

Search history

Search 1: FT=(oven* and coking and wall* and roof* and dome* and pipe*) (Results 63)

1) Family number: 59004039 (BRPI1012377B)

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Title: PROCESSO DE GERACAO DE CARVAO E GASES COMBUSTIVEIS, SISTEMA E METODO

Abstract: Source: BRPI1012377B [PT] processo de geracao de carvao e gases combustiveis, sistema e metodo a presente invencao descreve um sistema para a producao de carvao vegetal, a partir de materiais lignocelulosicos. a presente invencao relata um metodo para obtencao e reforma de gases combustiveis para uso na geracao de energia eletrica, a partir do controle do sistema de producao de carvao vegetal. o metodo da invencao, ao contrario dos metodos convencionais, combina altas temperaturas, ambiente fechado e pressurizado, manutencao destas altas temperaturas para o craqueamento e recuperacao dos gases e tempo medio entre 22 e 28 horas. este metodo implica em reducao do rendimento, mas, por outro lado, resulta em um material bastante compactado e, portanto, mais adequado ao uso em alto-fornos siderurgicos. a presente invencao descreve, tambem, um processo de producao de carvao vegetal. de acordo com a presente invencao, madeira e outros materiais lignocelulosicos sao convertidos em carvao vegetal por pirolise e os gases oriundos das diversas fases do processo sao misturados, reformados ou craqueados em ambiente pressurizado, saturado com carbono e vapor de agua, sendo produzidos gases combustiveis nao condensaveis. o processo de carbonizacao proposto na presente invencao consiste em uma operacao continua, efetuada em um sistema que agrega um conjunto de reatores horizontais, conectados por barriletes de fluxo de gases, controlados por valvulas, cujo funcionamento combina o monitoramento de temperatura e pressao. no processo da invencao, o fluxo de gases associado a temperatura e pressao, promove a manutencao das condicoes favoraveis ao tratamento termico da materia lignocelulosica, alcançando como resultado final, material carbonaceo de alta qualidade. o sistema da invencao e alimentado continuamente, sem necessidade de interrupcao de seu funcionamento e producao. o arranjo do presente sistema confere ainda, possibilidade de submissao do material lignocelulosico a uma combinacao de pressao e altas temperaturas atraves do fluxo de gases

Classifications:

International (IPC 8-9): C10B21/08 C10B21/10 C10B21/16 C10B21/20 C10B27/02 C10B31/06 C10B31/08 C10B33/10 C10B39/02 C10B47/16 C10B47/36 C10B51/00 C10B53/02 C10B57/02 C10B57/08 (Advanced/Invention)

CPC: C10B53/02 C10B21/08 C10B21/10 C10B21/16 C10B21/20 C10B27/02 C10B31/06 C10B31/08 C10B33/10 C10B39/02 C10B47/16 C10B47/36 C10B51/00 C10B57/02 C10B57/08 Y02E50/14

PatBase - BRPI1012377_A2

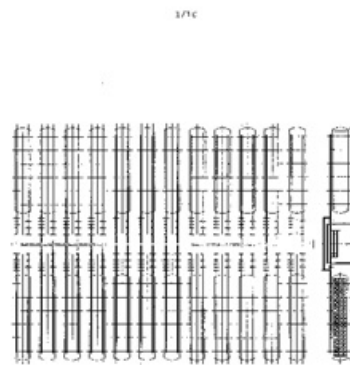


FIGURA 1

Family:

Publication number	Publication date	Application number	Application date
BRPI1012377 A2	20150324	BR2010PI12377	20100915
BRPI1012377 B1	20180731	BR2010PI12377	20100915

Priority:

BR2010PI12377 20100915

Probable Assignee: ALDO SARMENTO SOBRINHO

Assignee(s): (std): ALDO SARMENTO SOBRINHO ; ALFREDO FROES DOLABELA ; DOLABELA ALFREDO FROES ; FLECHA MARCOS CABRAL ; SOBRINHO ALDO SARMENTO ; MARCOS CABRAL FLECHA

Inventor(s): (std): ALFREDO FROES DOLABELA ; MARCOS CABRAL FLECHA ; ALDO SARMENTO SOBRINHO ; DOLABELA ALFREDO FROES ; SOBRINHO ALDO SARMENTO ; FLECHA MARCOS CABRAL

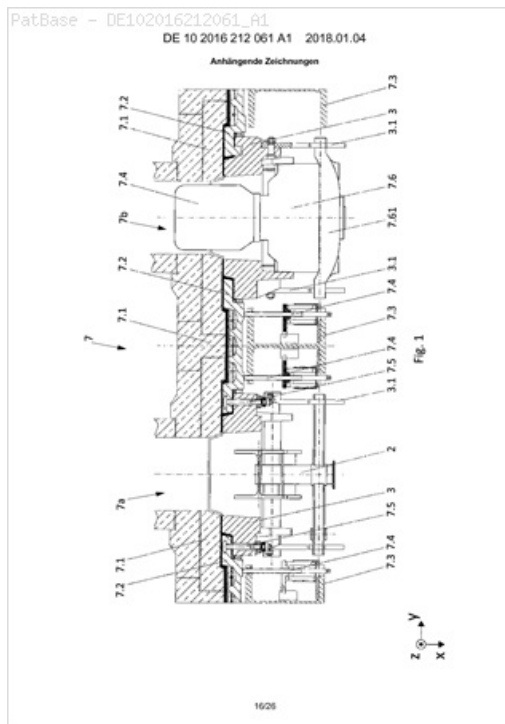
Title: VORRICHTUNG UND VERFAHREN ZUM HANDHABEN EINES KAMMERRAHMENS EINES KOKSOFENS Apparatus AND METHOD FOR MANAGING CHAMBER FRAME OF A coke oven (Machine translation)

Abstract: Source: DE102016212061A1 [DE] Die Erfindung betrifft ein Verfahren zum Handhaben wenigstens eines Kammerrahmens (3) einer Ofenkammer (7a, 7b) eines Koksofens (7), insbesondere bei der De-/Montage des Kammerrahmens fuer Wartungsarbeiten am Koksofen, wobei sich eine Stirnseite (3yz) des Kammerrahmens im montierten Zustand in einer Ebene (Eyz) in Breiten- und Hoeohenrichtung vor der Ofenkammer erstreckt, wobei der Kammerrahmen von der Ofenkammer entkoppelt und relativ zur Ofenkammer aus der stirnseitigen Ebene (Eyz) heraus verlagert wird, wobei der Kammerrahmen (3) unter Verwendung eines Zwischenadapter zwischen dem Kammerrahmen und einer stirnseitig von der jeweiligen Ofenkammer anordenbaren Ofenmaschine in der oder in wenigstens einer weiteren stirnseitigen Ebene (Eyz) mittels der Ofenmaschine mechanisch gekuppelt und daraufhin mittels der Ofenkammer entkoppelt wird und dabei an der Ofenmaschine abgestuetzt und gehalten wird. Ferner betrifft die Erfindung eine dafuer eingerichtete Haltevorrichtungsanordnung. **Machine translation:** The invention relates to a method for handling of at least one chamber frame (3) of a furnace chamber (7a, 7b) of a coke oven (7), and in particular in the case of de-/assembling the chamber frame for maintenance work on the coke oven, wherein an end side (3yz) of the chamber frame in an assembled state in a plane (Eyz) in width and height direction in front of the furnace chamber, wherein the chamber frame from the furnace chamber is decoupled and relative to the furnace chamber from the end-face plane (Eyz) is displaced out of the chamber, wherein the frame (3) using an intermediate adapter between the chamber at the end of the frame and a respective furnace chamber, which is arrangeable in the oven machine or in at least one further end-side plane (Eyz) by means of the oven and then mechanically coupled machine by means of the furnace chamber and at the furnace is supported and held. Furthermore, the invention relates to a retention device configured furnished arrangement.

Classifications:

International (IPC 8-9): C10B25/02 C10B29/02 (Advanced/Invention)

CPC: C10B25/14 C10B25/04



Family:

Publication number	Publication date	Application number	Application date
DE102016212061 A1	20180104	DE201610212061	20160701

Priority:

DE201610212061 20160701

Probable Assignee: THYSSENKRUPP AG

Assignee(s): (std): THYSSENKRUPP AG ; THYSSENKRUPP IND SOLUTIONS AG

Assignee(s): THYSSENKRUPP INDUSTRIAL SOLUTIONS AG

Inventor(s): (std): QIAN ZIFENG ; VITKOVSKI EUGEN

3) Family number: 61305057 (IN02049MU2014A)

Title: EMISSION CONTROL DURING COKE PUSHING AND WASTE HEAT RECOVERY BY EVAPORATIVE COOLING OF COKE

Abstract: An apparatus and method for controlling emissions during coke pushing and quenching processes, wet quenching of coke by evaporative cooling and recovery of waste heat during coke pushing and quenching operations. The method includes pushing the hot coke from coke oven through a first chute, into a covered hopper car for carrying it to a cooling station unit. The water sprayed by air- mist nozzles cools the coke which after drying is fed to a Blast Furnace. The hot steam generated goes to heat exchangers and heats the circulating air, which through a regenerative stove imparts heat energy for pre heating of coke oven and thus reduces the consumption of coke oven gas. Hence the method effectively eliminates emissions during coke pushing, cooling and saves minimum moisture in coke, cost of purchase of boiler coal and also minimizes ash handling in power plant due to lower consumption of boiler coal.

Classifications:

International (IPC 8-9): C10B27/04 C10B33/00 C10B39/00 (Advanced/Invention)

Family:

Publication number	Publication date	Application number	Application date
IN02049MU2014 A	20160101	IN2014MU02049	20140625

Priority:

Probable Assignee: KERKETTA RAVI RATTAN
Assignee(s): KERKETTA RAVI RATTAN
Inventor(s): KERKETTA RAVI RATTAN

4) Family number: 43929070 (WO08138118A1)

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Title: A SYSTEM COMPRISING THE GASIFICATION OF FOSSIL FUELS TO PROCESS UNCONVENTIONAL OIL SOURCES

Abstract: A facility comprising integrated systems for the extraction, and optionally upgrading and/or refinement, of unconventional oil sources, using fossil fuels as a primary source of energy. In particular, this facility provides a means to gasify one or more fossil fuels in an efficient manner, converting it into intermediate products such as heat, steam and electricity, which are then used by the system to obtain useful fuel products from unconventional oil sources such as tar sands and oil shale. The design of the components of this facility is optimized such that the overall costs are competitive with an equivalent unconventional oil source processing facility that uses natural gas as a source of processing energy. The facility can be used on its own, may use supplemental natural gas energy sources, or may be used in conjunction with an existing facility that uses natural gas as an energy source in order to improve the overall cost effectiveness of the processing and/or reduce the requirement for other energy sources, such as natural gas.

Classifications:

International (IPC 8-9): C10C3/00 C10G1/04 C10J3/00

C10J3/72 (Advanced/Invention);

C10C3/00 C10G1/00 C10J3/00 (Core/Invention)

International (IPC 1-7): F23G5/38

CPC: C10J3/32 C01B2203/84 C10G1/002 C10G2/30 C10J3/34

C10J3/466 C10J3/482 C10J3/523 C10J3/86 C10J2300/0956

C10J2300/0959 C10J2300/0973 C10J2300/0989 C10J2300/1238

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Y02E20/18

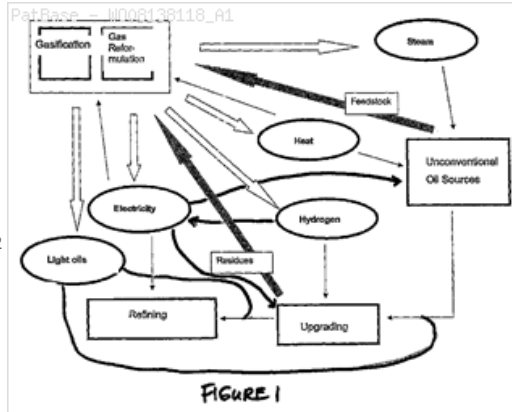
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M01B203/84 M10J300/09F14 M10J300/09F2 M10J300/09F4

M10J300/09H4 M10J300/12H2 M10J300/16F2D M10J300/16F4B

Y02E20/16 Y02E20/18 Y02E50/32



Family:

Publication number	Publication date	Application number	Application date
AR066538 AA	20090826	AR2008P102008	20080512
WO08138118 A1	20081120	WO2008CA00883	20080512

Priority:

US20070917410P 20070511	US20070917612P 20070511	WO2007US70456 20070605
US20070950322P 20070717	US20070986212P 20071107	US20070986213P 20071107
WO2008CA00355 20080227	US20080042571P 20080404	

Probable Assignee: PLASCO ENERGY GROUP INC

Assignee(s): (std): BACON MARC ; PLASCO ENERGY GROUP INC ; TSANGARIS ANDREAS

Inventor(s): (std): BACON MARC ; TSANGARIS ANDREAS

Agent(s): MBM INTELLECTUAL PROPERTY LAW LLP

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

5) Family number: 43929115 (US2009020456A)

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Title: SYSTEM COMPRISING THE GASIFICATION OF FOSSIL FUELS TO PROCESS UNCONVENTIONAL OIL SOURCES

Abstract: A facility comprising integrated systems for the extraction, and optionally upgrading and/or refinement, of unconventional oil sources, using fossil fuels as a primary source of energy. In particular, this facility provides a means to gasify one or more fossil fuels in an efficient manner, converting it into intermediate products such as heat, steam and electricity, which are then used by the system to obtain useful fuel products from unconventional oil sources such as tar sands and oil shale. The design of the components of this facility is optimized such that the overall costs are competitive with an equivalent unconventional oil source processing facility that uses natural gas as a source of processing energy. The facility can be used on its own, may use supplemental natural gas energy sources, or may be used in conjunction with an existing facility that uses natural gas as an energy source in order to improve the overall cost effectiveness of the processing and/or reduce the requirement for other energy sources, such as natural gas.

Classifications:

International (IPC 8-9): C10G35/00 C10G35/24 (Advanced/Invention);

C10G35/00 (Core/Invention)

CPC: C10J3/32 C01B2203/84 C10G1/002 C10G2/30 C10J3/34

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C10J2300/0959 C10J2300/0973 C10J2300/0989 C10J2300/1238

C10J2300/165 C10J2300/1659 C10K1/04 C10K1/101 F01K23/068

Y02E20/18

European: C10G1/00B C10G2/30 C10J3/32 C10J3/34 C10J3/46D

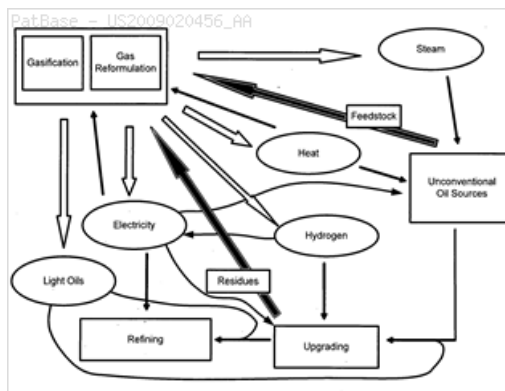
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M10J300/09H4 M10J300/12H2 M10J300/16F2D M10J300/16F4B

Y02E20/16 Y02E20/18 Y02E50/32

US: 208/133 422/105 422/105S



Family:

Publication number	Publication date	Application number	Application date
US2009020456 AA	20090122	US20080119307	20080512

Priority:

US20070917410P 20070511	US20070917612P 20070511	WO2007US70456 20070605
US20070950322P 20070717	US20070986213P 20071107	US20070986212P 20071107
WO2008CA00355 20080227	US20080042571P 20080404	US20080119307 20080512

Probable Assignee: PLASCO ENERGY GROUP INC

Assignee(s): (std): BACON MARC ; TSANGARIS ANDREAS

Assignee(s): CANADIAN WATER PROJECTS INC ; NORTH SHORE POWER GROUP INC ; PLASCO ENERGY GROUP INC

Inventor(s): (std): BACON MARC ; TSANGARIS ANDREAS

Agent(s): MCANDREWS HELD AND MALLOY LTD

6) Family number: 1194130 (US3947239A)

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Title: DESCENDING BED OF SUB-DIVIDED SOLID MATERIAL

Abstract: A method of processing granular material by passing a gas in contraflow to a bed of the material descending in an independently rotatable annular chamber of annular width a surmounting an annular eccentrically rotating floor, the outer bed wall being in gas-tight sliding relationship to the floor but the inner wall being spaced above the floor by a distance h, not less than, and not more than 10 percent in excess of, the value satisfying the relationship $\tan \phi = h/a$ where phi is the operative angle of repose of the charge material at the bottom of the bed.

Classifications:

International (IPC 8-9): B01J19/00 B01J6/00 B01J8/12 C04B2/12 C22B1/214 C22B1/22 F27B1/00 F27B1/20

F27B9/16 (Advanced/Invention);

B01J19/00 B01J8/08 C04B2/00 C22B1/16 F27B1/00

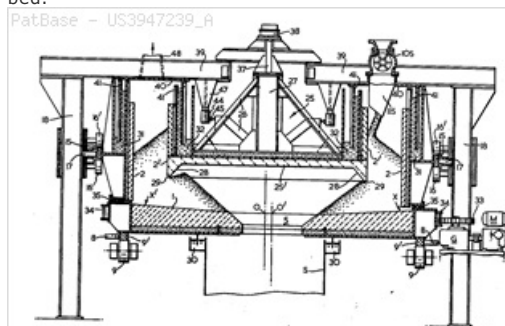
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International (IPC 1-7): B01J6/00 B01J8/10 B01J8/12 B65G C04B1/02 C04B7/44 C04B7/48 C22B1/214 F27B1/00 F27B1/26 F27B15/00 F27B19/00 F27B7/00 F27B9/16 F27B9/18 F27D13/00 F27D15/02 F28C3/14

CPC: F27B1/20 F27B9/16

European: F27B1/20 F27B9/16

US: 34/168 432/14 432/98



Family:

Publication number	Publication date	Application number	Application date
AT348401 B	19790212	AT19740009054	19741112
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BE822088 A	19750512	BE19740150420	19741112
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CA1039505 A1	19781003	CA19740212953	19741104
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DE2453613 B2	19790809	DE19742453613	19741112
DE2453613 C3	19800417	DE19742453613	19741112
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IT1023181 A	19780510	IT19740053919	19741107
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JP53029302 B4	19780819	JP19740130375	19741112
JP947562 C3	19790420	JP19740130375	19741112
NL7414590 A	19750514	NL19740014590	19741108
NO744052 A	19750721	NO19740004052	19741111
NO744052 L	19750721	NO19740004052	19741111
SE7414125 A	19750513	SE19740014125D	19741111
US3947239 A	19760330	US19740520170	19741101
ZA7407101 A	19760630	ZA19740007101	19741105

Priority:

GB19730052385 19731112

Inventor(s): NELSON PHILIP HENRY ROMNEY MARSH KENT VER KOENIGR ; NELSON PHILIP HENRY ROMNEY MARSH KENT GROSSBRITANNIEN ; NELSON PHILIP HENRY ROMNEY MARSH KENT VER KOENIGREICH ; NELSON PHILIP HENRY ROMNEY MARSH KENT GROSSBRITAN ; HENRY NELSON PHILIP

7) Family number: 40468180 (US2007295590A)

Title: METHODS AND SYSTEMS FOR ENHANCING SOLID FUEL PROPERTIES

Abstract: In embodiments of the present invention improved capabilities are described for a method of cleaning a solid fuel that may provide a starting solid fuel sample data relating to one or more characteristics of a solid fuel to be treated by a solid fuel treatment facility; may provide a desired solid fuel characteristic; may compare the starting solid fuel sample data relating to one or more characteristics to the desired solid fuel characteristic to determine a solid fuel composition delta may determine an operational treatment parameter for the operation of the solid fuel treatment facility to clean the solid fuel based at least in part on the solid fuel composition delta and may monitor contaminants emitted from the solid fuel during treatment of the solid fuel and regulating the operational treatment parameter with respect thereto to create a cleaned solid fuel.

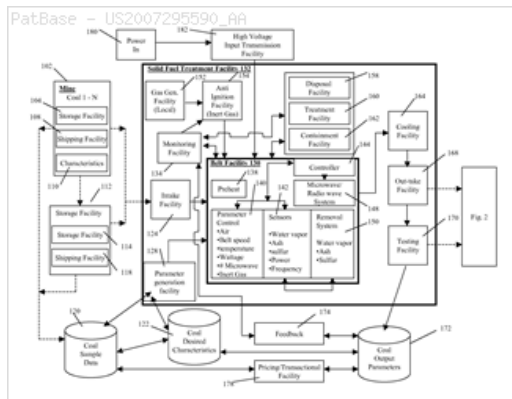
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C10L5/26 C10L5/32 C10L5/44 C10L5/46 C10L9/00 C10L9/08
F23C1/10 G05B1/00 G05B13/00 (Advanced/Invention);
C10L5/26 C10L5/00 (Advanced/Non-invention);
C10B57/00 C10L5/00 C10L5/40 C10L9/00 F23C1/00 (Core/Invention);
C10L (Subclass/Invention)

International (IPC 1-7): C10L5/10 C10L5/44 F23C1/10
CPC: C10L5/44 C10L5/14 C10L5/16 C10L5/28 Y02E50/10 Y02E50/30
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 F23K2201/505 F23K2900/01002 F23K1/00 C10L5/361 C10L5/363
 C10L9/00 C10L9/08 F23K2900/01001 C10L2290/58 C10L2290/60

European: C10L5/12 C10L5/14 C10L5/16 C10L5/28 C10L5/32
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US: 201/17 201/17P 209/11 209/11S 44/544 44/544P 44/550
44/550S 44/551 44/553 44/569 44/569P 44/577 44/577S 44/578
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44/620 44/626 44/904



Family:

Publication number	Publication date	Application number	Application date
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Priority:

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Probable Assignee: COALTEK INC

Assignee(s): (std): ATEN JED A ; BULLIS HERBIE L ; COALTEK CORP ; COALTEK INC ; COAL TEK LLC ; DROZD JAMES MICHAEL ; GINTHER NEIL E ; DROZD J M ; LANG CHRISTOPHER F ; DURGA MICHAEL C ; DROZD MICHAEL J ; DRUGA MICHAEL C ; DROZD J MICHAEL ; LANG FREDERICK C ; KOULTEHK INK ; JY CAPITAL INVEST LLC ; DZHEJUAJ KEHPITAL INVEST EHLEHLSI ; WANG RU T ; WEINBERG JERRY L ; LAWSON STEVEN L ; LANG FREDERICK CHRISTOPHER ; SURMA JAN M

Assignee(s): TECHNOLOGY PARTNERS FUND VII LP ; DZHEJUAJ KEHPITAL INVESTMENT EHLEHLSI ; JY CAPITAL INVESTMENT LLC WILMINGTON ; COALTEK INCA - 2189 FLINTSTONE DRIVETUCKERGA30084US ; COMERICA BANK ; JY CAPITAL INVESTMENT LLC ; JY CAPITAL INVESTMENT LLC 1209 ORANGE STREETWILMINGTONDE19801US ; DROZD J ; COAL TEK INC ; BRAEMAR ENERGY VENTURES LP

Inventor(s): (std): MICHAEL DROZD JAMES ; MICHAEL DROZD J ; DROZD J MICHAEL ; SURMA JAN M ; LANG FREDERICK CHRISTOPHER ; LAWSON STEVEN L ; BULLIS HERBIE L ; DRUGA MICHAEL C ; LANG CHRISTOPHER F ; DROZD MICHAEL J ; DURGA MICHAEL C ; VAN RU T ; DZHINTER NIL EH ; EHTEN DZHED A ; VEJNBERG DZHERRI L ; DROZD DZHEJMS MAJKL ; WEINBERG JERRY ; ATEN JED ; WEINBERG JERRY L ; DROZD J M ; ATEN JED A ; GINTHER NEIL E ; WANG RU T ; DROZD JAMES MICHAEL ; LANG FREDERICK C

Inventor(s): DROZD J ; RU T WANG ; JERRY L WEINBERG ; JAMES MICHAEL DROZD ; NEIL E GINTHER ; JED A ATEN ; CHRISTOPHER F LANG ; HERBIE L BULLIS ; JAN M SURMA ; STEVEN L LAWSON ; MICHAEL J DROZD ; MICHAEL C DURGA ; FREDERICK C LANG ; J MICHAEL DROZD ; MICHAEL C DRUGA ; DROZD J MICHAELUS ; LANG FREDERICK CUS ; LANG CHRISTOPHER FUS ; BULLIS HERBIE LUS ; SURMA JAN MUS ; LAWSON STEVEN LUS ; DRUGA MICHAEL CUS ; DROZD MICHAEL JUS ; GINTHER NEIL EUS ; WEINBERG JERRY LUS ; ATEN JED AUS ; WANG RU TUS ; DROZD JAMES MICHAELUS ; WANG RU ; GINTHER NEIL ; ATEN JED A COVINGTON ; WEINBERG JERRY L GAINESVILLE ; DROZD JAMES MICHAEL RALEIGH ; WANG RU T CONYERS ; GINTHER NEIL E JENKS ; DRUGA MICHAEL ; LAWSON STEVEN ; SURMA JAN ; LANG CHRISTOPHER ; DROZD MICHAEL ; BULLIS HERBIE ; LANG FREDERICK

Agent(s): SHELSTON IP PTY LTD; SHELSTON IP; A J PARK; A J PARK; SMART AND BIGGAR; MARKS AND CLERK LUXEMBOURG LLP; NAISMITH ROBERT STEWART; STRATEGIC PATENTS PC; MINTZ LEVIN COHN FERRIS GLOVSKY AND POPEO PC; MAZZARESE ROBERT A; NORTRUP JOHN H ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

8) Family number: 20966197 (US2243052A)

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Title: Manufacture of gas and coke

Abstract: 1. Apparatus for producing coke and sas comprising a coal carbonizing retort having heat conductant'wa.1ls suitable for transfer of heat from outside the retort to a. stationary charge of coal therein, a. mixer and abomizer ported out horizontally in the top adjacent one end of the retort and having valved supply Pipe attachments wheteby as many as three diierent gas generating nuids may be introduced simultaneously into the retort in Intimate mixture above the normal top level of a charge of coal therein, a gas' offtake porbed out in the retort above the charge, and means permitting introduction of coal into the retort and discharge of coke therefrom."

Classifications:

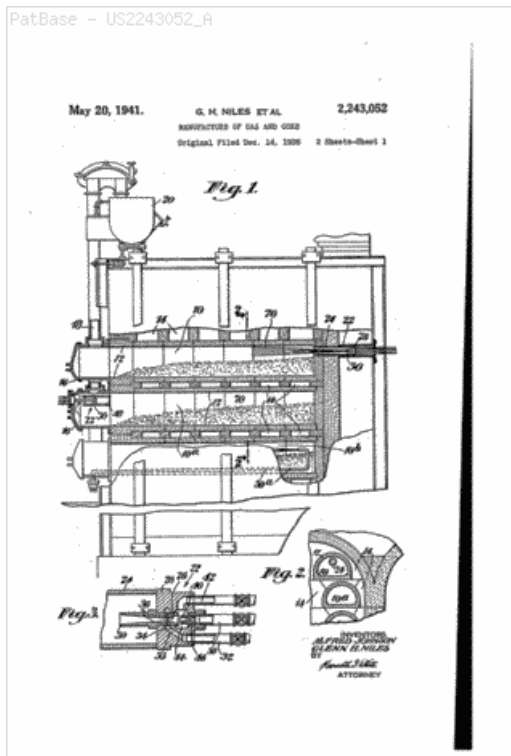
International (IPC 8-9): C10B57/18 (Advanced/Invention); C10B57/00 (Core/Invention)

International (IPC 1-7): C10B57/12

CPC: C10B57/18

European: C10B57/18

US: 202/134 48/94

**Family:**

Publication number	Publication date	Application number	Application date
US2243052 A	19410520	US19380196110	19380316

Priority:

US19360115668 19361214 US19380196110 19380316

Probable Assignee: COMBUSTION UTILITIES CORP

Assignee(s): (std): COMB UTILITIES CORP ; COMBUSTION UTILITIES CORP

Inventor(s): (std): ALFRED JOHNSON ; NILES GLENN H

Inventor(s): JOHNSON ALFRED

9) Family number: 19413218 (US1832867A)

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Title: OVEN OR RETORT FOR TREATING TARRY MATTER AND THE LIKE

Abstract: 1. An oven of the kind described comprising :1 substantially oblong retort chamber having at one end, a floor of refractory material for said chamber, :L plurality of parallel heating flues extending transversely under said floor from side to side of the OVPII, and longitudinal ducts coinciding with said transverse flues and with a stack.

Classifications:

International (IPC 8-9): C10B55/00 (Advanced/Invention); C10B55/00 (Core/Invention)

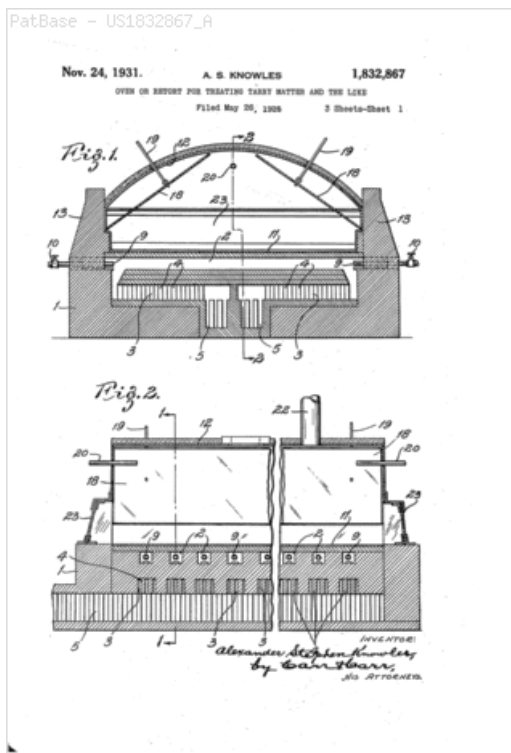
International (IPC 1-7): C10B5/06

CPC: C10B55/00

European: C10B55/00

US: 202/101 202/134

PatBase - US1832867_A



Family:

Publication number	Publication date	Application number	Application date
US1832867 A	19311124	US19260111678	19260526

Priority:

US19260111678 19260526

Probable Assignee: TAR AND PETROLEUM PROCESS COMPAN**Assignee(s):** (std): TAR AND PETROLEUM PROCESS COMPAN**Assignee(s):** TAR AND PETROLEUM PROCESS COMPANY ; TAR AND PETROLEUM PROCESS CO**Inventor(s):** (std): KNOWLES LOUISE H**10) Family number: 22803236** (US2869990A)

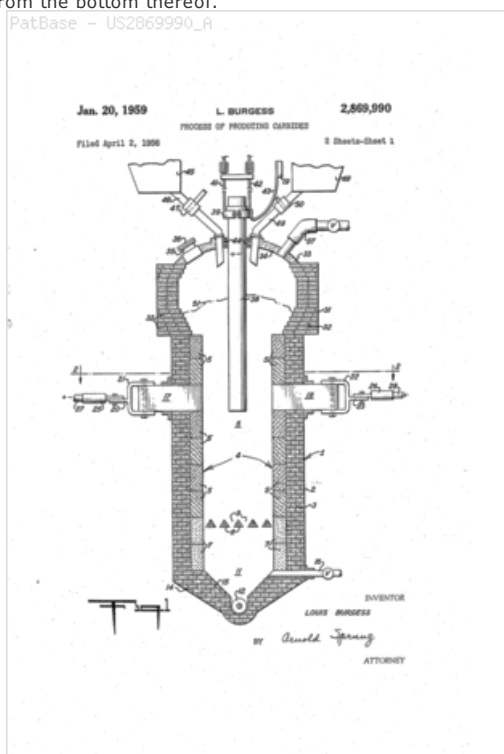
© PatBase

Title: PROCESS OF PRODUCING CARBIDES

Abstract: (Claim 1) 1. Process for the continuous production of carbides of those metallic and metalloid elements which form carbides by electric furnace reduction of the corresponding oxides with carbon, which comprises forming a charge composed of briquetted masses in which said oxide is disseminated in the form of particles throughout a continuous supporting structure of coke carbon, said carbon being present in said masses in excess of that required for reduction of said oxide with formation of carbon monoxide, and for reaction with the said element with formation of the carbide thereof, maintaining a body of such masses within a space defined by a refractory setting, beating such body by passage of electric current through said body from electrodes in contact with said body to a temperature at which reduction proceeds with formation of carbon monoxide in gas phase and residual masses of coke carbon containing said carbide disseminated therein, adding fresh masses to said body at the top thereof and removing residual masses in solid form from the bottom thereof.

Classifications:**International (IPC 8-9):** C01B31/30 (Advanced/Invention);

C01B31/00 (Core/Invention)

International (IPC 1-7): C01B31/30**CPC:** C01B32/90**European:** C01B31/30**US:** 373/3 423/440**Family:**

Publication number	Publication date	Application number	Application date
US2869990 A	19590120	US19560575567	19560402

Priority:

US19560575567 19560402

Probable Assignee: SAM TOUR**Assignee(s):** (std): EDDIE BURGESS BEITLER ; MURRAY BURGESS ; SAM TOUR**11) Family number: 31782271** (US2004065589A)

© PatBase

Title: DEEP CONVERSION COMBINING THE DEMETALLIZATION AND THE CONVERSION OF CRUDES, RESIDUES OR HEAVY OILS INTO LIGHT LIQUIDS WITH PURE OR IMPURE OXYGENATED COMPOUNDS

Abstract: A process for the conversion of hydrocarbons that are solid or have a high boiling temperature and may be laden with metals, sulfur or sediments, into liquids (gasolines, gas oil, fuels) with the help of a jet of gas properly superheated between 600 and 800 degrees centigrade The process comprises preheating a feed 5 in a heater 8 to a temperature below the selected temperature of a reactor 10. This feed is injected by injectors 4 into the empty reactor 10 (i.e., without catalyst.) The feed is treated with a jet of gas or superheated steam from superheater 2 to activate the feed. The activated products in the feed are allowed to stabilize at the selected temperature and at a selected pressure in the reactor and are then run through a series of extractors 13 to separate heavy and light hydrocarbons and to demetallize the feed. Useful products appearing in the form of water/hydrocarbon emulsions are generally demulsified in emulsion breaker 16 to form water laden with different impurities. The light phase containing the final hydrocarbons is heated in heater 98 and is separated into cuts of conventional products, according to the demand for refining by an extractor 18 similar to 13.

Classifications:

International (IPC 8-9): A23B4/16 A23B4/24 A23L1/015 A23L1/27 A23L1/277 A23L1/31 A23L1/315 A23L13/00 A23L13/50 A23L5/20 A23L5/40 A23L5/49 B01J10/00 B01J19/00 B01J4/00 B01J8/04 B01J8/18 C10G1/02 C10G1/20 C10G21/02 C10G27/14 C10G33/04 C10G33/06 C10G33/08 C10G47/00 C10G55/04 C10G7/00 C10G9/00 C10G9/36 (Advanced/Invention); C10G55/04 (Advanced/Non-invention); A23B4/14 A23L1/015 A23L1/27 A23L1/31 A23L1/315 B01J4/00 C10G1/00 C10G21/00 C10G27/00 C10G47/00 C10G55/00 C10G9/00 (Core/Invention)

International (IPC 1-7): A22C21/00 A22C25/00 A23B4/16 A23B4/24 A23L1/015 A23L1/15 A23L1/27 A23L1/277 A23L1/31 A23L1/315 A23L3/3445 B01J10/00 B01J8/04 C10G27/00 C10G27/14 C10G33/08 C10G35/02 C10G35/04 C10G47/00 C10G55/00 C10G55/04 C10G9/00 C10G9/36

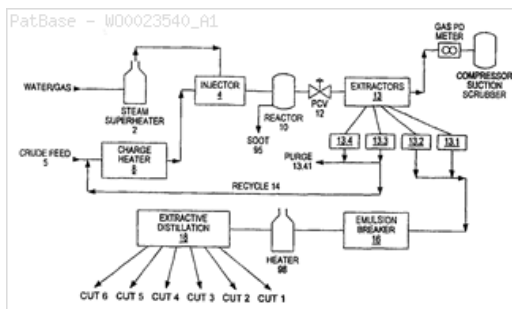
CPC: Y10S585/922 Y10S585/923 C10G2300/107 C10G2300/1077 C10G2300/201 C10G2300/205 C10G2300/807 C10G21/02 B01J4/001 B01J2219/00006 C10G1/02 C10G9/00 C10G9/36 C10G27/14 C10G33/06 C10G55/04 A23L5/276 A23L5/49 A23L13/52 A23B4/16 A23B4/24

European: A23B4/16 A23B4/24 A23L1/015E4 A23L1/277 A23L1/315B B01J4/00B C10G1/02 C10G21/02 C10G27/14 C10G33/06 C10G55/04 C10G9/00 C10J219/00A2B

US: 196/127 196/46 196/46S 196/98 208/106 208/125 208/128 208/129 208/130 208/188 208/400 208/400S 208/97 208/97S 422/140 422/188 422/188S 422/198 422/198P 422/198S 422/224 422/224P 422/231 422/289 422/600 422/600S 422/608 422/610 426/256 426/312 426/474 426/488 426/643 426/644 426/646 426/647 585/648 585/922 585/923 99/467 99/477 99/516

Family:

Publication number	Publication date	Application number	Application date
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Priority:

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FR19980012883 19981016	CA19992260639 19990203	US19990405934 19990927
AU19990064185 19991007	EP19990951827 19991007	WO1999US23325 19991007
KR20017004802 20010416	WO1999US23325 20010416	US20030428212 20030502
AU20040201428 20040405	US20050130988 20050517	US20050131167 20050517
US20100824362 20100628	US20110136042 20110721	

Probable Assignee: WESCO ENERGY CORP

Assignee(s): (std): AIR LIQUIDE ; CARBON RESOURCES LTD ; JORGENSEN PIERRE ; JORGENSEN PIERRE CHARLES ; L AIR LIQUIDE SOC ANONYME POUR L ETUDE ET L EX ; L AIR LIQUIDE A DIR CON SUR SA ; LANISCO HOLDINGS LTD ; WORLD ENERGY SYSTEMS CORP

Assignee(s): L AIR LIQUIDE SOC ANONYME POUR L ETUDE ET L EXP ; L AIR LIQUIDE S A A DIRECTOIRE ET CONSEIL DE SURVEILLANCE POUR L ETUDE ET L EXPLOITATION DES PROCEDES GEORGES CLAUDE ; L AIR LIQUIDE S A A DIRECTOIRE ET CONSEIL DE SURV POUR L ETUDE ET L EXPLOITAT PROCEDES G CLAUDE ; L AIR LIQUIDE SOC ANONYME A DIRECTOIRE ET CONSEIL DE SURVEILLANCE POUR L ETUDE ET L EXPLOITATION DES PROCEDES GEORGES CLAUDE ; L AIR LIQUIDE A DIRECTOIRE ET CONSEIL DE SURVEILLANCE POUR L ETUDE ET L EXPLOITATION DES PROCEDES GEORGES CLAUDE SA ; L AIR LIQUIDE A DIRECTOIRE ET CONSEIL DE SURV POUR L ETUDE ET L EXPLOITAT PROCEDES G CLAUDE SA ; WESCO ENERGY CORP ; L AIR LIQUIDE SOC ANONYME POUR L ETUDE ET L EXPLOITATION DES PROCED ES GEORGES CLAUDE ; L AIR LIQUIDE SOC ANONYME POUR L ETUDE ET L EXPLOITATION DES PROCEDES GEORGES CLAUDE ; LE ROYER SYLVIE ; L'AIR LIQUIDE ; L'AIR LIQUIDE SOC ; L'AIR LIQUIDE SOC ANONYME POUR L'ETUDE ET L'EXPLOITATION DES PROCEDES GEORGES CLAUDE ; PIERRE CHARLES JORGENSEN ; L AIR LIQUIDE SOC ; L AIR LIQUIDE ; L AIR LIQUIDE S A A DIRECTOIRE ET CONSEIL DE SURVE ; L AIR LIQUIDE SOC ANONYME POUR ; L AIR LIQUIDE A DIR CON SURV ET EXPL PRO SA ; CRISINEL PASCAL ; C

Inventor(s): (std): CRISINEL PASCAL ; JORGENSEN P ; JORGENSEN PIERRE ; LE ROYER SYLVIE ; P JORGENSEN ; PIERRE JORGENSEN ; SYLVIE LE ROYER ; JORGENSEN PIERRE CHARLES

Inventor(s): PIERRE CHARLES JORGENSEN ; PASCAL CRISINEL

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; OGILVY RENAULT LLP SENCRL SRL; BERESKIN AND PARR LLP SENCRL SRL; AZAM DARLEY AMSELLEM AND ASSOCIES; PILLSBURY WINTHROP SHAW PITTMAN LLP; KELLEY DRYE AND WARREN LLP STEVEN J MOORE; KELLEY DRYE AND WARREN LLP

Designated states: AE AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CR CU CY CZ DE DK DM EE ES FI FR GA GB GD GE GH GM GN GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

12) Family number: 30301302 (US5259864A)

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Title: METHOD OF DISPOSING OF ENVIRONMENTALLY UNDESIRABLE MATERIAL AND PROVIDING FUEL FOR AN IRON MAKING PROCESS E.G. PETROLEUM COKE

Abstract: The invention provides a method for both disposing of an environmentally undesirable material comprising petroleum coke and the sulfur and heavy metals contained therein and of providing fuel for a process of making molten iron or steel preproducts and reduction gas in a melter gasifier having an upper fuel charging end, a reduction gas discharging end, a lower molten metal and slag collection end, and means providing an entry for charging ferrous material into the melter gasifier; introducing petroleum coke into the melter gasifier at the upper fuel charging end; blowing oxygen-containing gas into the petroleum coke to form at least a first fluidized bed of coke particles from the petroleum coke; introducing ferrous material into the melter gasifier through the entry means, reacting petroleum coke, oxygen and particulate ferrous material to combust the major portion of the petroleum coke to produce reduction gas and molten iron or steel preproducts containing heavy metals freed from combustion of the petroleum coke and a slag containing sulfur freed from combustion of the petroleum coke.

Classifications:

International (IPC 8-9): C10J3/62 C21B11/08 C21B13/00

C21B13/02 C21B13/14 (Advanced/Invention);

C21B13/00 C21B13/14 (Core/Invention)

International (IPC 1-7): C10G21/0 C10G9/14 C10J3/62 C10L1/0

C21B11/00 C21B11/08 C21B13/00 C21B13/02 C21B13/14

CPC: Y10S75/958 Y10S75/961 C21B13/143 C21B13/0006

Y02P10/136 C21B13/0066 Y02P10/216 C21B13/0073 C21B13/002

C21B13/14 C21B13/0013 Y02P10/212 C21B2100/44 C21B2100/42

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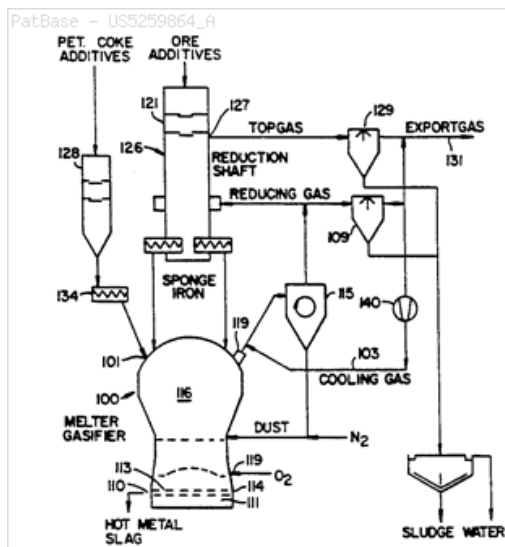
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C21B13/00K C21B13/14 C21B13/14A

US: 208/50 420/29 420/31 75/445 75/446 75/492 75/501 75/502

75/505 75/548 75/561 75/567 75/581 75/659 75/669 75/694 75/958

75/961



Family:

Publication number	Publication date	Application number	Application date
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AU199745869 A1	19980414	AU19970045869	19970919
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US5958107 A	19990928	US19970834023	19970411
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WO9408055 A1	19940414	WO1993US08648	19930914
WO9812358 A1	19980326	WO1997US16852	19970919

Priority:

US19920958043	19921006	US19920991914	19921217	US19930056341	19930430
US19930063630	19930518	US19930084888	19930630	US19930084853	19930630
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US19930167268	19931215	US19940194898	19940214	US19940218792	19940328
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US19960745570	19961108	US19970834023	19970411	WO1997US16852	19970919
US19990270122	19990315				

Probable Assignee: BECHTEL GROUP INC

Assignee(s): (std): BECHTEL CROUP INC ; BECHTEL GROUP INC ; GREENWALT RICHARD B

Inventor(s): (std): GREENWALT RICHARD B

Inventor(s): RICHARD B GREENWALT

Agent(s): SIM AND MCBURNEY

Designated states: AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CU CZ DE DK EE ES FI FR GA GB GE GH GN GR HU ID IE IL IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT UA UG US UZ VN YU ZW

13) Family number: 1058312 (GB1516877A)

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Title: HEATING OF KILNS USING SOLID FUEL

Abstract: 1516877 Heating of kilns using solid fuel; burners RUHRKOHL AG and A FRIEDL 28 Aug 1975 [30 Aug 1974] 35523/75 Headings 4FB and F4T In a process for the firing of rough ceramics, a kiln 1, e.g. for bricks, is fired by the intermittent delivery of solid fuel by firing equipment 11 inserted through the middle ones of rows of three charging tubes 8, 9, 10, in the roof of firing chambers. Charging equipment 31 supplies fuel 32 in controlled doses to the feed tube 29 which is connected to a source of compressed air from the direction of arrow I. A valve 33 controls the intermittent supply of compressed air which blows fluid on to a baffle plate 23 of the equipment 11 so that it is distributed over the entire cross-section of the kiln.

Classifications:

International (IPC 8-9): F23K3/02 F27B13/12 (Advanced/Invention);

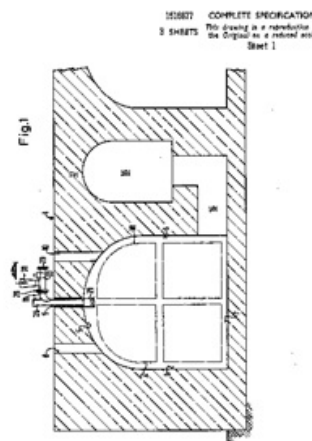
F23K3/00 F27B13/00 (Core/Invention)

International (IPC 1-7): C04B33/32 F23C11/00 F23C5/22 F23K3/02 F23N1/08 F27B13/12 F27B9/36

CPC: F23K3/02 F27B13/12

European: F23K3/02 F27B13/12

PatBase - GB1516877_R



Family:

Publication number	Publication date	Application number	Application date
AT342485 B	19780410	AT19750006657	19750828
AT665775 A	19770715	AT19750006657	19750828
BE832928 A	19751216	BE19750159622	19750829
CH598558 A	19780428	CH19750010771	19750819
DE2441680 A1	19760311	DE19742441680	19740830
DE2441680 B2	19790308	DE19742441680	19740830

DE2441680 C3	19791031	DE19742441680	19740830
FR2283103 A1	19760326	FR19750026534	19750828
FR2283103 B1	19780407	FR19750026534	19750828
GB1516877 A	19780705	GB19750035523	19750828
NL168322 B	19811016	NL19750010253	19750829
NL168322 C	19820316	NL19750010253	19750829
NL7510253 A	19760302	NL19750010253	19750829
ZA7505441 A	19760728	ZA19750005441	19750826

Priority:

DE19742441680 19740830

Probable Assignee: RAG FOUNDATION

Assignee(s): (std): FRIEDL A ; FRIEDL ANDREAS ; RUHRKOHL AG ; ADREAS FRIEDL

Assignee(s): ADREAS FRIEDL TE BURGHHAUSEN EN RUHRKOHL AKTIENGESSELLSCHAFT TE ESSEN BONDSREPUBLIC DUITSLAND ; RUHRKOHL AG 4300 ESSEN ; RUHRKOHL AKTIENGESSELLSCHAFT ; RAG FOUNDATION ; FRIEDL ANDREAS 8263 BURGHHAUSEN ; ANDREAS FRIEDL TE BURGHHAUSEN BONDSREPUBLIC DUITSLAND

Inventor(s): (std): FRIEDL A ; FRIEDL ANDREAS

Inventor(s): ANDREAS FRIEDL ; FRIEDL ANDREAS 8263 BURGHHAUSEN

14) Family number: 380319 (GB1247099A)

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Title: A METHOD FOR COOLING A GAS, AND A HEAT EXCHANGER THEREFOR

Abstract: 1,247,099. Gas cooling method and apparatus. BADISCHE ANILIN- and SODA-FABRIK A.G. and SIEGENER A.G. GEISWEID EISENKONSTRUKTION BRUCKENBAU VERZINKEREI. 19 March, 1969 [2 April, 1968], No. 14506/69. Headings F4K and F4S. A gas, in particular cracking or synthesis gas, is cooled by bringing it into contact with a molten metal or alloy the temperature of which may be regulated by a cooling medium e.g. water or steam passed through or into the molten metal e.g. via heat exchange tubes 14. The molten medium may comprise bismuth, tin or thallium, or lead alloys containing any of these metals or silver. In an apparatus shown for carrying out the method, the molten medium M is contained in a vessel 1 partially lined with heat insulation 2. The gas enters the vessel via a pipe 19 and sieve 21 from which it flows upwardly through the molten medium to outlets 22 from the vessel. Unwanted accumulations Sch on the surface of the molten medium are removed to an outlet 24 by blast nozzles 23. The coolant for the molten medium circulates through a heat exchanger suspended from the roof 8 of the vessel, and comprises inlet tubes 10 communicating via headers 11 and downflow tubes 12 with headers 13 from which tubes 14 extend upwardly to further headers 15. These lead via tubes 16 and headers 17 to outlet pipes (18, Fig. 1) for the now heated coolant which in the case of water or steam may be conveyed therefrom to a boiler drum. Regulation of the rate of heat transfer may be effected by raising or lowering the inlet temperature of the cooling medium, or (using inlets and outlets 27, 28) of the level of the molten medium M. At the lower end of the casing 1 is a space 5 defined by a bridge member 2a of heat resistant material e.g. ceramic, and containing a tube 6 to which a heating medium is supplied to maintain molten the medium M.

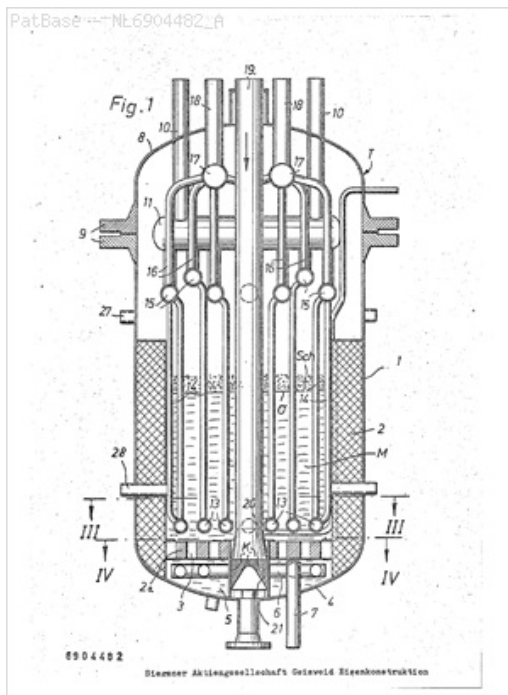
Classifications:

International (IPC 8-9): B01D51/10 C09K5/12 C10G9/00 F28D7/00 G21C15/00 (Advanced/Invention); B01D51/00 C09K5/00 C10G9/00 F28D7/00 G21C15/00 (Core/Invention)

International (IPC 1-7): B01D51/10 C09K5/00 C10K1/04 F22B1/06 F28C1/02 F28C3/16 F28D15/00 F28D7/00 F28F1/00 F28F23/00

CPC: B01D51/10 C10G9/002 F28D7/00 F28D2021/0075 G21C15/00 Y02E30/40 C09K5/12

European: B01D51/10 C09K5/12 C10G9/00C F28D7/00 G21C15/00 R28D21/00T240 Y02E30/40



Family:

Publication number	Publication date	Application number	Application date
AT301737 B	19720911	AT19690002668	19690318
BE730604 A	19690901	BE19690730604	19690327
CA927303 A1	19730529	CA19690047586	19690402
DE1751090 A1	19711007	DE19681751090	19680402
DE1922010 A1	19710325	DE19691922010	19690430
DE1939172 A1	19701015	DE19691939172	19690801
DE1944184 A1	19710311	DE19691944184	19690830
FR2005364 A1	19691212	FR19690009708	19690331
FR2005364 B1	19740201	FR19690009708	19690331
GB1247099 A	19710922	GB19690014506	19690319
IL31844 A0	19690528	IL19690031844	19690319

IL31844 A1	19720726	IL19690031844	19690319
LU58251 A	19690711		19690320
NL6904482 A	19691006	NL19690004482	19690324

Priority:

DE19671751050 19680402 DE19671751090 19680402 DE19681751090 19680402
GB19690014506 19690319 DE19691922010 19690430 DE19691944184 19690830

Probable Assignee: BASF SE

Assignee(s): (std): BASF AG ; BASF SE ; SIEGENER AG ; SIEGENER GE AG ; SIEGENER AG GIESWEID EISENKONS ; SIEGENER AG GEISWEID ; SIEGENER GEISWEID AG

Assignee(s): SIEGENER GEISWEID EISENKONSTRUKTION AG ; WILHELM RITTINGER ; WALTER SAUM ; SIEGENER GEISWEID EISENKONS AG ; SIEGENER GEISWEID EISENKONSTRUKTION BRUECKENBAU VERZINKEREI AG ; SIEGENER AKTIENGESSELLSCHAFT GIESWEID EISENKONSTRUKTION BRUECKENBAU VERZINKEREI ; SIEGENER AKTIENGESSELLSCHAFT GEISWEID EISENKONSTRUKTION BRUECKENBAU VERZINKEREI ; HARALD JOHN ; FRIEDRICH WODTKE ; FROHMUT VOLLHARDT ; SIEGENER AG GEISWEID EISENKONSTRUKTION BRUECKENBAU VERZINKEREI ; SIEGENER AKTIENGESSELLSCHAFT GEISWEID ; SIEGENER AG GEISWELD DT ; ARTUR SLIWKA ; BADISCHE ANILIN AND SODA FABRIK AG ; BADISCHE ANILIN AND SODA FABRIK AKTIENGESSELLSCHAFT ; BASF

Inventor(s): (std): ARTUR SLIWKS DR ; FRIEDRICH WODTKE DR ; HARALD JOHN DIPL ING ; JOHN HARALD ; RITTINGER WILHELM ; SAUM WALTER ; SLIWKA ARTUR ; SLIWKA ARTUR DIPL CHEM DR ; VOLLHARDT FROHMUT ; WALTER SAUM DR ; WILHELM RITTINGER DR ; WODTKE FRIEDRICH ; WODTKE FRIEDRICH DIPL CHEM DR ; WODTKE F ; RITTINGER WILHELM DIPL CHEM DR ; RITTINGER W ; JOHN HARALD DIPL ING ; JOHN H ; VOLLHARDT F ; SLIWKA A ; SAUM WALTER DIPL CHEM DR ; SAUM W

Inventor(s): RITTINGER WILHELM DIPL CHEMDR ; SAUM WALTER DIPL CHEMDR ; HARALD JOHN DIPL CHEMIKER ; HARALD JOHN ; FROHMUT VOLLHARDT INGENIEUR ; FROHMUT VOLLHARDT ; FRIEDRICH WODTKE ; DR WILHELM RITTINGER DIPL CHEMIKER ; DR WALTER SAUM DIPL CHEMIKER ; DR FRIEDRICH WODTKE DIPL CHEMIKER ; DR ARTUR SLINWKA DIPL CHEMIKER ; ARTUR SLIWKA ; WILHELM RITTINGER ; WALTER SAUM ; WODTKE FRIEDRICH DIPL CHEMDR ; SLIWKA ARTUR DIPL CHEMDR

Agent(s): REINHOLD COHN AND PARTNERS

15) Family number: 3796320 (US4666559A)

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Title: Closure for a gas offtake pipe

Abstract: A closure is provided for the top opening of a circular or oval cross section gas offtake pipe provided on the roof for a coke oven chamber to conduct gasses from the chamber to a gas main. The closure includes a domed top cover and an inner cover. The peripheral edge of the top cover dips into a water seal provided on the top edge of the gas offtake pipe when the cover is in a closed position. The edge of the inner cover engages a peripheral top sealing edge of an annular wall which is disposed at a distance from the water seal inwardly thereof. The top seal edge of the annular wall is disposed above a base of the water seal.

Classifications:

International (IPC 8-9): C10B27/06 (Advanced/Invention)

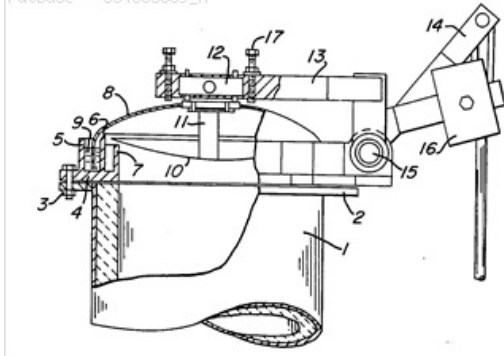
International (IPC 1-7): C10B25/22 C10B27/00 C10B27/06

CPC: C10B27/06

European: C10B27/06

US: 202/254 202/269

PatBase - US4666559_A



Family:

Publication number	Publication date	Application number	Application date
DE3431298 A1	19860306	DE19843431298	19840825
DE3431298 C2	19911114	DE19843431298	19840825
EP0173035 A2	19860305	EP19850108406	19850706
EP0173035 A3	19870520	EP19850108406	19850706
EP0173035 B1	19891108	EP19850108406	19850706
KR19860001867 A	19860324	KR19850006131	19850824
US4666559 A	19870519	US19850762269	19850805

Priority:

DE19843431298 19840825

Probable Assignee: DR C OTTO AND COMP GMBH A CORP OF GERMANY

Assignee(s): (std): OTTO AND CO GMBH DR C ; STILL OTTO GMBH

Assignee(s): STILL OTTO GMBH 4630 BOCHUM DE ; DR C OTTO AND CO GMBH ; DR C OTTO AND COMP GESELLSCHAFT MIT BESCHRANKTER HAFTUNG ; DR C OTTO AND COMP GMBH ; DR C OTTO AND COMP GMBH A CORP OF GERMANY

Inventor(s): (std): SPINDELER HEINZ

Inventor(s): SPINDELER HEINZ 4630 BOCHUM DE

Designated states: FR GB NL

16) Family number: 20392338 (GB389377A)

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Title: Process and apparatus for the production of water gas in chamber and retort ovens

Abstract: 389,377. Tube couplings. STILL, C., 21, Kaiserwall, Recklinghausen, Westphalia, Germany, and GOBIET, A., Karwinna, Czecho-Slovakia. Aug. 11, 1932, No. 22532. Convention date, Aug. 11, 1931. [Class 99 (i).] In the production of water gas in coke ovens a removable steam inlet tube 43 is attached to the fixed tube 38 by flanges 42, 39 respectively with inclined surfaces. The tubes 20, 45, 43 are lowered while attached together through an opening 13 closed by a cover 67. Guides are formed by cover-plates 55 which grip the back of the flange 42, and are secured to the flange 39. To disengage this wedge connection, the lever is moved into a vertical position 60<1>, its nose 65 resting on a support 66 on arms 57 attached to a bolt 56. Further movement of the lever presses an extension 64 against the underside of the flange 42 which is thereby raised, enabling the tube 20 and its attachments to be lifted by the eyelet 48.

Classifications:

International (IPC 8-9): C10J3/00 (Advanced/Invention);

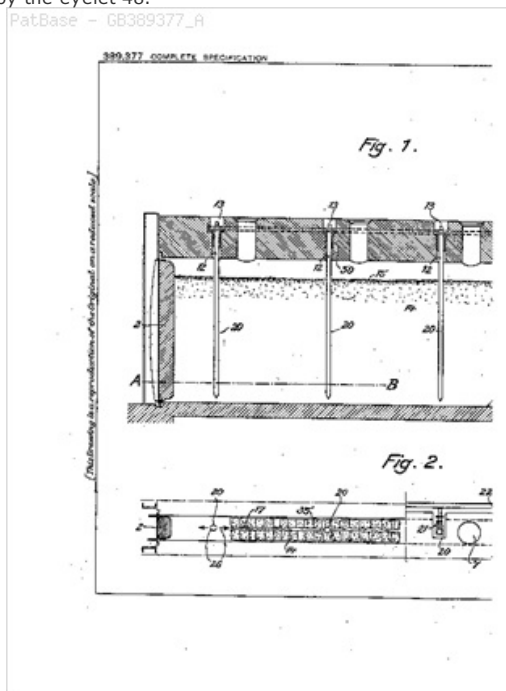
C10J3/00 (Core/Invention)

International (IPC 1-7): C10B37/06

CPC: C10J3/00

European: C10J3/00

PatBase - GB389377_A



Family:

Publication number	Publication date	Application number	Application date
GB389377 A	19330316	GB19320022532	19320811

Probable Assignee: ALFRED GOBIET

Assignee(s): (std) ALFRED GOBIET ; STILL CARL

Assignee(s): CARL STILL

17) Family number: 18640343 (GB312238A)

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Title: Improvements in or relating to the distillation of coal or other carbonaceous material

Abstract: 312,238. Puening, F. May 22, 1928, [Convention date]. Retort furnaces; charging and discharging.-In apparatus for coking coal the vertical side walls of the concentric annular retorts or coking chambers are suspended from their tops, and these chambers are charged and discharged by mechanism mounted on a rotating frame or platform beneath them. The retorts or coking chambers 15 are formed of stationary concentric heated walls comprising castings 17 carried by radial water-cooled supports 18, and beneath the retorts is a rotary frame or platform 12 connected with a rotary wall 8 having water seals 9, 10. The frame carries the charging means 13, coke discharging rakes 14 and scrapers 16, Fig. 6. Each of the castings 17 has an inlet and outlet 24, 25 for the circulation of hot gases, leading from annular chambers 27, 28. Rotating doors 31 having counterpoises 33 close the bottom of the chambers and are operated by a ramp 35 on the rotary platform which raises the counterpoises and allows the doors in turn to open, discharging the coke on to an annular coke pan 51 from which the coke is discharged into a hopper 76. The coke pan rotates at a speed higher than that of the frame 12. The charging device consists of a number of channels 58 into which the coal is forced by plungers 59 and from which it is thrown upwardly into the retorts by rapidly rotating star wheels 64. To ensure the retorts being fully charged an excess of coal is thrown out and falls into a trough 66 from which it is returned by a worm feed 67 and conveyer 68 to a charging box 56. Shields 72 are provided to prevent the coal from being thrown through the retorts.

Classifications:

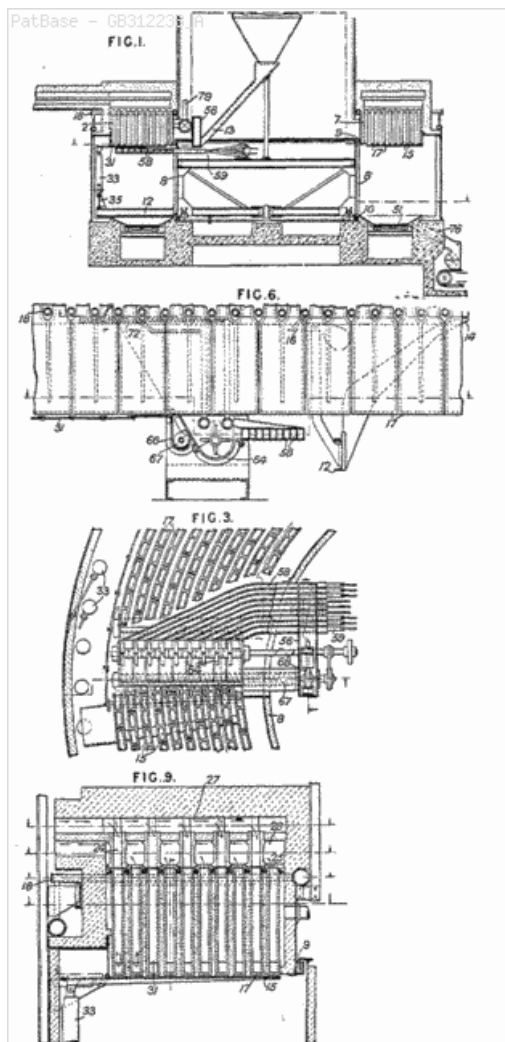
International (IPC 8-9): C10B7/02 (Advanced/Invention);

C10B7/00 (Core/Invention)

International (IPC 1-7): C10B1/04

CPC: C10B7/02

European: C10B7/02



Family:

Publication number	Publication date	Application number	Application date
GB312238 A	19300703	GB19290015812	19290522

Probable Assignee: FRANZ PUENING

Assignee(s): (std): FRANZ PUENING

18) Family number: 755369 (LU42624A)

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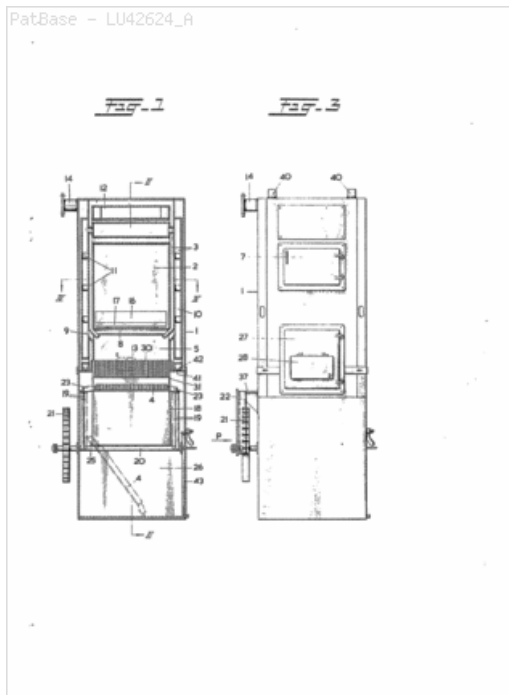
Abstract: Source: LU42624A [FR] [Source: Claim 1] 1. - Foyer ou appareil de chauffage analogue chauffe au charbon, comportant une enveloppe, une grille supportee a l'interieur de ladite enveloppe, un espace contenant du charbon situe au-dessus de ladite grille et communiquant avec l'espace situe immediatement au-dessus de ladite grille pour permettre le passage de charbon dudit recipient vers la zone de combustion situee au-dessus de la grille, et des passages d'evacuation pour les gaz de combustion au voisinage du sommet de la zone de combustion et en dessous de l'espace contenant le charbon, et en outre une ouverture d'alimentation reglable pour l'air de combustion, ledit foyer comportant des organes conducteurs de la chaleur s'etendant verticalement depuis le sommet de la zone de combustion a l'interieur du recipient pour le charbon. **Machine translation:** [Source: Claim 1] 1.-home or similar heater heats up coal, with an envelope, a support grid has the inside of the envelope said, a space containing coal located in the space of said grid and contacting the area located immediately above said grid to allow the passage of coal of said container to the combustion area located above the grid, and the no-wise evacuation for the combustion gases in the vicinity of the top of the flue area and in below the workspace containing coal, and additionally an opening of alimention adjustable for the combustion air, said home behaviour - both of heat conductive bodies if extending vertically from the top of the flue area has the inside - outside of the container for coal.

Classifications:

International (IPC 8-9): F24H1/28 (Advanced/Invention); F24H1/22 (Core/Invention)

CPC: F24H1/28 F24H2230/00

European: F24H1/28 R24H230/00

**Family:**

Publication number	Publication date	Application number	Application date
LU42624 A	19621231		19621031

Priority:

LU19620042624 19621031

19) Family number: 20352371 (DE619454A)

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Title: VERFAHREN ZUR HERSTELLUNG VON HOHLKANAELN IN KOHLESTAMPFKUCHEN UND ZUM ABFUEHREN DER DESTILLATIONSERZEUGNISSE AUS DENSELBN METHOD FOR PRODUCING HOHLKANAELN IN COAL STAMPF CAKE and discharging DISTILLATION PRODUCTS FROM THE SAME (Machine translation)

Abstract: Source: DE619454A [DE] (Claim 1) 1. PATENTANSPRUECHE: z. Verfahren zum Innenabsaugen der Destillationserzeugnisse aus Hohlkanaelen in Kohlestampfkuchen unter Verwendung von gasdicht an dieselben angeschlossenen Gasabfuhrrohren, die mit einer zweiten unter Unterdruck stehenden Ofenvorlage in Verbindung stehen, dadurch gekennzeichnet, dass im Anfangsstadium der Verkokung saemtliche Destillationserzeugnisse durch im Stampfkuchen erzeugte Risse und Kluefte mit oder ohne Anwendung von Hohlkanaelen mittels ein Stueck weit in die Kohle hineinragender Gasabfuhrrohre ab gefuehrt werden, worauf im anschliessenden Betriebsstadium die Innengase von den Aussengasen getrennt durch Hohlkanaele und daran angeschlossene Gasabfuhrrohre abgesaugt werden.

Machine translation: (claim 1) 1 CLAIMS: from gas-tight, for procedures to Innenabsaugen products of distillation from Hohlkanaelen in coal mashed cake using in the same connected Gasabfuhrrohren associated with a second is under vacuum oven template to link records marked by the fact that in the early stages of Ver coking all distillation products produced by the mashed cake cracks and fissures, with or without the use of a piece by Hohlkanaelen far from the coal projecting into Gasabfuhrrohre be led, what are extracted in the subsequent stage of operation, the gases inside of the outer gases separated by Hohlkanaele and attached Gasabfuhrrohre.

Classifications:

International (IPC 8-9): C10B27/02 (Advanced/Invention);
C10B27/00 (Core/Invention)

International (IPC 1-7): C10B37/06

CPC: C10B27/02

European: C10B27/02

Family:

Publication number	Publication date	Application number	Application date
DE619454 A	19351001	DE1933ST51539	19331203

Priority:

DE1933ST51539 19331203 DE1933ST51539D 19331203

Probable Assignee: STILL CARL GMBH

Assignee(s): (std): CARL STILL G M B H ; STILL CARL GMBH

Assignee(s): CARL STILL GMBH

20) Family number: 474383 (DE1671307A1)

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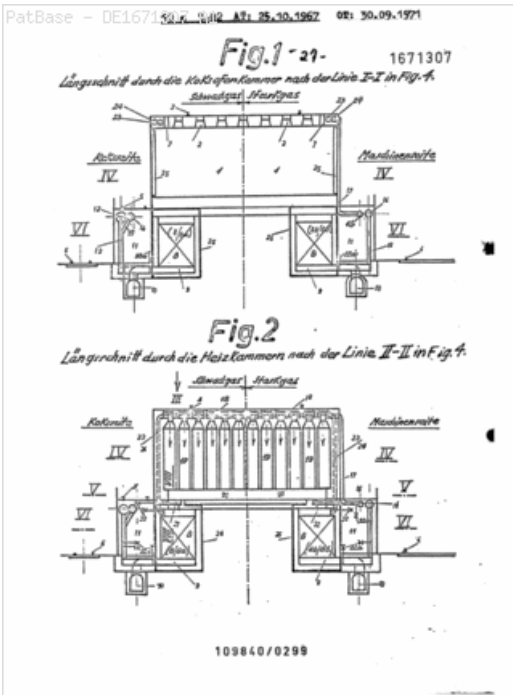
Title: KOKSOFEN Coke oven (Machine translation)

Abstract: Source: DE1671307A1 [DE] (Claim 1) k a t e n t s n e p r u e c h e 1. Loksoten, zwischen dessen Ofenkammern senkrechte Heizzuege angeordnet sind und an dessen beiden Kopfenden sich Regeneratoren befinden, d a u r c h g e k e n n z e i c h n e t 9 da8 die Heizzge aus einzelnen, durch Binderwaende zwischen den Heizwaenden der Ofenkammern (1) geschlossene Raeume bildende Heizkammern (19) bestehen, in deren oberem Teil die Brenner (18) angeordnet aeind und

die mit ihren unteren Enden in einen-gemeinsamen Sammelkanal ,(20) münden, so das die Beheizung saemtlicher Heizkammern (19) auf des ganzen Heiswandtiete nur in einer Richtung, von oben nach unten mit ununterbrochener flem auf der getemten Hoehe der Heizkern (19) ohne ZugWeohsel in denselben und mit lugweahsel in dem unter den Reiskammern (19)-liegenden (20) erfolgt.

Machine translation: (Claim 1) katentsnepr ue che first Loksoten, located between the furnace chambers vertical flues, and whose two top ends are regenerators, daurchgekennzei ch net 9 DA8 the Heizzgge from individual, through Binderwaende between the heated walls of the furnace chambers (1) enclosed spaces formed heating chambers (19) exist, the upper in the part of the burner (18) arranged aeind and with their lower ends to a-common collecting duct (20) open, so that the heating of all heating chambers (19) on the whole Heiswandtiete only in one direction, from top to bottom with continuous flem at the height of the heater core getemten (19) without and with the same lugweahsel ZugWeohsel in with the rice in the chambers (19)-lie (20) takes place.

Classifications:
International (IPC 8-9): C10B21/26 (Advanced/Invention); C10B21/00 (Core/Invention)
International (IPC 1-7): C10B21/26
CPC: C10B21/26
European: C10B21/26



Family:

Publication number	Publication date	Application number	Application date
DE1671307 A1	19710930	DE19671671307	19671025

Priority:

DE1967D054427 19671025

Probable Assignee: DEGEN JOSEPH
Assignee(s): (std): DEGEN JOSEPH
Inventor(s): (std): DEGEN JOSEPH

21) Family number: 21481388 (US2234172A) © PatBase

Title: BROAD COKE OVEN

Abstract: I claim: 1. A by-product coke oven of the broad rectangular sole-fired type which comprises a broad horizontal coking chamber having a sole thereunder and adapted to -be sealed against the admission of air, a plurality of horizontal parallel heating flues arranged side by side underneath the sole of the chamber for heating it, each flue extending transversely of and substantially from side to side of the oven for substantially its entire breadth and said plurality of heating dues underlying the coking chamber for substantially the entire length of the oven, transverse partition walls separating the flues from each other and all being spaced from one side of the oven to form a common connecting flue extending longitudinally of and substantially from end to end of the oven thereby providing a set of parallel-connected heating dues integrated as a heating system under substantially the entire sole area of said coking chamber, burning means located in each transverse heating flue at the end thereof opposite the common connecting flue whereby flames issuing from said burning means can shoot across the width of the oven into said common connecting flue, air inlets for supplying air to said burning means in said heating flues, a waste gas stack for removing products of combustion of said burning means from said heating flues, and regenerators located beneath the heating flues and communicably connected to said flues and to said air inlets and said waste gas stack, respectively, whereby a broad coke oven is provided with substantially uniform heating conditions over the entire sole area of the coking chamber and whereby carbonaceous material in said chamber is coked substantially uniformly. 2. A by-product coke oven of the broad rectangular sole-fired type which comprises a broad horizontal coking chamber having a sole thereunder and adapted to be sealed against the admission of air, a plurality of horizontal parallel heating flues arranged side by side underneath the sole of the chamber for heating it, each flue extending transversely of and substantially from side to side of the oven for substantially its entire breadth and said plurality of heating flues underlying the coking chamber for substantially the entire length of the oven, transverse partition walls separating the flues from each other and all being spaced from one side of the oven to form a common connecting flue extending longitudinally of and substantially from end to end of the oven thereby providing a set of parallel-connected heating flues integrated as a heating system under substantially the entire sole area of said coking chamber, burning means located in each transverse heating flue at the end thereof opposite the common connecting flue whereby flames issuing from said burning means can shoot across the width of the oven into said common connecting flue, air inlets for supplying air to said burning means in said heating flues, a waste gas stack for removing products of combustion of said burning means from said heating flues, vertical regenerators located beneath the heating flues and communicably connected at one side of the oven to the burning means end of said heating flues, connecting ducts communicating directly with the upper portions of said regenerators and connecting each of said regenerators with a plurality of said heating flues, and gas passages communicating with the lower portions of said regenerators and connecting said regenerators to said air inlets and said waste gas stack, respectively, whereby a broad coke oven is provided with substantially uniform heating conditions over the entire sole area of the coking chamber and whereby coal in said chamber is coked substantially uniformly. 3. A by-product coke oven of the broad rectangular sole-fired type which comprises a broad horizontal coking chamber having a sole

thereunder and adapted to be sealed against the admission of air, a plurality of horizontal parallel heating flues arranged side by side underneath the sole of the chamber for heating it, each flue extending transversely of and substantially from side to side of the oven for substantially its entire breadth and said plurality of heating flues underlying the coking chamber for substantially the entire length of the oven, transverse partition walls separating the flues from each other and all being spaced from one side of the oven to form a common connecting flue extending longitudinally of and substantially from end to end of the oven thereby providing a set of parallel-connected heating flues integrated as a heating system under substantially the entire sole area of said coking chamber, burning means located in each transverse heating flue at the end thereof opposite the common connecting flue whereby flames issuing from said burning means can shoot across the width of the oven into said common connecting flue, air inlets for supplying air to said burning means in said heating flues, a waste gas stack for removing products of combustion of said burning means from said heating flues, vertical regenerators arranged in parallel pairs located beneath the heating flues and communicably connected at one side of the oven to the burning means end of said heating flues, a plurality of connecting ducts having a number equal to twice the number of transverse heating flues and arranged in pairs, each pair of said ducts communicating directly with the burning means in one transverse heating flue and connecting said heating flue with the upper portions of each of a pair of regenerators respectively, gas passages located below the regenerators communicably connected with the lower portions of said regenerators, and valvular means in said gas passages to provide for alternately admitting air to be preheated to the regenerators and permitting exit of combustion products thereby providing for reversal of flow of hot gases through the heating flues, whereby a broad coke oven is provided with substantially uniform heating conditions over the entire sole area of the coking chamber and whereby carbonaceous material of the group consisting of coal including culm waste and other low grade coals, peat, tar, lignite, pitch, and petroleum products including fuel oil and bunker oils in said chamber can be coked substantially uniformly.

4. A by-product coke oven of the broad rectangular sole-fired type which comprises a broad horizontal coking chamber having a sole thereunder and adapted to be sealed against the admission of air; a plurality of horizontal parallel heating flues arranged side by side underneath the sole of the chamber for heating it, each flue extending transversely of and substantially from side to side of the oven for substantially its entire breadth and said plurality of heating flues underlying the coking chamber for substantially the entire length of the oven, said flues being arranged in two sets; transverse partition walls separating the flues from each other and all being spaced from one side of the oven to form a common connecting flue extending longitudinally of and substantially from end to end of the oven, thereby providing two sets of parallel-connected heating flues integrated as a heating system under substantially the entire sole area of said coking chamber; burning means located in each transverse heating flue at the end thereof opposite the common connecting flue, whereby flames issuing from said burning means can shoot across the width of the oven into said common connecting flue; air inlets for supplying air to said burning means in said heating flues; a waste gas stack for removing products of combustion of said burning means from said heating flues; a set of vertical regenerators at each end of the oven, having inner portions of checkerbrick and arranged in parallel pairs located beneath the heating flues and communicably connected at one side of the oven to the burning means end of one set of heating flues; a plurality of connecting ducts having a number equal to twice the number of transverse heating flues and arranged in pairs, each pair of said ducts communicating directly with the burning means in one transverse heating flue and each duct in said pair connecting said heating flue with the upper portion of one of a pair of regenerators, whereby air admitted to one set of parallel pairs of regenerators can be furnished through the pairs of connecting ducts to the burning means in one set of heating flues and can there be burned with rich fuel gas and whereby hot products of combustion therefrom can flow from said set of heating flues through the common connecting flue and into the other set of heating flues and whereby said combustion products can pass therefrom into the other set of parallel pairs of regenerators to give up residual heat thereto; gas passages located below the regenerators communicably connected with the lower portions of said regenerators; and valvular means in said gas passages to provide for alternately admitting air to be preheated to the regenerators and permitting exit of combustion products, thereby providing for reversal of flow of hot gases through the heating flues, whereby a broad coke oven is provided with substantially uniform heating conditions over the entire sole area of the coking chamber and whereby coal in said chamber can be coked substantially uniformly.

5. A by-product coke oven of the broad rectangular sole-fired type which comprises a broad horizontal coking chamber having a sole thereunder and adapted to be sealed against the admission of air; a plurality of horizontal parallel heating flues arranged side by side underneath the sole of the chamber for heating it, each flue extending transversely of and substantially from side to side of the oven for substantially its entire breadth and said plurality of heating flues underlying the coking chamber for substantially the entire length of the oven, said flues being arranged in two sets; transverse partition walls separating the flues from each other and all being spaced from one side of the oven to form a common connecting flue extending longitudinally of and substantially from end to end of the oven, thereby providing two sets of parallel-connected heating flues integrated as a heating system under substantially the entire sole area of said coking chamber; burning means located in each transverse heating flue at the end thereof opposite the common connecting flue, whereby flames issuing from said burning means can shoot across the width of the oven into said common connecting flue; two valve boxes located outside the oven, each box being divided into two non-communicating sections by a substantially impermeable wall; a set of vertical regenerators at each end of the oven, having inner portions of checkerbrick and arranged in parallel pairs located beneath the heating flues and communicably connected at one side of the oven to the burning means end of one set of heating flues; a plurality of connecting ducts having a number equal to twice the number of transverse heating flues and arranged in pairs, each pair of said ducts communicating directly with the burning means in one transverse heating flue and each duct in said pair connecting said heating flue with the upper portion of one of a pair of regenerators, whereby air admitted to one set of parallel pairs of regenerators can be furnished through the pairs of connecting ducts to the burning means in one set of heating flues and can there be burned with rich fuel gas, whereby hot products of combustion therefrom can flow from said set of heating flues through the common connecting flue and into the other set of heating flues and whereby said combustion products can pass therefrom into the other set of parallel pairs of regenerators to give up residual heat thereto; four gas passages located below the regenerators and arranged in pairs, each pair of said gas passages communicably connecting the lower parts of the regenerators on each side of the oven, respectively, to one of said valve boxes, and each gas passage in each of said pairs of gas passages communicably connecting the regenerators on each side of each set of regenerators, respectively, to one section of one of said valve boxes, thereby causing air which is being heated to ascend and causing waste gas which is being cooled to descend; four sets of valves, each located in one section of one of said valve boxes and adapted so to cooperate with each other that air to be preheated can be admitted in one section of each valve box while combustion products are passing out of the other section of each valve box, and vice versa; and an automatic valve-actuating means to provide such alternate cooperation, thereby providing for reversal of the direction of flow of hot gases through the heating flues and of the regenerators, whereby a broad by-product coke oven is provided with substantially uniform heating conditions over the entire sole area, of the coking chamber and whereby coal in said chamber can be coked substantially uniformly.

6. The by-product coke oven construction as set forth in claim 5, wherein each valve box comprises a housing; a centrally located wall dividing the box into two sections; one air inlet valve in each of said sections, said valve having a port; slightly projecting shelves in said port adapted to support air-regulating means whereby the supply of air to the heating flues can be controlled; one waste gas exit valve in each of said sections; and a means to cause said valves to alternate in operation whereby the air inlet valve in one section and the waste gas valve in the other section are opened when the waste gas valve in the one section and the air inlet valve in the other section are closed, and vice versa.

7. A by-product coke oven of the broad rectangular sole-fired type which comprises a broad horizontal coking chamber having a sole thereunder and adapted to be sealed against the admission of air; a plurality of horizontal parallel heating flues arranged side by side underneath the sole of the chamber for heating it, each flue extending transversely of and substantially from side to side of the oven for substantially its entire breadth and said plurality of heating flues underlying the coking chamber for substantially the entire length of the oven, said flues being arranged in two sets; transverse partition walls separating the flues from each other and all being spaced from one side of the oven to form a common connecting flue extending longitudinally of and substantially from end to end of the oven, thereby providing two sets of parallel-connected heating flues integrated as a heating system under substantially the entire sole area of said coking chamber; burning means located in each transverse heating flue at the end thereof opposite the common connecting flue, whereby flames issuing from said burning means can shoot across the width of the oven into said common connecting flue; two valve boxes located outside the oven, each box being divided into two non-communicating sections by a substantially impermeable wall; a set of vertical regenerators at each end of the oven, having inner portions of checkerbrick and arranged in parallel pairs located beneath the heating flues and communicably connected at one side of the oven to the burning means end of one set of heating flues; a plurality of connecting ducts having a number equal to twice the number of transverse heating flues and arranged in pairs, each pair of said ducts communicating directly with the burning means in one transverse heating flue and each duct in said pair connecting said heating flue with the upper portion of one of a pair of regenerators, whereby air admitted to one side of one set of parallel pairs of regenerators can be furnished, through the ducts on the same side of each pair of said connecting ducts, to the burning means in one set of heating flues and can there

be burned with lean fuel gas admitted to the other side of the same set of regenerators and thence to the connecting ducts on said other side, whereby hot products of combustion therefrom can now flow from said set of heating flues through the common connecting flue and into the other set of heating flues and whereby said combustion products can pass therefrom into the other set of parallel pairs of regenerators to give up residual heat thereto; four gas passages located below the regenerators and arranged in pairs, each pair of said gas passages communicably connecting the lower parts of the regenerators on each side of the oven, respectively, to one of said valve boxes, and each gas passage in each of said pairs of gas passages communicably connecting the regenerators on each side of each set of regenerators, respectively, to one section of one of said valve boxes, thereby causing air and lean fuel gas which are being heated to ascend and causing waste gas which is being cooled to descend; four sets of valves, each set located in one section of one of said valve boxes and adapted so to cooperate with each other that air to be preheated can be admitted in one section of one valve box and lean fuel gas to be preheated can be admitted in one section of the other valve box while combustion products are passing out of the other sections of both valve boxes, and vice versa; and an automatic valve-actuating means to provide such alternate cooperation, thereby providing for reversal of the direction of flow of hot gases through the heating flues and regenerators, whereby a broad by-product coke oven is provided with substantially uniform heating conditions over the entire sole area of the coking chamber and whereby coal in said chamber can be coked substantially uniformly. 8. The by-product coke oven construction as set forth in claim 7, wherein each valve box comprises a housing; a centrally-located wall dividing the box into two sections; one air inlet valve in each of said sections, said valve having a port; slightly projecting shelves in said port adapted to support air-regulating bars, whereby the supply of air to the heating flues can be controlled; one waste gas exit valve in each of said sections; and actuating means to cause said valves to alternate in operation whereby the air inlet valve in one section and the waste gas valve in the other section are opened when the waste gas valve in the one section and the air inlet valve in the other section are closed, and vice versa, and wherein one of said valve boxes further comprises in each of said sections a lean fuel gas inlet valve communicably connected through a riser to a gas manifold; means to seal said gas manifold from communication with said lean fuel gas inlet valve; means to cause the air inlet valve in said section to remain closed; and actuating means to cause said lean fuel gas valve and the waste gas exit valve to alternate in operation, whereby the lean fuel gas valve in one section of said valve box and the waste gas valve in the other section are opened when the waste gas valve in the one section and the lean fuel gas valve in the other section are closed, and vice versa; thereby providing two valve boxes, one adapted to be used for the admission of air to be preheated and the other adapted to be used alternatively for the admission of air or of lean, fuel gas to be preheated. 9. A coke oven battery comprising a plurality of broad by-product coke ovens arranged side by side each of which comprises a, broad horizontal coking chamber having a sole thereunder and adapted to be sealed against the admission of air; a plurality of horizontal parallel heating flues arranged side by side underneath the sole of the chamber for heating it, each flue extending transversely of and substantially from side to side of the oven for substantially its entire breadth and said plurality of heating flues underlying the coking chamber for substantially the entire length of the oven, said flues being arranged in two sets; transverse partition walls separating the flues from each other and all being spaced from one side of the oven to form a common connecting flue extending longitudinally of and substantially from end to end of the oven, thereby providing two sets of parallel connecting heating flues integrated as a heating system under substantially the entire sole area of said coking chamber; burning means located in each transverse heating flue at the end thereof opposite the common connecting flue, whereby flames issuing from said burning means can shoot across the width of the oven into said common connecting flue; two valve boxes located outside the oven, each box being divided into two noncommunicating sections by a substantially impermeable wall; a set of vertical regenerators at each end of the oven, having inner portions of checker-brick and arranged in parallel pairs located beneath the heating flues and communicably connected at one side of the oven to the burning means and at the other end of one set of heating flues; a plurality of connecting ducts having a number equal to twice the number of transverse heating flues and arranged in pairs, each pair of said ducts communicating directly with the burning means in one transverse heating flue and each duct in said pair connecting said heating flue with the upper portion of one of a pair of regenerators, whereby air admitted to one set of parallel pairs of regenerators can be furnished through the pairs of connecting ducts to the burning means in one set of heating flues and can there be burned with rich fuel-gas, whereby hot products of combustion therefrom can flow from said set of heating flues through the common connecting flue and into the other set of heating flues and whereby said combustion products can, pass therefrom into the other set of parallel pairs of regenerators to give up residual heat thereto; four gas passages located below the regenerators and arranged in pairs, each pair of said gas passages communicably connecting the lower parts of the regenerators on each side of the oven, respectively, to one of said valve boxes, and each gas passage in each of said pairs of gas passages communicably connecting the regenerators on each side of each set of regenerators, respectively, to one section of one of said valve boxes, thereby causing air which is being heated to ascend and causing waste gas which is being cooled to descend; a single chimney flue located below the regenerators, lying transversely with respect to the oven and extending from side to side thereof and substantially for the length of the battery to serve all the ovens therein, and being communicably connected with both sections of both valve boxes; four sets of valves, each located in one section of one of said valve boxes and adapted so to cooperate with each other that air to be preheated can be admitted in one section of each valve box while combustion products are passing out of the other section of each valve box, and an automatic valve-actuating means to provide such alternate cooperation, thereby providing for reversal of the direction of flow of hot gases through the heating flues and regenerators, whereby a broad by-product coke oven is provided with substantially uniform heating conditions over the entire sole area of the coking chamber and whereby coal in said chamber can be coked substantially uniformly. 10. A coke oven battery of the type described in claim 9, wherein each of said ovens further comprises a sole thereunder and adapted to be sealed against the admission of air; a plurality of horizontal parallel heating flues arranged side by side underneath the sole of the chamber for heating it, said flues being arranged in two sets; transverse partition walls separating the flues from each other and all being spaced from one side of the oven to form a common connecting flue extending longitudinally of and substantially from end to end of the oven, thereby providing two sets of parallel connecting heating flues, integrated as a heating system under substantially the entire sole area of said coking chamber; burning means located in each transverse heating flue at the end thereof opposite the common connecting flue, whereby flames issuing from said burning means can shoot across the width of the oven into said common connecting flue; two valve boxes located outside the oven, each box being divided into two non-communicating sections by a substantially impermeable wall; a set of vertical regenerators at each end of the oven, having inner portions of checker-brick and arranged in parallel pairs located beneath the heating flues and communicably connected at one side of the oven to the burning means and at the other end of one set of heating flues; a plurality of connecting ducts having a number equal to twice the number of transverse heating flues and arranged in pairs, each pair of said ducts communicating directly with the burning means in one transverse heating flue and each duct in said pair connecting said heating flue with the upper portion of one of a pair of regenerators, whereby air admitted to one side of one set of parallel pairs of regenerators can be furnished through the ducts on the same side in each pair of said connecting ducts, to the burning means in one set of heating flues and can there be burned with lean fuel gas admitted to the other side of the same set of regenerators and thence to the connecting ducts on said other side, whereby hot products of combustion therefrom can flow from said set of heating flues through the common connecting flue and into the other set of heating flues and whereby said combustion products can pass therefrom into the other set of parallel pairs of regenerators to give up residual heat thereto; four gas passages located below the regenerators and arranged in pairs, each pair of said gas passages communicably connecting the lower parts of the regenerators on each side of the oven, respectively, to one of said valve boxes, and each gas passage in each of said pairs of gas passages communicably connecting the regenerators on each side of each set of regenerators, respectively, to one section of one of said valve boxes, thereby causing air and lean fuel gas which are being heated to ascend and causing waste gas which is being cooled to descend; a single chimney flue located below the regenerators, lying transversely with respect to the oven and extending from side to side thereof and substantially for the length of the battery to serve all the ovens therein, and being communicably connected with both sections of both valve boxes; four sets of valves, each set located in one section of one of said valve boxes, thereby causing air and lean fuel gas to be preheated can be admitted in one section of the other valve box while combustion products are passing out of the other sections of both valve boxes, and vice versa; and an automatic valve-actuating means to provide such alternate cooperation, thereby providing for reversal of the direction of flow of hot gases through the heating flues and regenerators, whereby a broad by-product coke oven is provided with substantially uniform heating conditions over the entire sole area of the coking chamber and whereby coal in said chamber can be coked substantially uniformly. 11. In a by-product coke oven of the broad rectangular sole-bred type, the combination of a sole horizontal coking chamber broader than its height, adapted to be sealed against the admission of air and having a sole thereunder; a plurality of horizontal parallel heating flues underneath the sole of the chamber for

heating it, said flues arranged side by side transversely of the chamber; and two sets of parallel vertical regenerators lying below and transverse to the heating flues and communicably connected therewith, each set of regenerators being adapted alternately to preheat air and lean fuel gas and to remove heat from hot products of combustion, whereby a regenerative system is provided to supply preheated air and preheated lean fuel gas to the heating flues and to remove hot products of combustion therefrom wherein air and lean fuel gas which are being heated can ascend and combustion products which are being cooled can descend. ' 12. In a by-product coke oven of the broad rectangular sole-Bred type, the combination of a long horizontal coking chamber broader than its height, adapted to be sealed against the admission of air and having a solid sole thereunder; a plurality of horizontal parallel heating flues underneath the sole of the chamber for heating it, said flues being arranged side by side transversely of the chamber in two sets; 9. regenerative system communicably connected with the heating flues and being adapted in relation to each set of heating flues alternately to preheat air and to remove heat from hot combustion products; a longitudinal channel extending from each end of the oven underneath each set of transverse heating flues and communicably connected with every heating flue in said set to supply, rich fuel gas thereto; a series of ducts communicably connecting each channel with every heating flue in the set; and nozzle means in each duct adapted to regulate the supply of rich fuel gas to the heating flue with which said duct is connected, whereby the supply of rich fuel gas to each heating flue can be independently regulated.

Classifications:

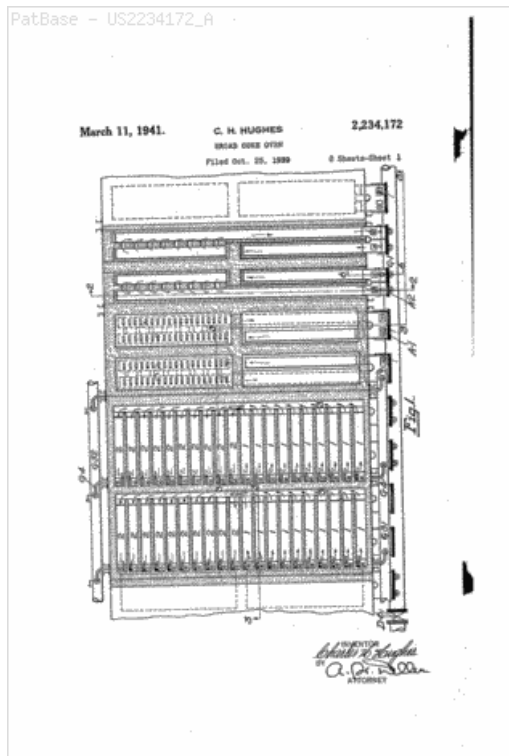
International (IPC 8-9): C10B15/02 (Advanced/Invention); C10B15/00 (Core/Invention)

International (IPC 1-7): C10B15/02

CPC: Y02P20/129 C10B15/02

European: C10B15/02

US: 201/41 202/102 202/142 202/146



Family:

Publication number	Publication date	Application number	Application date
US2234172 A	19410311	US19390301173	19391025
US2309959 A	19430202	US19410381358	19410301

Priority:

US19390301173 19391025 US19410381358 19410301

Probable Assignee: HUGHES BY PRODUCT COKE OVEN CO

Assignee(s): (std): HUGHES BY PRODUCT COKE OVEN CO

Assignee(s): HUGHES BY PRODUCT COKE OVEN CORP

Inventor(s): (std): HUGHES CHARLES H

22) Family number: 8419391 (US5355696A)

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Title: POLLUTION CONTROL APPARATUS FOR INDUSTRIAL PROCESSES AND THE LIKE

Abstract: The specification discloses pollution control equipment for pollution generating industrial processes. A containment structure confines pollutants within the structure from which they are removed by cleaning equipment. An absorption refrigeration system removes heat from containment structure for co-generation.

Classifications:

International (IPC 8-9): B01D53/00 B01D53/14 B01D53/26 B01D53/34 B01J19/00 B08B15/00 C10B29/00

C10B45/00 (Advanced/Invention);

B01D53/34 B08B15/00 C10B45/00 (Advanced/Non-invention)

International (IPC 1-7): B01D47/00 B01D53/00 B01D53/14

B01D53/34 B01J19/00 B08B15/00 C10B29/00 C10B33/00

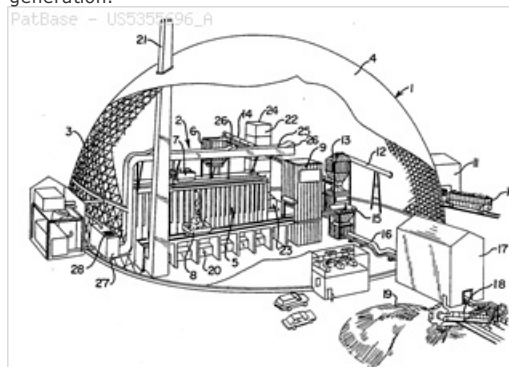
C10B45/00

CPC: Y10S261/09 B01D53/265 B01D53/14 B01J19/002

B01J2219/00006 Y02P20/129

European: B01D53/14 B01D53/26D B01J19/00B4 L01J219/00A2B

US: 261/D1G.9 62/238.3 62/259.1 62/476



Family:

Publication number	Publication date	Application number	Application date
AU199346662 A1	19940131	AU19930046662	19930706
CA2139501 AA	19950103	CA19932139501	19930706
CA2139501 C	20040323	CA19932139501	19930706
CA2452549 AA	19940120	CA19932452549	19930706
DE69306953 D1	19970206	DE19936006953	19930706
DE69306953 T2	19970507	DE19936006953T	19930706
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US5355696 A	19941018	US19930023785	19930222
WO9401201 A1	19940120	WO1993US06377	19930706

Priority:

US19920910937 19920709 US19930023785 19930222 CA19932139501 19930706
CA19932452549 19930706 WO1993US06377 19930706

Probable Assignee: BRIGGS AUBREY C CORAOPOLIS PA US

Assignee(s): (std): BRIGGS AUBREY C ; BRIGGS AUBREY C

Assignee(s): BRIGGS AUBREY C CORAOPOLIS PA US ; AUBREY C BRIGGS

Inventor(s): (std): BRIGGS AUBREY C ; BRIGGS AUBREY C

Inventor(s): AUBREY C BRIGGS

Designated states: AT AU BB BE BF BG BJ BR CA CF CG CH CI CM CZ DE DK ES FI FR GA GB GN GR HU IE IT JP KP KR KZ
LI LK LU MC MG ML MN MR MW NE NL NO NZ PL PT RO RU SD SE SK SN TD TG UA VN

23) Family number: 21481400 (US2234173A)

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Title: BROAD COKE OVEN

Abstract: 1. A by-product coke oven of the broad rectangular sole-fired type which comprises a broad horizontal coking chamber having a sole thereunder and adapted to be sealed against the admission of air, a plurality of horizontal heating flues arranged in parallel-spaced position underneath the sole of the chamber and extending longitudinally substantially from end to end of the oven, longitudinal partition walls alternately spaced from the ends of the oven separating said flues from each other and connecting said flues in series to define a single serpentine heating passage under substantially the entire sole area of said coking chamber, burning means located at each turn between adjacent heating flues and positioned in substantial alignment with the partition walls whereby flames issuing from said burning means can be deflected by a draft along either of said adjacent heating flues depending upon the direction of the draft therein, means for supplying mud fuel to said burning means, air inlet means for supplying air to said burning means, a waste gas stack for removing products of combustion of said burning means from said heating flues, a set of regenerators at each end of the oven respectively connected to the ends of said heating passage, a pair of chimney-air flues positioned transversely to the coking chamber and in communication with said sets of regenerators, single chimney valve means for connecting one of said chimney-air flues to the chimney while at the same time disconnecting the other chimney-air flue from the chimney, and single air valve means cooperating with said chimney valve means for connecting the chimney-air flue disconnected from the chimney to the air while at the same time disconnecting the other chimney-air flue from the air, whereby 9. How of gases is effected through said regenerators and said heating passage in alternating directions and whereby substantially uniform heating conditions are provided over substantially the entire sole area of the coking chamber.

Classifications:

International (IPC 8-9): C10B15/02 (Advanced/Invention);
C10B15/00 (Core/Invention)

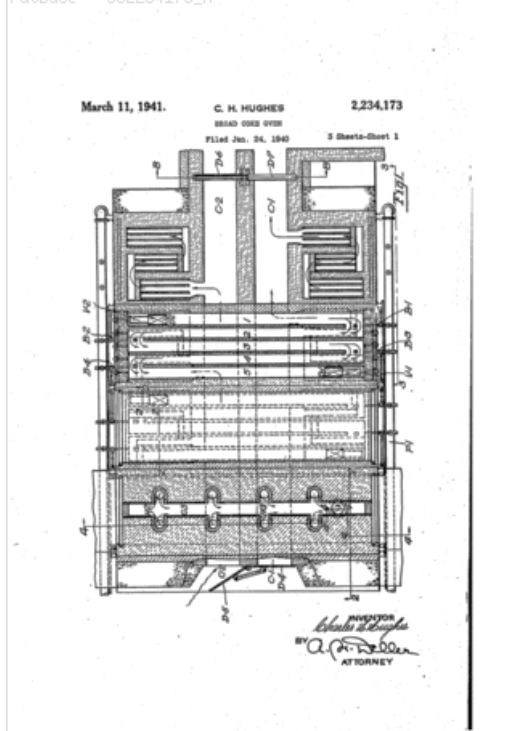
International (IPC 1-7): C10B15/02

CPC: C10B15/02 Y02P20/129

European: C10B15/02

US: 202/102

PatBase - US2234173_A



Family:

Publication number	Publication date	Application number	Application date
US2234173 A	19410311	US19400315317	19400124

Priority:

Probable Assignee: HUGHES BY PRODUCT COKE OVEN CO
Assignee(s): (std): HUGHES BY PRODUCT COKE OVEN CO
Assignee(s): HUGHES BY PRODUCT COKE OVEN CORP
Inventor(s): (std): HUGHES CHARLES H

24) Family number: 21481406 (US2234174A)

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Title: BROAD COKE OVEN

Abstract: 1. _In a battery of by-product coke ovens of the broad rectangular sole-fired type, the combination in each oven of a long horizontal coking chamber broader than its height, adapted to be sealed against the admission of air and having a sole thereunder; a plurality of horizontal parallel heating flues underneath the sole of the chamber for heating it, said flues arranged side by side transversely of the chamber; two sets of parallel vertical regenerators lying below and transverse to the heating flues and communicably connected therewith, each set of regenerators being adapted alternately to preheat air and lean fuel gas and to remove heat from hot products of combustion, whereby a regenerative system is provided to supply preheated air and preheated lean fuel gas to the heating flues and to remove hot products of combustion therefrom wherein air and lean fuel gas which are being heated can ascend and combustion products which are being cooled can descend, and two chimney lines to a stack, each located below a set of regenerators and lying transversely with respect to the oven substantially for the length of the battery to serve all the ovens therein and each flue being communicably connected and adjacent to one set of regenerators and adapted for alternate operation in removing combustion products therefrom whereby lean fuel gas and air entering the oven make only a single transit of the length of the oven before their exit therefrom as waste gas. .

Classifications:

International (IPC 8-9): C10B15/02 (Advanced/Invention);
 C10B15/00 (Core/Invention)

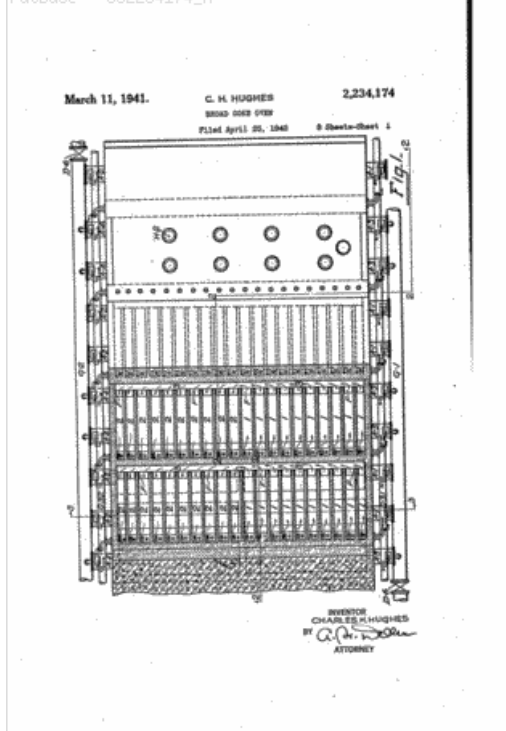
International (IPC 1-7): C10B15/02

CPC: C10B15/02 Y02P20/129

European: C10B15/02

US: 202/102

PatBase - US2234174_A

**Family:**

Publication number	Publication date	Application number	Application date
US2234174 A	19410311	US19400331589	19400425

Priority:

US19400331589 19400425

Probable Assignee: HUGHES BY PRODUCT COKE OVEN CO
Assignee(s): (std): HUGHES BY PRODUCT COKE OVEN CO
Assignee(s): HUGHES BY PRODUCT COKE OVEN CORP
Inventor(s): (std): HUGHES CHARLES H

25) Family number: 21759445 (US2426612A)

© PatBase

Title: COMBINED CRACKING AND COKING BROAD OVEN OF THE RECUPERATOR TYPE

Abstract: 1. A cracking and coking oven for the pyrolytic treatment of hydrocarbon material to produce aromatic hydrocarbons and coke therefrom, which comprises a, longitudinally-extending main coking chamber, a series of heating flues directly below the noor of said chamber arranged side by side on each half of the chamber, means for heating each of said heating flues, a recirculation ilue below each of said heating flues and communicating therewith at the end portions thereof, a recuperator set below each longitudinal half' of said main coking chamber, said recuperator sets _having hollow heat-transmitting tubes therein adapted for the passage of air therethrough, said tubes extending transversely to the longitudinal direction of said main chamber, a passageway extending from said heating flues through the recuperator sets around said tubes to a, waste-gas discharge Hue, means for passing air through said tubes into said, heating flues so as to preheat the air passing thereto, a series ol' cracking dues above said longitudinallyextending main coking chamber, a passageway for oil vapors from said main chamber into said series of cracking dues, a series of heating dues above said main coking chamber and immediately below said cracking flues for heating said cracking Hues, means for discharging cracked hydrocarbon vapors from said cracking Dues. means for condensing a portion of said vapors, and means for

recovering the uncondensed portion of the vapors.

Classifications:

International (IPC 8-9): C10B15/02 C10G9/20 (Advanced/Invention);

C10B15/00 C10G9/00 (Core/Invention)

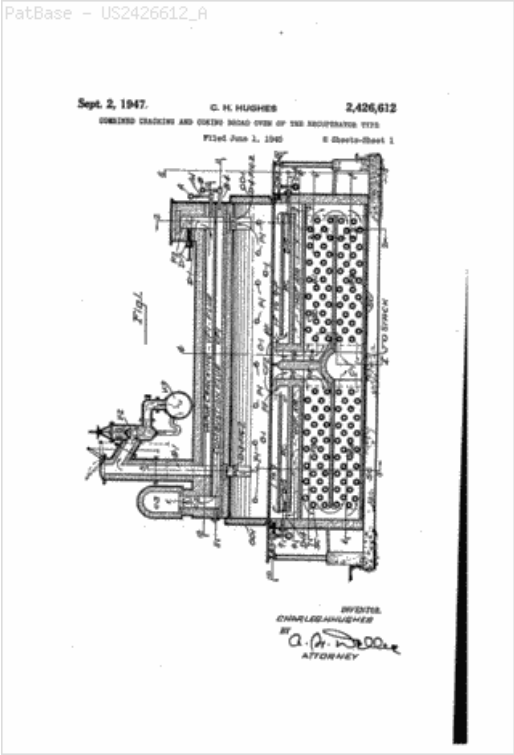
International (IPC 1-7): C10G9/18

CPC: C10B15/02 C10G9/20 Y02P20/129

European: C10B15/02 C10G9/20

US: 196/116 202/112 202/146 585/407

PatBase - US2426612_A



Family:

Publication number	Publication date	Application number	Application date
US2426612 A	19470902	US19450597028	19450601

Priority:

US19450597028 19450601

Probable Assignee: HUGHES BY PRODUCT COKE OVEN CO

Assignee(s): (std): HUGHES BY PRODUCT COKE OVEN CO

Assignee(s): HUGHES BY PRODUCT COKE OVEN CORP

Inventor(s): (std): HUGHES CHARLES H

26) Family number: 20210453 (US1941462A) © PatBase

Title: METHOD OF PRODUCING COKED FUEL AGGLOMERATES

Abstract: 1. The method of producing coked fuel agglomerates which comprises agglomerating a mixture of finely divided carbonaceous material and an agent that forms a bond when coked, progressively advancing the agglomerates while in free contact with one another by gravity through an upright coking chamber, and heating the aeglomerates to their coking temperature in the course of their travel through said chamber by passing a hot gas through and in direct contact with the agglomerates in a direction approximately transverse to the direction of travel of the agglomerates through the chamber, said hot gas entering the agglomerates at a temperature of at least 800 degrees C. and leaving the agglomerates at a temperature not lower than 550 degrees C.

Classifications:

International (IPC 8-9): C10B53/08 (Advanced/Invention);

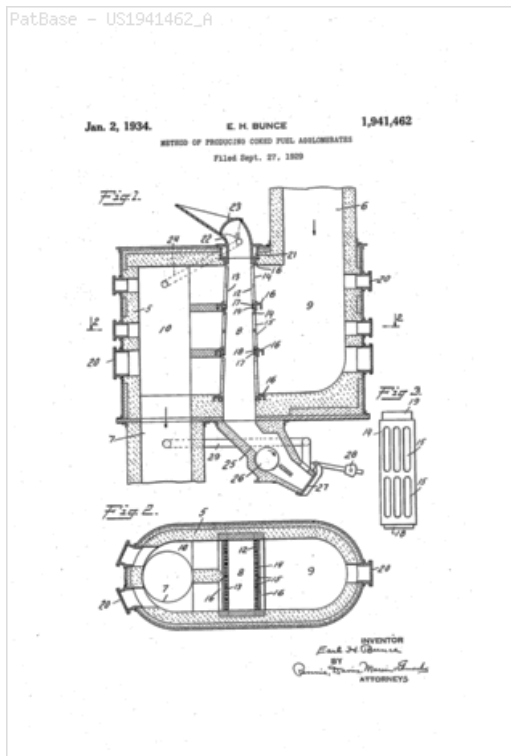
C10B53/00 (Core/Invention)

International (IPC 1-7): C10B49/02

CPC: C10B53/08

European: C10B53/08

US: 201/34 201/36 201/6 201/9

**Family:**

Publication number	Publication date	Application number	Application date
US1941462 A	19340102	US19290395586	19290927

Priority:

US19290395586 19290927

Probable Assignee:

NEW JERSEY ZINC CO

Assignee(s): (std):

NEW JERSEY ZINC CO

Assignee(s):

THE NEW JERSEY ZINC COMPANY

Inventor(s): (std):

BUNCE EARL H

27) Family number: 18904505 (US4564421A)

© PatBase

Title: ASCENSION PIPE FOR COKE OVENS

Abstract: An ascension pipe for coke oven installations wherein the inner periphery of the pipe is lined with refractory brick and wherein a tube of heat-resistant steel covers the inner periphery of the brick lining. Only minor deposits form on this tube during operation of the coke oven. These deposits can be removed easily by vertically-guided scrapers without damaging the refractory, in contrast to prior art ascension pipes wherein the deposits must be removed from the refractory bricks themselves.

Classifications:

International (IPC 8-9): C10B27/06 (Advanced/Invention); C10B27/00 (Core/Invention)

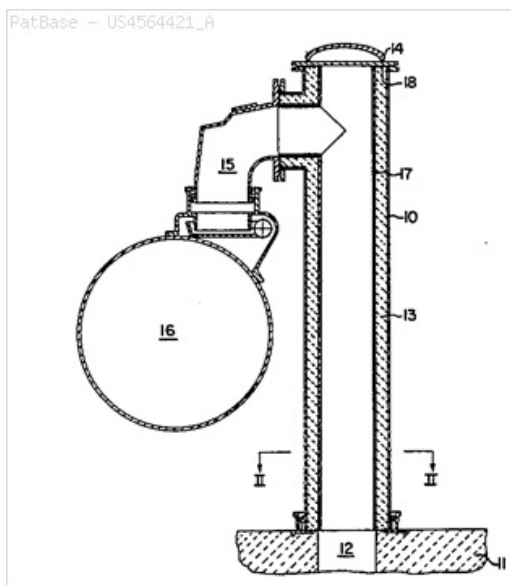
International (IPC 1-7): C01B29/00 C10B27/00 C10B27/06

CPC: Y10S202/01 C10B27/06

European: C10B27/06

US: 202/254 202/267.1 202/267R 202/DIG.1

PatBase - US4564421_A

**Family:**

Publication number	Publication date	Application number	Application date
AU198284089 A1	19830106	AU19820084089	19820524
BE893550 A	19821018	BE19820208375	19820617

DE3124356 A1	19830105	DE19813124356	19810620
ES265808 U	19830201	ES19820265808U	19820614
ES265808 Y	19831016	ES19820265808U	19820614
FR2508056 A1	19821224	FR19820010253	19820611
FR2508056 B1	19850426	FR19820010253	19820611
IN154482 A	19841103	IN1981CA01266	19811116
IT1189291 A	19880204	IT19820048584	19820604
IT8248584 A0	19820604	IT19820048584	19820604
JP57212288 A2	19821227	JP19810181263	19811113
KR19840000630 A	19840225	KR19820002682	19820616
KR840000630 A	19840225	KR19820002682	19820616
LU84205 A	19830120	LU19820084205	19820617
NL8202253 A	19830117	NL19820002253	19820603
US4564421 A	19860114	US19820380548	19820521
ZA8203743 A	19830330	ZA19820003743	19820528

Priority:

DE19813124356 19810620 DE19813124356 19810620 DE19813124536 19810620

Probable Assignee: OTTO AND CO GMBH DR C

Assignee(s): (std): DR C OTTO AND COMP G M B H TE BOCHUM BONDSREPUBLIE ; OTTO AND CO GMBH DR C ; DR C OTTO CO GMBH ; DR C OTTO AND COMP GMBH ; OTTO AND COMP GMBH ; C OTTO AND CO DR GMBH ; C OTTO AND CO G M B H DR ; OTTO AND COMP GMBH DR C ; OTTO COMP GMBH C ; OTTO C AND COMP GMBH

Assignee(s): DR C OTTO AND CO G M B H ; DR C OTTO AND CO GMBH ; DR C OTTO AND COMP G M B H TE BOCHUM BONDSREPUBLIEK DUTSLAND ; DR C OTTO AND COMP GMBH CHRISTSTRASSE 9 4630 BOCHUM 1 WEST GERMANY A CORP OF WEST GERMANY ; DRCOTTO AND COMPGBH ; DRCOTTO AND COMP GMBH ; DR C OTTO AND COMP GMBH TE BOCHUM BONDSREPUBLIEK DUTSLAND

Inventor(s): (std): FRANZ JOSEF HEGEMANN ; FURANTSUUYOOZEFU HEEGEMAN ; HEGEMANN F ; HEGEMANN FRANZ JOSEF ; JOSEF HEGEMANN FRANZ ; KODDENBERG T ; KODDENBERG THEO ; TEEO KOTSUDENBERUKU ; THEO KODDENBERG ; HEGEMANN FRANZ JOSEPH

Inventor(s): THEO KODDENBERG ET FRANZ JOSEF HEGEMANN ; VERZICHT DES ERFINDERS AUF NENNUNG

Agent(s): ASPEN PHARMA PTY LTD; SPRUSON AND FERGUSON

28) Family number: 20150536 (DE525831A)

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Title: REGENERATIVKOKSOFFENBATTERIE MIT STEHENDEN KOKSKAMMERN REGENERATIVKOKSOFFENBATTERIE WITH RELATED coking chambers (Machine translation)

Abstract: Source: DE525831A [DE] (Claim 1) 1. PATENTANSPRUCII: Regenerativkoksoffenbatterie mit stehen den Kokskammern, deren Querschnitt von oben nach unten zunimmt und deren Heiz waende durchweg in gleicher Richtung durch ununterbrochene senkrechte Heizzuege be heizt werden und durch OOverwaende so in uebereinandeiliegende Abschnitte unterteilt sind, dass diese Abschnitte offene Verbindung miteinander erhalten, wobei die oberen und unteren Abschnitte je mit Brennern und Einrichtungen versehen sind, um jeden Brenner mit gesondert regelbaren Luft- und Gasmengen versorgen zu koennen, dadurch gekennzeichnet, dass die Brenner an den unteren Enden der oberen und unteren Heizzugabschnitte angeordnet sind, so dass die Heizzuege der jeweils mit Frischgasen beheizten Wand aufwaerts beflammt werden.

Machine translation: (claim 1) 1 PATENTANSPRUCII: Regenerativkoksoffenbatterie stand with the coking chambers, whose Querschnitt increases from top to bottom and whose walls heating heats be consistently and by OOverwaende thus subdivided into uebereinandeiliegende portions in the same direction by continuous vertical heating flues are be that these sections open connection receive each other, the upper and lower portions are each provided with burners and facilities to be able to supply each burner with separately controllable air and gas volumes, characterized in that the burners are arranged at the lower ends of the upper and lower Heizzugabschnitte, so that the heating flues of each be exposed to flame with fresh gases heated wall up.

Classifications:

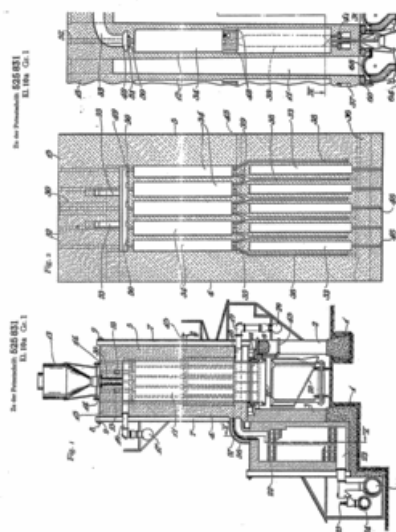
International (IPC 8-9): C10B3/02 (Advanced/Invention); C10B3/00 (Core/Invention)

International (IPC 1-7): C10B3/02

CPC: C10B3/02

European: C10B3/02

PatBase - DE525831_A



Family:

Publication number	Publication date	Application number	Application date
DE525831 A	19310530	DE1927K106657D	19271110

Priority:

19270108 DE1927K106657 19271110

Probable Assignee: KOPPERS CO INC

Assignee(s): (std): KOPPERS CO INC

Assignee(s): THE KOPPERS COMPANY ; KOPPERS CO

29) Family number: 30041543 (US3142391A)

© PatBase

Title: COKE OVEN CHARGING MACHINE HAVING MECHANISM FOR REMOVING AND REPLACING CHARGING HOLE COVERS

Abstract: 978,338. Controlling clutches. ALLIED CHEMICAL CORPORATION. June 19, 1962 [July 17, 1961], No. 12731/64. Divided out of 978,335. Heading F2L. [Also in Division C5] In a machine for removing covers from and replacing them upon their holes, e.g. in coke ovens, rotary motion is transmitted from a stub shaft 56 to a sprocket 70 by means of clutch parts 57a, 57b respectively on the shaft and sprocket. The shaft 56 is periodically rotated by a horizontally reciprocated member 110, seen in section here, and described in detail in Specification 978,336, through a sprocket 137, and the shaft 56 is periodically vertically reciprocated in synchronism with the rotary movement, by cam surfaces on the member 110. Each clutch part 57a, 57b has projections which interengage with a sharp impact, which is transmitted to a coverremoving mechanism 36, when the shaft 56 is lowered.

Classifications:

International (IPC 8-9): B66C1/66 C10B25/20 C10B31/04

F16H19/00 G05G9/08 (Advanced/Invention);

B66C1/62 C10B25/00 C10B31/00 F16H19/00

G05G9/00 (Core/Invention)

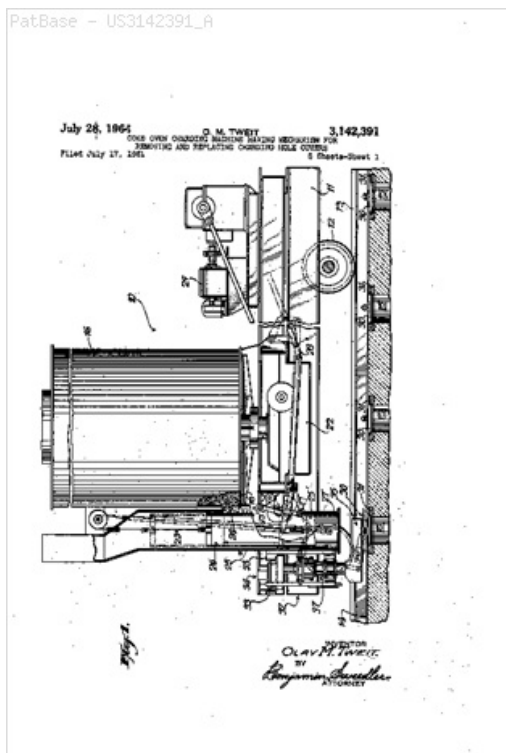
International (IPC 1-7): B66C1/00 C10B25/20 F16H19/04

CPC: Y10T74/18096 Y10T74/18112 Y10T279/17231 C10B31/04

B66C1/66 C10B25/20 F16H19/04

European: B66C1/66 C10B25/20 C10B31/04 F16H19/04 G05G9/08

US: 173/93.5 202/262 279/35 414/164 74/30 74/32 81/57.25



Family:

Publication number	Publication date	Application number	Application date
DE1421251 A1	19681003	DE19621421251	19620717
FR1332273 A	19630712	FR19620904125	19620716
GB978335 A	19641223	GB19620023550	19620619
GB978336 A	19641223	GB19640012722	19620619
GB978337 A	19641223	GB19640012729	19620619
GB978338 A	19641223	GB19640012731	19620619
NL281009 A	00000000		00000000
US3142391 A	19640728	US19610124497	19610717

Priority:

US19610124497 19610717 FR19620904125 19620716

Probable Assignee: KRUPP WILPUTTE CORP

Assignee(s): (std): ALLIED CHEM

Assignee(s): ALLIED CHEMICAL CORP ; KKW A CORP OF DE CORP ; KKW CORP ; KRUPP WILPUTTE CORP

Inventor(s): (std): MIKAEL TWEIT OLAV ; TWEIT OLAV M

30) Family number: 20221578 (GB385610A)

© PatBase

Title: Improvements in the method of coking heavy petroleum residues or the like and cracking petroleum vapors

Abstract: Liquid heavy hydrocarbon residues are coked on the floor of a chamber and the vapours produced are immediately further heated to cracking temperature, preferably by direct or indirect contact with the combustion gases used in the coking operation. Steam and oxygen containing gases may be admitted to the coking chamber to produce partial combustion of the hydrocarbons. The oils are fed through nozzles 30 on to the refractory floor 12 of a domed oven 11

mounted over flues 13 heated by gas or liquid fuel burnt in nozzles 14 by air supplied by passages 16 and flues 17. The products of combustion are carried off through a flue 21 and in part pass round recuperators 24, 23 in which the incoming air and steam and the crude oil are preheated the remainder passing through the header 41 and nozzles 42 into the oven 11, thus heating the escaping vapours to cracking temperature, the vapours passing off through a pipe 29. The air or steam preheated in the recuperator 24 is passed through pipe 36 to mix with the oil in pipes 34 the mixed stream being injected into the chamber 11 through nozzles 30 the injector action also aiding the flow of combustion gases through the nozzles 42. In Fig. 5, the oils are sprayed from nozzles 65 into pans 64 moving through the coking chamber on a rotary conveyer the oils being coked by the heat of combustion gases passing through perforations 52 in the floor 51. The coke is discharged from the buckets inverted as they pass over the wheel 62 and falls from a shield 66 into a hopper 67. In Fig. 6, the combustion gases are fed to the coking chamber through a flue 84 into which air and steam are injected through nozzles 86, 89 and pass into contact with the rising vapours through a downwardly directed discharge end 82 fitted with a baffle 83. The cracked vapours pass off through an off-take 81 to a chamber 100 where they are sprayed with oil injected through rotating nozzles 104. In a further modification the combustion gases are passed through pipes in the coking chamber.

Classifications:

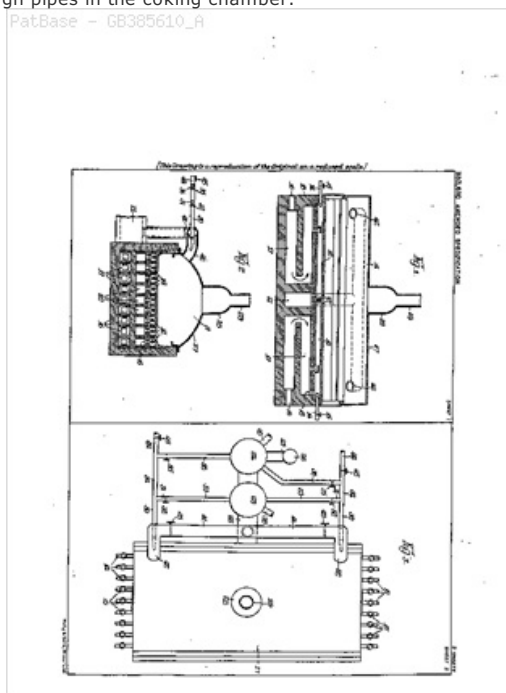
International (IPC 8-9): C10G9/00 (Advanced/Invention)

International (IPC 1-7): C10G9/00

CPC: C10G9/00

European: 23B5B31B21B12 23B5B31B4 C10G9/00

PatBase - GB385610_A



Family:

Publication number	Publication date	Application number	Application date
GB385610 A	19321222	GB19310018000	19310622

Priority:

GB19310018000 19310622

Probable Assignee: BRASSERT TIDEWATER DEV CORP

Assignee(s): (std): BRASSERT TIDEWATER DEV CORP

Assignee(s): BRASSERT TIDEWATER DEVELOPMENT CORP

31) Family number: 20808597 (US1876037A)

© PatBase

Title: METHOD OF PROVIDING FUEL GAS FOR COKING RETORT OVENS

Abstract: 1. The method of providing fuel gas for coking retort ovens which comprises supplying blast-furnace gas of variable thermal value, mixing a relatively small amount of coke-oven gas with said blast-furnace gas to correct the thermal value of the latter when it falls below a predetermined value, measuring the thermal value of the gases so mixed, and then regulating the amount of coke-oven gas added to said blast-furnace gas in accordance with the measurement thus obtained to maintain the thermal value of the mixed gas substantially constant at approximately the maximum thermal value of the blast-furnace gas.

Classifications:

International (IPC 8-9): C10B21/00 (Advanced/Invention);

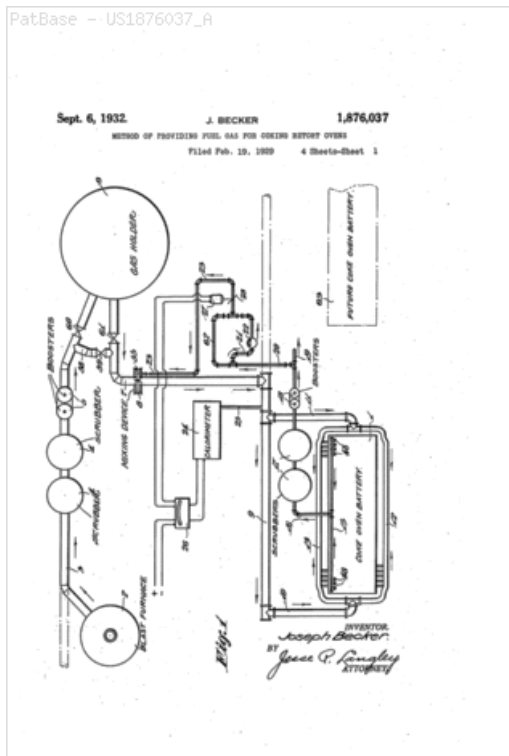
C10B21/00 (Core/Invention)

International (IPC 1-7): C10B21/02

CPC: C10B21/00

European: C10B21/00

US: 201/1 48/180.1

**Family:**

Publication number	Publication date	Application number	Application date
US1876037 A	19320906	US19290341240	19290219

Priority:

US19290341240 19290219

Probable Assignee:

KOPPERS CO INC

Assignee(s): (std):

KOPPERS CO INC

Assignee(s):

THE KOPPERS COMPANY ; KOPPERS CO

Inventor(s): (std):

JOSEPH BECKER

Inventor(s):

BECKER JOSEPH

32) Family number: 18865610 (GB352383A)

© PatBase

Title: Heating systems for coke-ovens

Abstract: [Class 86.] A device for mixing coke oven gas with blast furnace gas passing along a pipe 7 comprises an annular header 55, as shown in the Figure, surrounding the pipe 7 and connected to the coke oven gas pipe 23 and to the interior of the pipe 7 by radially-extending pipes 56, 57 of different lengths so as to produce a uniform mixture. Reference has been directed by the Comptroller to Specification 256,523, [Class 51 (i), Furnaces and kilns, Combustion apparatus of].

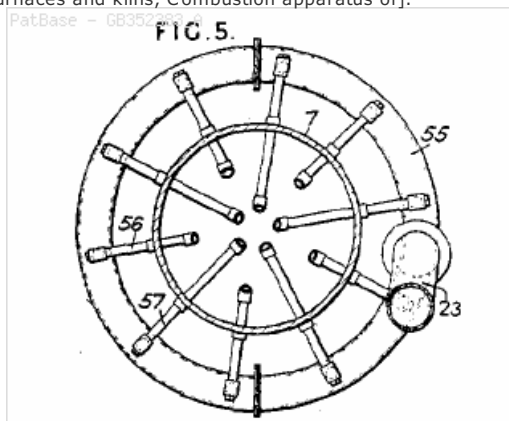
Classifications:

International (IPC 8-9): C10B21/10 (Advanced/Invention);
C10B21/00 (Core/Invention)

International (IPC 1-7): C10B21/20

CPC: C10B21/10

European: C10B21/10

**Family:**

Publication number	Publication date	Application number	Application date
GB352383 A	19310703	GB19300000313	19300103

Probable Assignee:

KOPPERS CO INC

Assignee(s): (std):

KOPPERS CO INC

Assignee(s):

THE KOPPERS COMPANY ; KOPPERS CO

Title: PROCEDURE, FOR RECOVERING LEAD AND ZINC FROM ELECTRICAL STEELWORKS, POWDER AND RECYCLING OF RESIDUE, INVOLVES PYROTECHNIC PROCEDURE BASED ON THOSE APPLIED FOR ZINC MINERALS

Abstract: Recovery of lead and zinc from electrical steelworks powder and recycling of residue involves pyrotechnic procedure based on those applied for zinc minerals. Reduction is effected by carbon of the oxides of zinc and lead and separation by volatilization of the two metals. Once the greater part of the zinc and lead has been eliminated from the powders, the residue can be returned to the steel works. The procedure uses an excess of coke above the stoichiometry necessary for the reduction of the oxides and the heating of the load. The high volume of gases produced can be eliminated by evaporation.

Classifications:

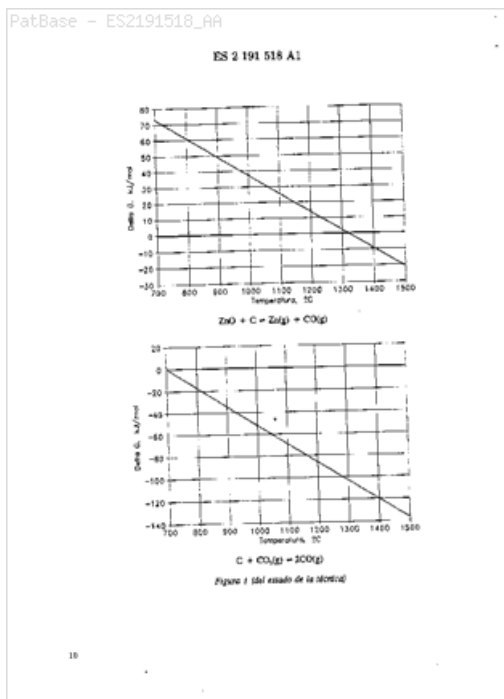
International (IPC 8-9): C22B13/00 C22B19/30

C22B7/00 (Advanced/Invention);

C22B13/00 C22B19/00 C22B7/00 (Core/Invention)

International (IPC 1-7): C22B13/00 C22B19/30 C22B7/00

CPC: Y02P10/232



Family:

Publication number	Publication date	Application number	Application date
ES2191518 AA	20030901	ES20000002188	20000906
ES2191518 BA	20050216	ES20000002188	20000906

Priority:

ES20000002188 20000906

Probable Assignee:

GRAU ALMIRALL JOSEP

Assignee(s): (std):

GRAU ALMIRALL JOSEP

Title: Improvements in Coking Ovens and Methods of Working them.

Abstract: 112,967. Campbell, D., and Goodyear, C. Jan. 12, 1917. Coke ovens.-The floor of a coke oven rests upon a permeable mass of finely divided material and is formed with uniformly distributed apertures for withdrawal of the distillation gases and with means for trapping and facilitating the removal of any dust or solid matter that may pass through the floor apertures. Fig. 1 shows a vertical section of an oven, taken through the centre of the charging aperture 3 and the coke discharging passage 5, and Fig. 4 shows a cross section and perspective view of a part of the oven floor. The floor 6 inclines uniformly towards the passage 5 to facilitate discharge of the coke, and is formed of rows of bricks 20 and 21, Fig. 4 resting upon rows of bricks 16 and 18 respectively the bricks 16 are bedded upon the lateral parts and the bricks 21 upon the central parts of rows of tiles 15. From a shoulder 7, the inner wall of the oven drops vertically as shown in Fig. 1, and then slopes conically to a central wall 9, covered by a grating 10 and in communication with a gas-withdrawal pipe 12. The conical space is packed with gravel or pieces of rock and the upper part of the packing is covered with a layer of fire clay upon which the tiles 15 are bedded. The central parts of the sides of the bricks 21 are recessed above and bevelled inwards, as shown at 22, in Fig. 4, and the bricks 16 have their central parts recessed to form gas passages 17 the spaces between adjacent rows of bricks 16 are filled with gravel up to the recesses 17. The distillation gases pass through the openings 22 into the channels 19 between the bricks 18 and 16, and then through the passages 17 and the passages 30 between the adjacent rows of bricks 16, and traverse the gravel packing before finally entering the discharge pipe 2 the sides of the bricks 20 overhang the sides of the bricks 16. Soot and c. is trapped in the channels 19, which are connected in pairs to passages 25, extending to the exterior of the oven and provided with a removable cover 26. The passage 5 having been closed, preferably by bricking it up, and the oven charged, the coal is lighted on the top near the passage 5, and the fire is allowed to spread over the whole upper surface of the charge during this operation, an updraught is maintained through a flue 4. When the whole surface of the charge is at a red heat, the flue 4 is closed and a down-draught is maintained by means of a rotary pump or its equivalent, and a stream of air and steam admitted by an injector 27.

Classifications:

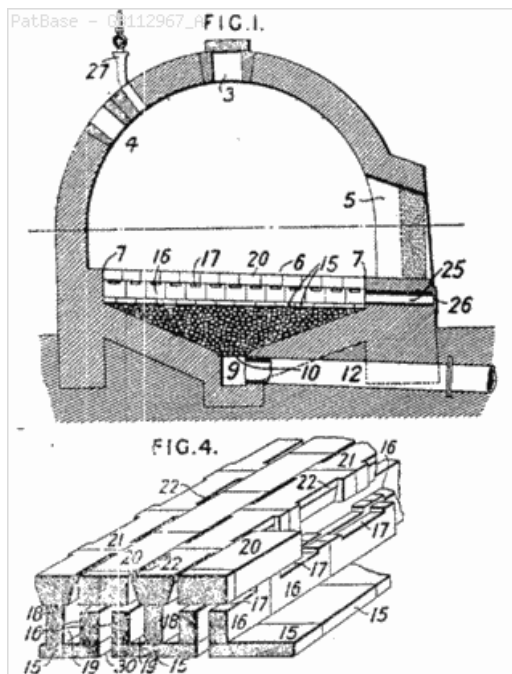
International (IPC 8-9): C10B9/00 (Advanced/Invention);

C10B9/00 (Core/Invention)

International (IPC 1-7): C10B9/00

CPC: C10B9/00

European: C10B9/00



Family:

Publication number	Publication date	Application number	Application date
GB112967 A	19180114	GB19170000629	19170112

Priority:

GB19170000629 19170112

Probable Assignee: CAMPBELL DENIS GOODYEAR CHARLES

Assignee(s): (std): CAMPBELL DENIS ; GOODYEAR CHARLES

Assignee(s): CAMPBELL DENIS GOODYEAR CHARLES ; CHARLES GOODYEAR ; DENIS CAMPBELL

Inventor(s): (std): CAMPBELL DENIS ; GOODYEAR CHARLES

Inventor(s): CHARLES GOODYEAR ; DENIS CAMPBELL

35) Family number: 30150663 (US3326671A)

© PatBase

Title: DIRECT SMELTING OF METALLIC ORES

Abstract: ABSTRACT OF THE DISCLOSURE

A method for continuously producing metals from ore and concentrate base material by providing in a furnace chamber intercommunicating smelting, refining and slag separation zones having molten material therein. The base material is fed to the molten material in the smelting zone as the molten material continuously flows from the smelting zone to the refining zone from where metal is withdrawn while the slag produced flows into the separating zone from where it is withdrawn. Oxygen containing gas is introduced into- the molten material during its passage through the furnace chamber. This application is a continuation-in-part of my copending U.S. patent application Ser. No. 355,661, filed Mar. 20, 1964, and now abandoned.

Classifications:

International (IPC 8-9): B29J5/04 B41N11/00 C03B5/00 C03B5/04 C03B5/12 C21B13/10 C21B15/00 C21C1/00 C21C5/28 C21C5/42 C21C5/56 C22B13/00 C22B13/02 C22B15/00 C22B15/14 C22B19/04 C22B23/02 C22B25/00 C22B5/00

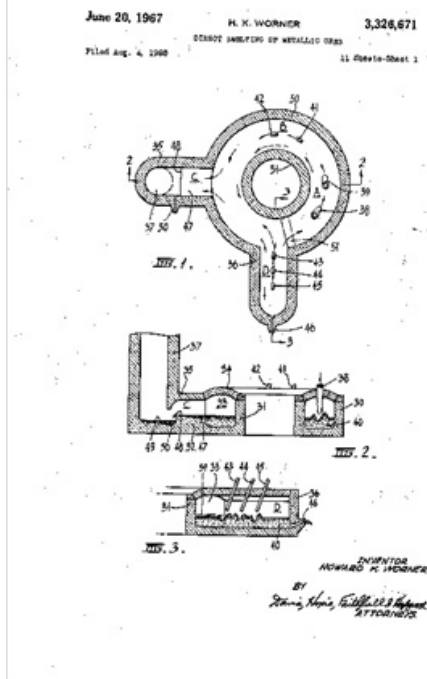
C22B9/00 (Advanced/Invention); C03B5/00 C21B13/00 C21C1/00 C21C5/00 C21C5/28 C22B13/00 C22B15/00 C22B19/00 C22B23/00 C22B25/00 C22B5/00 C22B9/00 (Core/Invention)

International (IPC 1-7): C03B5/00 C03B5/04 C21B13/10 C21C5/32 C21C5/42 C21C5/56 C22B5/00 C22B5/02 C22B9/06 F27B3/00 F27B3/20 F27B3/22

CPC: Y10S75/957 C22B19/04 C03B5/04 C03B5/12 C21B13/10 C21C1/00 C21C5/28 C21C5/42 C21C5/567 C22B5/00 C22B9/00 C22B13/00 C22B15/0045 C22B15/0054 C22B15/006 C22B23/025 C22B25/00 Y02P10/136

European: C03B5/04 C03B5/12 C21B13/10 C21C1/00 C21C5/28 C21C5/42 C21C5/56D C22B13/00 C22B15/00H2B9 C22B15/00H4 C22B15/00H8 C22B19/04 C22B23/02F C22B25/00 C22B5/00 C22B9/00

US: 266/11 266/162 266/172 266/175 266/225 266/232 266/35 432/161 65/345 65/347 75/500 75/502 75/545 75/582 75/641 75/643 75/696 75/957

**Family:**

Publication number	Publication date	Application number	Application date
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AU2950563 A1	19651007	AU19630029505	19630411
AU4123364 A1	19650826	AU19640041233	19640224
BE644174 A	19640615		19640221
BE646429 A	19641012	BE19640646429	19640410
BE652436 A	19641216		19640828
DE1294022 B	19690430	DE1964F042480	19640401
DE1458306 A1	19690220	DE19641458306	19640818
DE1458306 B2	19710902	DE19641458306	19640818
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FI43791 C	19710610	FI19640000758	19640410
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FR1429265 A	19660225	FR19640970642	19640411
GB1003026 A	19650902	GB19640006523	19640217
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SE315741 B	19691006	SE19640004457	19640410
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YU31189 B	19730228	YU19640000498	19640410

Priority:

AU19630027676 19630221	AU19630020505 19630411	AU19630029505 19630411
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Probable Assignee: CONZINC RIOTINTO LTD**Assignee(s):** (std): CONZINC RIAOTINTO OF AUSTRALIA LTD ; CONZINC RIOTINTO LTD ; FARNSFIELD LTD ; WÖRNER HOWARD K ; WÖRNER HOWARD KNOX**Assignee(s):** HOWARD KNOX WÖRNER ; CONZINC RIOTINTO OF AU LTD ; CONZINC RIOTINTO OF AUSTRALIA LIMITED ; CONZINC RIOTINTO OF AUSTRALIA LTD ; DEUTSCHE LIBETT GES EBERS AND DR MÜLLER ; FARNSFIELD LIMITED**Inventor(s):** (std): WÖRNER H ; WÖRNER HOWARD K ; WÖRNER HOWARD KNOX ; KNOX WÖRNER HOWARD**Inventor(s):** HOWARD KNOX WÖRNER ; HOWARD K WÖRNER ; NOT STATED ; HOWARD KNOX WÖRNER ; HOWARD KNOX WÖRNER

Title: SHALE OIL EXPLOSIVES

Abstract: Ammonium nitrate shale oil explosives are provided which are effective, powerful, inexpensive, and safe. The explosives contain about 2 percent to 10 percent by weight shale oil and about 90 percent to 98 percent by weight ammonium nitrate. The shale oil can be whole shale oil or heavy shale oil containing from 0.1 percent to 65 percent by weight oil shale dust. The ammonium nitrate is preferably in the form of explosive grade ammonium nitrate prills.

Classifications:

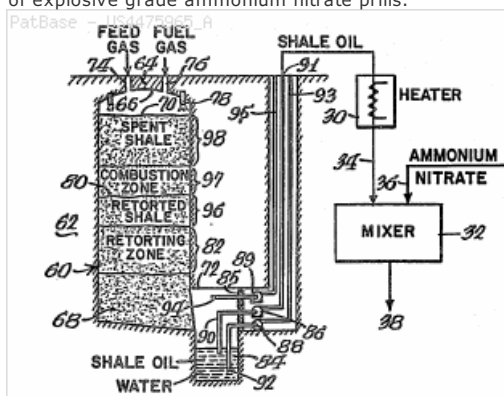
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International (IPC 1-7): C06B45/02

CPC: Y10S149/112 Y10S149/115 C06B47/14 C06B31/285

European: C06B31/28B C06B47/14

US: 149/112 149/115 149/2 149/21 149/46



Family:

Publication number	Publication date	Application number	Application date
US4475965 A	19841009	US19830545054	19831024

Priority:

US19830545054 19831024

Probable Assignee: CHEVRON RESEARCH CO

Assignee(s): (std): GULF OIL CORP ; STANDARD OIL CO INDIANA

Assignee(s): STANDARD OIL COMPANY INDIANA ; STANDARD OIL CO ; CHEVRON RESEARCH CO ; CHEVRON USA INC

Inventor(s): (std): PORTER DARRELL D ; YORK EARL D

Title: PROCESS FOR RECOVERING SYNTHETIC RAW MATERIALS AND FUEL COMPONENTS FROM USED OR WASTE PLASTICS

Abstract: PCT No. PCT/EP95/03901 Sec. 371 Date Aug. 15, 1997 Sec. 102(e) Date Aug. 15, 1997 PCT Filed Oct. 2, 1995 PCT Pub. No. WO96/10619 PCT Pub. Date Apr. 11, 1996The invention concerns a process for recovering synthetic raw materials and fluid fuel components from used or waste plastics in accordance with patent application P 43 11 034,7. At least a partial flow of the depolymer produced according to this process is subjected, together with coal, to a coking process, fed to a thermal utilization system or introduced as a reducing agent into a blast furnace process. The depolymer can be used as an additive for bitumen and bituminous products.

Classifications:

International (IPC 8-9): B09B3/00 B29B17/00 C08J11/10 C08J11/12 C08J11/16 C10B53/00 C10B53/07 C10B57/04 C10G1/00 C10G1/10 C10G45/08 C10G45/20 C10G9/00 C10J3/00 C10L1/00 (Advanced/Invention);

B09B3/00 B29B17/00 C10B53/07 C10G1/00 C10G1/10 C10J3/00

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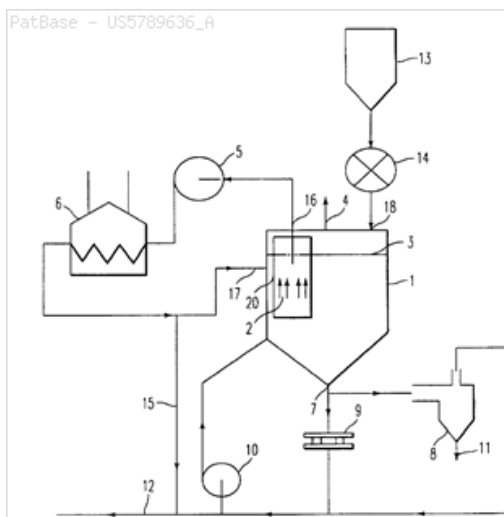
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CPC: C10B57/06 C10G1/10 C10G9/005 C10G1/002

European: C10G1/00B C10G1/10 C10G9/00L Y02E20/18

US: 201/13 201/14 201/15 201/21 201/22 201/23 201/24 201/25 208/400 585/240 585/241



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Priority:

DE19934311034 19930403 DE19945002926 19940325 WO1994EP00954 19940325
DE19944435238 19941004 WO1995EP03901 19951002 DE19955002919 19951002

Probable Assignee: DER GRUNE PUNKT DUALES SYSTEM DEUTSCHLAND AG

Assignee(s): (std): FEBA EL AG ; HOLIGHAUS ROLF ; DER GRUENE PUNKT DUALES SYST ; VEBA OEL AG ; VEBA EL AKTSIENGEZELL SHAFT ; RUPP MARTIN ; NIEMANN KLAUS ; STRECKER CLAUS

Assignee(s): VEBA OEL 45896 GELSENKIRCHEN DE AG ; VEBA OEL GELSENKIRCHEN AG ; VEBA OEL AG GELSENKIRCHEN ; ROLF HOLIGHAUS ; VEBA OEL AKTIENGESELLSCHAFT ; DER GRUENE PUNKT DUALES SYSTEM DEUTSCHLAND AG ; DER GRUNE PUNKT DUALES SYSTEM DEUTSCHLAND AG ; KLAUS NIEMANN ; MARTIN RUPP ; VEBA OEL AG 45896 GELSENKIRCHEN DE

Inventor(s): (std): KLAUS NIMAN ; KLAUS SHTREKKER ; NIEMANN K ; STRECKER C ; HOLIGHAUS R ; VIEIRA PAULO J M ; BOND MARTHA W ; MOSMANN TIMOTHY ; MOORE KEVIN W ; MARTIN RUPP ; KLAUS NIEMANN ; ROL F KHOLIGKAUS ; DR RUPP MARTIN ; DR NIEMANN KLAUS ; DR HOLIGHAUS ROLF ; LINDNER WOLFGANG ; STRECKER CLAUS ; NIEMANN KLAUS ; HOLIGHAUS ROLF ; RUPP MARTIN ; HOLIGHAUS ROLF DR ; NIEMANN KLAUS DR ; RUPP MARTIN DR

Inventor(s): NIEMANN KLAUS D 46147 OBERHAUSEN DE ; HOLIGHAUS ROLF D 45721 HALTERN DE ; RUPP MARTIN D 45239 ESSEN DE ; STRECKER CLAUS 45888 GELSENKIRCHEN DE ; CLAUS STRECKER ; STRECKER CLAUS D 45888 GELSENKIRCHEN DE ; KLAUS NIEMANN ; DR KLAUS NIEMANN ; ROLF HOLIGHAUS ; KEVIN W MOORE ; PAULO J M VIEIRA ; TIMOTHY MOSMANN ; MARTHA W BOND ; K NIEMANN ; C STRECKER ; R HOLIGHAUS

Agent(s): FB RICE; FB RICE PTY LTD; BORDEN LADNER GERVAIS LLP

Designated states: AT AU BE BG BR BY CA CH CN CZ DE DK ES FI FR GB GR HU IE IT JP KR KZ LI LU LV MC NL NO NZ PL PT RO RU SE SK UA US UZ

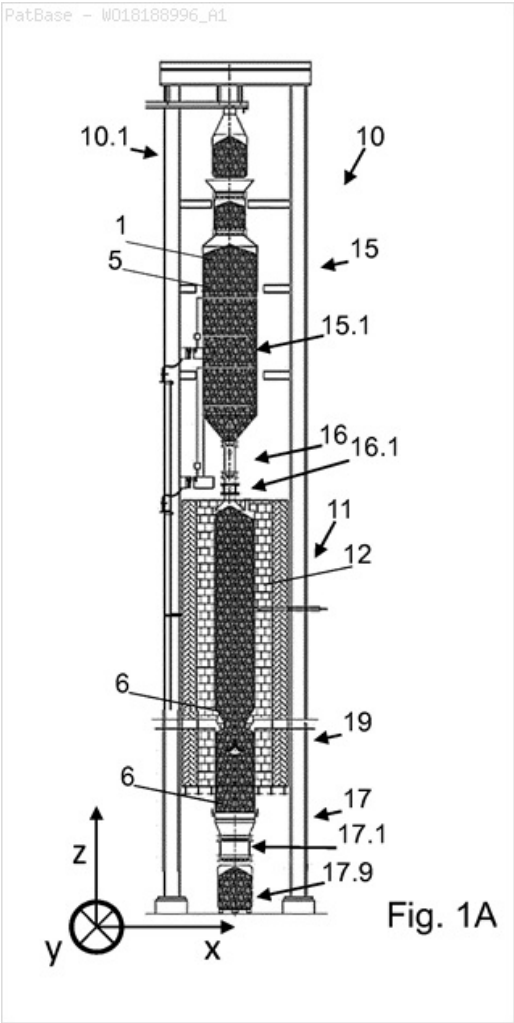
38) Family number: 71535695 (WO18188996A1) © PatBase

Title: DEVICE AND METHOD FOR UTILIZING CARBONACEOUS FEEDSTOCK AND USE THEREOF

Abstract: The invention relates to a furnace device (10) having at least one vertical furnace chamber (11), in particular a coke furnace, for producing coke from at least one solid feedstock, in particular from the group: Brown coal, weakly-baking hard coal, biomass, petroleum coke, petroleum coal, comprising at least one briquette dryer (15), which is designed to control the temperature of briquettes produced from the feedstock, and at least one furnace chamber (11) having heating walls (12) that is coupled to the briquette dryer. On at least one side of the furnace chamber in at least one of the heating walls in a lower half or a lower third, at least one horizontal heating channel (12.1) is formed, and above that, also at least in an upper half or a center third, a heating channel (12.2) extending in a meandering manner in several height planes is formed. Said heating channels can each be individually heated by at least one burner (13). The invention further relates to a method for producing coke, and to the use of feedstock therefor.

Classifications:

International (IPC 8-9): C10B1/04 C10B27/02 C10B3/02 C10B47/04 C10B53/08 C10B57/10 (Advanced/Invention)
CPC: C10B1/04 C10B3/02 C10B27/02 C10B47/04 C10B53/08 C10B57/10



Family:

Publication number	Publication date	Application number	Application date
DE102017206450 A1	20181018	DE201710206450	20170413
WO18188996 A1	20181018	WO2018EP58525	20180404

Priority:

DE201710206450 20170413

Probable Assignee: THYSSENKRUPP AG

Assignee(s): (std): THYSSENKRUPP AG ; THYSSENKRUPP IND SOLUTIONS AG

Assignee(s): THYSSENKRUPP INDUSTRIAL SOLUTIONS AG

Inventor(s): (std): FEHSE FRANZ ; GRAW FABIAN ; HERDEGEN VOLKER ; KIM RONALD ; KUEHN GAJDZIK JOANNA ; SCHELLER MATHIAS ; SCHROEDER HANS WERNER ; SPOETTL MATTHIAS ; TSCHIRNER UWE

Agent(s): THYSSENKRUPP INTELLECTUAL PROPERTY GMBH

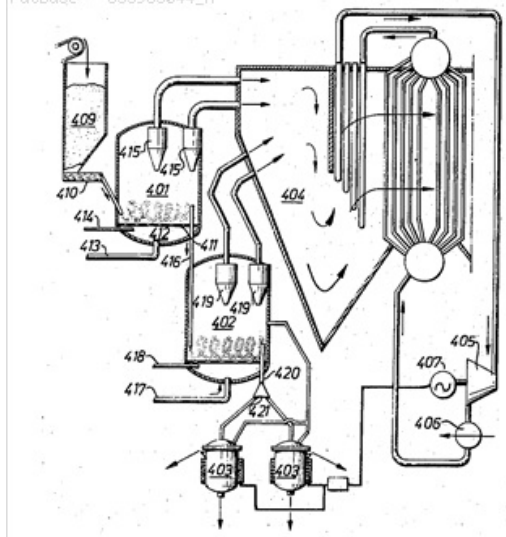
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Title: METHOD FOR SIMULTANEOUS COMBINED PRODUCTION OF ELECTRICAL ENERGY AND CRUDE IRON

Abstract: The invention relates to a method of combined production of electrical energy and crude iron, comprising reducing iron oxides while keeping the temperature below the melting point of the crude iron during a pre-reduction and above said melting point during a final reduction. The pre-reduction is made by introducing carbonaceous material and the material containing iron oxides into a fluid bed containing solid carbonaceous material, producing reducing gases in the fluid bed by partial combustion of the carbonaceous material with air/or oxygen gas, pre-reducing the iron oxides by said reducing gases until the material has achieved a metallization degree of 30-80 percent, most of the heat requirement of the pre-reduction being covered by said combustion. The pre-reduced material is finally reduced and molten by being brought into contact with carbon, and the heat requirement of this final reduction and melting process is covered by electric heating. A substantial part of the exhaust gases from the reduction operations is passed to a thermal power station to generate electrical power therein.

Classifications:**International (IPC 8-9):** C21B11/00 C21B11/10 C21B13/00C21B13/12 C21B13/14 C21C5/52 (Advanced/Invention);
C21B11/00 C21B13/00 C21B13/14 C21C5/00 (Core/Invention)**International (IPC 1-7):** C21B1/06 C21B11/00 C21B11/10
C21B13/00 C21B13/12 C21B13/14 C21B15/00 C21B3/00 C21C5/52
C22B5/10 C22B5/18 F01K25/00 F01K25/14**CPC:** C22B5/10 C21B13/0006 Y10S75/958 C21B13/14 C21B11/00
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C21B13/00A2B C21B13/12 C21B13/14 C21B13/14A C22B5/10**US:** 75/10.16 75/10.37 75/11 75/446 75/958

PatBase - US3985544_A

**Family:**

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Priority:

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US19720299213 19721010	BE19720123705 19721031	

Probable Assignee: STORA KOPPARBERGS BERGSLAGS AB

Assignee(s): (std): STORA KOPPARBERGS AB ; STORA KOPPARBERGS BERGSLAGS AB ; COLLIN PER H ; COLLIN PER H SE ; JOHANSSON FOLKE K E ; JOHANSSON FOLKE K E SE ; STORA KOPPARBERGS BERGSLAGS AB SE ; STORA KOPPARBERGS BERGSLAGS A B FALUN SUEDE ; STORA KOPPARBERGS BERGSLAGS AKTIEBOLAG ; STORA KOPPARBERGS BERGSL ; STORA KOPPARBERGS BERGSLAGS A B ; ASEA AB

Assignee(s): ASEA AKTIEBOLAG ; ASEA AKTIEBOLAG S 721 83 VASTERAS SWEDEN A SWEDISH ; ALLMENNA SVENSKA ELEKTRISKA AB ; STORA KOPPARBERGS BERGSLAGS AKTIEBOLAG FALUN SCHWEDEN ; JOHANSSON FOLKE KE ; STORA KOPPARBERGS BERGSLAGS AKTIEBOLAG FALUN ; STORA KOPPARBERGS BERGSLAGS FALUN AB ; STORA KOPPARBERGS BERGSLAGS A B FALUN ; STORA

Inventor(s): (std): COLLIN P ; COLLIN P H ; COLLIN PER H ; F K E JOHANSSON ; FOLKE KARL EVALD JOHANSSON ; JOHANSSON F K E ; JOHANSSON FOLKE K E ; COLLIN PER HARALD ; JOHANSSON FOLKE KARL EVALD ; JOHANSSON FOLKE KE ; JOHNNSSON F ; P H COLLIN ; PER HARALD COLLIN ; JOHANSSON F

Inventor(s): JOHANSSON FOLKE KARL EVALD BORLAENGE ; COLLIN PER HARALD FALUN ; JOHANSSON FOLKE K E SE ; COLLIN PER H SE

Abstract: (Claim 1) 1. In a high temperature process for producing coke from coal, the steps of applying heat to a quantity of coal in a non-oxidizing-- atmosphere to carbonize the same, and diring the carbonizing of the coal contacting the c6al with a stream of dissociable hydrocarbon gas, the temperatiare of the carbonizing being maintained at a value of from about 1100 to 1350° C. to cause rapid d_r association of said hydrocarbon gas, said coal maintained in contact with said hydrocarbon gas for a sufficient time at said temperature to cause a substantial amount of free carbon to form on the coal, and said hydrocarbon gas being provided separate from any dissociable hydrocarbon gas evolving from the coal during high temperalure carbonizing thereof.

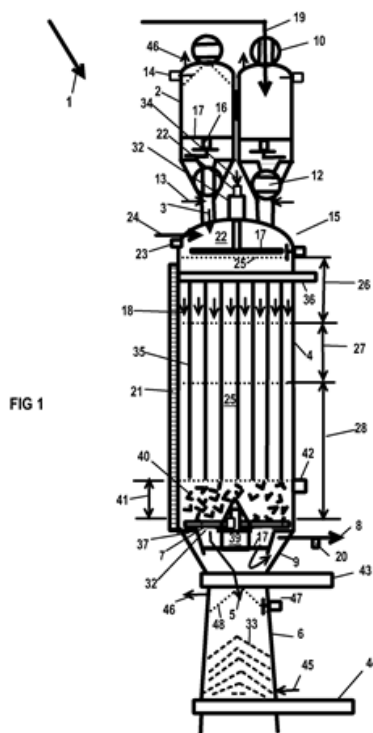
US: 201/20 201/32 201/36 201/44 201/6 44/559 44/591 44/599
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Publication number	Publication date	Application number	Application date
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Inventor(s): (std): CREGLOW LORAN A

C10G2300/1011 Y02E2
European: Y02E20/18

**Family:**

Publication number	Publication date	Application number	Application date
WO11057040 A2	20110512	WO2010US55554	20101105
WO11057040 A3	20111027	WO2010US55554	20101105

Priority:

US20090280506P 20091105 US20100455360P 20101019

Probable Assignee: LEW HOLDING LLC

Assignee(s): (std): LEW HOLDING LLC ; WEAVER LLOYD E

Inventor(s): (std): WEAVER LLOYD E

Agent(s): SCANLON PATRICK R

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

42) Family number: 21707755 (US2259380A)

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Title: BROAD COKE OVEN

Abstract: 1. A by-product coke oven of the broad rectangular scle-fired type which comprises a. pair of broad, elongated, horizontal, combined coking chambers of brick construction having a common wall therebetween and having a. common sole of brick construction thereundelj for holding carbonaceous material including pitch, ts.r'rymati5er and coal thereon; each of said pairs of combined coking chambers being adapted to contain carbonaceuus material during coking and being adapted to be sealed against the admission of air and against commmication with the other coking chamber; a heating Hue system arranged underneath substantially the entire common sole of said pair of combined coking chambers and extending' substantially trom end to end of the said pair of combined coking chambers; burning means associated with said heating system to provide heat throughout the same; said burning means provided with constantly burning Haines during the operation of said combined coking chambers to furnish substantially uniform heating conditions over substantially the entire sole area ni' said combined coking chambers; means for providing fuel to said burning means; means for providing air to burn said fuel in said burning means: a waste gas stack for removing products of combustion from said burning means associated with said heating system; and a, plurality of vertical checkerbrick regenerators associated ,with said pair of combined coking chambers and communicably connected thereto and to said air means and waste gas stack whereby a broad by-product coke oven is provided having a single heating system and av. single regenerative system for said pair of coking chambers and whereby uniform heating snndlt-ions over substantially the entire sole area of said pair of combined coking chambers can be attained.

Classifications:

International (IPC 8-9): C10B15/02 C10B55/00 (Advanced/Invention);

C10B15/00 C10B55/00 (Core/Invention)

International (IPC 1-7): C10B15/02

CPC: C10B15/02 Y02P20/129 C10B55/00

European: C10B15/02 C10B55/00

US: 201/27 202/102 202/145 202/264

Publication number	Publication date	Application number	Application date
US2259380 A	19411014	US19400322875	19400308
US2309957 A	19430202	US19410381356	19410301

US19400322875 19400308 US19410381356 19410301

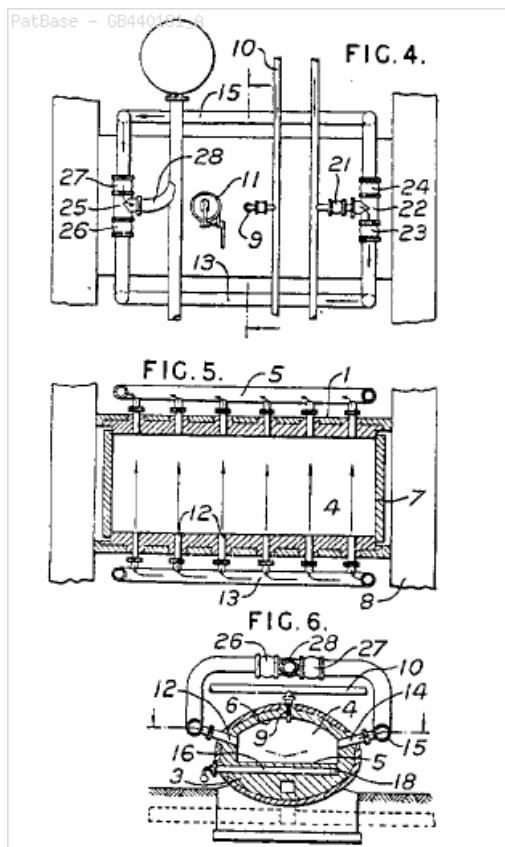
Assignee(s): (std): HUGHES BY PRODUCT COKE OVEN CO

Inventor(s): (std): HUGHES CHARLES H

Abstract: In a process for cracking and coking liquid hydrocarbons and mixtures thereof with solid carbonaceous materials of the kind in which the hydrocarbons are progressively deposited in thin layers on the floor of a coking chamber in contact with a gaseous or fluid medium heated to a temperature sufficient to drive off the volatile constituents and reduce the residue to coke, the gaseous medium enters the chamber in a plurality of streams directed towards the floor and the gases with the vapours evolved are withdrawn in an opposing plurality of streams. An oven comprising a metallic shell 1, insulated lining 6 and refractory floor 3 is supplied with hydrocarbons preferably preheated to 318 DEG C., through an intake 9 and leader 10. Hot gases heated to 480 DEG C., enter through a series of nozzles 12 connected to a header 13 and the gases and vapours are withdrawn through an opposing series of ports 14 connected to a header 15. The flow of the gases to and from the retort may be reversed by means of valves 23, 24, 26, 27. The oven may be heated externally by flues 16. Air may be admitted through the nozzles at the end of the process to burn residual vapours, and to burn part of the coke thus reducing its volatility to 3--5 per cent. The coke may be further heated after the operation to cause <P>CT:0440181/II/1> <P>CT:0440181/II/3> it to shrink and is withdrawn hot by a mechanical pushing device. The supply of hydrocarbons and heating gases is correlated to control the temperature of the oven. The process may be carried out in conjunction with the usual cracking plant and condensates may be recycled from the distillates obtained as described in Specifications 421,408 and 422,899.

International (IPC 8-9): C10B55/00 (Advanced/Invention);
C10B55/00 (Core/Invention)

European: C10B55/00



Family:

Publication number	Publication date	Application number	Application date
GB440181 A	19351216	GB19340008111	19340314

Priority:

GB19340008111 19340314

Probable Assignee: BRASSETT AND CO

Assignee(s): (std): BRASSETT AND CO

Assignee(s): H A BRASSETT AND CO ; H A BRASSETT AND COMPANY

44) Family number: 19660767 (DE524555A)

© PatBase

Title: VERFAHREN UND VORRICHTUNG ZUR VERKOKUNG VON HOLZ ODER STEINKOHLE METHOD AND DEVICE FOR COKING OF WOOD OR COAL (Machine translation)

Abstract: Source: DE524555A [DE] (Claim 1) 1. PATENTANSPRUECHE: i. Verfahren zur Verkokung von Holz oder Steinkohlen, dadurch gekennzeichnet, dass die von einem Verbrennungssofen erzeugten Verbrennungsgase, die durch in termettierende Einfuehrung von Luft und Wasserdampf unter dem Rost des Ofens entstanden sind, von dem in ihnen etwa noch enthaltenen Sauerstoff durch eine. Behandlung mit Holzkohle oder einem anderen mit Sauerstoff sich verbindenden Mittel befreit und in direkte Beruehrung mit der zu verkokenden Masse gebracht werden. a. Vorrichtung zur Ausfuehrung des Verfahrens nach Anspruch i, bestehend aus einer Feuerung mit den Abteilungen (A, B, C), einem im Gasabzug (C) befindlichen, z. B. mit Holzkohle gefuellten Behaelter, durch den die Verbrennungsgase streichen, und einem Kessel (4.) zur Erzeugung des ueberhitzten Dampfes, wobei die Feuerung mit einer oder mehreren die zu verkokenden Massen enthaltenden Verkokungsretorten verbunden wird. **Machine translation:** (Claim 1) 1. PATENT CLAIMS: i. Procedure for the coking characterized by wood or hard coals, by the fact that from an incinerator it witnessed incineration gases, which developed through into termettierende introduction of air and water vapour under the rust of the furnace of about the oxygen still contained in them by one. Treatment with charcoal or another means connecting with oxygen to free themselves and into direct contact with the too verkokenden measures be brought. A. Device for the execution of driving to requirement i, consisting of a firing with the departments of (A, B, C), .einem in the gas departure (C) find lichen, e.g. with charcoal filled more haelter, by which the incineration gases paint, and a boiler (4.) to it the generation of overheated steam, whereby the firing is connected to several with or the coking retorts containing to verkokenden masses.

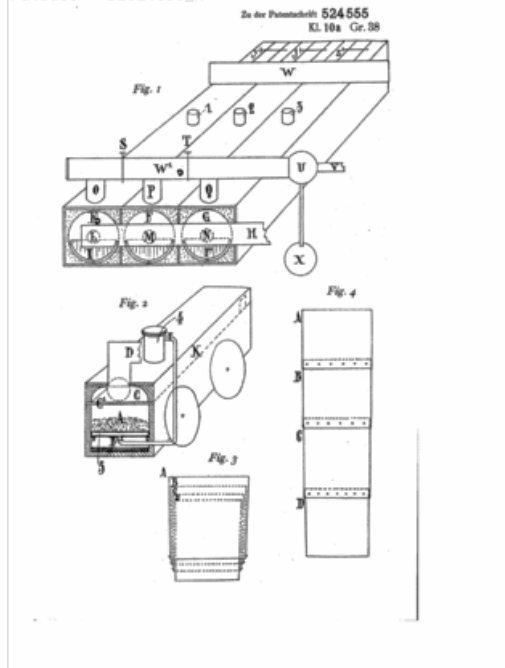
Classifications:

International (IPC 8-9): C10B53/02 (Advanced/Invention); C10B53/00 (Core/Invention)

International (IPC 1-7): C10B53/02

CPC: C10B53/02 Y02E50/14

European: C10B53/02 Y02E50/14

**Family:**

Publication number	Publication date	Application number	Application date
DE524555 A	19310508	DE1928C 041653D	19280628

Priority:

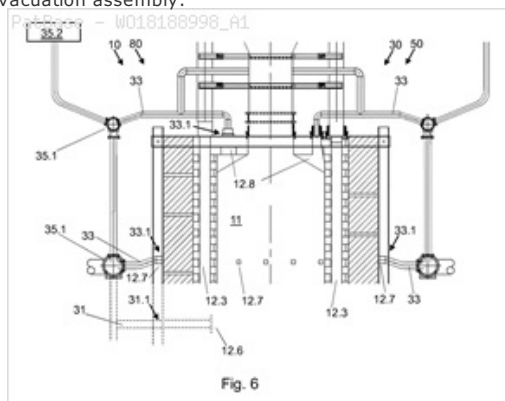
DE1928C 041653 19280628

Probable Assignee: CARBONISATION SOC GEN D EXPL D**Assignee(s):** (std): CARBONISATION SOC GEN D EXPL D**Assignee(s):** LA CARBONISATION SOC GENERALE D EXPLOITATION D ; LA CARBONISATION SOCIETE GENERALE D EXPLOITATION DES CARBONES ; LA CARBONISATION SOC GENERALE D EXPLOITATION DES CARBONES**45) Family number: 71535769 (WO18188998A1)**

© PatBase

Title: DEVICE AND METHOD FOR RECOVERING GASES DURING COKING OF CARBON-CONTAINING FEEDSTOCK, AND USE

Abstract: The invention relates to a gas evacuation assembly (30) for recovering gases during coking of at least one solid feedstock from the group of lignite, poor-baking bituminous coal, biomass, petroleum coke, petroleum coal to form coke, wherein the gas evacuation assembly is designed to be coupled to at least one vertical furnace chamber (11) of a furnace device (10). The gas evacuation assembly has at least three gas extraction lines (31, 33) which can be arranged at at least three different heights of the furnace chamber and are designed to be coupled to the furnace chamber at the at least three heights. The gas evacuation assembly is designed to selectively handle at least three gas types which are evacuated selectively by means of the respective gas extraction line. The invention also relates to a method for recovering gases and to the use of at least one gas type recovered by means of such a gas evacuation assembly.

Classifications:**International (IPC 8-9):** C10B1/04 C10B27/02 C10B27/06 C10B3/00 C10B3/02 C10B47/04 C10B53/08 C10B57/10 (Advanced/Invention)**CPC:** C10B1/04 C10B3/02 C10B27/02 C10B47/04 C10B53/08 C10B57/10

Inventor(s): (std): FEHSE FRANZ ; GRAW FABIAN ; HERDEGEN VOLKER ; KIM RONALD ; KUEHN GAJDZIK JOANNA ; SCHELLER MATHIAS ; SCHROEDER HANS WERNER ; SPOETTL MATTHIAS ; TSCHIRNER UWE

Agent(s): THYSSENKRUPP INTELLECTUAL PROPERTY GMBH

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

46) Family number: 34194809 (US2007028780A) © PatBase

Title: COOKING DEVICE TO DEEP FAT FRY FOODS

Abstract: A cooking device include an outer housing and a cooking cavity disposed within and separate from the outer housing. The cooking cavity accommodates a volume of cooking liquid therein. The device includes a heater positioned adjacent the cooking cavity to heat the cooking liquid. A lid is movably attached to the device and is used to form a seal with the cooking cavity. The lid includes a transparent portion positioned along a top surface to enable viewing inside of the cooking cavity. A controller can be used to heat the cooking fluid for an amount of time designated by user input. A moving mechanism can be used to move a food article into and out of the cooking liquid. The moving mechanism can be automated. The device can include a drainage system for removing the cooking liquid.

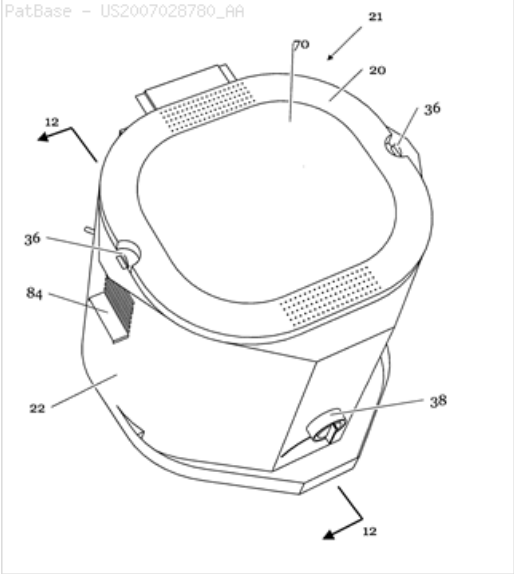
Classifications:

International (IPC 8-9): A23L1/00 A23L1/01 A23L1/315 A23L13/50 A23L5/10 A47J27/00 A47J27/04 A47J36/00 A47J37/00 A47J37/07 A47J37/12 A47J43/18 (Advanced/Invention); A23L1/00 A47J45/06 (Advanced/Non-invention); A23L1/00 A47J37/00 A47J37/12 (Core/Invention); A23L1/00 (Core/Non-invention)

CPC: A47J36/10 A47J37/1261 A47J37/1266 A47J37/129 A47J43/18 A23L5/11 A23L13/57 A47J37/1209 A47J37/1219

European: A23L1/01B A47J36/10 A47J37/12A1 A47J37/12C A47J37/12H2 A47J37/12K A47J37/12M3

US: 126/20 126/20S 126/369 219/401 219/401S 220/573.1 294/61 426/233 426/233P 426/302 426/438 426/438S 426/509 426/509S 426/523 99/330 99/336 99/339 99/339P 99/340 99/350 99/355 99/356 99/403 99/403P 99/403S 99/407 99/407P 99/408 99/409 99/410 99/411 99/412 99/413 99/414 99/415 99/419 99/427 99/444 99/449 99/449S



Family:

Publication number	Publication date	Application number	Application date
DE602006040539 D1	20140417	DE200660040539T	20060808
DE602009035183 D1	20160121	DE200960035183T	20090504
DE602011022351 D1	20160218	DE201160022351T	20111014
EP1919335 A1	20080514	EP20060800998	20060808
EP1919335 A4	20100825	EP20060800998	20060808
EP1919335 B1	20140305	EP20060800998	20060808
EP1919335 B9	20140709	EP20060800998	20060808
EP2344014 A1	20110720	EP20090820925	20090504
EP2344014 A4	20130911	EP20090820925	20090504
EP2566348 A2	20130313	EP20110721176	20110506
EP2627224 A2	20130821	EP20110833471	20111014
EP2627224 A4	20140521	EP20110833471	20111014
EP2627224 B1	20151230	EP20110833471	20111014
EP2752141 A2	20140709	EP20140158428	20090504
EP2752141 A3	20141001	EP20140158428	20090504
EP2752141 B1	20151209	EP20140158428	20090504
US2007028780 AA	20070208	US20060345187	20060201
US2007028781 AA	20070208	US20060425317	20060620
US2007256571 AA	20071108	US20060539655	20061009
US2009120303 AA	20090514	US20080251019	20081014
US2010269712 AA	20101028	US20100775725	20100507
US2010303973 AA	20101202	US20100856230	20100813
US2011203570 AA	20110825	US20100904803	20101014
US2012167778 AA	20120705	US20110072391	20110325
US2014227411 AA	20140814	US20140253253	20140415
US2018192825 AA	20180712	US20180899145	20180219
US8186265 BB	20120529	US20100775725	20100507
US8309151 BB	20121113	US20100856230	20100813
US8707857 BB	20140429	US20060425317	20060620
US8850965 BB	20141007	US20080251019	20081014
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WO11140447 A2	20111110	WO2011US35530	20110506
WO11140447 A3	20130321	WO2011US35530	20110506
WO12051508 A2	20120419	WO2011US56314	20111014

Priority:

US20050706859P	20050808	US20060345187	20060201	US20060425317	20060620
EP20060800998	20060808	WO2006US30946	20060808	US20060539655	20061009
US20080251019	20081014	EP20090820925	20090504	EP20140158428	20090504
WO2009US42676	20090504	US20100775725	20100507	US20100856230	20100813
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EP20110833471	20111014	WO2011US56314	20111014	US20140253253	20140415
US20180899145	20180219				

Probable Assignee: RP INVENTIONS INC

Assignee(s): (std): ALAN L BACKUS ; BACKUS ALAN I ; BACKUS ALAN L ; BACKUS ALAN LESTER ; GANTMAN KATHRYN ; POPEIL STAIRS SHANNON ; POPEIL LAUREN ; POPEIL RONALD M ; POPEIL KATHRYN ; RON S ENTERPRISE INC ; R P INV S INC ; POPEIL GANTMAN KATHRYN ; RON S ENTPR INC ; RONALD M POPEIL ; RONS ENTPR INC

Assignee(s): RON'S ENTERPRISES INC. ; RONALD M ; RON S ENTERPRISES INC ; RON S ENTERPRISES INC BEVERLY HILLS ; RP INVENTIONS INC ; RONCO ACQUISITION CORP ; R P INVENTIONS INC

Inventor(s): (std): BACKUS ALAN I ; BACKUS ALAN LESTER ; GANTMAN KATHRYN ; POPEIL GANTMAN KATHRYN ; ALAN L BACKUS ; POPEIL STAIRS SHANNON ; POPEIL RONALD M ; POPEIL LAUREN ; POPEIL KATHRYN ; GILDERSLEEVE JANET K ; BACKUS ALAN L ; RONALD M POPEIL

Inventor(s): RONALD M ; POPEIL RONALD M BEVERLY HILLS ; POPEIL LAUREN LOS ANGELES ; BACKUS ALAN L LOS ANGELES ; POPEIL KATHRYN NEWBURY PARK ; POPEIL RONALD ; POPEIL STAIRS SHANNON CALABASAS ; RONALD M POPEIL BEVERLY HILLS ; BACKUS ALAN LESTER LOS ANGELES ; ALAN L BACKUS LOS ANGELES ; BACKUS ALAN

Agent(s): KRAMER BARSKE SCHMIDTCHEN PATENTANWAELTE PARTG MBB; KRAMER - BARSKE - SCHMIDTCHEN; KRAMER BARSKE SCHMIDTCHEN; Kramer - Barske - Schmidtchen; KRAMER BARSKE SCHMIDTCHEN PATENTANWAELTE PARTG MBB; TUCKER ELLIS AND WEST LLP; TUCKER ELLIS LLP; MIZER SUSAN L; GARRED JOHN X; MICHAEL E HUDZINSKI

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

47) Family number: 52209854 (AU2004201056A)

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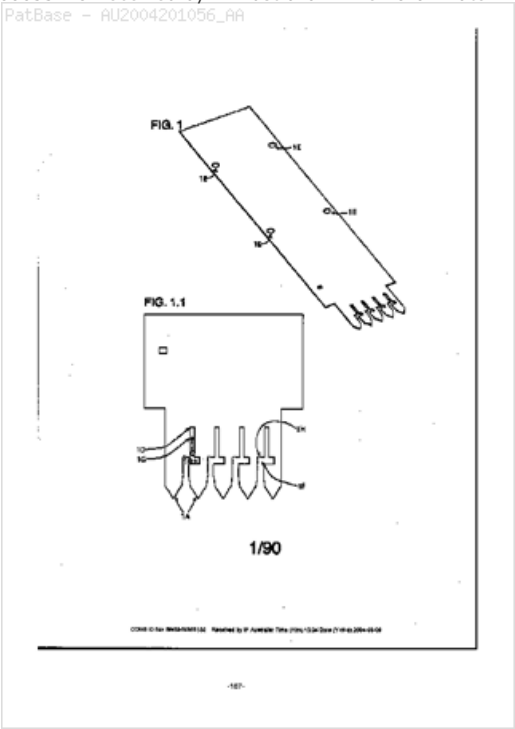
Title: Automated Hair Isolation and Processing System

Abstract: Autudam Hair Isoltjo and P uiug SIM A DIV[SIONAL app- Filed Oh7 PARENT: 12903/99 Applicant Christopher X KIrq Danc; 09?rh 2004 ABSTRACT A device comprised of hair-flow-channel guides continuously moved over dhe surface of the scalp, A track cap of parallel tcracks is placed on he head to guide device's movement over the scalp along non-ovedmrappiag rows. A the and rnt of de device is hair-tensioning straightener that polls hairs perpendicular to the scalp before and during prncessing A bend-under assembly, formed by two Jpinching conveyer belts, facilitates hair exit from the chanel by bending ocalp-attached hair percent beneath the walls of each hair chancl. Intermittent intesection of each channel by an obatrumping manber isolates one or a few leading hairs for processing and forces trailing hairs o wait their tun for cosmetic processing behind it. Isolated scalp hairs may be cosmetically pocessed in ways including colotadion, eoss-section resahaping, hair-extension attachmment and removal, and cutting to length according to position along rack. Hair extens os moved at one posaion along a track cap are conveyed tocrresponding holding clips and loaded in an order so as to penrmit their reattachment to the same scalp area. Hair extensions so held an be channeled and isolated for attachmrment, as are scalsp hairs. A bend-under assembly can be used to draw one or a group of isolated hairs longitudinally through the chamber in which they arm isolated facilitating cros-sectional reshaping of hairs or cutting to a peprogrammed length. Intersecting member and cosmetic processing actuation synchronized by computer, 164 COMS ID No: SMBI-00655180 Received by IP Australia: Time 15:24 Date ri ion COMS ID No: SMBI-00655270 Received by IP Australia: Time 16:01 Date

Classifications:

International (IPC 8-9): A41G3/00 (Advanced/Invention); A41G3/00 (Core/Invention)

International (IPC 1-7): A41G3/00



Family:

Publication number	Publication date	Application number	Application date
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AU2004201056 AA	20040408	AU20040201056	20040309
AU2004203110 AA	20040805	AU20040203110	20040709
AU2008202562 AA	20080703	AU20080202562	20080611
AU2008202562 BB	20100121	AU20080202562	20080611

Priority:

AU19990012903 19981030 AU20040203110 19981030 AU20040203110 19981030
AU20040203110 20040709

Probable Assignee: CHRISTOPHER KING

Assignee(s): (std): CHRISTOPHER KING

Assignee(s): KING CHRISTOPHER ; KING CHRISTOPHER R ; KING CHRISTOPHER R MR

Inventor(s): (std): KING CHRISTOPHER R

Inventor(s): CHRISTOPHER R KING

Agent(s): KING CHRISTOPHER; KING CHRISTOPHER R; KING CHRISTOPHER R MR

48) Family number: 22107877 (US2410074A)

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Title: APPARATUS FOR PYROLYTICALLY TREATING HYDROCARBONS

Abstract: 1. In a refractory cracking and coking oven of the broad rectangular sole-fired type having a sealable broad refractory coking oven of a long rectangular type being broader than it is high and adapted to receive carbonaceous, material capable of evolving upon being heated volatile vapors including straight chain hydrocarbon vapors and a residue capable of being carbonized and coked, and a main heating system located under substantially the entire sole of said oven to effect a substantially uniform heating of substantially the entire sole whereby vapors are evolved from carbonaceous material in said oven and some heat is supplied to said cracking chamber, for pyrolytically treating carbonaceous material including fluid hydrocarbon masses such as petroleum, heavy oil, oil residue, tar, and the like to evolve vapors containing straight chain hydrocarbons such as paraffin hydrocarbons and then cracking said straight chain hydrocarbons and converting them into aromatic hydrocarbons such as benzol, toluol and Xylol While carbonizing the residue into good coke having acceptable qualities and properties, the improvement which comprises a refractory cracking chamber superimposed above and associated with said oven for cracking and heat treating said hydrocarbon vapors to effect pyrolysis therein and conversion of straight chain hydrocarbons into aromatic hydrocarbons, said cracking chamber being divided into a plurality of longitudinally extending zones by means of partitions extending longitudinally thereof, each of said partitions having a multiplicity of projections for producing turbulence in said hydrocarbon vapors, means connecting said coking oven with said cracking chamber to conduct the volatile vapors including straight chain hydrocarbon vapors evolved in said coking oven to said cracking chamber, and an auxiliary heating system interposed between the top of said oven and the bottom of said cracking chamber for supplying the rest of the heat required in said chamber, said auxiliary heating system having independent control whereby the temperature in the cracking chamber may be independently controlled relative to that of the coking oven and desired aromatic temperatures may be maintained Within said cracking chamber to effect the desired pyrolysis of vapors therein including the conversion of straight chain hydrocarbon vapors into aromatic hydrocarbon vapors.

Classifications:

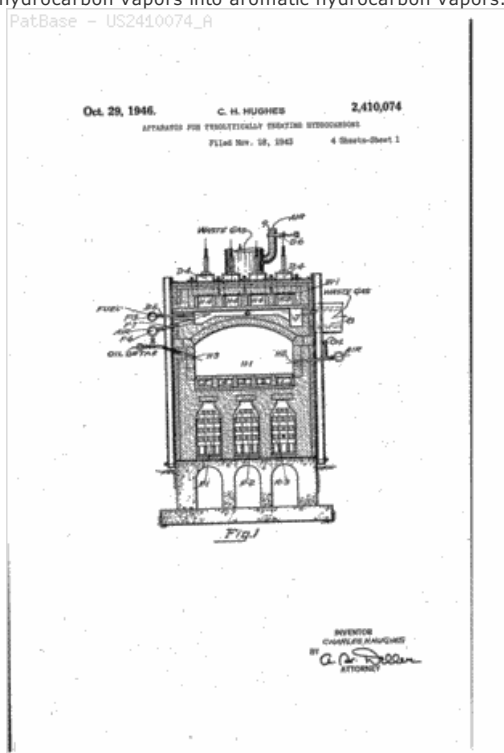
International (IPC 8-9): C10B15/02 (Advanced/Invention);

C10B15/00 (Core/Invention)

CPC: C10B15/02 Y02P20/129

European: C10B15/02

US: 196/104 196/115 196/120 196/136 202/112 585/319 585/407



Family:

Publication number	Publication date	Application number	Application date
US2410074 A	19461029	US19430510760	19431118

Priority:

US19430510760 19431118

Probable Assignee: HUGHES BY PRODUCT COKE OVEN CO

Assignee(s): (std): HUGHES BY PRODUCT COKE OVEN CO

Assignee(s): HUGHES BY PRODUCT COKE OVEN CORP

Inventor(s): (std): HUGHES CHARLES H

Title: OIL SHALE RETORTING PROCESS FOR PRODUCING EXPLOSIVES

Abstract: Raw oil shale is retorted to liberate an effluent product stream. Ammonia is withdrawn from the product stream and reacted to produce ammonium nitrate. Shale oil is separated from the product stream and mixed with 90 percent to 98 percent by weight ammonium nitrate to produce explosives. The shale oil can be whole shale oil or heavy shale oil containing from 0.1 percent to 65 percent by weight oil shale dust. The ammonium nitrate is preferably in the form of explosive grade ammonium nitrate prills. The shale oil is preferably heated before being mixed with the ammonium nitrate to make the shale oil more blendable.

Classifications:

International (IPC 8-9): C06B21/00 C06B31/28

C10G1/02 (Advanced/Invention);

C06B21/00 C06B31/00 C10G1/00 (Core/Invention)

International (IPC 1-7): D03D23/00

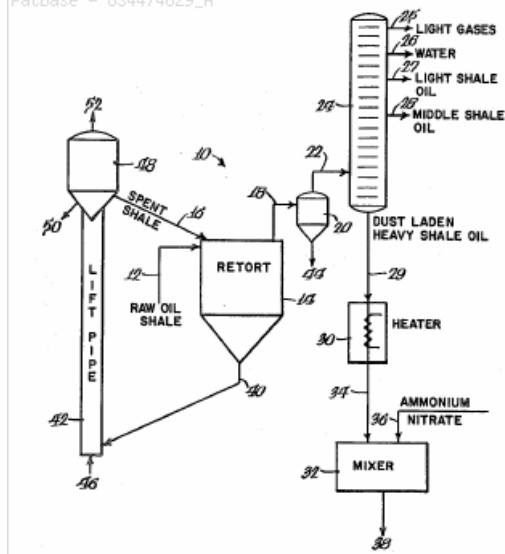
CPC: Y10S149/11 Y10S149/115 C06B31/28 C06B21/0008 C10G1/02

European: C06B21/00B C06B31/28 C10G1/02

US: 149/109.6 149/110 149/115 149/2 149/21 149/41 149/44

149/46

PatBase - US4474629_A

**Family:**

Publication number	Publication date	Application number	Application date
US4474629 A	19841002	US19830545055	19831024

Priority:

US19830545055 19831024

Probable Assignee: CHEVRON RESEARCH CO

Assignee(s): (std): GULF OIL CORP ; STANDARD OIL CO INDIANA

Assignee(s): STANDARD OIL COMPANY INDIANA ; STANDARD OIL CO ; CHEVRON RESEARCH CO ; CHEVRON USA INC

Inventor(s): (std): PORTER DARRELL D ; YORK EARL D

Title: Process for reducing polynuclear aromatic mutagenicity by alkylation

Abstract: A process for reducing the mutagenicity of a polynuclear aromatic containing material containing from three to seven fused aromatic rings, especially a hydrocarbon refinery stream. The process reduces the initial mutagenicity index to a lower value by alkylating the compound with an alkylating agent which introduces an alkyl substituent having from three to five carbon atoms into the aromatic compound in the presence of an acid catalyst under alkylation conditions.

Classifications:

International (IPC 8-9): C07C15/20 C07C2/70 C07C2/86

C10G29/20 (Advanced/Invention);

C07C15/00 C07C2/00 C10G29/00 (Core/Invention)

International (IPC 1-7): A62D3/00 C07C C07C2/66 C07C2/68

C07C2/70 C07C2/86 C10C1/00 C10C1/20 C10G1/20 C10G35/04

CPC: C10G29/205

European: C10G29/20B

US: 208/135 208/44 585/446 585/455 585/456 585/459 585/462

585/465 585/466 585/467 585/468

END

Family:

Publication number	Publication date	Application number	Application date
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AU199455914 A1	19940608	AU19940055914	19931105
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Priority:

US19920972398 19921106	US19920976030 19921113	WO1993US10594 19931105
US19940202720 19940223	US19940255542 19940606	US19950378308 19950125

Probable Assignee: MOBIL OIL CORP**Assignee(s):** (std): MOBIL OIL CORP**Assignee(s):** MOBIL OIL CORP FAIRFAX**Inventor(s):** (std): BLACKBURN GARY R ; BLACKBURN GARY RAY ; BLACKBURN GARY ; MACKERER CARL R ; MACKERER CARL ROBERT ; MACKERER ROBERT ; ROY ARMAND ; ROY TIMOTHY A ; ROY TIMOTHY ARMAND**Inventor(s):** TIMOTHY ARMAND ROY ; CARL ROBERT MACKERER ; GARY RAY BLACKBURN**Agent(s):** PHILLIPS ORMONDE FITZPATRICK**Designated states:** AT AU BE CH DE DK ES FR GB GR IE IT JP KR LU MC NL NO NZ PT SE**51) Family number: 21947891** (US1996649A)

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Title: COKING APPARATUS

Abstract: 1. Carbonizing apparatus comprising a plurality of members spaced to receive material therebetween to be carbonized, each of said members extending vertically and being hingedly supported at one vertical edge thereof for horizontal movement about a vertical axis, means for actuating said members about their hinged supports for relative movement with respect to each other, and means for limiting their relative movements.

Classifications:

International (IPC 8-9): C10B15/00 (Advanced/Invention);
C10B15/00 (Core/Invention)

International (IPC 1-7): C10B15/00**CPC:** C10B15/00**European:** C10B15/00**US:** 202/105 202/269

April 2, 1935.

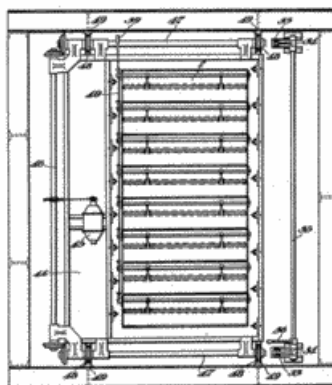
F. PUENING

1,996,649

COOKING APPARATUS

Filed Feb. 15, 1929

6 Sheets-Sheet 1



INVENTOR
Franz Puening
 BY *James R. Cunningham*
 ATTORNEY

Family:

Publication number	Publication date	Application number	Application date
US1996649 A	19350402	US19290339521	19290213

Priority:

US19290339521 19290213

Probable Assignee:

FRANZ PUENING

Assignee(s): (std):

FRANZ PUENING

Inventor(s): (std):

FRANZ PUENING

Inventor(s):

PUENING FRANZ

52) Family number: 24804906 (GB277955A)

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Title: An improved tar and a process of obtaining the same

Abstract: Retort furnaces; rotary furnaces; charging and discharging; cooling discharged materials. In carbonizing coal the fuel is fed into a preheating hopper 2 through which pipes 4, traversed by hot waste flue gases from a pipe 5, pass, and is supplied by a screw conveyer 8 rotating in timed relation to a rotary drum 7, to one end of the latter. This drum is enclosed in a heating chamber 13 traversed by hot gases entering by a pipe 20 and leaving by the outlet 5, and its angle of inclination may be varied by a jack 17. The temperature of the drum is maintained constant by a gas burner 21 controlled by a regulating device 23 and a thermo-couple 22 responsive to the temperature in a discharge hopper 19. The speed of rotation of the drum may be automatically controlled from the regulating device 23. The fuel is discharged into a car 24 mounted on a track 25. Each of the metal retorts 26 has at its lower end a hinged perforated plate 33 connected to an operating rod 34. The retorts are enclosed in refractory walls 27 having passages 37 for the entry of gas and passages 38 from which air is admitted by valve-controlled inlets 40, 41 to burn the gas in contact with the retorts. Combustion products escape by a pipe 45 to heat the drum 7. The coke is discharged into a chamber 46 surrounded by air preheating conduits 48 which lead by a pipe 50 to the retort heating chamber. Specification 270,003, [Class 55 (I), Coking and c.], is referred to.

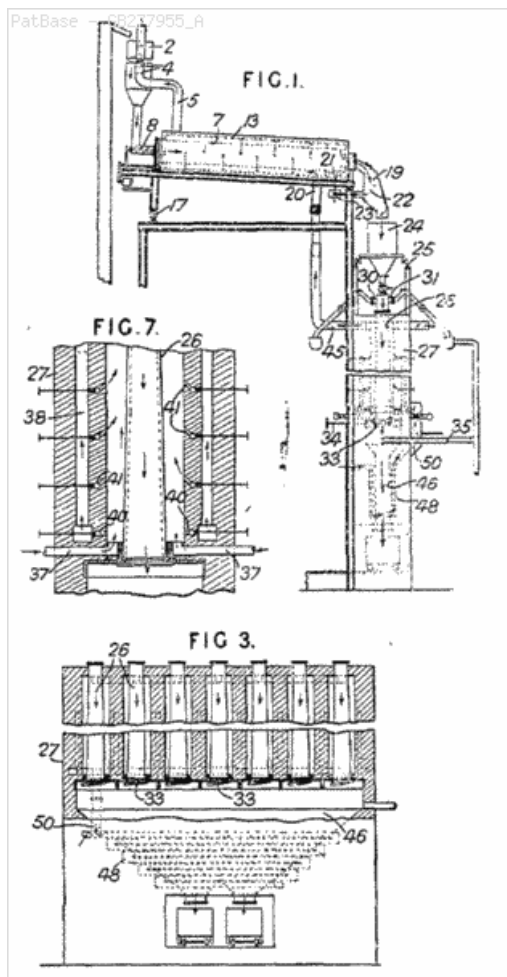
Classifications:

International (IPC 8-9): C10G1/00 C10G1/02 (Advanced/Invention);
 C10G1/00 (Core/Invention)

International (IPC 1-7): C10B57/02

CPC: C10G1/006 C10G1/02

European: C10G1/00D C10G1/02



Family:

Publication number	Publication date	Application number	Application date
GB277955 A	19280712	GB19270023680	19270908

Priority:

19260921

Probable Assignee:

URBANA COKE CORP

Assignee(s): (std):

URBANA COKE CORP

53) Family number: 20459910 (GB450240A)

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Title: Improvements in or relating to the distillation or heat treatment of solid carbonaceous materials, especially briquettes

Abstract: 32287. [Classes 51 (ii) and 55 (i)] The charge is fed on to a shallow rotary hearth surmounted by a muffle and is arranged to be heated from above indirectly only, or indirectly and directly by heating gases admitted to the chamber below the muffle arch, heating being also applied from below the hearth by gases withdrawn from the muffle and circulated below the hearth. The charge of coal or briquettes from a hopper A is fed down a water cooled inclined plate A' on to an annular rotating hearth B, the level of the charge being regulated by a water cooled slide D. A level indicator comprises an inclined plate C which rides over the surface of the charge and indicates the necessity for operation of the slide D. The fuel, after being carried round on the hearth, is discharged by an inclined water cooled scraper E, the distillates passing through an outlet P<1> to a condenser R and exhaustor O. The briquettes which pass in counter current to the heating means are subjected to a gradually increasing temperature, which is due either to indirect or direct heating or a combination of both. Producer gas entering through ports E<1> is burned in air entering through inlet O<1> heated in the oven cover and supplied through air bricks G, the combustion gases passing along a flue H and heating the muffle arch J before passing to the stack K. To apply direct heat, the stack valve L is closed, and the gases pass through conduit M when they are mixed with a portion of the cooled stripped distillation gases and enter a mixing chamber Q<2> having ports Q leading to the inside of the muffle. The fuel layer is heated on both sides by feeding it on to a false hearth Q<5>, Fig. 5, above the hearth B, flue gases passing from the mixing chamber Q<2> through a duct Q<3>, leading to the hollow space Q<4>, the hot gases passing round this space to an outlet port diametrically opposite the inlet port Q<3>. A sand seal Q' prevents the distillates from mixing with the heating gases. When direct heating is applied the hot gases pass through the ports Q as previously described, the relative pressures in the mixing chamber Q<2> and the muffle chamber being adjusted. The Provisional Specification refers also to Specifications 18471/14 and 181,863, [both in Class 51 (ii)].

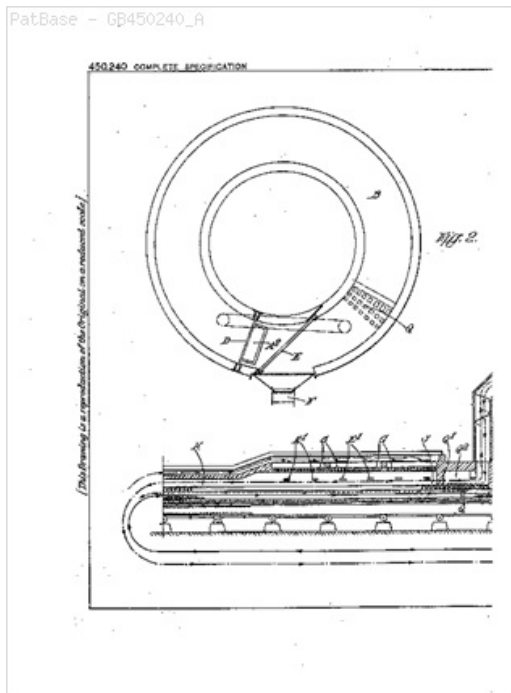
Classifications:

International (IPC 8-9): C10L5/28 (Advanced/Invention);
C10L5/00 (Core/Invention)

International (IPC 1-7): C10B51/00

CPC: C10L5/28

European: C10L5/28

**Family:**

Publication number	Publication date	Application number	Application date
GB450240 A	19360709	GB19340032287	19341109

Priority:

GB19340032287 19341109

Probable Assignee: RICHARD DOUGHTY HARDY**Assignee(s):** (std): BRITISH COAL DISTILLATION LTD ; CLIFFORD MACHEN ; ERIC HAROLD GEORGE ARAM ; RICHARD DOUGHTY HARDY**Assignee(s):** BRITISH COAL DISTILLATION LIMITED**54) Family number: 22984919** (FR1343025A)

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Title: PERFECTIONNEMENTS RELATIFS A LA CONSTRUCTION DE POELES, FOURS, CHAUDIERES DE CHAUFFAGE CENTRAL OU APPAREILS ANALOGUES IMPROVEMENTS RELATING TO THE CONSTRUCTION OF STOVES, FURNACES, BOILERS CENTRAL HEATING OR SIMILAR EQUIPMENT (Machine translation)

Abstract: Source: FR1343025A [FR] (Claim 1) 1 Foyer ou appareil de chauffage analogue chauffe au charbon, comportant une enveloppe, une grille supportee a l'interieur de ladite enveloppe, un espace contenant du charbon situe au-dessus de ladite grille et communiquant avec l'espace situe immediatement au-dessus de ladite grille pour permettre le passage de charbon dudit recipient vers la zone de combustion situee au-dessus de la grille, et des passages d'evacuation pour les gaz de combustion au voisinage du sommet de la zone de combustion et en dessous de l'espace contenant le charbon, et en outre une ouverture d'alimentation reglable pour l'air de combustion, ledit foyer comportant des organes conducteurs de la chaleur s'etendant verticalement depuis le sommet de la zone de combustion a l'interieur du recipient pour le charbon.

Machine translation: (Claim 1) a room heater or similar coal firing, comprising a casing, a gate supported within said casing, a space containing coal is above the said grid and communicating with the area immediately above said gate to allow the passage of said container coal to the combustion zone located above the grid, and discharge passages for the combustion gases near the top of the combustion zone and below the space containing the coal, and further a supply opening adjustable for the combustion air, said furnace having heat conductive members extending vertically from the top of the combustion zone has the inside the container for charcoal.

Classifications:

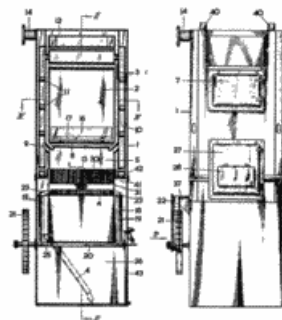
International (IPC 8-9): F24H1/44 F24H9/18 (Advanced/Invention);
F24H1/22 F24H9/18 (Core/Invention)

International (IPC 1-7): F24B13/02 F24B7/06

CPC: F24H1/26 F24H1/44 F24H1/38 F24H9/1845

European: F24H1/38 F24H9/18A4

N° 1.343.025 Société Anonyme dite : 2 planches - Pl. 1
N. V. Maatschappij Tot Exploitatie Van Limburgsche Steenkoolmijnen,
Gemaal Oorup-Nassau Mijnen

**Family:**

Publication number	Publication date	Application number	Application date
FR1343025 A	19631115	FR19620912190	19621013

Priority:

FR19620912190 19621013

Probable Assignee: MIJ TOT EXPLOITATIE VAN LIMBUR**Assignee(s):** (std): MIJ TOT EXPLOITATIE VAN LIMBUR

Assignee(s): N V MAATSCHAPPIJ TOT EXPLOITATIE VAN LIMBURSCHE S ; N V MAATSCHAPPIJ TOT EXPLOITATIE VAN LIMBURSCHE STEENKOLENMIJNEN GENAAMD ORANJE NASSAU MIJNEN ; N V MIJ TOT EXPLOITATIE VAN LIMBURSCHE STEENKOLENMIJNEN GENAAMD ORANJE NASSAU MIJNEN

55) Family number: 43168920 (US2009200032A)

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Title: SYSTEM, METHOD AND APPARATUS FOR CREATING AN ELECTRICAL GLOW DISCHARGE

Abstract: The present invention provides system, method and apparatus for creating an electric glow discharge that includes a first and second electrically conductive screens having substantially equidistant a gap between them, one or more insulators attached to the electrically conductive screens, and a non-conductive granular material disposed within the gap. The electric glow discharge is created whenever: (a) the first electrically conductive screen is connected to an electrical power source such that it is a cathode, the second electrically conductive screen is connected to the electrical power supply such that it is an anode, and the electrically conductive fluid is introduced into the gap, or (b) both electrically conductive screens are connected to the electrical power supply such they are the cathode, and the electrically conductive fluid is introduced between both electrically conductive screens and an external anode connected to the electrical power supply.

Classifications:

International (IPC 8-9): B01D17/02 B01J19/08 B23K10/00 B23K10/02 B23K15/00 B23K15/06 B23K15/08 B64G1/40 C01B3/34 C02F1/28 C02F1/46 C02F1/461 C04B35/10 C04B37/00 C10B23/00 C10B53/06 C10G15/00 C10G32/00 C10J3/72 C25B1/00 C25B11/03 C25B13/02 C25B13/08 C25B9/00 C25B9/04 C25B9/08 E21B21/06 E21B35/00 E21B36/00 E21B36/04 E21B43/00 E21B43/08 E21B43/17 E21B43/24 E21B43/243 E21B43/25 E21B43/34 E21B43/40 E21B7/15 F01D13/00 F02C F02C3/14 F02C6/12 F02C7/264 F02C7/266 F02K3/08 F02K3/12 F02K9/42 F02K9/78 F03H1/00 F22B1/28 F22B1/30 F23R F23R3/00 F23R3/42 F23R3/58 F27B3/08 G06F17/30 H01J1/24 H01J17/26 H01J19/08 H01J37/02 H01J37/32 H01J5/10 H05B3/60 H05B31/26 H05B6/02 H05B6/10 H05B7/20 H05H H05H1/24 H05H1/26 H05H1/30 H05H1/32 H05H1/34 H05H1/38 H05H1/40 H05H1/42 H05H1/44 H05H1/46 H05H1/48 H05H1/50 (Advanced/Invention);

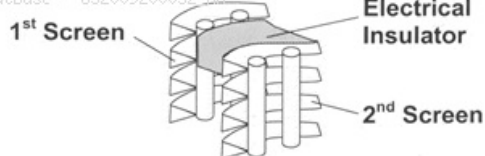
B23K10/00 B64G1/40 C02F1/32 C02F1/78 G21D5/02 H05H1/24 H05H1/34 H05H1/46 (Advanced/Non-invention); B64G1/22 C02F1/46 C02F1/461 C25B9/00 E21B36/00 E21B43/00 E21B43/16 F02C3/00 F02C6/00 F02C7/26 F23R3/00 H01J17/02 H05B31/00 (Core/Invention); H05H (Subclass/Invention)

CPC: E21B43/26 H05H2001/3494 E21B21/063 E21B43/40 E21B43/34 E21B21/066 F02K3/12 F01D13/00 F23R3/007 F23R3/58 F02K9/425 E21B36/008 E21B36/04 E21B43/17 E21B43/243 H05H1/40 H05H1/44 B64G1/405 B64G1/406 G21D5/02 Y02E50/12 Y02T50/678 E21B43/08 F22B1/30 H01J17/26 H05H1/38 H01J37/32018 H05H1/3405 H05H1/24 C02F1/46104 C10J3/72 C01B3/34 C10J2200/12 C10J2300/1238 C10J2300/0916 C01B2203/0216 C01B2203/1241 B23K15/0046 B23K15/06 B23K15/08 F02K3/08 H01J2237/31 H05H2001/3484 H01J37/32055 C02F1/283 H05H1/50 H05H2001/4667 C04B35/10 C04B2235/322 C04B2237/343 C04B2237/72 H01J37/32541 H01J37/32568 H01J37/32027 H05H2001/3489 C02F2103/005 H05H1/26 C01B3/342 C01B2203/0283 C01B2203/0861 C02F1/32 C02F1/4608 C02F1/46114 C02F1/78 C02F2301/026 C02F2303/16 Y02W10/33 Y02W10/37 E21B43/2405 C10B53/06 C10B23/00 C25B1/00 C25B11/03 C25B13/02 C25B13/08 C25B9/04 C25B9/08 H05H2001/483 F02C3/14 F02C7/266 F23R2900/00002 F23R2900/00009 H05H1/32 H05H2001/4695 F22B1/281 H05B7/20 H05B6/02 H05H1/30 H05H2001/3426 H05H2001/4697 F27B3/085 F05D2230/232 H05B6/10 H05H1/34 H05H2001/245 H05H2001/466 E21B43/082 E21B43/2401 H05H1/42 C04B37/001 B23K10/00 B23K10/006 B23K10/02 H05H1/2406 H05H1/48 H05H2001/2412 H05H2001/2431 H05H2001/3431

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US: 1/1 156/89.11 166/248 166/302 166/60 166/60S 166/90.1 204/164 204/272 204/660 210/243 219/121.36 219/121.39 219/121.45 219/121.5 219/121.52 219/121.520P 219/121.56 219/121.59 219/383 219/601 219/618 313/231.01 313/231.010P 313/231.11 313/231.21 313/231.31 313/231.41 313/231.51 313/231.61 313/231.71 315/111.01 315/111.010S

PatBase - US2009200032_A



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Family:

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WO09128868 A8	20100121	WO2009US00937	20090214
WO14055574 A1	20140410	WO2013US62941	20131001
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WO14145349 A2	20140918	WO2014US30090	20140315
WO14145349 A3	20141204	WO2014US30090	20140315

Priority:

US20070980443P	20071016	US20080027879	20080212	US20080027879P	20080212
US20080028386	20080213	US20080028386P	20080213	US20080288170	20081016
WO2008US11926	20081016	US20080288170	20081017	AU20090214660	20090212
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WO2009US00937	20090214	US20090374575	20090924	US20110282260	20111026
US20110282455	20111026	US20120565593	20120802	US20120586449	20120815
US20120633128	20121001	US20130762308P	20130208	US20130784794P	20130314
US20130787185P	20130315	US20130788404P	20130315	US20130787293P	20130315
US20130787682P	20130315	US20130788244P	20130315	AU20130201613	20130318
US20130803992P	20130321	US20130036044	20130925	WO2013US62941	20131001
US20140176032	20140207	US20140214473	20140314	US20140214642	20140314
AU20140233108	20140315	WO2014US30090	20140315	US20140216892	20140317
US20140217018	20140317	US20140215742	20140317	US20140217207	20140317
US20140288898	20140528	US20140326560	20140709	US20140486521	20140915
US20140560808	20141204	US20150144701P	20150408	US20150704538	20150505
US20150803192	20150720	US20150803236	20150720	US20150935740	20151109
US20160987066	20160104	US20160094133	20160408	US20160193317	20160627
US20160369331	20161205	US20170410853	20170120	US20170480468	20170406
US20170719628	20170929	AU20180274847	20181204		

Probable Assignee: FORET PLASMA LABS LLC

Assignee(s): (std): FOREST PLASMA LABS LLC ; FORET PLASMA LABS LLC ; FORET PLAZMA LABS LLK ; FORET TODD

Inventor(s): (std): FORET TODD T ; FORET TODD

Inventor(s): TODD FORET

Agent(s): PIZZEYS; PIZZEYS PATENT AND TRADE MARK ATTORNEYS PTY LTD; SHAPIRO COHEN; AVENTUM IP LAW LLP; SHAPIRO COHEN LLP; SONN HELMUT; SONN AND PARTNER PATENTANWAELTE; MUELLER BORE AND PARTNER PATENTANWAELTE PARTG MBB; MUELLER BORE AND PARTNER PATENTANWAELTE PARTG MBB; WILKINSON AND GRIST; SHUN SHUN CHAN; CHALKER FLORES LLP; DANIEL J; EDWIN S; CHALKER DANIEL J; FLORES EDWIN S; SINGLETON CHAINEY ET AL; FLORES EDWIN ET AL; CHALKER DANIEL ET AL; CHALKER DANIEL J ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

56) Family number: 22088929 (US2408810A)

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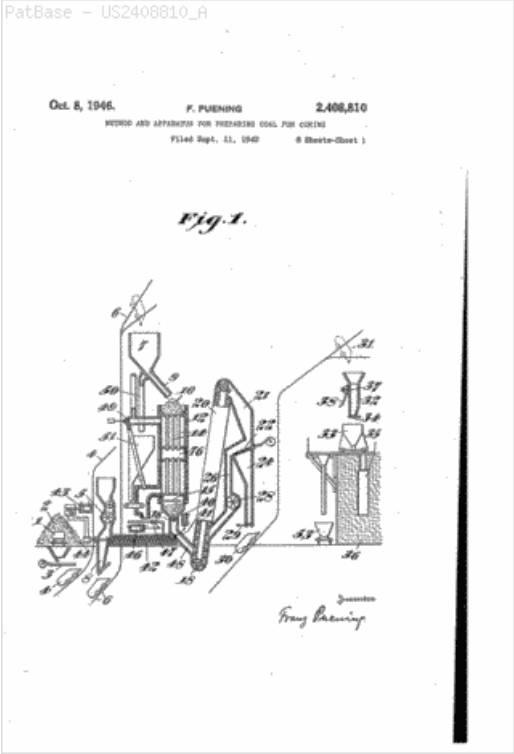
Title: METHOD AND APPARATUS FOR PREPARING COAL FOR COKING

Abstract: Having thus described my invention what I claim as new and useful and desire to secure by Letters Patent is: _gt; I. Theprocess for preparing and for holding available for coking minimum quantities of hot coal comprising the following steps: withdrawing cold coal intermittently from conveyances or storage yards or bins and putting it into storage permanently available for preheating, continuously feeding coal from such storage into a prelieater and preheating the coal, delivering the pre-heated coal without immediately storing it into a one-oven charge hopper, adapted to fill the oven larry car, and in case of interruption of coking operations discontinuing the intermittent withdrawal of cold coal from storage or from conveyances and automatically stopping the supply of preheated coal to the one-oven-chargehopper and deliecting the hot coal from the preheater and recirculating it through the preheater, and recooling it before entering the preheateiz 2, The

process of preparing coal for coking comprising preheating it and accumulating in a charge hopper only one one-oven coal charge plus a safety margin covering operating irregularities, terminating automatically the further accumulation of hot coal as soon as said volume of coal has been accumulated and diverting and cooling the hot coal leaving the preheater and recirculating it again through the preheater, while the heating of the preheater continues, and continuing this recirculation until the level of the accumulated coal in said charge hopper has dropped sufficiently to receive another charge of hot coal. 3. A method of supplying preheated coal to a coking battery, which comprises intermittently extracting coal from carriers, yards or bins and intermittently delivering such coal into storage permanently available for preheating such coal, then preheating such coal and conveying the hot coal without intermediate storage into a one-charge-hopper adapted to fill a charging larry, and in case of the one-charge-hopper being filled, deflecting and recirculating the preheated coal through the preheater and cooling it before reentering the preheater. 4. An apparatus for preparing coal for coking, comprising a coal preheater, a hot coal accumulating hopper for the accumulation of a volume of hot coal, substantially equivalent to one coke oven charge plus a reasonable safety margin for minor interruptions in coking or preheating service, means for forwarding coal through the preheater into said hopper, means for by-passing said hopper and for diverting and recooling and recirculating the hot coal from the preheater, automatic level control devices connected to said hopper, said devices being adapted to start and stop the coal forwarding and bypassing means and thus maintain a supply of hot coal in the hopper. 5. The process for preparing coal for coking, comprising the storing, conveying and preheating of raw coal in coarser grain sizes, which are adapted to protect the coal against the deleterious action of air and carbon dioxide, then segregating the hot coal into size classes, of larger and smaller Particle size, then pulverizing the larger size class to a greater fineness, adapted to produce a reduced bulk density of the coal when mixed with the smaller size-class, then intimately mixing the several classes and accumulating the mixture in a charge hopper, ready for coking. 6. The process of preparing coal for coking in coke ovens, comprising preheating the coal to a low preheating temperature of between 200 and 400 degrees adapted to preclude smoke nuisance and roof carbon formation in the operation of the ovens, but simultaneously adapted to increase the bulk density of the coal charge in the ovens and to cause coke stickers, then subjecting the preheated coal to a screening operation in which it is separated into a. fraction containing the coarser particles and a second fraction containing the fine particles, then subjecting the coarser fraction of the preheated coal to a liner pulverization adapted to nullify the increment in bulk density experienced by the coal while being preheated and then intimately mixing both fractions. 7. The process of Preparing coal for coking, comprising breaking the raw coal to a grain size, which is best adapted for efficient work of the dry cleaning process to which the coal will be subjected for reduction of its sulphur and ash, then preheating the broken coal, then segregating the coal into size classes best suitable for dry cleaning. then dry cleaning those of the size classes which can be economically cleaned, then subjecting the size classes containing the larger grain sizes to a liner Pulverization, adapted to create a bulk density of the cleaned coal, which is adapted to avoid stickers in the ovens, then intimately mixing the coal and accumulating it into the charge hopper. 8. The process of preparing coal for coking which comprises preheating raw coal in coarsely broken sizes, thereby expelling its moisture and increasing its bulk density, then separating the preheated coal into larger particles adapted to produce increased and undesired bulk density and into smaller particles, adapted to produce the desired bulk density, then pulverizing the larger particles till they have assumed the size of the smaller particles, then recombining and intimately mixing all particles and charging them as desired. 9. A method of preparing coal for coking in coke ovens which comprises preheating the coarsely pulverized coal, separating the heated coal into a coarser and a finer size class, cleaning the coarser size class by circulating hot inert gases therethrough, repulverizing the cleaned coarser size class and mixing it with the finer size class and charging the mixture into a hopper for charging into coke ovens. 10. Apparatus for preparing coal for coking which comprises a preheater for heating the coal, an enclosure adapted to separate the coal into branches of different purity, by passing it through a current of inert hot gases recirculated therein, and pairs of sluice gates for avoiding loss of or dilution of recirculated gases by causing the coal to pass into the enclosure and the coal branches to pass out of the enclosure therethrough, the space between each such pair of gates being supplied with inert hot gas

Classifications:

International (IPC 8-9): C10B31/04 C10B57/08 (Advanced/Invention);
C10B31/00 C10B57/00 (Core/Invention)
International (IPC 1-7): C10B31/00
CPC: C10B31/04 C10B57/08
European: C10B31/04 C10B57/08
US: 202/262 202/96 209/11 209/474 241/17 241/43 241/65 34/167



Family:

Publication number	Publication date	Application number	Application date
US2408810 A	19461008	US19420457960	19420911

Priority:

US19420457960 19420911

Probable Assignee:

FRANZ PUENING

Assignee(s): (std):

FRANZ PUENING

Inventor(s): (std):

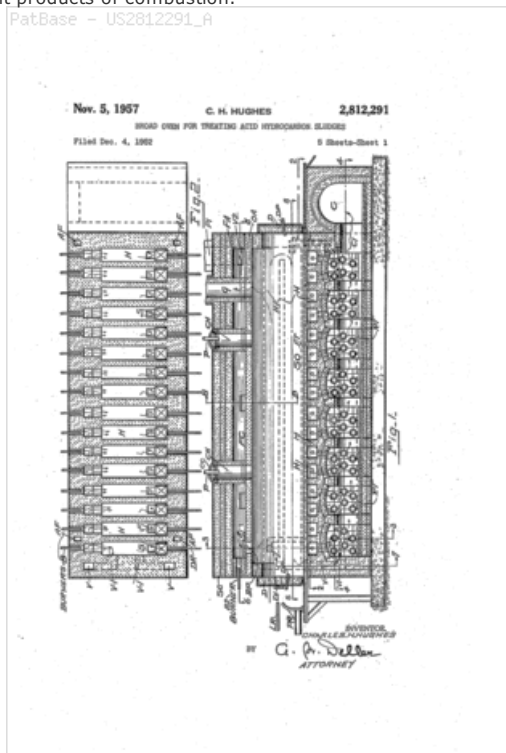
FRANZ PUENING

Inventor(s):

PUENING FRANZ

Abstract: (Claim 1) An improved broad oven for thermally treating acid sludge to produce not only oxides of sulfur in a condition suitable for use in the production of sulfuric acid but also carbonaceous materials including coke suitable for industry which comprises an elongated rectangular gular coking oven of the broad type having a flat floor and capable of being sealed against air, a heating flue system associated with said oven to supply heat to evolve gases and vapors containing hydrocarbons and oxides of sulfur from said acid sludge while coking carbonaceous residue, said heating system comprising cross heating ducts located directly under the floor of the oven to provide controllable temperatures required for various floor areas throughout the length of the oven and side heating flues located in each side wall of the oven whereby sufficient heat is provided to produce at high temperature as possible to vaporize substantially all liquids, vapors and gases in said acid sludge including hydrocarbons and oxides of sulfur and to coke any carbonaceous residue remaining after the final gassing of substantially all vapors and gases, a heat exchange unit associated with said heating flues to transfer heat from outgoing hot burnt products of combustion to incoming air whereby preheated air is produced for supporting combustion in said heating flues, a vaulted arch over the entire upper part of the oven, a vaulted roof located directly over said arch and spaced therefrom to provide a fume chamber, a plurality of ports in said arch to, 2, 3, 1, directly connect said oven to said fume chamber, and an associated air port communicating with said fume chamber and providing heat and air inside of the same in order to burn hydrocarbons and, BQSGS vaporized from acid sludge under treatment in said oven and to produce burnt products of combustion, and an outlet port associated with said fume chamber for the withdrawal of gases and vapors containing oxides of sulfur and burnt products of combustion.

International (IPC 8-9): C01B17/58 C10B15/02 C10B53/00
C10B55/00 (Advanced/Invention);
C01B17/00 C10B15/00 C10B53/00 C10B55/00 (Core/Invention)
International (IPC 1-7): C01B17/58
CPC: C10B55/00 C01B17/58 C10B15/02 C10B53/00 Y02P20/129
European: C01B17/58 C10B15/02 C10B53/00 C10B55/00
US: 202/101 202/102 202/212 208/13 423/532



Publication number	Publication date	Application number	Application date
US2812291 A	19571105	US19520323997	19521204

US19520323997 19521204

Probable Assignee:	HUGHES BY PRODUCT COKE OVEN CO
Assignee(s): (std):	HUGHES BY PRODUCT COKE OVEN CO
Assignee(s):	HUGHES BY PRODUCT COKE OVEN CORP
Inventor(s): (std):	HUGHES CHARLES H

58) Family number: 29931942 (US5904751A)

Abstract: A separation process comprises passing a gas or vapor stream contaminated with an undesired substance or contaminant downwardly through a bed of curled separating media. The undesired substance or contaminant is allowed to separate from the gas or vapor as it passes through the bed. Purified gas or vapor is withdrawn from the bed.

International (IPC 8-9): A23L1/015 A23L5/20 A47J36/38 B01D45/02 B01D45/04 B01D45/08 B01D45/18 B01D46/00 B01D46/30 B01D47/00 B01D47/02 B01D47/06 B01D47/14 B01D50/00 B01D50/00 B01D51/00 B01D53/00 B01D53/72 B01D53/74 F24C15/20 F24F7/06 (Advanced/Invention); A23L1/015 B01D46/30 B01D51/00 B01D53/02 F24C15/20 (Advanced/Non-invention); A47J36/00 B01D45/00 B01D46/00 B01D46/30 B01D47/00 B01D47/02 B01D47/06 B01D50/00 B01D53/00 F24C15/20 F24F7/06 (Core/Invention); B01D F24C (Subclass/Invention)

International (IPC 1-7): A23L1/015 A47J36/38 B01D24/12
B01D45/00 B01D45/04 B01D45/08 B01D46/00 B01D46/30
B01D47/00 B01D47/02 B01D47/06 B01D47/14 B01D50/00 B01D50/00
B01D51/00 B01D53/00 B01D53/48 B01D53/58 B01D53/72
B01D53/74 B01D119/32 F24B1/189 F24C15/20 F24C3/00 F24F7/06
CPC: Y10S55/36 B01D45/08 B01D46/30 B01D50/00 F24C15/2035

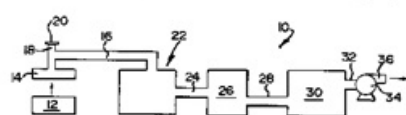


FIG 1

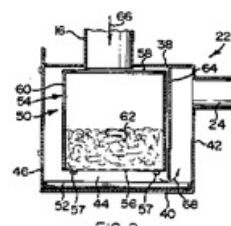


FIG 2

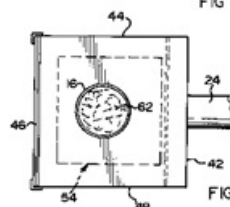


FIG 3

Family:

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AT257027 E	20040115	AT19980300967T	19980210
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CN1116091 C	20030730	CN19961020835	19961120
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CN1211608 C	20050720	CN19981000510	19980210
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DE69629538 D1	20030925	DE19966029538	19961119
DE69629538 T2	20040624	DE19966029538T	19961119
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DE69820805 T2	20041104	DE19986020805T	19980210
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EP0857508 B1	20040102	EP19980300967	19980210
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IL123234 A1	20010724	IL19980123234	19980209
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TR9300090 A2	19971121	TR1993000090	19970205
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US5935300 A	19990810	US19980020643	19980209
ZA9609740 A	19980520	ZA19960009740	19961120
ZA9801032 A	19990810	ZA19980001032	19980209

Priority:

ZA19950009836 19951120 ZA19960003312 19960425 ZA19960008950 19961024
US19960751821 19961119 EP19960308377 19961119 ZA19960009740 19961120
CA19972195901 19970124 ZA19970001080 19970210 US19980020643 19980209
ZA19980001032 19980209 CA19982229468 19980210

Probable Assignee: VERITECH FILTRATION A CORP OF IRELAND LTD

Assignee(s): (std): NORTH STAR TECHNOLOGIES LTD ; NORTH STAR TECHNOL LTD ; VERITECH FILTRATION LTD ; WILITECH FILTER TECH CO LTD ; VILITECH FILTERING TECH LTD ; NORF STAR TEKNOLODZHIS LTD

Assignee(s): NORTH STAR INDUSTRIAL TECHNOLOGIES ; VERITECH FILTRATION LIMITED ; VERITECH FILTRATION LTD DUBLIN ; WILITECH FILTER TECH CO ; VERITECH FILTRATION A CORP OF IRELAND LTD ; VAN NIEKERK ERASMUS

Inventor(s): (std): ERASMUS VAN NIEKERK ; INEKERK ERASMUS VAN ; NIEKERK ERASMUS VAN ; VAN NIEKERK ERASMUS ; VAN NIKERK EHRAZMUS ; VAN NIEKERK E

Inventor(s): NIEKERK VAN ERASMUS ; ERASMUS VAN INEKERK

Agent(s): GRIFFITH HACK ; SIM AND MCBURNEY ; REINHOLD COHN AND PARTNERS

Designated states: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

59) Family number: 24768943 (GB103243A)

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Title: Improvements in or relating to Coke Ovens or the like and the Treatment of Gases therefrom.

Abstract: 103,243. Roberts, A. Jan. 18, 1916. Carburettling.-Gases leaving a coke oven or bench of coke ovens pass through ports 9 into a main 13 into which oil, emulsion and c. is injected through nozzles 30, which may be staggered as shown. Surplus liquid passes to a trap 23 for removal, and liquid is prevented from passing down the ports 9 by means of upstanding flanges on the floor of the main 13. The invention may be used in connexion with the charging-means described in Specification 103,169, [Class 55 (i). Coking and c.].

Classifications:

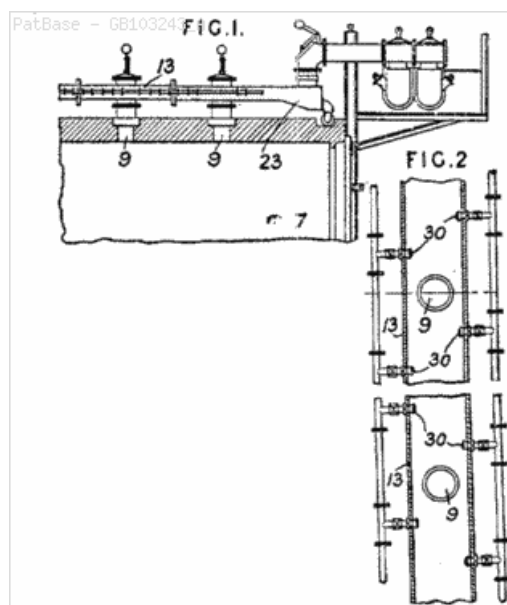
International (IPC 8-9): C10K1/04 (Advanced/Invention);

C10K1/00 (Core/Invention)

International (IPC 1-7): C10B27/00

CPC: C10K1/04

European: C10K1/04



Family:

Publication number	Publication date	Application number	Application date
GB103243 A	19170118	GB19160007034	19160118

Priority:

GB19160007034 19160118

Probable Assignee:

ROBERTS ARTHUR

Assignee(s): (std):

ROBERTS ARTHUR

Assignee(s):

ARTHUR ROBERTS

Inventor(s): (std):

ROBERTS ARTHUR

Inventor(s):

ARTHUR ROBERTS

60) Family number: 18194945 (GB172739A)

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Title: IMPROVEMENTS IN AND RELATING TO COKE OVENS

Abstract: 172,739. Zwilling, B. Sept. 15, 1920. Coke ovens.-An horizontal coke oven, in which the charge is received in an horizontal layer, has heating-flues in the floor with firing means at both ends of the oven. In one construction, Figs. 1 and 2, each flue 1, 2 runs the whole length of the oven, and the air and gas nozzles 3, 4 for adjacent flues are arranged at opposite ends. At their discharge ends the flues 1, 2 are connected to exhaust means 11, 12 situated between air-heating passages

18, 20 running the length of the bench. The floors of the flues consist of two courses 27 of refractory material, and a lowermost course 28 of non-conducting composition. In a modification, the flues are divided into two sets by a partition at the middle of the length of the oven, all the flues of a set being fired from the same end. In this case, the recuperators are beneath the middle of the oven, and the air for combustion is conducted to the flues either by pipes or through passages in the floors of the flues. The air-heating and waste gas passages of the recuperators may be arranged in horizontal alignment, and heating flues may be provided in the side wall of the oven.

Classifications:

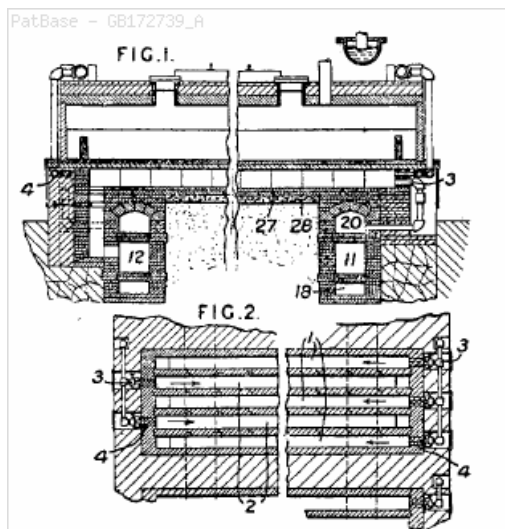
International (IPC 8-9): C10B15/02 (Advanced/Invention);

C10B15/00 (Core/Invention)

International (IPC 1-7): C10B15/02

CPC: C10B15/02 Y02P20/129

European: C10B15/02



Family:

Publication number	Publication date	Application number	Application date
GB172739 A	19211215	GB19200026464	19200915

Priority:

GB19200026464 19200915

Probable Assignee:

BERNHARD ZWILLINGER

Assignee(s): (std):

BERNHARD ZWILLINGER

61) Family number: 32812953 (US2006075682A)

© PatBase

Title: METHOD OF ENHANCING THE QUALITY OF HIGH-MOISTURE MATERIALS USING SYSTEM HEAT SOURCES

Abstract: The present invention harvests and utilizes fluidized bed drying technology and waste heat streams augmented by other available heat sources to dry feedstock or fuel. This method is useful in many industries, including coal-fired power plants. Coal is dried using the present invention before it goes to coal pulverizers and on to the furnace/boiler arrangement. Coal can be intercepted on current coal feed systems ahead of the pulverizers. Drying fuel, such as coal, is done to improve boiler efficiency and reduce emissions. A two-stage bed utilized in the process first "pre-dries and separates" the feed stream into desirable and undesirable feedstock. Then, it incrementally dries and segregates fluidizable and non-fluidizable material from the product stream. This is all completed in a low-temperature, open-air system. Elevation of fan room air temperature is also accomplished using waste heat, thereby making available to the plant system higher temperature media to enhance the feedstock drying process.

Classifications:

International (IPC 8-9): B01D50/00 B01D53/00 B01J8/18 B03B11/00 B03B4/06 B03B5/00 B07B11/00 B07B4/00 B07B4/08 B07B7/00 C07D C10B57/10 C10L5/00 C10L9/08 F23B90/00 F23G5/04 F23K1/00 F23K1/04 F23K3/02 F23L15/04 F26B15/18 F26B17/00 F26B17/10 F26B17/14 F26B19/00 F26B21/00 F26B23/00 F26B25/00 F26B3/00 F26B3/02 F26B3/08 F26B3/084 F26B3/22 F26B3/26 F26B7/00 F27B15/00 F27B15/14 F27D17/00 F27D3/00 (Advanced/Invention);

C10L5/00 F23K1/04 F26B3/00 (Advanced/Non-invention); B01J8/18 B03B11/00 B03B4/00 B07B4/00 B07B7/00 C10L5/00 C10L9/00 F23B90/00 F23G5/02 F23K1/00 F23K3/00 F23L15/00 F26B15/00 F26B17/00 F26B17/12 F26B19/00 F26B23/00 F26B25/00 F26B3/00 F26B3/02 F27B15/00 F27D17/00 (Core/Invention); F26B3/00 (Core/Non-invention);

B01J B03B C10L (Subclass/Invention)

International (IPC 1-7): B07B4/00 C07D C10L5/00

CPC: F23K2900/01001 F26B3/08 F26B3/082 Y02E20/12

F23K2900/01041 F23L15/04 Y02P20/129 B03B4/06 C10J3/482

C10J2300/094 C10J2300/0956 C10J2300/165 C10J2300/1671

C10L9/08 F23K1/04 F23K2201/20 F23K2201/30 F26B3/084

F26B23/001 C10B57/10 Y02P70/405 Y02E20/348

European: B03B4/06 C10B57/10 C10J3/48B C10L9/08 F23K1/04

F23L15/04 F26B23/00B F26B3/08 F26B3/084 F26B3/08B

M10J300/09D8 M10J300/09F2 M10J300/16F2D M10J300/16K

R23K201/20 R23K201/30 R23K900/01001 R23K900/01041

Y02E20/12

US: 110/224 110/224S 110/249 110/342 110/342S 110/346 166/248

202/99 209/132 209/132S 209/133 209/134 209/139.1

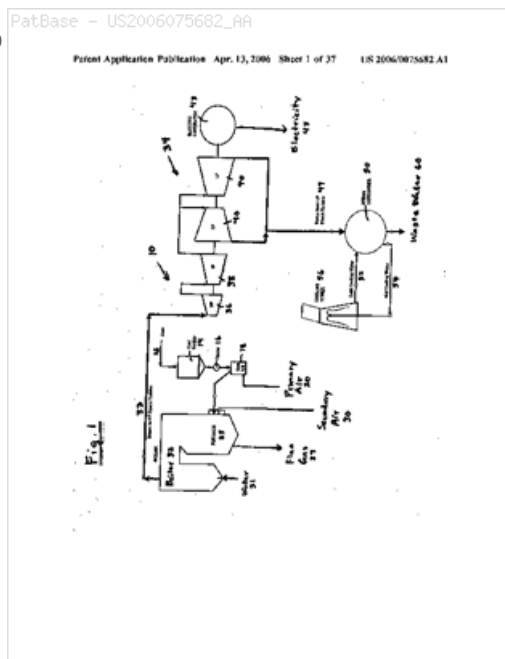
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Publication number	Publication date	Application number	Application date
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Priority:

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Probable Assignee: GREAT RIVER ENERGY**Assignee(s):** (std): ARMOR ANTHONY F ; ARMOR ANTHONY R ; BULLINGER CHARLES W ; COUGHLIN MATHEW P ; COUGHLIN MATTHEW P ; DENNIS JAMES R ; GREAT RIVER ENERGY ; NESS MARK A ; SARUNAC NENAD ; LEVY EDWARD K ; WEINSTEIN RICHARD S ; JAMES DENNIS R ; WHEELDON JOHN M ; JOHNSON ADAM M ; GREJT RIVEH EHNEDZHI**Assignee(s):** ENERGY UNITED STATES DEPARTMENT OF**Inventor(s):** (std): BULLINGER CHARLES W ; NESS MARK A ; SARUNAC NENAD ; LEVY EDWARD K ; WEINSTEIN RICHARD S ; JAMES DENNIS R ; ARMOR ANTHONY R ; WHEELDON JOHN M ; COUGHLIN MATTHEW P ; JOHNSON ADAM M ; ARMOR ANTHONY F ; BULLINGER CHARLES W NESS MARK ; COUGHLI BULLINGER CHARLES W NE ; NENAD SARUNAC ; NESS MARK A COUGHLIN MATTHEW P ; DENNIS JAMES R ; KOUKHLIN MEHT JU PI ; SARUNAK NENAD ; LEVI EHDVARD KEJ ; VIILDON DZHON EHM ; NESS MARK EHJ ; COUGHLIN MATHEW P ; BULLINDZHER CHARL Z DABLJU ; AMO EHNTONI A**Inventor(s):** MATHEW P COUGHLIN ; BULLINDZHER CHARL'Z DABLJU ; KOUKHLIN MEHT'JU PI ; LEVY EDWARD ; WHEELDON JOHN ; WEINSTEIN RICHARD ; BULLINGER CHARLES ; JAMES DENNIS ; ARMOR ANTHONY ; JOHNSON ADAM ; COUGHLIN MATTHEW ; NESS MARK ; CHARLES W BULLINGER ; RICHARD S WEINSTEIN ; MARK A NESS ; EDWARD K LEVY ; DENNIS R JAMES ; JOHN M WHEELDON ; MATTHEW P COUGHLIN ; ANTHONY R ARMOR**Agent(s):** FISHER ADAMS KELLY CALLINANS ; SPRUSON AND FERGUSON; CALLINANS; SIM AND MCBURNEY; HALLYBONE HUW GEORGE; SEKIYA MITSUO; HIRAKI YUSUKE; MOSS AND BARNETT; MOSS AND BARNETT PA; GLEN E SCHUMANN C O MOSS AND BARNETT; SCHUMANN GLEN E**Designated states:** AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NI PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW**62) Family number: 41614974 (US2008169578A)**

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Title: COKE OVEN RECONSTRUCTION**Abstract:** A new, faster and more efficient process to replace heating walls and ceilings in coke oven batteries. Thus, when replaced, at least one heating wall is constructed of thermally stable non-expanding large size modular cast modules from end to end and the ceiling adjacent the heating wall is constructed of thermally stable non-expanding large modular cast blocks.**Classifications:****International (IPC 8-9):** B23P6/00 C10B29/00 C10B29/02

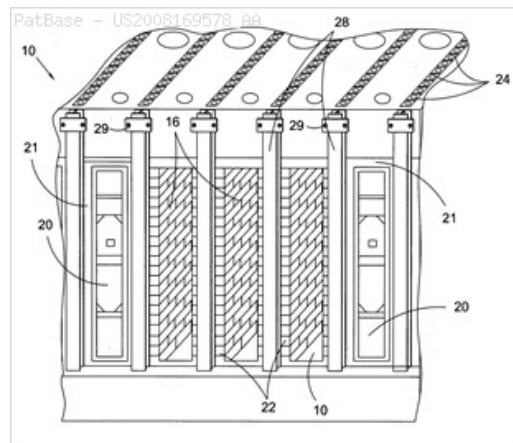
C10B29/04 C10B29/06 F27D1/16 (Advanced/Invention);

C10B29/00 F27D1/16 (Core/Invention);

C01B (Subclass/Invention)

International (IPC 1-7): C10B29/00 C10B29/02 C10B29/06**CPC:** Y10T29/49352 Y10T29/49732 Y10T29/49734 C10B29/02

C10B29/06 F27D1/04 F27D1/1621

European: C10B29/02 C10B29/06 F27D1/04 F27D1/16B**US:** 110/314 110/336 110/336S 110/337 110/341 264/30 264/30P 29/402.09 29/402.11 29/890.031 52/302.4 52/606**Family:**

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Priority:

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 NL20092003617 20091009 NL20092003618 20091009

Probable Assignee: VANCOUVER REFRACTORIES LLC

Assignee(s): (std): VANOCUR REFRACTORIES L L C ; VANOCUR REFRACTORIES L L C A L ; VEHNEHKEH REFRAKTORIZ EHL EHL SI

Assignee(s): VEHNEHKEH REFRAKTORIZ EHLEHLSI ; VANOCUR REFRACTORIES LLC A LIABILITY OF DELAWARE CORP LTD ; VANOCUR REFRACTORIES LL C ; VANOCUR REFRACTORIES LLC ; VANOCUR REFRACTORIES L L C A LIMITED LIABILITY CORPORATION OF DELAWARE ; BLOOM ROBERT A ; CRANE JAMES D ; VANCOUVER REFRACTORIES LLC ; VANOCUR REFRACTORIES

Inventor(s): (std): JAMES D CRANE ; ROBERT A BLOOM ; CRANE JAMES D ; BLOOM ROBERT A ; BLUM ROBERT A ; KREJN DZHEJMS D

Agent(s): GRIFFITH HACK; MACRAE AND CO; SANDRA J THOMPSON; HARTER SECREST AND EMERY LLP; STEPHEN B; MICHAEL J

63) Family number: 7866974 (US5062372A)

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Title: LINED HAZARDOUS WASTE INCINERATOR

Abstract: A hazardous waste incinerator is provided herein. The incinerator includes a sealed, inner incineration chamber which is either made from, or which is lined with a non-porous, impervious corrosion-resistant lining, the inner incineration chamber including a means for supporting hazardous waste to be incinerated, and a recirculating blower. An insulated outer combustion chamber is provided in sealed, spaced-apart relationship to the inner incineration chamber. The heat produced in the outer combustion chamber induces incineration of hazardous waste in the incinerator chamber, the products of incineration of the hazardous waste being separate and distinct from the products of combustion in the combustion chamber.

Classifications:

International (ipc 8-9): F23G5/00 F23G5/027 F23G5/08 F23G5/16 F23G7/00 F23J15/00 F23M5/00 (Advanced/Invention); F23G5/027 F23G5/16 F23G7/00 F23J15/00 (Advanced/Non-invention); F23G5/027 F23G5/08 F23G5/16 F23G7/00 F23J15/00 F23M5/00 (Core/Invention)

International (ipc 1-7): F23G5/00 F23G5/027 F23G5/08 F23G5/16 F23G7/00 F23G7/06 F23J15/00 F23M5/00 F27B5/00

CPC: Y02E20/12 F23M5/00 F23G5/08

European: F23G5/08 F23M5/00

US: 110/235 110/237 110/242 110/250 110/346 432/241

PatBase - US5062372_H

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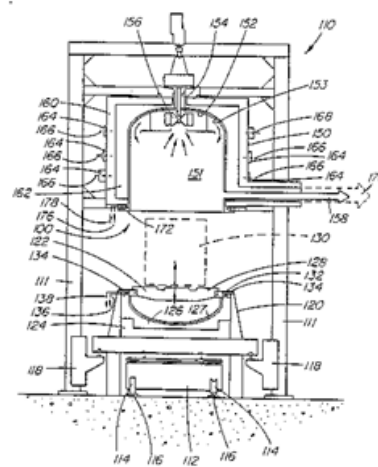


FIG. 1

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Priority:

CA19892006139 19891220

Probable Assignee: CHEM SECURITY ALBERTA LTD

Assignee(s): (std): RITTER ; RITTER ROBERT A

Assignee(s): ROBERT A RITTER ; ROBAATO EI RITSUTAA ; RITTER ROBERT A CALGARY ALBERTA CA ; RITTER ROBERT A CA ; CHEM SECURITY (ALBERTA) LTD ; CHEM SECURITY ALBERTA LTD ; CHEM SECURITY LTD ; RECOL ENGINEERING LTD

Inventor(s): (std): ROBERT A RITTER ; ROBAATO EI RITSUTAA ; RITTER ROBERT A

Inventor(s): NICHT ERKANNT ; IKKE OPPGITT ; RITTER ROBERT A CALGARY ALBERTA CA ; RITTER ROBERT A CA

Agent(s): CULLENS PATENT AND TRADE MARK ATTORNEYS; CULLENS PTY LTD; SPRUSON AND FERGUSON; BORDEN LADNER GERVAIS LLP

Designated states: AT BE CH DE DK ES FR GB GR IT LI LU NL SE