίάαε³, όήίάδάδ³ζ³ ί³οάάδάεύίεδ ί³εδίήδái", 2008, N 14, 25.07.2008. Άάδæääίεε άάίάδóáiáíò ί³óääæéδóáεύίίζ³ αεάήίίήò³ ί³ί³ήóάδήóää ίήά³βε³ ίάóεε Óεδázίε.