

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN THE APPLICATION OF:

APPLICANT : BASEL FATHI ABU-SHARKH
SERIAL NO : UNASSIGNED
ART UNIT : UNASSIGNED
FILED : HERewith EXAMINER: UNASSIGNED
FOR : METHOD OF PRODUCING SODA ASH
AND CALCIUM CHLORIDE

ASSISTANT COMMISSIONER FOR PATENTS
WASHINGTON, D.C. 20231

Sir:

PRELIMINARY AMENDMENT

Prior to the examination of this application and calculation of the filing fee, please
enter the following amendment:

Amendments to the Specification begin on page 2 of this paper.

Remarks begin on page 3 of this paper.

IN THE SPECIFICATION

Please replace the section beginning on page 1, line 1 with the following amended section:

-- CROSS-REFERENCE TO RELATED APPLICATIONS --


-- [0001] This is a continuation of my prior application Serial No. 13/402,783, filed February 22, 2012 now pending. --

REMARKS

By the present amendment, Applicant has added the CROSS-REFERENCE notation to the specification. Applicant herewith claims the benefit of the priority of parent application SN 13/402,783, filed February 22, 2012, now pending.

Entry of the present amendment prior to examination is respectfully requested. No fees are due. Applicant awaits a formal examination on the merits of the application.

Respectfully submitted,


Warren S. Edmonds
Registration No. 39,642
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WSE

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	32387.02
		Application Number	
Title of Invention	METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE		
<p>The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.</p> <p>This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.</p>			

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<input type="checkbox"/> Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)
--

Inventor Information:

Inventor 1 Remove				
Legal Name				
Prefix	Given Name	Middle Name	Family Name	Suffix
Dr.	BASEL	FATHI	ABU-SHARKH	
Residence Information (Select One) <input type="radio"/> US Residency <input checked="" type="radio"/> Non US Residency <input type="radio"/> Active US Military Service				
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Mailing Address of Inventor:				
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Address 2				
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Postal Code	31952	Country	SA	
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button. Add				

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	32387.02
		Application Number	
Title of Invention	METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE		

Application Information:

Title of the Invention	METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE		
Attorney Docket Number	32387.02	Small Entity Status Claimed	<input checked="" type="checkbox"/>
Application Type	Nonprovisional		
Subject Matter	Utility		
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)		Suggested Figure for Publication (if any)	

Publication Information:

<input type="checkbox"/>	Request Early Publication (Fee required at time of Request 37 CFR 1.219)
<input type="checkbox"/>	Request Not to Publish. I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application has not and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.			
Please Select One:			
<input checked="" type="radio"/>	Customer Number	<input type="radio"/>	US Patent Practitioner
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Customer Number	37833		

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This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.			
Prior Application Status	Pending	<input type="button" value="Remove"/>	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	Continuation of	12402783	2012-02-22
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.			<input type="button" value="Add"/>

Foreign Priority Information:

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	32387.02
		Application Number	
Title of Invention	METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE		
<p>This section allows for the applicant to claim benefit of foreign priority and to identify any prior foreign application for which priority is not claimed. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(a).</p>			
			<input type="button" value="Remove"/>
Application Number	Country ⁱ	Filing Date (YYYY-MM-DD)	Priority Claimed
			<input checked="" type="radio"/> Yes <input type="radio"/> No
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Applicant Information:

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	32387.02
		Application Number	
Title of Invention	METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE		

Applicant 1	
<p>If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.</p>	
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Signature:					Remove
NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications					
Signature	/WARREN S. EDMONDS/			Date (YYYY-MM-DD)	2012-10-15
First Name	WARREN S.	Last Name	EDMONDS	Registration Number	39642
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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	32387.02
		Application Number	
Title of Invention	METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE		

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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Electronic Patent Application Fee Transmittal				
Application Number:				
Filing Date:				
Title of Invention:		Method of Producing Soda Ash and Calcium Chloride		
First Named Inventor/Applicant Name:		Basel Fathi Abu-Sharkh		
Filer:		Richard C. Litman/Kerry Bitter		
Attorney Docket Number:		32387.02		
Filed as Small Entity				
Track I Prioritized Examination - Nonprovisional Application under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Utility filing Fee (Electronic filing)	4011	1	98	98
Utility Search Fee	2111	1	310	310
Utility Examination Fee	2311	1	125	125
Request for Prioritized Examination	2817	1	2400	2400
Pages:				
Claims:				
Miscellaneous-Filing:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Publ. Fee- early, voluntary, or normal	1504	1	300	300
Processing Fee, except for Provis. apps	1808	1	130	130
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				3363

Electronic Acknowledgement Receipt	
EFS ID:	13981201
Application Number:	13651534
International Application Number:	
Confirmation Number:	7695
Title of Invention:	Method of Producing Soda Ash and Calcium Chloride
First Named Inventor/Applicant Name:	Basel Fathi Abu-Sharkh
Customer Number:	37833
Filer:	Richard C. Litman/Kerry Bitter
Filer Authorized By:	Richard C. Litman
Attorney Docket Number:	32387.02
Receipt Date:	15-OCT-2012
Filing Date:	
Time Stamp:	11:22:03
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$3363
RAM confirmation Number	10150
Deposit Account	
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
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1		32387_02_upa.pdf	538895	yes	22
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	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Specification		1	6	
	Claims		7	11	
	Abstract		12	12	
	Drawings-only black and white line drawings		13	13	
	Oath or Declaration filed		14	15	
	Transmittal Letter		16	16	
	Information Disclosure Statement (IDS) Form (SB08)		17	17	
	TrackOne Request		18	18	
	First Action Interview - Enrollment Request		19	19	
	Preliminary Amendment		20	22	
	Warnings:				
Information:					
2	Application Data Sheet	sb0014.pdf	1396002	no	6
			47be30c9d786fc50bcbac5a7df60dec7ec0bc5e7		
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	39684	no	2
			f83e31f0db8d145c194a34df571dbde61e2bcd4		
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Total Files Size (in bytes):			1974581		

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New International Application Filed with the USPTO as a Receiving Office

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IN THE APPLICATION
OF
BASEL FATHI ABU-SHARKH
FOR A
METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE

METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE

BACKGROUND OF THE INVENTION

1. FIELD OF THE INVENTION

[0001] The present invention relates to the production of soda ash and calcium chloride, and particularly to a modified version of the Solvay process that recycles ammonia, sodium chloride and water to eliminate harmful waste byproducts.

2. DESCRIPTION OF THE RELATED ART

[0002] The most common method of producing soda ash (sodium carbonate) is the Solvay process. The Solvay process was developed into its modern form by Ernest Solvay during the 1860s. The ingredients for this process are readily available and relatively inexpensive: salt brine (from inland sources or from the sea) and limestone (from mines).

[0003] The Solvay process results in soda ash (predominantly sodium carbonate (Na_2CO_3)) from brine (as a source of sodium chloride (NaCl)) and from limestone (as a source of calcium carbonate (CaCO_3)). The overall process is given by $2 \text{NaCl} + \text{CaCO}_3 \rightarrow \text{Na}_2\text{CO}_3 + \text{CaCl}_2$.

[0004] However, industrial plants using the Solvay process produce waste and byproducts that may result in environmental problems, such as water pollution from calcium, chloride ions, and salt (NaCl) that accumulates in fresh water streams, ponds, and lakes.

[0005] Thus, a method of producing soda ash and calcium chloride solving the aforementioned problems is desired.

SUMMARY OF THE INVENTION

[0006] The method of producing soda ash and calcium chloride provides an environmentally friendly method of producing soda ash and calcium chloride without the production of waste and hazardous byproducts, or by recovering and recycling such waste. The method of producing soda ash and calcium chloride is initiated with a volume of brine ($\text{NaCl} + \text{H}_2\text{O}$). The brine is ammoniated with gaseous ammonia to form ammoniated brine. Separately, limestone is used as a source of CaCO_3 , and is heated to produce calcium oxide and carbon dioxide. The ammoniated brine is reacted with the carbon dioxide produced by the heating of the limestone to produce sodium bicarbonate, ammonium chloride and a brine effluent.

[0007] The sodium bicarbonate is then calcined and decomposed to produce soda ash and gaseous carbon dioxide. The calcium oxide is reacted with the ammonium chloride to produce calcium chloride, water and ammonia, but without slaking the calcium oxide with water to produce milk of lime or aqueous calcium hydroxide. The dry lime used in the ammonia recovery process reduces the amount of effluent. The ammonia is collected and recycled to be used in the initial step of ammoniating the brine. The effluent from the ammonia recovery process includes unreacted NaCl from the brine water. The NaCl is separated from the effluent by crystallization and centrifuge units, and recycled to prepare more brine water. Calcium chloride is recovered from the remaining effluent by evaporation of excess water as a primary product of the process, along with the soda ash.

[0008] These and other features of the present invention will become readily apparent upon further review of the following specification and drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] The sole drawing Figure is a flow diagram showing the steps of a method of producing soda ash and calcium chloride according to the present invention.

[0010] Similar reference characters denote corresponding features consistently throughout the attached drawings.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0011] The method of producing soda ash and calcium chloride provides an environmentally friendly method of producing soda ash and calcium chloride by recovering and recycling effluents and byproducts from a modified Solvay process. The method of producing soda ash and calcium chloride is initiated with a volume of brine ($\text{NaCl} + \text{H}_2\text{O}$) (step 10 in the sole drawing Figure). At step 20, the brine is ammoniated with gaseous ammonia by bubbling ammonia through the brine to form ammoniated brine. Separately, limestone is provided as a source of CaCO_3 (step 30), and is heated in a lime kiln or the like to produce calcium oxide (CaO) and carbon dioxide (CO_2) (step 40). At step 50, the ammoniated brine is reacted with the carbon dioxide produced by the heating of the limestone in step 40 to produce sodium bicarbonate (NaHCO_3), which precipitates in the basic brine solution, and ammonium chloride (NH_4Cl) in the brine effluent. The reaction of step 50 may take place in a carbonation tower or the like.

[0012] The sodium bicarbonate is then calcined and decomposed to produce soda ash and gaseous carbon dioxide. Preferably, the calcination and decomposition takes place through

filtering at step 60 and heating at step 70, yielding the end product of soda ash (Na_2CO_3) at step 80 via the reaction $2\text{NaHCO}_3 \rightarrow \text{Na}_2\text{CO}_3 + \text{H}_2\text{O} + \text{CO}_2$.

[0013] The filtering at step 60 separates out the ammonium chloride and brine effluent produced at step 50 and delivers them to an ammonia recovery system at step 90. The water produced by the calcination is also delivered with the brine effluent to the ammonia recovery system. The carbon dioxide produced by the heating/calcination process is then recycled, as shown in the sole drawing Figure, to the carbonation tower at step 50.

[0014] At step 90, the calcium oxide (CaO) produced in step 40 is reacted with the ammonium chloride (NH_4Cl) produced in step 50 to produce calcium chloride, water and ammonia as $\text{CaO} + 2\text{NH}_4\text{Cl} \rightarrow \text{CaCl}_2 + \text{H}_2\text{O} + 2\text{NH}_3$. The calcium oxide is used without slaking, but is dry lime to reduce the amount of effluent. The ammonia (NH_3), which is in gaseous form, is collected at step 100 and recycled to be used in the initial step of ammoniating the brine (step 20).

[0015] The overall effluent from the ammonia recovery system at step 90, following separation of the ammonia gas, is approximately 5% sodium chloride (NaCl), approximately 10-13% calcium chloride (CaCl_2) and approximately 82% water. Approximately 10% of the calcium chloride is produced in a “wet” process, and approximately 13% is produced in a “dry” process. At step 110, sodium chloride (NaCl) is separated from the effluent by crystallization and centrifuge units, as indicated at step 120, and is recycled to prepare more brine at step 10. The evaporation process removes the water as water vapor, which is then condensed and recycled to make more brine at step 10. Any remaining water is evaporated to leave the end product of calcium chloride (CaCl_2), which is then collected at step 130. At step 130, the effluents from the calcium chloride feed liquor are collected and then delivered to a

calcium chloride plant for further processing. At the plant, the distillation waste liquor is used to recover an approximately 77 wt% CaCl_2 flakes and/or 95 wt% CaCl_2 granules solution by evaporation and separation of salt (NaCl) therefrom.

[0016] It is to be understood that the present invention is not limited to the embodiments described above, but encompasses any and all embodiments within the scope of the following claims.

CLAIMS

I claim:

1 1. A method of producing soda ash and calcium chloride, comprising the steps of:
2 ammoniating brine with gaseous ammonia to form ammoniated brine;
3 heating limestone to produce calcium oxide and carbon dioxide;
4 reacting the ammoniated brine with the carbon dioxide produced by the step of heating
5 the limestone to produce sodium bicarbonate, ammonium chloride and a brine effluent;
6 calcining the sodium bicarbonate to decompose the sodium bicarbonate to produce
7 soda ash and gaseous carbon dioxide;
8 reacting the calcium oxide with the ammonium chloride and brine effluent to produce
9 calcium chloride, brine effluent, and ammonia;
10 recycling the ammonia to be used in the step of ammoniating the brine; and
11 recycling the water from the brine effluent to be used in the step of ammoniating the
12 brine.

1 2. The method of producing soda ash and calcium chloride as recited in claim 1,
2 further comprising the step of filtering the mixture of sodium bicarbonate, ammonium
3 chloride, and brine prior to said calcining step, the brine and soluble ammonium chloride
4 being removed for recovery of sodium chloride and ammonia.

1 3. The method of producing soda ash and calcium chloride as recited in claim 2,
2 wherein said step of calcining the sodium bicarbonate comprises heating the filtered sodium
3 bicarbonate to a temperature sufficient to decompose the sodium bicarbonate.

1 4. The method of producing soda ash and calcium chloride as recited in claim 1,
2 wherein said step of recycling the water and the brine effluent further comprises the steps of:
3 crystallizing sodium chloride from the mixture of calcium chloride and brine effluent;
4 separating the crystallized sodium chloride from the effluent by centrifuging the
5 effluent; and
6 recycling the crystallized sodium chloride for the formation of fresh brine to continue
7 the method.

1 5. The method of producing soda ash and calcium chloride as recited in claim 4,
2 further comprising the steps of:
3 evaporating any water remaining after the step of recycling the crystallized sodium
4 chloride in order to produce water vapor and to recover the produced calcium chloride;
5 recycling the water vapor.

1 6. The method of producing soda ash and calcium chloride as recited in claim 5,
2 further comprising the steps of condensing the water vapor and recycling the condensed water
3 vapor for the formation of fresh brine with the recycled sodium chloride.

1 7. The method of producing soda ash and calcium chloride as recited in claim 1,
2 wherein said step of reacting the calcium oxide with the ammonium chloride and brine
3 effluent comprises reacting dry calcium oxide with the ammonium chloride and brine effluent
4 without slaking the calcium oxide produced by heating the limestone.

1 8. The method of producing soda ash and calcium chloride as recited in claim 5,
2 further comprising the steps of:
3 collecting the produced calcium chloride; and
4 separating residual salt therefrom.

1 9. The method of producing soda ash and calcium chloride as recited in claim 8,
2 further comprising the step of forming an approximately 77 wt% solution of calcium chloride
3 flakes.

1 10. The method of producing soda ash and calcium chloride as recited in claim 8,
2 further comprising the step of forming an approximately 95 wt% solution of calcium chloride
3 granules.

1 11. A method of producing soda ash and calcium chloride, comprising the steps of:
2 mixing sodium chloride and water to form fresh brine;
3 bubbling ammonia through the fresh brine to form ammoniated brine;
4 heating limestone in a lime kiln to produce dry calcium oxide and carbon dioxide;
5 bubbling the carbon dioxide through the ammoniated brine in a carbonation tower to
6 produce sodium bicarbonate, ammonium chloride, and a brine effluent, the sodium
7 bicarbonate precipitating in the brine effluent and the ammonium chloride being soluble in the
8 brine effluent;
9 filtering the brine effluent to remove the precipitated sodium bicarbonate;
10 calcining the filtered sodium bicarbonate at a temperature sufficient to decompose the
11 sodium bicarbonate to form soda ash as a major product;
12 reacting the dry calcium oxide with the filtered brine effluent to produce ammonia gas
13 and a brine effluent containing calcium chloride;
14 recycling the ammonia gas produced by the reacting step to form additional
15 ammoniated brine using the bubbling ammonia step;
16 crystallizing sodium chloride in the brine effluent;
17 centrifuging the brine effluent to separate the crystallized sodium chloride from the
18 brine effluent;
19 recycling the separated crystallized sodium chloride to form additional fresh brine
20 using the mixing step;
21 evaporating water from the effluent to form water vapor and to recover calcium
22 chloride as a major product; and

23 recycling the water vapor to form addition fresh brine using the mixing step;
24 whereby all reactants are recycled, leaving substantially no waste to discharge.

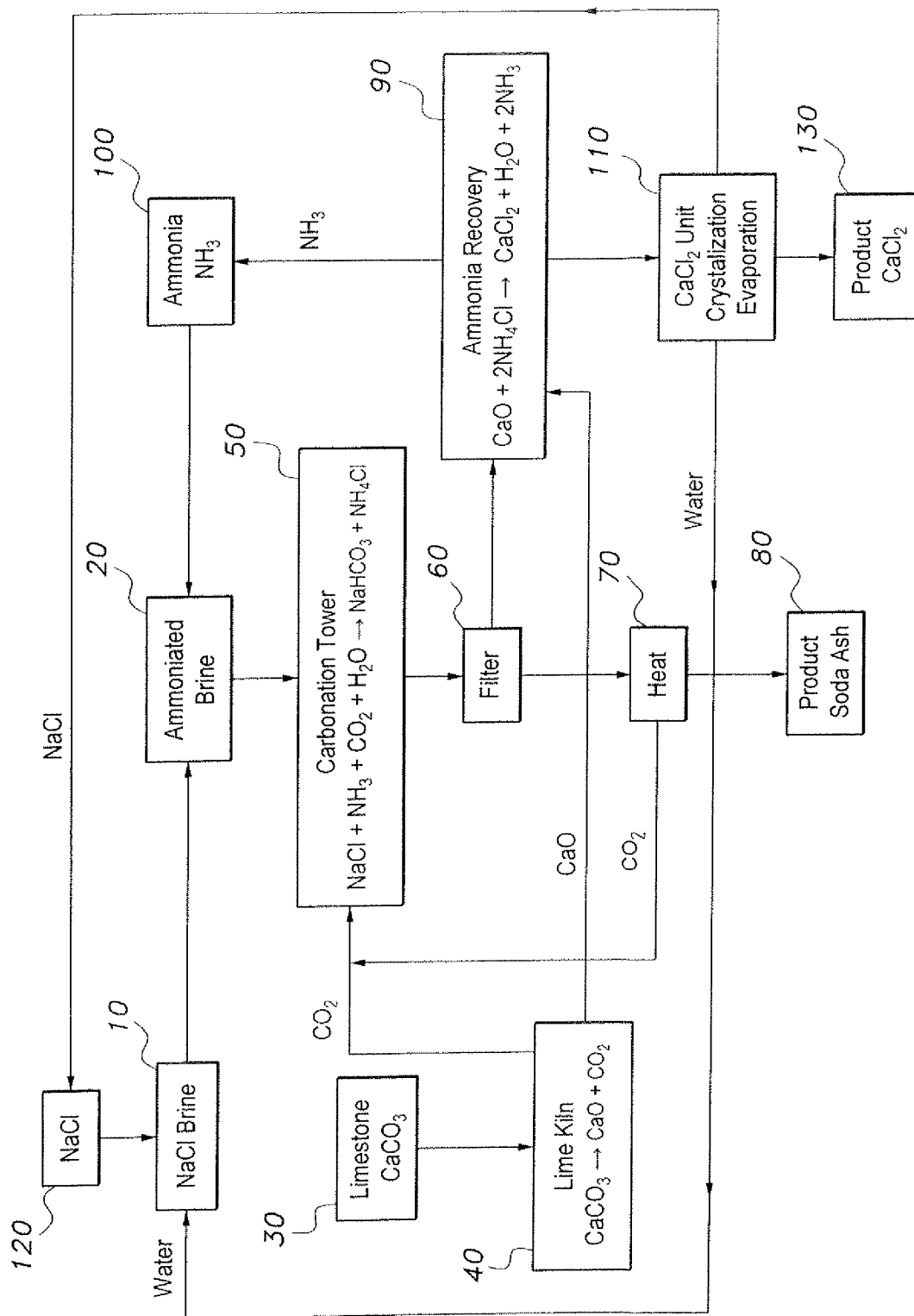
1 12. The method of producing soda ash and calcium chloride as recited in claim 11,
2 further comprising the steps of:
3 collecting the produced calcium chloride; and
4 separating residual salt therefrom.

1 13. The method of producing soda ash and calcium chloride as recited in claim 12,
2 further comprising the step of forming an approximately 77 wt% solution of calcium chloride
3 flakes.

1 14. The method of producing soda ash and calcium chloride as recited in claim 12,
2 further comprising the step of forming an approximately 95 wt% solution of calcium chloride
3 granules.

ABSTRACT OF THE DISCLOSURE

The method of producing soda ash and calcium chloride provides an environmentally friendly method of producing soda ash and calcium chloride without the production of waste and hazardous byproducts. The method of producing soda ash and calcium chloride is initiated with a volume of brine, which is ammoniated with gaseous ammonia to form ammoniated brine. Limestone is heated to produce calcium oxide and carbon dioxide. The ammoniated brine is reacted with the carbon dioxide to produce sodium bicarbonate, ammonium chloride and a brine effluent. The sodium bicarbonate is then calcined and decomposed to produce soda ash and gaseous carbon dioxide. The calcium oxide is reacted with the ammonium chloride to produce calcium chloride, water and ammonia. The ammonia is recycled to be used in the initial step of ammoniating the brine. The water and the brine effluent are also recycled and used to provide the brine in the initial step.



INVENTOR'S OATH OR DECLARATION

As the below named inventor, I hereby declare that:

This declaration is directed to the attached application entitled:

METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE

the specification of which is attached hereto unless the following box is checked:

☒ was filed on February 22, 2012 as United States Application Serial Number or PCT International Application Number 13/402,783 and was amended on _____ (if applicable):

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years or both.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Legal Name of Sole or First Inventor: BASEL FATHI ABU-SHARKH

Signature: 

Date: 6/10/2012 Country of Citizenship: Occupied Palestinian Territories

Residence: P.o. Box 2814, Al-khobar, SA 31952

Post Office Address: Same

POWER OF ATTORNEY BY ASSIGNEE-APPLICANT UNDER 37 CFR § 1.32(b)

First Named Inventor: BASEL FATHI ABU-SHARKH

Application entitled:

METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE

the specification of which is attached hereto unless the following box is checked:

☒ was filed on February 22, 2012 as United States Application Serial Number or PCT International Application Number 13/402,783 and was amended on _____ (if applicable).

Assignee-Applicant Name: **IDEA INTERNATIONAL INVESTMENT AND DEVELOPMENT COMPANY**

Assignee Address: Prince Faisal Bin Fahd Street, P.O. Box 2814, Khobar 31952, SAUDI ARABIA

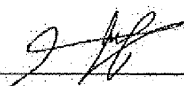
I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

Practitioners associated with the **Customer Number: 37833**

Direct all telephone calls to: Richard C. Litman
(703) 486-1000

Direct all correspondence to the address associated with the above-mentioned Customer Number.

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee-applicant identified above and hereby signs this power of attorney for the assignee-applicant.

Signature: 

Date: 6/10/2012

Basel M. Isayed

Printed or Typed Name

Projects Coordinator

Title

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN THE APPLICATION OF:

APPLICANT : BASEL FATHI ABU-SHARKH
SERIAL NO : UNASSIGNED
ART UNIT : UNASSIGNED
FILED : HEREWITH EXAMINER: UNASSIGNED
FOR : METHOD OF PRODUCING SODA ASH
AND CALCIUM CHLORIDE

COMMISSIONER FOR PATENTS
ALEXANDRIA, VA 22313-1450

Sir:

INFORMATION DISCLOSURE STATEMENT
35 U.S.C. 6; 37 C.F.R. 1.97; 1.98

Related art domestic patents, published U.S. patent applications, foreign patents and/or publications were properly cited and submitted in parent application SN 12/402,783, filed February 22, 2012, the priority of which is claimed in the instant application..

The discussion of these related art foreign language patents and/or publications, if any, in the parent application SN 12/402,783 is believed to satisfy the duty to disclose requirements as set forth in the above identified statute and rules.

Respectfully submitted,



Warren S. Edmonds
Registration No. 39,642
(703) 486-1000

WSE

FORM PTO- 1449	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY DOCKET NO. 32387.02	SERIAL NO.
INFORMATION DISCLOSURE CITATION IN AN APPLICATION (Use several sheets if necessary)		APPLICANT BASEL FATHI ABU-SHARKH	
		FILING DATE	GROUP

U.S. PATENT DOCUMENTS

Examiner Initials		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE If appropriate

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation YES NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)

	Prior art cited in parent application SN 12/402,783, filed February 22, 2012, the priority of which is claimed herein.
EXAMINER	DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

Doc Code: FAI.REQ

Document Description: Request First Action Interview

PTO/SB/413C (05-11)

Approved for use through 01/31/2013. OMB 0651-0031

U.S. Patent and Trademark Office; U. S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

REQUEST FOR FIRST ACTION INTERVIEW (FULL PILOT PROGRAM)		
Attorney Docket Number: 32387.02	Application Number (if known):	Filing date: OCTOBER 15, 2012
First Named Inventor: BASEL FATHI ABU-SHARKH	Title: METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE	
<p>APPLICANT HEREBY REQUESTS A FIRST ACTION INTERVIEW IN THE ABOVE-IDENTIFIED APPLICATION. See Instruction Sheet on page 2.</p> <ol style="list-style-type: none">The application must contain three (3) or fewer independent claims and twenty (20) or fewer total claims.The application must not contain any multiple dependent claims.By filing this request: Applicant is agreeing to make an election without traverse if the Office determines that the claims are not obviously directed to a single invention; and Applicant is agreeing not to request for a refund of the search fee and any excess claims fee paid in the application after the mailing or notification of the pre-interview communication prepared by the examiner.Other attachments: _____		
Signature /WARREN S. EDMONDS/		Date OCTOBER 15, 2012
Name (Print/Typed) WARREN S. EDMONDS		Registration Number 39642
<p>Note: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.</p>		
<input checked="" type="checkbox"/> *Total of <u>1</u> forms are submitted.		

The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Doc Code: FAI.REQ

Document Description: Request First Action Interview

PTO/SB/413C (05-11)

Approved for use through 01/31/2013. OMB 0651-0031

U.S. Patent and Trademark Office; U. S. DEPARTMENT OF COMMERCE

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REQUEST FOR FIRST ACTION INTERVIEW (FULL PILOT PROGRAM)		
Attorney Docket Number: 32387.02	Application Number (if known):	Filing date: OCTOBER 15, 2012
First Named Inventor: BASEL FATHI ABU-SHARKH	Title: METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE	
<p>APPLICANT HEREBY REQUESTS A FIRST ACTION INTERVIEW IN THE ABOVE-IDENTIFIED APPLICATION. See Instruction Sheet on page 2.</p> <ol style="list-style-type: none">The application must contain three (3) or fewer independent claims and twenty (20) or fewer total claims.The application must not contain any multiple dependent claims.By filing this request: Applicant is agreeing to make an election without traverse if the Office determines that the claims are not obviously directed to a single invention; and Applicant is agreeing not to request for a refund of the search fee and any excess claims fee paid in the application after the mailing or notification of the pre-interview communication prepared by the examiner.Other attachments: _____		
Signature /WARREN S. EDMONDS/		Date OCTOBER 15, 2012
Name (Print/Typed) WARREN S. EDMONDS		Registration Number 39642
<p>Note: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.</p>		
<input checked="" type="checkbox"/> *Total of <u>1</u> forms are submitted.		

The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

CERTIFICATION AND REQUEST FOR PRIORITIZED EXAMINATION UNDER 37 CFR 1.102(e) (Page 1 of 1)			
First Named Inventor:	BASEL FATHI ABU-SHARKH	Nonprovisional Application Number (if known):	
Title of Invention:	METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE		
APPLICANT HEREBY CERTIFIES THE FOLLOWING AND REQUESTS PRIORITIZED EXAMINATION FOR THE ABOVE-IDENTIFIED APPLICATION.			
<ol style="list-style-type: none">1. The processing fee set forth in 37 CFR 1.17(i), the prioritized examination fee set forth in 37 CFR 1.17(c), and if not already paid, the publication fee set forth in 37 CFR 1.18(d) have been filed with the request. The basic filing fee, search fee, examination fee, and any required excess claims and application size fees are filed with the request or have been already been paid.2. The application contains or is amended to contain no more than four independent claims and no more than thirty total claims, and no multiple dependent claims.3. The applicable box is checked below:<ol style="list-style-type: none">I. <input checked="" type="checkbox"/> Original Application (Track One) - Prioritized Examination under § 1.102(e)(1)<ol style="list-style-type: none">i. (a) The application is an original nonprovisional utility application filed under 35 U.S.C. 111(a). This certification and request is being filed with the utility application via EFS-Web.<div style="text-align: center;">---OR---</div>(b) The application is an original nonprovisional plant application filed under 35 U.S.C. 111(a). This certification and request is being filed with the plant application in paper.ii. The executed inventor's oath or declaration is filed with the application. (37 CFR 1.63 and 1.64)II. <input type="checkbox"/> Request for Continued Examination - Prioritized Examination under § 1.102(e)(2)<ol style="list-style-type: none">i. A request for continued examination has been filed with, or prior to, this form.ii. If the application is a utility application, this certification and request is being filed via EFS-Web.iii. The application is an original nonprovisional utility application filed under 35 U.S.C. 111(a), or is a national stage entry under 35 U.S.C. 371.iv. This certification and request is being filed prior to the mailing of a first Office action responsive to the request for continued examination.v. No prior request for continued examination has been granted prioritized examination status under 37 CFR 1.102(e)(2).			
Signature /WARREN S. EDMONDS/		Date OCTOBER 15, 2012	
Name (Print/Typed) WARREN S. EDMONDS		Practitioner Registration Number 39642	
<small>Note: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below.</small>			
<input checked="" type="checkbox"/> *Total of <u>1</u> forms are submitted.			

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875					Application or Docket Number 13/651,534		Filing Date 10/15/2012		<input type="checkbox"/> To be Mailed	
APPLICATION AS FILED – PART I										
(Column 1)			(Column 2)			SMALL ENTITY <input checked="" type="checkbox"/> OR		OTHER THAN SMALL ENTITY		
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)	OR	RATE (\$)	FEE (\$)			
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A				
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A				
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A				
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$ =		OR	X \$ =				
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =			X \$ =				
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).									
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))										
* If the difference in column 1 is less than zero, enter "0" in column 2.										
APPLICATION AS AMENDED – PART II										
(Column 1)			(Column 2)			SMALL ENTITY OR		OTHER THAN SMALL ENTITY		
AMENDMENT	10/15/2012	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)	
Total (37 CFR 1.16(i))	* 14	Minus	** 20	= 0	X \$31 =	0	OR	X \$ =		
Independent (37 CFR 1.16(h))	* 12	Minus	*** 3	= 9	X \$125 =	1125	OR	X \$ =		
<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))										
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))										
					TOTAL ADD'L FEE	1125	OR	TOTAL ADD'L FEE		
(Column 1)			(Column 2)			SMALL ENTITY OR		OTHER THAN SMALL ENTITY		
AMENDMENT	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)		
Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =		OR	X \$ =		
Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =		OR	X \$ =		
<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))										
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))										
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE		
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.										
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".										
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".										
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.										

Legal Instrument Examiner:
/CHRIS A. JONES/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875						Application or Docket Number 13/651,534	
APPLICATION AS FILED - PART I							
(Column 1)		(Column 2)		SMALL ENTITY		OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE(\$)	FEE(\$)		RATE(\$)	FEE(\$)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	98		N/A	
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	310		N/A	
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	125		N/A	
TOTAL CLAIMS (37 CFR 1.16(j))	14	minus 20 = *	x 31	= 0.00	OR		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	2	minus 3 = *	x 125	= 0.00			
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			0.00			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00			
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL		TOTAL	
				533			
APPLICATION AS AMENDED - PART II							
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY	
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		OTHER THAN SMALL ENTITY
	Total (37 CFR 1.16(i))	*	Minus **	=	x	=	RATE(\$)
	Independent (37 CFR 1.16(h))	*	Minus ***	=	x	=	ADDITIONAL FEE(\$)
	Application Size Fee (37 CFR 1.16(s))						
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
				TOTAL ADD'L FEE		TOTAL ADD'L FEE	
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY	
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		OTHER THAN SMALL ENTITY
	Total (37 CFR 1.16(i))	*	Minus **	=	x	=	RATE(\$)
	Independent (37 CFR 1.16(h))	*	Minus ***	=	x	=	ADDITIONAL FEE(\$)
	Application Size Fee (37 CFR 1.16(s))						
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
				TOTAL ADD'L FEE		TOTAL ADD'L FEE	
<p style="font-size: x-small;">* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.</p> <p style="font-size: x-small;">** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".</p> <p style="font-size: x-small;">*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".</p> <p style="font-size: x-small;">The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.</p>							



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UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
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www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
13/651,534	10/15/2012	1736	833	32387.02	14	2

CONFIRMATION NO. 7695

37833
LITMAN LAW OFFICES, LTD.
PATENT LAW BUILDING
8955 CENTER STREET
MANASSAS, VA 20110

FILING RECEIPT



OC000000057411507

Date Mailed: 11/06/2012

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

BASEL FATHI ABU-SHARKH, AL-KHOBAR, SAUDI ARABIA;

Applicant(s)

BASEL FATHI ABU-SHARKH, AL-KHOBAR, SAUDI ARABIA;

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CON of 12/402,783 03/12/2009 *

(*)Data provided by applicant is not consistent with PTO records.

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.)

If Required, Foreign Filing License Granted: 11/02/2012

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 13/651,534**

Projected Publication Date: 02/14/2013

Non-Publication Request: No

Early Publication Request: No

**** SMALL ENTITY ****

Title

METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE

Preliminary Class

423

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

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Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

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set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

SelectUSA

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage, facilitate, and accelerate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/651,534	10/15/2012	BASEL FATHI ABU-SHARKH	32387.02

37833
LITMAN LAW OFFICES, LTD.
PATENT LAW BUILDING
8955 CENTER STREET
MANASSAS, VA 20110

CONFIRMATION NO. 7695
IMPROPER CPOA LETTER



Date Mailed: 11/06/2012

NOTICE REGARDING POWER OF ATTORNEY

This is in response to the power of attorney filed 10/15/2012. The power of attorney in this application is not accepted for the reason(s) listed below:

- The power of attorney has not been accepted because the party who is giving power of attorney has not been identified. power of attorney may only be signed by the applicant for patent (37 CFR 1.42) or the patent owner. A patent owner who was not the applicant must appoint any power of attorney in compliance with 37 CFR 3.71 and 3.73. See 37 CFR 1.32(b)(4).

/tqlam/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



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PATENT LAW BUILDING
8955 CENTER STREET
MANASSAS VA 20110

MAILED
NOV 27 2012
OFFICE OF PETITIONS

Doc Code: TRACK1.GRANT

Decision Granting Request for Prioritized Examination (Track I or After RCE)	Application No.: 13/651,534
<p>1. THE REQUEST FILED <u>10/15/12</u> IS GRANTED.</p> <p>The above-identified application has met the requirements for prioritized examination</p> <p>A. <input checked="" type="checkbox"/> for an original nonprovisional application (Track I). B. <input type="checkbox"/> for an application undergoing continued examination (RCE).</p> <p>2. The above-identified application will undergo prioritized examination. The application will be accorded special status throughout its entire course of prosecution until one of the following occurs:</p> <p>A. filing a <u>petition for extension of time</u> to extend the time period for filing a reply; B. filing an <u>amendment to amend the application to contain more than four independent claims, more than thirty total claims</u>, or a multiple dependent claim; C. filing a <u>request for continued examination</u>; D. filing a notice of appeal; E. filing a request for suspension of action; F. mailing of a notice of allowance; G. mailing of a final Office action; H. completion of examination as defined in 37 CFR 41.102; or I. abandonment of the application.</p> <p>Telephone inquiries with regard to this decision should be directed to Cheryl Gibson-Baylor at (571)272-3213, Office of Petitions. In his/her absence, calls may be directed to Brian W. Brown, (571)272-5338.</p> <p>Cheryl Gibson-Baylor <u>/Cheryl Gibson-Baylor/</u> [Signature]</p> <p><u>Petitions Examiner</u> (Title)</p>	

Docket No. **32387.02**
Confirmation No. **7695**
Customer No. **37833**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN THE PATENT APPLICATION OF:

APPLICANT: **BASEL FATHI ABU-SHARKH**
SERIAL NO: **13/651,534** ART UNIT: **1736**
FILED: **OCTOBER 15, 2012** EXAMINER: **HENDRICKSON, S.**
FOR: **METHOD OF PRODUCING SODA ASH**
ANJD CALCIUM CHLORIDE

COMMISSIONER FOR PATENTS
P.O. BOX 1450
ALEXANDRIA, VA 22313-1450

CORRECTION OF OFFICIAL FILING RECEIPT

Sir:

Upon review of the USPTO filing receipt (attached), Applicant noticed that the priority application had the wrong Series Number for the Application Number and the wrong filing date; that is, rather than reciting the correct Series as 13, the filing receipt recited a Series 12 and used the filing date of the erroneous application (03/12/2009). This error was caused by Applicant's erroneous Application Data Sheet (attached), although the Declaration (Attached) and Preliminary Amendment (Attached) correctly referred to the correct priority application.

The priority should read:

This application is a CON of 13/402,783 02/22/2012

Application No. 12/453,926
Art Unit 2123

Attorney Docket No. 18692.90
Confirmation No. 4561

A new Application Data Sheet is enclosed.

It is requested that a corrected filing receipt be issued.

Respectfully submitted,



Richard J. Apley
Registration No. 51,316
(703) 486-1000

RJA: tbs

Attachments: Original Filing Receipt Annotated With Error

Original ADS Annotated With Error

Original Declaration Annotated With Correct Application Number

Copy of Preliminary Amendment to Specification Annotated With Correct Application Number

New ADS With Correct Priority Application Number



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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
13/651,534	10/15/2012	1736	833	32387.02	14	2

CONFIRMATION NO. 7695

FILING RECEIPT



0000000057411507

37833
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PATENT LAW BUILDING
8955 CENTER STREET
MANASSAS, VA 20110

Date Mailed: 11/06/2012

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

BASEL FATHI ABU-SHARKH, AL-KHOBAR, SAUDI ARABIA;

Applicant(s)

BASEL FATHI ABU-SHARKH, AL-KHOBAR, SAUDI ARABIA;

Power of Attorney: None

Domestic Priority data as claimed by applicant.

This application is a CON of 12/402,783 03/12/2009 *

(*) Data provided by applicant is not consistent with PTO records.

13/402,783 02/22/2012

Foreign Applications (You may be eligible to benefit from the Patent Prosecution Highway program at the USPTO. Please see <http://www.uspto.gov> for more information.)

If Required, Foreign Filing License Granted: 11/02/2012

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 13/651,534**

Projected Publication Date: 02/14/2013

Non-Publication Request: No

Early Publication Request: No

**** SMALL ENTITY ****

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	32387.02
		Application Number	
Title of Invention	METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE		

Application Information:

Title of the Invention	METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE		
Attorney Docket Number	32387.02	Small Entity Status Claimed	<input checked="" type="checkbox"/>
Application Type	Nonprovisional		
Subject Matter	Utility		
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)		Suggested Figure for Publication (if any)	

Publication Information:

<input type="checkbox"/>	Request Early Publication (Fee required at time of Request 37 CFR 1.219)
<input type="checkbox"/>	Request Not to Publish. I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application has not and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.			
Please Select One:	<input checked="" type="radio"/> Customer Number	<input type="radio"/> US Patent Practitioner	<input type="radio"/> Limited Recognition (37 CFR 11.9)
Customer Number	37833		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.			
Prior Application Status	Pending	Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	Continuation of	12402783	2012-02-22
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.			

Foreign Priority Information:

ERROR

INVENTOR'S OATH OR DECLARATION

As the below named inventor, I hereby declare that:

This declaration is directed to the attached application entitled:

METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE

the specification of which is attached hereto unless the following box is checked:

☒ was filed on February 22, 2012 as United States Application Serial Number or PCT International Application Number 13/402,783 and was amended on _____ (if applicable).

CORRECT

The above identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years or both.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Legal Name of Sole or First Inventor: BASEL FATHI ABU-SHARKH

Signature: B. A. Sharkh

Date: 6/10/2012 Country of Citizenship: Occupied Palestinian Territories

Residence: P.O. Box 2814, Al-khobar, SA 31952

Post Office Address: Same

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN THE APPLICATION OF:

APPLICANT : BASEL FATHI ABU-SHARKH
SERIAL NO : UNASSIGNED
ART UNIT : UNASSIGNED
FILED : HEREWITH EXAMINER: UNASSIGNED
FOR : METHOD OF PRODUCING SODA ASH
AND CALCIUM CHLORIDE

ASSISTANT COMMISSIONER FOR PATENTS
WASHINGTON, D.C. 20231

Sir:

PRELIMINARY AMENDMENT

Prior to the examination of this application and calculation of the filing fee, please
enter the following amendment:

Amendments to the Specification begin on page 2 of this paper.

Remarks begin on page 3 of this paper.

IN THE SPECIFICATION

Please replace the section beginning on page 1, line 1 with the following amended section:

-- CROSS-REFERENCE TO RELATED APPLICATIONS --

-- [0001] This is a continuation of my prior application Serial No. 13/402,783, filed February 22, 2012 now pending. --

CORRECT

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	32387.02
		Application Number	
Title of Invention	METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE		
<p>The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.</p> <p>This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.</p>			

Secrecy Order 37 CFR 5.2

<input type="checkbox"/>	Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)
--------------------------	---

Inventor Information:

Inventor 1 Remove				
Legal Name				
Prefix	Given Name	Middle Name	Family Name	Suffix
Dr.	BASEL	FATHI	ABU-SHARKH	
Residence Information (Select One) <input type="radio"/> US Residency <input checked="" type="radio"/> Non US Residency <input type="radio"/> Active US Military Service				
City	AL-KHOBAR	Country of Residence	SA	
Mailing Address of Inventor:				
Address 1		P.O. BOX 2814		
Address 2				
City	AL-KHOBAR	State/Province		
Postal Code	31952	Country	SA	
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button. Add				

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).		
<input type="checkbox"/> An Address is being provided for the correspondence Information of this application.		
Customer Number	37833	
Email Address		Add Email Remove Email

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	32387.02
		Application Number	
Title of Invention	METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE		

Application Information:

Title of the Invention	METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE		
Attorney Docket Number	32387.02	Small Entity Status Claimed	<input checked="" type="checkbox"/>
Application Type	Nonprovisional		
Subject Matter	Utility		
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)		Suggested Figure for Publication (if any)	

Publication Information:

<input type="checkbox"/> Request Early Publication (Fee required at time of Request 37 CFR 1.219)
<input type="checkbox"/> Request Not to Publish. I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application has not and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.			
Please Select One: <input checked="" type="radio"/> Customer Number <input type="radio"/> US Patent Practitioner <input type="radio"/> Limited Recognition (37 CFR 11.9)			
Customer Number	37833		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.			
Prior Application Status	Pending	<input type="button" value="Remove"/>	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	Continuation of	13/402,783	2012-02-22
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.			<input type="button" value="Add"/>

Foreign Priority Information:

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	32387.02
		Application Number	
Title of Invention	METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE		

Applicant 1

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Remove

- ☐ Assignee
 ☐ Legal Representative under 35 U.S.C. 117
- ☐ Person to whom the inventor is obligated to assign.
 ☐ Person who shows sufficient proprietary interest

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor :

If the Assignee is an Organization check here. ☐

Prefix	Given Name	Middle Name	Family Name	Suffix

Mailing Address Information:

Address 1			
Address 2			
City		State/Province	
Country i		Postal Code	
Phone Number		Fax Number	
Email Address			


Additional Applicant Data may be generated within this form by selecting the Add button.

Add

Signature:

Remove

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications

Signature			Date (YYYY-MM-DD)	2013-01-07	
First Name	Richard J.	Last Name	Apley	Registration Number	51316

Additional Signature may be generated within this form by selecting the Add button.

Electronic Acknowledgement Receipt	
EFS ID:	14646484
Application Number:	13651534
International Application Number:	
Confirmation Number:	7695
Title of Invention:	METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE
First Named Inventor/Applicant Name:	BASEL FATHI ABU-SHARKH
Customer Number:	37833
Filer:	Richard Jay Apley
Filer Authorized By:	
Attorney Docket Number:	32387.02
Receipt Date:	08-JAN-2013
Filing Date:	15-OCT-2012
Time Stamp:	17:49:14
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
------------------------	----

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Corrected Filing Receipt	bassharkhfiling-010813.pdf	255450 8953302ac8f80853ab001efaa7513a54d01a a959	no	10

Warnings:

Information:

Total Files Size (in bytes):	255450
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>	



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/651,534	10/15/2012	BASEL FATHI ABU-SHARKH	32387.02	7695

37833 7590 01/10/2013
LITMAN LAW OFFICES, LTD.
PATENT LAW BUILDING
8955 CENTER STREET
MANASSAS, VA 20110

EXAMINER

HENDRICKSON, STUART L

ART UNIT	PAPER NUMBER
----------	--------------

1736

MAIL DATE	DELIVERY MODE
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01/10/2013

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

First Action Interview Pilot Program Pre-Interview Communication	Application No. 13/651,534	Applicant(s) ABU-SHARKH, BASEL FATHI	
	Examiner STUART HENDRICKSON	Art Unit 1736	Page 1 of 2

-The MAILING OR NOTIFICATION DATE of this communication appears on the cover sheet with the correspondence address -

THE SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE **ONE MONTH OR THIRTY (30) DAYS**, WHICHEVER IS LONGER, FROM THE MAILING OR NOTIFICATION DATE OF THIS COMMUNICATION.

This time period for reply is extendable under 37 CFR 1.136(a) for only ONE additional MONTH.

This communication constitutes notice under 37 CFR 1.136(a)(1)(i).

Applicant must, within the time period for reply, file: (1) A letter requesting not to have a first action interview; (2) A reply under 37 CFR 1.111 waiving the first action interview and First Action Interview Office Action; or (3) An Applicant Initiated Interview Request Form (PTOL-413A) electronically via EFS-Web, accompanied by a proposed amendment or arguments, and schedule the interview within 2 months from the filing of the request. A failure to respond to this communication will be treated as a request not to have an interview. If applicant waives the First Action Interview Office Action, the instant Pre-Interview Communication is deemed the first Office Action on the Merits. The next subsequent Office action may be made final if appropriate. See MPEP 706.07(a).

Disposition of Claims

3) ☒ Claim(s) 1-14 is/are pending in the application.
 3a) Of the above claim(s) _____ is/are withdrawn from consideration.

4) ☐ Claim(s) _____ is/are allowed.

5) ☒ Claim(s) 1-14 is/are rejected.

6) ☐ Claim(s) _____ is/are objected to.

7) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

8) ☐ The specification is objected to by the Examiner.

9) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

10) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

11) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

Contact Information

Examiner's Telephone Number: (571)272-1351
 Examiner's Typical Work Schedule: M-F
 Supervisor's Name: Silverman Stan
 Supervisor's Telephone Number: 571-272-1358

Attachment(s) 1) <input type="checkbox"/> Notice of References Cited (PTO-892) 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____. 5) <input type="checkbox"/> Notice of Informal Patent Application 6) <input type="checkbox"/> Other: _____.
---	--

First Action Interview Pilot Program Pre-Interview Communication				Application No. 13651534	Applicant(s) ABU-SHARKH, BASEL FATHI
				Examiner STUART HENDRICKSON	Art Unit 1736
Notification of Rejection(s) and/or Objection(s)					
#	Claim(s)	Reference(s) (If applicable)	Rejection Statutory Basis	Brief Explanation of Rejection	
1	1-14	363,952	103	Teaches basic Solvay process and some details; note claim 42 and the first few pages.	
2	1-14	4172017	103	Outlines Solvay process	

Expanded Discussion/Commentary		
1		The claims recite little beyond the basics of the Solvay process, and it is not seen the claimed process differs. This patent, over 125 years old, is a detailed compilation of the process, and appears to teach all the claimed procedures and steps.
2		This is a supplementary patent, to explicitly define the Solvay process.
DATE: 04 January, 2013		/Stuart Hendrickson/ Primary Examiner, Art Unit 1736



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United States Patent and Trademark Office
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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO.	TOT CLAIMS	IND CLAIMS
13/651,534	10/15/2012	1736	833	32387.02	14	2

CONFIRMATION NO. 7695

CORRECTED FILING RECEIPT



OC000000058653314

37833
LITMAN LAW OFFICES, LTD.
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MANASSAS, VA 20110

Date Mailed: 01/17/2013

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

BASEL FATHI ABU-SHARKH, AL-KHOBAR, SAUDI ARABIA;

Applicant(s)

BASEL FATHI ABU-SHARKH, AL-KHOBAR, SAUDI ARABIA;

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CON of 13/402,783 02/22/2012

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.) - None.

Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

If Required, Foreign Filing License Granted: 11/02/2012

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 13/651,534**

Projected Publication Date: 02/14/2013

Non-Publication Request: No

Early Publication Request: No

**** SMALL ENTITY ****

Title

METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE

Preliminary Class

423

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

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Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

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set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

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Docket No. **32387.02**
Confirmation No. **7695**
Customer No. **37833**

EXAMINER'S COURTESY COPY - - FOR REVIEW PURPOSES ONLY

DO NOT ENTER
DO NOT SCAN
DO NOT PUBLISH

IN THE APPLICATION OF:

APPLICANT: BASEL ABU-SHARKH

SERIAL NO: 13/651,534

GROUP: 1736

FILED: October 15, 2012

EXAMINER: S. HENDRICKSON

FOR: METHOD OF PRODUCING SODA ASH AND
CALCIUM CHLORIDE

COMMISSIONER OF PATENTS
P.O. BOX 1450
ALEXANDRIA, VA 22313-1450

PROPOSED AMENDMENT

Please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims, which begin on page 2 of this paper.

Remarks/Arguments begin on page 7 of this paper.

IN THE CLAIMS:

This proposed listing of claims be discussed during the interview:

Proposed Listing of Claims:

Claim 1. (*Proposed Amended*) A method of producing soda ash and calcium chloride, comprising the steps of:

- providing a source of brine;
- providing a source of gaseous ammonia;
- ammoniating brine with gaseous ammonia to form ammoniated brine;
- heating limestone to produce calcium oxide and carbon dioxide;
- reacting the ammoniated brine with the carbon dioxide produced by the step of heating the limestone to produce sodium bicarbonate, ammonium chloride and a brine effluent;
- calcining the sodium bicarbonate to decompose the sodium bicarbonate to produce soda ash and gaseous carbon dioxide;
- reacting the calcium oxide with the ammonium chloride and brine effluent to produce calcium chloride, brine effluent, and ammonia;
- recycling the ammonia to be used in the step of ammoniating the brine; and
- recycling the water from the brine effluent to be used in the step of ammoniating the brine.

Claim 2. (*Original*) The method of producing soda ash and calcium chloride as recited in claim 1, further comprising the step of filtering the mixture of sodium bicarbonate, ammonium chloride, and brine prior to said calcining step, the brine and

soluble ammonium chloride being removed for recovery of sodium chloride and ammonia.

Claim 3. (*Original*) The method of producing soda ash and calcium chloride as recited in claim 2, wherein said step of calcining the sodium bicarbonate comprises heating the filtered sodium bicarbonate to a temperature sufficient to decompose the sodium bicarbonate.

Claim 4. (*Original*) The method of producing soda ash and calcium chloride as recited in claim 1, wherein said step of recycling the water and the brine effluent further comprises the steps of:

crystallizing sodium chloride from the mixture of calcium chloride and brine effluent;

separating the crystallized sodium chloride from the effluent by centrifuging the effluent; and

recycling the crystallized sodium chloride for the formation of fresh brine to continue the method.

Claim 5. (*Original*) The method of producing soda ash and calcium chloride as recited in claim 4, further comprising the steps of:

evaporating any water remaining after the step of recycling the crystallized sodium chloride in order to produce water vapor and to recover the produced calcium chloride;

recycling the water vapor.

Claim 6. (*Original*) The method of producing soda ash and calcium chloride as recited in claim 5, further comprising the steps of condensing the water vapor and recycling the condensed water vapor for the formation of fresh brine with the recycled sodium chloride.

Claim 7. (*Original*) The method of producing soda ash and calcium chloride as recited in claim 1, wherein said step of reacting the calcium oxide with the ammonium chloride and brine effluent comprises reacting dry calcium oxide with the ammonium chloride and brine effluent without slaking the calcium oxide produced by heating the limestone.

Claim 8. (*Original*) The method of producing soda ash and calcium chloride as recited in claim 5, further comprising the steps of:

collecting the produced calcium chloride; and
separating residual salt therefrom.

Claim 9. (*Original*) The method of producing soda ash and calcium chloride as recited in claim 8, further comprising the step of forming an approximately 77 wt% solution of calcium chloride flakes.

Claim 10. (*Original*) The method of producing soda ash and calcium chloride as recited in claim 8, further comprising the step of forming an approximately 95 wt% solution of calcium chloride granules.

Claim 11. (*Proposed Amended*) A method of producing soda ash and calcium chloride, comprising the steps of:

mixing sodium chloride and water to form fresh brine;

providing ammonia gas;

bubbling the ammonia gas through the fresh brine to form ammoniated brine;

heating limestone in a lime kiln to produce dry calcium oxide and carbon dioxide;

bubbling the carbon dioxide through the ammoniated brine in a carbonation tower to produce sodium bicarbonate, ammonium chloride, and a brine effluent, the sodium bicarbonate precipitating in the brine effluent and the ammonium chloride being soluble in the brine effluent;

filtering the brine effluent to remove the precipitated sodium bicarbonate;

calcining the filtered sodium bicarbonate at a temperature sufficient to decompose the sodium bicarbonate to form soda ash as a major product;

reacting the dry calcium oxide with the filtered brine effluent to produce ammonia gas and a brine effluent containing calcium chloride;

recycling the ammonia gas produced by the reacting step to form additional ammoniated brine using the bubbling ammonia step;

crystallizing sodium chloride in the brine effluent;

centrifuging the brine effluent to separate the crystallized sodium chloride from the brine effluent;

recycling the separated crystallized sodium chloride to form additional fresh brine using the mixing step;

evaporating water from the effluent to form water vapor and to recover calcium chloride as a major product; and

recycling the water vapor to form additional fresh brine using the mixing step;

whereby all reactants are recycled, leaving substantially no waste to discharge.

Claim 12. (*Original*) The method of producing soda ash and calcium chloride as recited in claim 11, further comprising the steps of:

collecting the produced calcium chloride; and

separating residual salt therefrom.

Claim 13. (*Original*) The method of producing soda ash and calcium chloride as recited in claim 12, further comprising the step of forming an approximately 77 wt% solution of calcium chloride flakes.

Claim 14. (*Original*) The method of producing soda ash and calcium chloride as recited in claim 12, further comprising the step of forming an approximately 95 wt% solution of calcium chloride granules.

REMARKS

This proposed amendment and the following remarks are is for review by the Examiner prior to the personal interview to be scheduled.

The following comments regarding the applied prior art are for consideration in light of the proposed amendments to the claims.

The applied prior art relied upon by the Examiner fails to satisfy the metes and bounds of Applicant's claimed method, particularly the prior art fails to show the initial step of producing ammoniated brine.

Electronic Acknowledgement Receipt	
EFS ID:	14916422
Application Number:	13651534
International Application Number:	
Confirmation Number:	7695
Title of Invention:	METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE
First Named Inventor/Applicant Name:	BASEL FATHI ABU-SHARKH
Customer Number:	37833
Filer:	Richard C. Litman/Warren Edmonds
Filer Authorized By:	Richard C. Litman
Attorney Docket Number:	32387.02
Receipt Date:	08-FEB-2013
Filing Date:	15-OCT-2012
Time Stamp:	16:06:27
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		32387-02-INT-REQ-PRO-AMDT. pdf	168214 2b32b57ab4dacbd075b43dfc32cbd58935c2b29	yes	8

	Multipart Description/PDF files in .zip description		
	Document Description	Start	End
	First Action Interview - Schedule Interview request	1	1
	Reply under 1.111 to Pre-Interview Communication	2	8
Warnings:			
Information:			
Total Files Size (in bytes):		168214	
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>			

Applicant Initiated Interview Request Form

Application No.: 13/651,534 First Named Applicant: BASEL FATHI ABU-SHARKH
 Examiner: S. HENDRICKSON Art Unit: 1736 Status of Application: Pending

Tentative Participants:

(1) Examiner Stuart L. HENDRICKSON (2) Warren S. Edmonds, Appl.'s Rep.

(3) _____ (4) _____

Proposed Date of Interview: TBD Proposed Time: TBD (AM/PM)

Type of Interview Requested:

(1) ☐ Telephonic (2) ☒ Personal (3) ☐ Video Conference

Exhibit To Be Shown or Demonstrated: ☐ YES ☒ NO

If yes, provide brief description: _____

Issues To Be Discussed

Issues (Rej., Obj., etc)	Claims/ Fig. #s	Prior Art	Discussed	Agreed	Not Agreed
(1) <u>Rej.</u>	<u>1-14</u>	<u>363,952</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(2) <u>Rej.</u>	<u>1-14</u>	<u>4,172,017</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(3) _____	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(4) _____	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

☐ Continuation Sheet Attached ☒ Proposed Amendment or Arguments Attached

Brief Description of Arguments to be Presented: The applied prior art fails to satisfy the metes and bounds of

Applicant's claimed method.

An interview was conducted on the above-identified application on _____

NOTE: This form should be completed and filed by applicant in advance of the interview (see MPEP § 713.01). If this form is signed by a registered practitioner not of record, the Office will accept this as an indication that he or she is authorized to conduct an interview on behalf of the principal (37 CFR 1.32(a)(3)) pursuant to 37 CFR 1.34. This is not a power of attorney to any above named practitioner. See the Instruction Sheet for this form, which is incorporated by reference. By signing this form, applicant or practitioner is certifying that he or she has read the Instruction Sheet. After the interview is conducted, applicant is advised to file a statement of the substance of this interview (37 CFR 1.133(b)) as soon as possible. This application will not be delayed from issue because of applicant's failure to submit a written record of this interview.


Applicant/Applicant's Representative Signature

Examiner/SPE Signature

Warren S. Edmonds

Typed/Printed Name of Applicant or Representative

39,642

Registration Number, if applicable

This collection of information is required by 37 CFR 1.133. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 24 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
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Alexandria, Virginia 22313-1450
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/651,534	10/15/2012	BASEL FATHI ABU-SHARKH	32387.02

CONFIRMATION NO. 7695

37833

LITMAN LAW OFFICES, LTD.
PATENT LAW BUILDING
8955 CENTER STREET
MANASSAS, VA 20110

PUBLICATION NOTICE



Title:METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE

Publication No.US-2013-0039824-A1

Publication Date:02/14/2013

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently <http://www.uspto.gov/patft/>.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently <http://pair.uspto.gov/>. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



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www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/651,534	10/15/2012	INV001BASEL FATHI ABU-SHARKH	32387.02	7695

37833 7590 03/21/2013
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MANASSAS, VA 20110

EXAMINER

HENDRICKSON, STUART L

ART UNIT	PAPER NUMBER
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1736

MAIL DATE	DELIVERY MODE
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03/21/2013

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<i>Applicant-Initiated Interview Summary</i>	Application No.	Applicant(s)	
	13/651,534	ABU-SHARKH, BASEL FATHI	
	Examiner	Art Unit	
	STUART HENDRICKSON	1736	

All participants (applicant, applicant's representative, PTO personnel):

(1) STUART HENDRICKSON. (3) Fiona Powers.

(2) Mr. Edmonds. (4) _____.

Date of Interview: 27 February 2013.

Type: ☒ Telephonic ☐ Video Conference
☐ Personal [copy given to: ☐ applicant ☐ applicant's representative]

Exhibit shown or demonstration conducted: ☐ Yes ☒ No.
If Yes, brief description: _____.

Issues Discussed ☐101 ☐112 ☐102 ☒103 ☐Others
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: all in general.

Identification of prior art discussed: 363952.

Substance of Interview
(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

It was argued that present process was an improvement over the Solvay process, as documented by '952. The Office requested elucidation of detailed parameters, ie specific numerical values, for purity, concentrations of reactants and other conditions which would be commensurate with an unexpected or improved result. It was also suggested to focus on the recovery of NaCl from the process, perhaps in the indication of a high purity if the Solvay process is more directed to the production of the carbonate. No specific agreement of how the claims would be amended was made.

Applicant recordation instructions: The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the interview

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☐ Attachment

/Stuart Hendrickson/ Primary Examiner, Art Unit 1736	
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Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

Docket No. **32387.02**
Confirmation No. **7695**
Customer No. **37833**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN THE PATENT APPLICATION OF:

APPLICANT: BASEL FATHI ABU-SHARKH

SERIAL NO: 13/651,534

ART UNIT: 1736

FILED: October 15, 2012

EXAMINER: S. HENDRICKSON

FOR: METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE

MAIL STOP AMENDMENT
COMMISSIONER FOR PATENTS
P.O. BOX 1450
ALEXANDRIA, VA 22313-1450

AMENDMENT AND RESPONSE

Sir:

This communication is responsive to the Interview Summary Record Office Action dated March 21, 2013, the time for responding thereto being on or before April 21, 2013.

Please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims, which begin on page 2 of this paper.

Remarks/Arguments begin on page 9 of this paper.

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1. (*Currently Amended*) A method of producing soda ash and calcium chloride, comprising the steps of:

- providing a source of brine;
- providing a source of gaseous ammonia;
- ammoniating brine with gaseous ammonia to form ammoniated brine;
- heating limestone to produce calcium oxide and carbon dioxide;
- reacting the ammoniated brine with the carbon dioxide produced by the step of heating the limestone to produce sodium bicarbonate, ammonium chloride and a brine effluent;
- calcining the sodium bicarbonate to decompose the sodium bicarbonate to produce soda ash and gaseous carbon dioxide;
- reacting the calcium oxide with the ammonium chloride and brine effluent to produce calcium chloride, brine effluent, and ammonia;
- recycling the ammonia to be used in the step of ammoniating the brine; and
- recycling the water from the brine effluent to be used in the step of ammoniating the brine by crystallizing sodium chloride from the mixture of calcium chloride and brine

effluent, separating the crystallized sodium chloride from the effluent by centrifuging the effluent, and recycling the crystallized sodium chloride;

evaporating any water remaining to produce water vapor;

recovering the produced calcium chloride;

recycling the water vapor;

wherein the crystallized sodium chloride is further for the formation of fresh brine to continue the method;

collecting the produced calcium chloride;

separating residual salt; and

forming an approximately 77 wt% solution of calcium chloride flakes.

Claim 2. (*Original*) The method of producing soda ash and calcium chloride as recited in claim 1, further comprising the step of filtering the mixture of sodium bicarbonate, ammonium chloride, and brine prior to said calcining step, the brine and soluble ammonium chloride being removed for recovery of sodium chloride and ammonia.

Claim 3. (*Original*) The method of producing soda ash and calcium chloride as recited in claim 2, wherein said step of calcining the sodium bicarbonate comprises heating the filtered sodium bicarbonate to a temperature sufficient to decompose the sodium bicarbonate.

Claims 4-5. (*Canceled*)

Claim 6. (*Currently Amended*) The method of producing soda ash and calcium chloride as recited in claim [[5]] 1, further comprising the steps of condensing the water vapor and recycling the condensed water vapor for the formation of fresh brine with the recycled sodium chloride.

Claim 7. (*Original*) The method of producing soda ash and calcium chloride as recited in claim 1, wherein said step of reacting the calcium oxide with the ammonium chloride and brine effluent comprises reacting dry calcium oxide with the ammonium chloride and brine effluent without slaking the calcium oxide produced by heating the limestone.

Claims 8-10. (*Canceled*)

Claim 11. (*Currently Amended*) A method of producing soda ash and calcium chloride, comprising the steps of:

mixing sodium chloride and water to form fresh brine;

providing ammonia gas;

bubbling the ammonia gas through the fresh brine to form ammoniated brine;

heating limestone in a lime kiln to produce dry calcium oxide and carbon dioxide;

bubbling the carbon dioxide through the ammoniated brine in a carbonation tower to produce sodium bicarbonate, ammonium chloride, and a brine effluent, the sodium bicarbonate precipitating in the brine effluent and the ammonium chloride being soluble in the brine effluent;

filtering the brine effluent to remove the precipitated sodium bicarbonate;

calcining the filtered sodium bicarbonate at a temperature sufficient to decompose the sodium bicarbonate to form soda ash as a major product;

reacting the dry calcium oxide with the filtered brine effluent to produce ammonia gas and a brine effluent containing calcium chloride;

recycling the ammonia gas produced by the reacting step to form additional ammoniated brine using the bubbling ammonia step;

crystallizing sodium chloride in the brine effluent;

centrifuging the brine effluent to separate the crystallized sodium chloride from the brine effluent;

recycling the separated crystallized sodium chloride to form additional fresh brine using the mixing step;

evaporating water from the effluent to form water vapor and to recover calcium chloride as a major product;

collecting the produced calcium chloride;

separating residual salt therefrom;

forming a solution ;

wherein the solution is selected from a group consisting essentially of an approximately 77 wt% solution of calcium chloride flakes, and an approximately 95 wt% solution of calcium chloride granules; and

recycling the water vapor to form addition fresh brine using the mixing step;
whereby all reactants are recycled, leaving substantially no waste to discharge.

Claims 12-14. (*Canceled*)

Claim 15. (*New*) A method of producing soda ash and calcium chloride, comprising the steps of:

providing a source of brine;
providing a source of gaseous ammonia;
ammoniating brine with gaseous ammonia to form ammoniated brine;
heating limestone to produce calcium oxide and carbon dioxide;
reacting the ammoniated brine with the carbon dioxide produced by the step of heating the limestone to produce sodium bicarbonate, ammonium chloride and a brine effluent;
calcining the sodium bicarbonate to decompose the sodium bicarbonate to produce soda ash and gaseous carbon dioxide;
reacting the calcium oxide with the ammonium chloride and brine effluent to produce calcium chloride, brine effluent, and ammonia;

recycling the ammonia to be used in the step of ammoniating the brine; and

recycling the water from the brine effluent to be used in the step of ammoniating the brine by crystallizing sodium chloride from the mixture of calcium chloride and brine effluent, separating the crystallized sodium chloride from the effluent by centrifuging the effluent, and recycling the crystallized sodium chloride;

evaporating any water remaining to produce water vapor;

recovering the produced calcium chloride;

recycling the water vapor;

wherein the crystallized sodium chloride is further for the formation of fresh brine to continue the method;

collecting the produced calcium chloride;

separating residual salt; and

forming an approximately 95 wt% solution of calcium chloride granules.

Claim 16. (*New*) The method of producing soda ash and calcium chloride as recited in claim 15, further comprising the step of filtering the mixture of sodium bicarbonate, ammonium chloride, and brine prior to said calcining step, the brine and soluble ammonium chloride being removed for recovery of sodium chloride and ammonia.

Claim 17. (*New*) The method of producing soda ash and calcium chloride as recited in claim 16, wherein said step of calcining the sodium bicarbonate comprises heating the filtered sodium bicarbonate to a temperature sufficient to decompose the sodium bicarbonate.

Claim 18. (*New*) The method of producing soda ash and calcium chloride as recited in claim 15, further comprising the steps of:

condensing the water vapor;
recycling the condensed water vapor; and
forming fresh brine with the recycled sodium chloride.

Claim 19. (*New*) The method of producing soda ash and calcium chloride as recited in claim 15, wherein said step of reacting the calcium oxide with the ammonium chloride and brine effluent by reacting dry calcium oxide with the ammonium chloride and brine effluent without slaking the calcium oxide produced by heating the limestone.

REMARKS

By the present amendment, Applicant has amended Claims 1, 6, and 11, cancelled Claims 4, 5, 8-10, and 12-14 , and added Claims 15 through 19. Claims remain pending in the present application. Claims 1, 11, and 15 are independent claims.

Applicant appreciates the courtesies extended to Applicant's representative during the telephonic interview held February 27, 2013. The present response summarizes the substance of the interview. At the interview a proposed amendment to the claims was presented. It was proposed to amend independent Claim 1 by reciting the steps of providing a source of brine and a source of gaseous ammonia. It was proposed to amend independent Claim 11 by reciting the step of providing a source of gaseous ammonia. Arguments were advanced that although the formation of soda ash and calcium chloride is a conventionally known process (namely, the Solvay process), the present application provided a new and improved series of steps to produce the resulting products and provide recycling of the materials to reduce waste. The Examiner indicated that the process, albeit an improvement, was still considered obvious in light of the standard processing procedures that are well known in the art. The Examiner suggested combining the processed values of the production so as to distinguish over the prior art.

Applicant will advance arguments hereinbelow to illustrate the manner in which the presently claimed invention is patentably distinguishable from the cited and applied prior art. Reconsideration of the present application is respectfully requested.

The Examiner rejected Claims 1-14 under 35 U.S.C. 103(a) as being unpatentable over Frasch (US 363,952) or Abraham (US 4,172,017). These rejections are respectfully traversed.

The applied prior art reference to Frasch discloses process and apparatus for producing sodium carbonate including several steps of the present claims. Frasch however, does not disclose heating the limestone to produce calcium oxide and carbon dioxide; reacting the ammoniated brine with produced carbon dioxide to further produce sodium bicarbonate, ammonium chloride, and a brine effluent; and reacting the calcium oxide with the ammonium chloride and brine effluent to produce the calcium chloride, brine effluent, and ammonia.

The applied prior art reference to Abraham discloses a process for producing chlorine from ammonium chloride including several steps as recited in the present claims. Abraham however, fails to disclose the step of reacting the ammoniated brine with produced carbon dioxide to further produce sodium bicarbonate, ammonium chloride, and a brine effluent; and the step of reacting the calcium oxide with the ammonium chloride and brine effluent to produce the calcium chloride, brine effluent, and ammonia.

In order to expeditiously reach allowable subject matter, Applicant has amended independent claim 1 by incorporating the limitation of claim 9 (and all intervening claims) so as to form an approximately 77 wt% solution of calcium chloride flakes. Applicant has added new claim 15, which corresponds directly to original claim 10, incorporating independent claim 1, all intervening claims, to form an approximately 95 wt% solution of calcium chloride granules. Neither of these claim limitations are found in any of the applied prior art references to Frasch or Abraham. In addition, independent claim 11 has been rewritten to incorporate the limitations of claims 13 and 14, wherein the wherein the solution is selected from a group consisting essentially of an approximately 77 wt% solution of calcium chloride

flakes, and an approximately 95 wt% solution of calcium chloride granules. As such, this grouping is not found in the applied prior art of Frasch nor Abraham.

Since the prior art is silent to the specific weight percentages as now recited in the independent claims 1, 11, and 15, and the respective disclosures fail to show the recited steps established by the instant claims, it is also evident that the same non-disclosed steps are also non-obvious with respect to the proper application of the statute. It is requested that the outstanding rejections be withdrawn, and the instant claims passed to issue.

Applicant has amended the claims, and presented rationale that the claims are not obviously met by the applied prior art, as asserted by the Examiner, Applicant respectfully submits that for at least these reasons, independent Claims 1, 11, and 15, are allowable over the prior art applied of record. A Notice to that effect is earnestly solicited.

*Application Serial No.: 13/651,534,
Art Unit: 1736*

*Attorney Docket No. 32387.02
Confirmation No. 7695*

For the foregoing reasons, Applicant respectfully submits that the present application is in condition for allowance. If such is not the case, the Examiner is requested to kindly contact the undersigned in an effort to satisfactorily conclude the prosecution of this application.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Richard J. Apley', written in a cursive style.

Richard J. Apley
Registration No. 51,316
(703) 486-1000

RJA:wse

Electronic Acknowledgement Receipt	
EFS ID:	15512050
Application Number:	13651534
International Application Number:	
Confirmation Number:	7695
Title of Invention:	METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE
First Named Inventor/Applicant Name:	BASEL FATHI ABU-SHARKH
Customer Number:	37833
Filer:	Richard Jay Apley
Filer Authorized By:	
Attorney Docket Number:	32387.02
Receipt Date:	15-APR-2013
Filing Date:	15-OCT-2012
Time Stamp:	08:24:05
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Amendment/Req. Reconsideration-After Non-Final Reject	baselamdt-041513.pdf	237759 b4541f168361a552709adf4d521f3a275bd32e1b	no	12

Warnings:

Information:

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/651,534	10/15/2012	BASEL FATHI ABU-SHARKH	32387.02	7695

37833 7590 06/12/2013
LITMAN LAW OFFICES, LTD.
PATENT LAW BUILDING
8955 CENTER STREET
MANASSAS, VA 20110

EXAMINER

HENDRICKSON, STUART L

ART UNIT	PAPER NUMBER
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1736

MAIL DATE	DELIVERY MODE
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06/12/2013

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 13/651,534	Applicant(s) ABU-SHARKH, BASEL FATHI	
	Examiner STUART HENDRICKSON	Art Unit 1736	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1-3, 6, 7, 11, 15-19 is/are pending in the application.
5a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) _____ is/are allowed.
- 7) ☒ Claim(s) 1-3, 6, 7, 11 and 15-19 is/are rejected.
- 8) ☐ Claim(s) _____ is/are objected to.
- 9) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) ☐ All b) ☐ Some * c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Interim copies:

- a) ☐ All b) ☐ Some c) ☐ None of the: Interim copies of the priority documents have been received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 3) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | Paper No(s)/Mail Date. _____ |
| Paper No(s)/Mail Date _____ | 4) <input type="checkbox"/> Other: _____ |

Art Unit: 1736

The following is a quotation of 35 U.S.C. 112(b):

(B) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3, 6, 7, 11, 15-19 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention.

A) In claim 11, 'a group consisting essentially of' is incorrect language.

B) In claim 1, 'wherein the crystallized NaCl is further for formation' is unclear as to the steps and should probably be up a few lines in the claim. See also claim 15.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-3, 6, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frasch 363952 taken with Mitkevich et al. 3682602, Abraham 4172017 and Olsen article.

Art Unit: 1736

Frasch teaches a number of embodiments of the ammonia-soda process, and many sub-modules. Included are teachings of the base chemical reactions of the system, and pg. 3 line 20 teaches burning of limestone and recycling of ammonia in lines 90-95. The teachings of pgs. 1-6 are particularly relevant; see also claim 42.

Frasch does not teach the details of NaCl removal and product recovery, however Mitkevich does in col. 1-3 and the figure. Note the teaching of crystallization of NaCl and removal by centrifuge, as well as formation of 70-72% CaCl₂.

Abraham outlines the general scheme of the process. Olsen teaches that recycling/capture of heat is a well-known expedient. Thus, recycling heated materials such as steam and chemicals such as ammonia are obvious for similar reasons- the economic efficiency of the process (note also pg. 3 line 70 of Frasch). Note also *In re Boesch* 205 USPQ 215.

Using the techniques of Mitkevich and Olsen in the process of Frasch, in the context of the scheme of Abraham, is an obvious expedient to make and recover the desired chemicals, and recovering the steam/water from Mitkevich and reusing it is similarly obvious to save on reagent cost and capture heat. Claim 2 is taught on Frasch pg. 3 lines 90-95, and is obvious in any event to remove fines from the system to avoid clogging and side-reactions.

The IDS contains an incorrect number, as do the filing papers. The parent application has been reviewed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STUART HENDRICKSON whose telephone number is (571)272-1351. The examiner can normally be reached on Monday-Friday from 9 to 5. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Silverman Stan, can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

/Stuart Hendrickson/

Primary Examiner, Art Unit 1736

Notice of References Cited	Application/Control No. 13/651,534	Applicant(s)/Patent Under Reexamination ABU-SHARKH, BASEL FATHI	
	Examiner STUART HENDRICKSON	Art Unit 1736	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-4,172,017	10-1979	Abraham, Bernard M.	205/367
*	B	US-3,682,602	08-1972	Mitkevich et al.	23/303
*	C	US-363,952	05-1887	Frasch	423/188
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	Olsen, 'Unit Processes and Principles of Chemical Engineering' Van Nostrand Inc. 7/5/32 pgs. 1-3.
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

FORM PTO- 1449	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY DOCKET NO. 32387.02	SERIAL NO.
INFORMATION DISCLOSURE CITATION IN AN APPLICATION (Use several sheets if necessary)		APPLICANT BASEL FATHI ABU-SHARKH	
		FILING DATE	GROUP

U.S. PATENT DOCUMENTS

Examiner Initials	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE If appropriate

FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation YES NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)

Prior art cited in parent application SN 12/402,703, filed February 22, 2012, the priority of which is claimed herein.

EXAMINER	DATE CONSIDERED
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EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

FORM PTO-1449	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY DOCKET NO. 32387.00	SERIAL NO.
INFORMATION DISCLOSURE CITATION IN AN APPLICATION (Use several sheets if necessary)		APPLICANT Basel Fathi ABU-SHARKH	
		FILING DATE	GROUP

U.S. PATENT DOCUMENTS

Examiner Initials	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE If appropriate
	3,314,748	4/1967	Howard et al.			
	4,406,869	9/1983	Nakaya et al.			
	US 6,284,005 B1	9/2001	Hazen et al.			
	US 6,464,736 B1	10/2002	Hazen et al.			

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation YES NO
	CN 101717100 A	6/2010	China			
	CN 101708858 B	6/2011	China			
	WO 2011/138005 A1	11/2011	PCT			

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)

	"Green River Basin Water Plan Technical Memoranda", Wyoming State Water Plan website; 11 pages; printed on December 18, 2011; http://waterplan.state.wy.us/plan/green/techmemos/induse.html

EXAMINER	DATE CONSIDERED
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EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

Electronic Acknowledgement Receipt	
EFS ID:	16269751
Application Number:	13651534
International Application Number:	
Confirmation Number:	7695
Title of Invention:	METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE
First Named Inventor/Applicant Name:	BASEL FATHI ABU-SHARKH
Customer Number:	37833
Filer:	Richard Jay Apley
Filer Authorized By:	
Attorney Docket Number:	32387.02
Receipt Date:	09-JUL-2013
Filing Date:	15-OCT-2012
Time Stamp:	19:16:02
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		sharkhamdt-071013.pdf	241709 c9c70ba74cdf7c749901283173e5531fa999 c820	yes	11

	Multipart Description/PDF files in .zip description		
	Document Description	Start	End
	Amendment/Req. Reconsideration-After Non-Final Reject	1	10
	Information Disclosure Statement (IDS) Form (SB08)	11	11
Warnings:			
Information:			
Total Files Size (in bytes):		241709	
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>			

Docket No. **32387.02**
Confirmation No. **7695**
Customer No. **37833**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN THE PATENT APPLICATION OF:

APPLICANT: **BASEL FATHI ABU-SHARKH**

SERIAL NO: **13/651,534** ART UNIT: **1736**

FILED: **October 15, 2012** EXAMINER: **STUART HENDRICKSON**

FOR: **METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE**

MAIL STOP AMENDMENT
COMMISSIONER FOR PATENTS
P.O. BOX 1450
ALEXANDRIA, VA 22313-1450

AMENDMENT AND RESPONSE

Sir:

This communication is responsive to the Office Action dated June 12, 2013, the time for responding thereto being on or before July 12, 2013.

Please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims, which begin on page 2 of this paper.

Remarks/Arguments begin on page 9 of this paper.

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1. (*Currently Amended*) A method of producing soda ash and calcium chloride, comprising the steps of:

- providing a source of brine;
- providing a source of gaseous ammonia;
- ammoniating brine with gaseous ammonia to form ammoniated brine;
- heating limestone to produce calcium oxide and carbon dioxide;
- reacting the ammoniated brine with the carbon dioxide produced by the step of heating the limestone to produce sodium bicarbonate, ammonium chloride and a brine effluent;
- calcining the sodium bicarbonate to decompose the sodium bicarbonate to produce soda ash and gaseous carbon dioxide;
- reacting the calcium oxide with the ammonium chloride and brine effluent to produce calcium chloride, brine effluent, and ammonia;
- wherein said step of reacting the calcium oxide with the ammonium chloride and brine effluent comprises reacting dry calcium oxide with the ammonium chloride and brine effluent without slaking the calcium oxide produced by heating the limestone;
- recycling the ammonia to be used in the step of ammoniating the brine; and
- recycling the water from the brine effluent to be used in the step of ammoniating the brine by crystallizing sodium chloride from the mixture of calcium chloride and brine effluent,

separating the crystallized sodium chloride from the effluent by centrifuging the effluent, and recycling the crystallized sodium chloride;

evaporating any water remaining to produce water vapor;

recovering the produced calcium chloride;

recycling the water vapor and condensing into water;

wherein the crystallized sodium chloride is further used for the ~~[[formation]]~~ providing of fresh brine by combining with the condensed water to continue the method;

collecting the produced calcium chloride;

separating residual salt; and

forming an approximately 77 wt% solution of calcium chloride flakes.

Claim 2. (*Original*) The method of producing soda ash and calcium chloride as recited in claim 1, further comprising the step of filtering the mixture of sodium bicarbonate, ammonium chloride, and brine prior to said calcining step, the brine and soluble ammonium chloride being removed for recovery of sodium chloride and ammonia.

Claim 3. (*Original*) The method of producing soda ash and calcium chloride as recited in claim 2, wherein said step of calcining the sodium bicarbonate comprises heating the filtered sodium bicarbonate to a temperature sufficient to decompose the sodium bicarbonate.

Claims 4-5. (*Canceled*)

Claim 6. (*Previously Amended*) The method of producing soda ash and calcium chloride as recited in claim 1, further comprising the steps of condensing the water vapor and recycling the condensed water vapor for the formation of fresh brine with the recycled sodium chloride.

Claims 7-10. (*Canceled*)

Claim 11. (*Currently Amended*) A method of producing soda ash and calcium chloride, comprising the steps of:

- mixing sodium chloride and water to form fresh brine;
- providing ammonia gas;
- bubbling the ammonia gas through the fresh brine to form ammoniated brine;
- heating limestone in a lime kiln to produce dry calcium oxide and carbon dioxide;
- bubbling the carbon dioxide through the ammoniated brine in a carbonation tower to produce sodium bicarbonate, ammonium chloride, and a brine effluent, the sodium bicarbonate precipitating in the brine effluent and the ammonium chloride being soluble in the brine effluent;
- filtering the brine effluent to remove the precipitated sodium bicarbonate;
- calcining the filtered sodium bicarbonate at a temperature sufficient to decompose the sodium bicarbonate to form soda ash as a major product;
- reacting the dry calcium oxide with the filtered brine effluent to produce ammonia gas and a brine effluent containing calcium chloride;

wherein said step of reacting the dry calcium oxide with the filtered brine effluent to produce ammonia gas and a brine effluent containing calcium chloride comprises reacting dry calcium oxide with the ammonium chloride and brine effluent without slaking the calcium oxide produced by heating the limestone;

recycling the ammonia gas produced by the reacting step to form additional ammoniated brine using the bubbling ammonia step;

crystallizing sodium chloride in the brine effluent;

centrifuging the brine effluent to separate the crystallized sodium chloride from the brine effluent;

recycling the separated crystallized sodium chloride to form additional fresh brine using the mixing step;

evaporating water from the effluent to form water vapor and to recover calcium chloride as a major product;

collecting the produced calcium chloride;

separating residual salt therefrom;

forming a solution ;

wherein the ~~solution~~solution is selected from a group consisting ~~[[essentially]]~~ of an approximately 77 wt% solution of calcium chloride flakes, and an approximately 95 wt% solution of calcium chloride granules; and

recycling the water vapor to form addition fresh brine using the mixing step;

whereby all reactants are recycled, leaving substantially no waste to discharge.

Claims 12-14. (*Canceled*)

Claim 15. (*Currently Amended*) A method of producing soda ash and calcium chloride, comprising the steps of:

- providing a source of brine;
- providing a source of gaseous ammonia;
- ammoniating brine with gaseous ammonia to form ammoniated brine;
- heating limestone to produce calcium oxide and carbon dioxide;
- reacting the ammoniated brine with the carbon dioxide produced by the step of heating the limestone to produce sodium bicarbonate, ammonium chloride and a brine effluent;
- calcining the sodium bicarbonate to decompose the sodium bicarbonate to produce soda ash and gaseous carbon dioxide;
- reacting the calcium oxide with the ammonium chloride and brine effluent to produce calcium chloride, brine effluent, and ammonia;
- recycling the ammonia to be used in the step of ammoniating the brine; and
- recycling the water from the brine effluent to be used in the step of ammoniating the brine by crystallizing sodium chloride from the mixture of calcium chloride and brine effluent, separating the crystallized sodium chloride from the effluent by centrifuging the effluent, and recycling the crystallized sodium chloride;
- evaporating any water remaining to produce water vapor;

recovering the produced calcium chloride;
recycling the water vapor and condensing into water;
wherein the crystallized sodium chloride is further used for the [[formation]] providing of
fresh brine by combining with the condensed water to continue the method;
collecting the produced calcium chloride;
separating residual salt; and
forming an approximately 95 wt% solution of calcium chloride granules.

Claim 16. *(Previously Presented)* The method of producing soda ash and calcium chloride as recited in claim 15, further comprising the step of filtering the mixture of sodium bicarbonate, ammonium chloride, and brine prior to said calcining step, the brine and soluble ammonium chloride being removed for recovery of sodium chloride and ammonia.

Claim 17. *(Previously Presented)* The method of producing soda ash and calcium chloride as recited in claim 16, wherein said step of calcining the sodium bicarbonate comprises heating the filtered sodium bicarbonate to a temperature sufficient to decompose the sodium bicarbonate.

Claim 18. *(Previously Presented)* The method of producing soda ash and calcium chloride as recited in claim 15, further comprising the steps of:

condensing the water vapor;

recycling the condensed water vapor; and
forming fresh brine with the recycled sodium chloride.

Claim 19. (*Previously Presented*) The method of producing soda ash and calcium chloride as recited in claim 15, wherein said step of reacting the calcium oxide with the ammonium chloride and brine effluent by reacting dry calcium oxide with the ammonium chloride and brine effluent without slaking the calcium oxide produced by heating the limestone.

REMARKS

By the present amendment, Applicant has amended Claims 1, 11, and 15, and canceled Claim 7. Claims 1-3, 6, 11, and 15-19 remain pending in the present application. Claims 1, 11, and 15 are independent claims.

In the recent Office Action the Examiner rejected Claims 1-3, 6, 7, 11, and 15-19 under 35 U.S.C. § 112, second paragraph, as being indefinite. Applicant has amended independent Claims 1, 11, and 15 in accordance with the Examiner's suggestions and observations. Applicant respectfully submits that Claims 1-3, 6, 11, and 15-19, as amended, meet the specific requirements of 35 U.S.C. § 112, second paragraph. The indication by the Examiner that Claim 7 would be allowable if rewritten in independent form including all of the limitations of the base claim, and Claims 15-19, would be allowable if Claim 15 was rewritten to overcome the rejection under 35 U.S.C. § 112, second paragraph, is noted with appreciation.

Applicant has amended independent Claim 1 to incorporate the allowable subject matter of dependent Claim 7, now canceled. In addition, Applicant has amended independent Claims 1, 11, and 15 in accordance with the Examiner's suggestions and observations. Applicant respectfully submits that for at least these reasons, amended independent Claims 1, 11, and 15 and their respective dependent Claims, are allowable over the prior art applied of record.

The Examiner rejected Claims 1-3, 6, and 11 under 35 U.S.C. 103(a) as being unpatentable over Frasch (US 363,952) in view of the combined teachings of Mitkevich et al. (US 3,682,602), Abraham (US 4,172,017), and Olsen (Pub.). This rejection is respectfully traversed. However, in

*Application Serial No.: 13/651,534,
Art Unit: 1736*

*Attorney Docket No. 32387.02
Confirmation No. 7695*

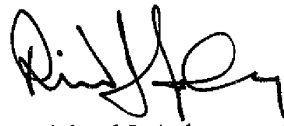
order to advance the prosecution of this application, Applicant has amended independent Claims 1 and 11 by incorporating the limitation of Claim 7, now canceled. The amendments to Claims 1 and 11 now render this rejection moot. Applicant respectfully submits that Claims 1-3, 6, 11, and 15-19 are allowable over the relied upon prior art of record, and a Notice to that effect is earnestly solicited.

For the foregoing reasons, Applicant respectfully submits that the present application is in condition for allowance. If such is not the case, the Examiner is requested to kindly contact the undersigned in an effort to satisfactorily conclude the prosecution of this application.

Applicant has attached herewith a corrected and completed IDS Form 1449, as filed with the parent Application No. 13/402,783. Applicant appreciates that the Examiner has indicated that the cited references were reviewed per the parent case.

Any additional fees may be charged to Deposit Account No. 12-1662 of the undersigned.

Respectfully submitted,



Richard J. Apley
Registration No. 51,316
(703) 486-1000

RJA:wse
Attachments: Form 1449

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875					Application or Docket Number 13/651,534		Filing Date 10/15/2012		<input type="checkbox"/> To be Mailed				
ENTITY: <input type="checkbox"/> LARGE <input checked="" type="checkbox"/> SMALL <input type="checkbox"/> MICRO													
APPLICATION AS FILED – PART I													
(Column 1)			(Column 2)										
FOR		NUMBER FILED		NUMBER EXTRA		RATE (\$)		FEE (\$)					
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))		N/A		N/A		N/A							
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (i), or (m))		N/A		N/A		N/A							
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))		N/A		N/A		N/A							
TOTAL CLAIMS (37 CFR 1.16(i))		minus 20 =		*		X \$ =							
INDEPENDENT CLAIMS (37 CFR 1.16(h))		minus 3 =		*		X \$ =							
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))		If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).											
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))													
* If the difference in column 1 is less than zero, enter "0" in column 2.						TOTAL							
APPLICATION AS AMENDED – PART II													
(Column 1)			(Column 2)			(Column 3)							
AMENDMENT	07/09/2013		CLAIMS REMAINING AFTER AMENDMENT			HIGHEST NUMBER PREVIOUSLY PAID FOR		PRESENT EXTRA		RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))		* 10		Minus	** 20		= 0		X \$40 =		0	
	Independent (37 CFR 1.16(h))		* 3		Minus	***3		= 0		X \$210 =		0	
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))												
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))												
	TOTAL ADD'L FEE											0	
(Column 1)			(Column 2)			(Column 3)							
AMENDMENT			CLAIMS REMAINING AFTER AMENDMENT			HIGHEST NUMBER PREVIOUSLY PAID FOR		PRESENT EXTRA		RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))		*		Minus	**		=		X \$ =			
	Independent (37 CFR 1.16(h))		*		Minus	***		=		X \$ =			
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))												
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))												
	TOTAL ADD'L FEE												
<p>* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.</p> <p>** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".</p> <p>*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".</p> <p>The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.</p>													

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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NOTICE OF ALLOWANCE AND FEE(S) DUE

37833 7590 09/05/2013
LITMAN LAW OFFICES, LTD.
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8955 CENTER STREET
MANASSAS, VA 20110

EXAMINER

HENDRICKSON, STUART L

ART UNIT

PAPER NUMBER

1736

DATE MAILED: 09/05/2013

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/651,534	10/15/2012	BASEL FATHI ABU-SHARKH	32387.02	7695

TITLE OF INVENTION: METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$890	\$0	\$0	\$890	12/05/2013

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
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P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

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Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/651,534	10/15/2012	BASEL FATHI ABU-SHARKH	32387.02	7695

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APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$890	\$0	\$0	\$890	12/05/2013

EXAMINER	ART UNIT	CLASS-SUBCLASS
HENDRICKSON, STUART L	1736	423-427000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
- 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
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4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
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- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

☐ Applicant certifying micro entity status. See 37 CFR 1.29

☐ Applicant asserting small entity status. See 37 CFR 1.27

☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see form PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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13/651,534	10/15/2012	BASEL FATHI ABU-SHARKH	32387.02	7695

37833	7590	09/05/2013
LITMAN LAW OFFICES, LTD. PATENT LAW BUILDING 8955 CENTER STREET MANASSAS, VA 20110		

EXAMINER	
HENDRICKSON, STUART L	

ART UNIT	PAPER NUMBER
1736	

DATE MAILED: 09/05/2013

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 0 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 0 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

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The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 13/651,534	Applicant(s) ABU-SHARKH, BASEL FATHI	
	Examiner STUART HENDRICKSON	Art Unit 1736	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to papers filed 7/9/13.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☒ The allowed claim(s) is/are 1-3,6,11 and 15-19. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
Certified copies:
a) ☐ All b) ☐ Some *c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. <input type="checkbox"/> Notice of References Cited (PTO-892)	5. <input type="checkbox"/> Examiner's Amendment/Comment
2. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____	6. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance
3. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material	7. <input type="checkbox"/> Other _____
4. <input type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date _____	

/Stuart Hendrickson/ Primary Examiner, Art Unit 1736	
---	--

FORM PTO-1449	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY DOCKET NO. 32387.00	SERIAL NO.
INFORMATION DISCLOSURE CITATION IN AN APPLICATION (Use several sheets if necessary)		APPLICANT Basel Fathi ABU-SHARKH	
		FILING DATE	GROUP

U.S. PATENT DOCUMENTS

Examiner Initials	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE If appropriate
/S.H./	3,314,748	4/1967	Howard et al.			
	4,406,869	9/1983	Nakaya et al.			
	US 6,284,005 B1	9/2001	Hazen et al.			
	US 6,464,736 B1	10/2002	Hazen et al.			

FOREIGN PATENT DOCUMENTS


	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation YES NO
/S.H./	CN 101717100 A	6/2010	China			
/S.H./	CN 101708858 B	6/2011	China			
/S.H./	WO 2011/138005 A1	11/2011	PCT			

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)

/S.H./	"Green River Basin Water Plan Technical Memoranda", Wyoming State Water Plan website; 11 pages; printed on December 18, 2011; http://waterplan.state.wy.us/plan/green/techmemos/induse.html

EXAMINER	/Stuart Hendrickson/	DATE CONSIDERED	08/30/2013
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EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

Issue Classification 	Application/Control No. 13651534	Applicant(s)/Patent Under Reexamination ABU-SHARKH, BASEL FATHI
	Examiner STUART HENDRICKSON	Art Unit 1736

CPC		
Symbol	Type	Version

CPC Combination Sets				
Symbol	Type	Set	Ranking	Version

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	10	
/STUART HENDRICKSON/ Primary Examiner. Art Unit 1736	8/30/13	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	NONE

Issue Classification 	Application/Control No. 13651534	Applicant(s)/Patent Under Reexamination ABU-SHARKH, BASEL FATHI
	Examiner STUART HENDRICKSON	Art Unit 1736

US ORIGINAL CLASSIFICATION						INTERNATIONAL CLASSIFICATION												
CLASS		SUBCLASS				CLAIMED					NON-CLAIMED							
423		427				C	0	1	D	7 / 12 (2006.01.01)								
CROSS REFERENCE(S)																		
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)																	
423	423																	

NONE		Total Claims Allowed:	
		10	
(Assistant Examiner)	(Date)		
/STUART HENDRICKSON/ Primary Examiner. Art Unit 1736	8/30/13	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	NONE




UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov

BIB DATA SHEET

CONFIRMATION NO. 7695

SERIAL NUMBER 13/651,534	FILING or 371(c) DATE 10/15/2012 RULE	CLASS 423	GROUP ART UNIT 1736	ATTORNEY DOCKET NO. 32387.02		
APPLICANTS BASEL FATHI ABU-SHARKH, AL-KHOBAR, SAUDI ARABIA; ** CONTINUING DATA ***** This application is a CON of 13/402,783 02/22/2012 ** FOREIGN APPLICATIONS ***** ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED *** SMALL ENTITY ** 11/02/2012						
Foreign Priority claimed <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No 35 USC 119(a-d) conditions met <input type="checkbox"/> Yes <input type="checkbox"/> No Verified and /STUART L HENDRICKSON/ Acknowledged Examiner's Signature		<input type="checkbox"/> Met after Allowance Initials	STATE OR COUNTRY SAUDI ARABIA	SHEETS DRAWINGS 1	TOTAL CLAIMS 14	INDEPENDENT CLAIMS 2
ADDRESS LITMAN LAW OFFICES, LTD. PATENT LAW BUILDING 8955 CENTER STREET MANASSAS, VA 20110 UNITED STATES						
TITLE METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE						
FILING FEE RECEIVED 833	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issue) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit			

Search Notes 	Application/Control No. 13651534	Applicant(s)/Patent Under Reexamination ABU-SHARKH, BASEL FATHI
	Examiner STUART HENDRICKSON	Art Unit 1736

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
423	423	8/30/13	SLH
423	427	8/30/13	SLH

SEARCH NOTES		
Search Notes	Date	Examiner
inventor search	8/30/13	SLH

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
all	above	8/30/13	SLH

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PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

37833 7590 09/05/2013
LITMAN LAW OFFICES, LTD.
PATENT LAW BUILDING
8955 CENTER STREET
MANASSAS, VA 20110

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/651,534	10/15/2012	BASEL FATHI ABU-SHARKH	32387.02	7695

TITLE OF INVENTION: METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$890	\$0	\$0	\$890	12/05/2013

EXAMINER	ART UNIT	CLASS-SUBCLASS
HENDRICKSON, STUART L	1736	423-427000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a **Customer Number** is required.

2. For printing on the patent front page, list
 (1) the names of up to 3 registered patent attorneys or agents OR, alternatively,
 (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Richard C Litman
 2 _____
 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☒ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
☒ Payment by credit card. ~~Form PTO-2000 is attached.~~
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

- ☐ Applicant certifying micro entity status. See 37 CFR 1.29
- ☐ Applicant asserting small entity status. See 37 CFR 1.27
- ☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see form PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____

Date _____

Sept. 23, 2013

Typed or printed name _____

Richard J. Apley

Registration No. _____

51, 316

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Electronic Patent Application Fee Transmittal				
Application Number:		13651534		
Filing Date:		15-Oct-2012		
Title of Invention:		METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE		
First Named Inventor/Applicant Name:		BASEL FATHI ABU-SHARKH		
Filer:		Richard C. Litman/Britney Owens		
Attorney Docket Number:		32387.02		
Filed as Small Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Utility Appl Issue Fee	2501	1	890	890
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Total in USD (\$)				890

Electronic Acknowledgement Receipt	
EFS ID:	16922605
Application Number:	13651534
International Application Number:	
Confirmation Number:	7695
Title of Invention:	METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE
First Named Inventor/Applicant Name:	BASEL FATHI ABU-SHARKH
Customer Number:	37833
Filer:	Richard C. Litman/Britney Owens
Filer Authorized By:	Richard C. Litman
Attorney Docket Number:	32387.02
Receipt Date:	23-SEP-2013
Filing Date:	15-OCT-2012
Time Stamp:	10:43:07
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$890
RAM confirmation Number	12158
Deposit Account	
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
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1	Issue Fee Payment (PTO-85B)	DOC0923133238702-092313.pdf	69546 039eb33bae2fdd70257b8c82d26f0da4ff10a1b	no	2
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30400 ff7d2902b9dce0948a7d342e97e33a205d633dba	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			99946		
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>					



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/651,534	11/26/2013	8591852	32387.02	7695

37833 7590 11/06/2013
LITMAN LAW OFFICES, LTD.
PATENT LAW BUILDING
8955 CENTER STREET
MANASSAS, VA 20110

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

BASEL FATHI ABU-SHARKH, AL-KHOBAR, SAUDI ARABIA;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN THE PATENT APPLICATION OF:

FIRST NAMED INVENTOR: **BASEL FATHI ABU-SHARKH**

APPL. NO.: **13/651,534** CONFIRMATION NO.: **7695**

FILED: **October 15, 2012** CUSTOMER NO.: **37833**

PATENT NO.: **8,591,852** ISSUED: **November 26, 2013**

EXAMINER: **HENDRICKSON, STUART L.**

ART UNIT: **1736**

FOR: **METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE**

MAIL STOP PETITION
COMMISSIONER FOR PATENTS
P.O. BOX 1450
ALEXANDRIA, VA 22313-1450

**PETITION TO ACCEPT DELAYED PAYMENT OF A MAINTENANCE FEE AND TO
REINSTATE A PATENT UNDER 37 C.F.R. § 1.378**

Dear Commissioner:

The captioned patent (US 8,591,852) expired on November 28, 2017 for non-payment of the first maintenance fee. The Inventor hereby petitions for reinstatement of this patent pursuant to 37 C.F.R. § 1.378.

The entire delay in paying the maintenance fee due in this issued patent from the due date until the filing of a grantable petition under 37 C.F.R. § 1.378 was unintentional.

(1) US Patent 8,591,852 was issued to Basel Fathi Abu-Sharkh (Dr. Basel), the sole inventor.

(2) At the time that the payment window opened for the first maintenance fee for US Patent 8,591,852 (November 26, 2016), Dr. Basel was employed by the IDEA International Investment and Development Company.

(3) Notice of the deadline to pay the first maintenance fee was sent in November of 2016 to Dr. Basel's provided email address at IDEA International, as well as to a provided contact at IDEA International by his then representatives, Becker & Poliakoff.

(4) It was Dr. Basel's understanding that IDEA International would arrange for payment of this maintenance fee.

(5) In November of 2016, Dr. Basel sent Becker & Poliakoff instructions that IDEA International would arrange with them for payment of the maintenance fee.

(6) No such payment or instructions from IDEA International were ever received by Becker & Poliakoff.

(7) Dr. Basel left the employment of IDEA International and lost access to his IDEA International email in early 2017.

(8) Reminders of the deadline to pay this maintenance fee were sent to Dr. Basel's IDEA International email address in May and November of 2017.

(9) The patent was deemed abandoned for non-payment of the first maintenance fee on November 28, 2017.

(10) Notice of the abandonment was sent to IDEA International in January of 2018.

(11) These communications did not reach Dr. Basel, whose understanding and expectation remained that IDEA International had or would arrange for payment of the first maintenance fee.

(12) In October of 2020, Dr. Basel contacted Nath, Goldberg & Meyer to inquire regarding the possibility of assigning this patent to a new company. He was then informed of the patent's lapsed status. He immediately instructed that the patent be revived.

(13) After a period of diligently collecting the requisite information to confirm that the entire period since the abandonment was unintentional, this petition was prepared and submitted to the USPTO to request reinstatement of this patent pursuant to 37 C.F.R. § 1.378.

This petition is accompanied by:

- (1) the required maintenance fee set forth in 37 C.F.R. § 1.20(e).
- (2) the petition fee as set forth in 37 C.F.R. § 1.17(m).
- (3) the above statement that the entire delay in payment of the maintenance fee was unintentional.

Jan. 21, 2021

NATH, GOLDBERG & MEYER
112 South West Street
Alexandria, VA 22314-2891
Tel: 703-548-6284

Respectfully submitted,
NATH, GOLDBERG & MEYER

/Richard J. Apley/
Richard J. Apley
Registration No. 51,316

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PETITION TO ACCEPT UNINTENTIONALLY DELAYED PAYMENT OF MAINTENANCE FEE IN AN EXPIRED PATENT (37 CFR 1.378(b)) Page 1 of 3		Docket Number (Optional) 32387.02
Mail to: Mail Stop Petition Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450 Fax: (571) 273-8300		
NOTE: If information or assistance is needed in completing this form, please contact the Office of Petitions at (571) 272-3282.		
Patent No. 8591852	Application Number 13651534	
Issue Date 2013-11-26	Filing Date 2012-10-15	
CAUTION: Maintenance fee payment must correctly identify: (1) the patent number (or reissue patent number, if a reissue) and (2) the application number of the actual U.S. application (or reissue application) leading to issuance of that patent to ensure the fee(s) is/are associated with the correct patent. 37 CFR 1.366(c) and (d).		
Also complete the following information, if applicable.		
The above-identified patent		
<input type="checkbox"/> is a reissue of original Patent No. _____ original issue date _____ original application number _____ original filing date _____.		
<input type="checkbox"/> resulted from the entry into the U.S. under 35 U.S.C. 371 of international application _____ filed on _____.		
CERTIFICATE OF MAILING (37 CFR 1.8(a))		
I hereby certify that this paper (* along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, or facsimile transmitted to the U.S. Patent and Trademark Office on the date shown below.		
_____	_____	_____
Date	Signature	

Typed or Printed Name of Person Signing Certificate		

[page 1 of 3]

This collection of information is required by 37 CFR 1.378(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 1 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PETITION TO ACCEPT UNINTENTIONALLY DELAYED PAYMENT OF MAINTENANCE FEE IN AN EXPIRED PATENT (37 CFR 1.378(b))

Page 2 of 3

1. SMALL ENTITY

☒ Patentee asserts, or has previously asserted, small entity status. See 37 CFR 1.27.

2. LOSS OF ENTITLEMENT TO SMALL ENTITY STATUS

☐ Patentee is no longer entitled to small entity status. See 37 CFR 1.27(g).

3. MICRO ENTITY

☐ Patentee certifies, or has previously certified, micro entity status. See 37 CFR 1.29
Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.

4. LOSS OF ENTITLEMENT TO MICRO ENTITY STATUS

☐ Patentee is no longer entitled to micro entity status. See 37 CFR 1.29(i).

5. MAINTENANCE FEE (37 CFR 1.20(e)-(g))

The appropriate maintenance fee must be submitted with this petition, unless it was paid earlier.

Undiscounted			Small Entity			Micro Entity		
Amount	Fee	(Code)	Amount	Fee	(Code)	Amount	Fee	(Code)
<input type="checkbox"/> \$ _____	3½ yr fee	(1551)	<input checked="" type="checkbox"/> \$ 1000.00	3½ yr fee	(2551)	<input type="checkbox"/> \$ _____	3½ yr fee	(3551)
<input type="checkbox"/> \$ _____	7½ yr fee	(1552)	<input type="checkbox"/> \$ _____	7½ yr fee	(2552)	<input type="checkbox"/> \$ _____	7½ yr fee	(3552)
<input type="checkbox"/> \$ _____	11½ yr fee	(1553)	<input type="checkbox"/> \$ _____	11½ yr fee	(2553)	<input type="checkbox"/> \$ _____	11½ yr fee	(3553)

MAINTENANCE FEE BEING SUBMITTED \$ 1000.00

6. PETITION FEE

The petition fee required by 37 CFR 1.17(m) of:

\$ _____ Undiscounted (Fee Code 1558); or

\$ 1050.00 Small Entity (Fee Code 2558); or

\$ _____ Micro Entity (Fee Code 3558)

must be paid as a condition of accepting an unintentionally delayed payment of a maintenance fee.

PETITION FEE BEING SUBMITTED \$ 1050.00

7. MANNER OF PAYMENT

☐ Enclosed is a check for the sum of \$ _____

☒ Please charge Deposit Account No. 14-0112 the sum of \$ 1,000.00

☐ Payment by credit card. Form PTO-2038 is attached.

☒ Payment made via EFS-Web.

8. AUTHORIZATION TO CHARGE ANY FEE DEFICIENCY

☒ The Director is hereby authorized to charge any maintenance fee or petition deficiency to Deposit Account No. 14-0112

**PETITION TO ACCEPT UNINTENTIONALLY DELAYED PAYMENT
OF MAINTENANCE FEE IN AN EXPIRED PATENT (37 CFR 1.378(b))**

Page 3 of 3

9. OVERPAYMENT

As to any overpayment made, please

☒ Credit to Deposit Account No. 14-0112

OR

☐ Send refund check

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information, such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form (PTO-2038) submitted for payment purposes), is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms (PTO-2038) submitted for payment purposes are not retained in the application file and therefore are not publicly available.

10. STATEMENT

The delay in payment of the maintenance fee for this patent was unintentional.

11. PETITIONER(S) REQUEST THAT THE DELAYED PAYMENT OF THE MAINTENANCE FEE BE ACCEPTED AND THE PATENT REINSTATED.

Jan. 21, 2021
Date

51,316

Registration Number, if applicable

703-548-6284

Telephone Number

112 S. West Street

Address

Alexandria, VA, 22314

Address

/RICHARD J. APLEY/

Signature(s) of Petitioner(s)

RICHARD J. APLEY

Typed or Printed Name(s)

37 CFR 1.378(c) states: "Any petition under this section must be signed in compliance with § 1.33(b)."

12. ENCLOSURES

☒ Maintenance Fee Payment

☒ Petition fee under 37 CFR 1.17(m) (fee for filing the maintenance fee petition)

☐ _____

Electronic Patent Application Fee Transmittal				
Application Number:		13651534		
Filing Date:		15-Oct-2012		
Title of Invention:		METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE		
First Named Inventor/Applicant Name:		BASEL FATHI ABU-SHARKH		
Filer:		Richard Jay Apley		
Attorney Docket Number:		32387.02		
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
PET. REVIVE ABANDON APP, DELAY PYMT-RESP	2453	1	1050	1050
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				1050

Electronic Acknowledgement Receipt	
EFS ID:	41712388
Application Number:	13651534
International Application Number:	
Confirmation Number:	7695
Title of Invention:	METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE
First Named Inventor/Applicant Name:	BASEL FATHI ABU-SHARKH
Customer Number:	37833
Filer:	Richard Jay Apley
Filer Authorized By:	
Attorney Docket Number:	32387.02
Receipt Date:	21-JAN-2021
Filing Date:	15-OCT-2012
Time Stamp:	20:39:03
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$1050
RAM confirmation Number	E20211KK39273321
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Petition for review by the Office of Petitions	1801_001.pdf	238070	no	6
			f822a2fa7268e9a80006efad22b967a517b20369		
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30289	no	2
			42f9fc8770ea703b24ecfc06118ed1d52b3409ba		
Warnings:					
Information:					
Total Files Size (in bytes):			268359		
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>					

Docket No. 32387.02
Customer No. 37833
Confirmation No. 7695

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: BASEL FATHI ABU-SHARKH

APPL. NO. : 13/651,534

PATENT No. : 8,591,852

ART UNIT: 1736

FILED : 10/15/2012

EXAMINER: HENDRICKSON, S.

FOR : METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE

MAIL STOP 16
DIRECTOR of the USPTO
P.O.BOX 1450
ALEXANDRIA, VA 22313-1450

REQUEST FOR REFUND OF FIRST MAINTENANCE FEE

Sir:

This communication is responsive to the \$1,000.00 charge to our Deposit Account (DA) 14-0112, dated 06/22/2021. A Request for Refund is made herein.

ATTACHED HERETO ARE:

1. Marked Up Copy of USPTO charge to DA 14-0112 for \$1,000.00 for first Maintenance Fee (Fee Code 2551). The error is that the fee should have been paid for Patent 8,591, 852 and NOT patent 8,597,852. Exhibit-A-.
2. Marked Up Copy of the Petition to Accept Late Payment of a Maintenance fee and authorization to charge DA 14-0112 for \$1,000.00 for the first Maintenance fee is attached was requested for US Patent 8,591,852. Exhibit-B-.

Therefore, Applicant is requesting that the \$1,000.00 Maintenance fee charged to DA 14-0112 either be applied to the correct patent (8,591,852) or remitted to the Deposit Account of the undersigned, No. 14-0112.

Date: June 23, 2021

Respectfully submitted,
/RICHARD J. APLEY/
Richard J. Apley
Registration No. 51,316
(703) 486-1000

**USPTO** | United States Patent
and Trademark OfficeP.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

Transaction Details

DEPOSIT ACCOUNT - 140112

DA140112

TYPE	DATE POSTED	STATUS	TRANSACTION ID	TOTAL CREDIT (+) / TOTAL DEBIT (-)
Payment	06/22/2021	Processed	I20216LC08162128	(\$1,000.00)

Sale Item Reference #	Attorney Docket #	Status	Sale ID	Fee Code	Qty	Item Price	Item Total	Customer
8597852		Processed	I20216LC08162128	2551	1	\$1,000.00	\$1,000.00	RICHARD /

8,597,852 PTO ERROR

An asterisk (*) in the Sale ID column means that an item with that Sale ID may have been paid for by more than one transaction.
A caret (^) in the Sale ID column means that only a partial payment for an item with that sale ID has been received by USPTO.

**PAID FOR PATENT
8,591,852
=**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN THE PATENT APPLICATION OF:

FIRST NAMED INVENTOR: **BASEL FATHI ABU-SHARKH**

APPL. NO.: **13/651,534**

CONFIRMATION NO.: **7695**

FILED: **October 15, 2012**

CUSTOMER NO.: **37833**

PATENT NO.: **8,591,852**

ISSUED: **November 26, 2013**

EXAMINER: **HENDRICKSON, STUART L.**

ART UNIT: **1736**

FOR: **METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE**

MAIL STOP **PETITION**

COMMISSIONER FOR PATENTS

P.O. BOX 1450

ALEXANDRIA, VA 22313-1450

**PETITION TO ACCEPT DELAYED PAYMENT OF A MAINTENANCE FEE AND TO
REINSTATE A PATENT UNDER 37 C.F.R. § 1.378**

Dear Commissioner:

The captioned patent (US 8,591,852) expired on November 28, 2017 for non-payment of the first maintenance fee. The inventor hereby petitions for reinstatement of this patent pursuant to 37 C.F.R. § 1.378.

The entire delay in paying the maintenance fee due in this issued patent from the due date until the filing of a grantable petition under 37 C.F.R. § 1.378 was unintentional.

(1) US Patent 8,591,852 was issued to Basel Fathi Abu-Sharkh (Dr. Basel), the sole inventor.

(2) At the time that the payment window opened for the first maintenance fee for US Patent 8,591,852 (November 26, 2016), Dr. Basel was employed by the IDEA International Investment and Development Company.

(3) Notice of the deadline to pay the first maintenance fee was sent in November of 2016 to Dr. Basel's provided email address at IDEA International, as well as to a provided contact at IDEA International by his then representatives, Becker & Poliakoff.

(4) It was Dr. Basel's understanding that IDEA International would arrange for payment of this maintenance fee.

(5) In November of 2016, Dr. Basel sent Becker & Poliakoff instructions that IDEA International would arrange with them for payment of the maintenance fee.

(6) No such payment or instructions from IDEA International were ever received by Becker & Poliakoff.

(7) Dr. Basel left the employment of IDEA International and lost access to his IDEA International email in early 2017.

(8) Reminders of the deadline to pay this maintenance fee were sent to Dr. Basel's IDEA International email address in May and November of 2017.

(9) The patent was deemed abandoned for non-payment of the first maintenance fee on November 28, 2017.

(10) Notice of the abandonment was sent to IDEA International in January of 2018.

(11) These communications did not reach Dr. Basel, whose understanding and expectation remained that IDEA International had or would arrange for payment of the first maintenance fee.

(12) In October of 2020, Dr. Basel contacted Nath, Goldberg & Meyer to inquire regarding the possibility of assigning this patent to a new company. He was then informed of the patent's lapsed status. He immediately instructed that the patent be revived.

(13) After a period of diligently collecting the requisite information to confirm that the entire period since the abandonment was unintentional, this petition was prepared and submitted to the USPTO to request reinstatement of this patent pursuant to 37 C.F.R. § 1.378.

Application No. 13/651,534

Attorney Docket No. 32387.02

Art Unit 1736

Petition to Accept a Delayed Payment of the Maintenance Fee and Reinstate a Patent

This petition is accompanied by:

(1) the required maintenance fee set forth in 37 C.F.R. § 1.20(e).

(2) the petition fee as set forth in 37 C.F.R. § 1.17(m).

(3) the above statement that the entire delay in payment of the maintenance fee was unintentional.

Respectfully submitted,
NATH, GOLDBERG & MEYER

Jan. 21, 2021

NATH, GOLDBERG & MEYER
112 South West Street
Alexandria, VA 22314-2891
Tel: 703-548-6284

/Richard J. Apley/
Richard J. Apley
Registration No. 51,316

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PETITION TO ACCEPT UNINTENTIONALLY DELAYED PAYMENT OF MAINTENANCE FEE IN AN EXPIRED PATENT (37 CFR 1.378(b))		Docket Number (Optional) 32387.02
Page 1 of 3		
Mail to: Mail Stop Petition Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450 Fax: (571) 273-8300		
NOTE: If information or assistance is needed in completing this form, please contact the Office of Petitions at (571) 272-3282.		
Patent No. 8591852	Application Number 13651534	
Issue Date 2013-11-26	Filing Date 2012-10-15	
CAUTION: Maintenance fee payment must correctly identify: (1) the patent number (or reissue patent number, if a reissue) and (2) the application number of the actual U.S. application (or reissue application) leading to issuance of that patent to ensure the fee(s) is/are associated with the correct patent. 37 CFR 1.366(c) and (d).		
Also complete the following information, if applicable.		
The above-identified patent		
<input type="checkbox"/> is a reissue of original Patent No. _____ original issue date _____		
original application number _____		
original filing date _____		
<input type="checkbox"/> resulted from the entry into the U.S. under 35 U.S.C. 371 of international application _____		
filed on _____		
CERTIFICATE OF MAILING (37 CFR 1.8(a))		
I hereby certify that this paper (* along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, or facsimile transmitted to the U.S. Patent and Trademark Office on the date shown below.		
_____ Date		_____ Signature
_____ Typed or Printed Name of Person Signing Certificate		

[page 1 of 3]

This collection of information is required by 37 CFR 1.378(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 1 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PETITION TO ACCEPT UNINTENTIONALLY DELAYED PAYMENT OF MAINTENANCE FEE IN AN EXPIRED PATENT (37 CFR 1.378(b))

Page 2 of 3

1. SMALL ENTITY

☒ Patentee asserts, or has previously asserted, small entity status. See 37 CFR 1.27.

2. LOSS OF ENTITLEMENT TO SMALL ENTITY STATUS

☐ Patentee is no longer entitled to small entity status. See 37 CFR 1.27(g).

3. MICRO ENTITY

☐ Patentee certifies, or has previously certified, micro entity status. See 37 CFR 1.29
Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.

4. LOSS OF ENTITLEMENT TO MICRO ENTITY STATUS

☐ Patentee is no longer entitled to micro entity status. See 37 CFR 1.29(i).

5. MAINTENANCE FEE (37 CFR 1.20(e)-(g))

The appropriate maintenance fee must be submitted with this petition, unless it was paid earlier.

Undiscounted			Small Entity			Micro Entity		
Amount	Fee	(Code)	Amount	Fee	(Code)	Amount	Fee	(Code)
<input type="checkbox"/> \$ _____	3½ yr fee	(1551)	<input checked="" type="checkbox"/> \$ 1000.00	3½ yr fee	(2551)	<input type="checkbox"/> \$ _____	3½ yr fee	(3551)
<input type="checkbox"/> \$ _____	7½ yr fee	(1552)	<input type="checkbox"/> \$ _____	7½ yr fee	(2552)	<input type="checkbox"/> \$ _____	7½ yr fee	(3552)
<input type="checkbox"/> \$ _____	11½ yr fee	(1553)	<input type="checkbox"/> \$ _____	11½ yr fee	(2553)	<input type="checkbox"/> \$ _____	11½ yr fee	(3553)

MAINTENANCE FEE BEING SUBMITTED \$ 1000.00

6. PETITION FEE

The petition fee required by 37 CFR 1.17(m) of:

\$ _____ Undiscounted (Fee Code 1558); or

\$ 1050.00 Small Entity (Fee Code 2558); or

\$ _____ Micro Entity (Fee Code 3558)

must be paid as a condition of accepting an unintentionally delayed payment of a maintenance fee.

PETITION FEE BEING SUBMITTED \$ 1050.00

7. MANNER OF PAYMENT

☐ Enclosed is a check for the sum of \$ _____

☒ Please charge Deposit Account No. 14-0112 the sum of \$ 1,000.00

☐ Payment by credit card. Form PTO-2038 is attached.

☒ Payment made via EFS-Web.

8. AUTHORIZATION TO CHARGE ANY FEE DEFICIENCY

☒ The Director is hereby authorized to charge any maintenance fee or petition deficiency to Deposit Account No. 14-0112

**PETITION TO ACCEPT UNINTENTIONALLY DELAYED PAYMENT
OF MAINTENANCE FEE IN AN EXPIRED PATENT (37 CFR 1.378(b))**

Page 3 of 3

9. OVERPAYMENT

As to any overpayment made, please

☒ Credit to Deposit Account No. 14-0112

OR

☐ Send refund check

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information, such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form (PTO-2038) submitted for payment purposes), is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms (PTO-2038) submitted for payment purposes are not retained in the application file and therefore are not publicly available.

10. STATEMENT

The delay in payment of the maintenance fee for this patent was unintentional.

11. PETITIONER(S) REQUEST THAT THE DELAYED PAYMENT OF THE MAINTENANCE FEE BE ACCEPTED AND THE PATENT REINSTATED.

Jan. 21, 2021
Date

/RICHARD J. APLEY/

51,316

Signature(s) of Petitioner(s)

Registration Number, if applicable

RICHARD J. APLEY

Typed or Printed Name(s)

703-548-6284

Telephone Number

112 S. West Street

Address

Alexandria, VA, 22314

Address

37 CFR 1.378(c) states: "Any petition under this section must be signed in compliance with § 1.33(b)."

12. ENCLOSURES

☒ Maintenance Fee Payment

☒ Petition fee under 37 CFR 1.17(m) (fee for filing the maintenance fee petition)

☐

Electronic Acknowledgement Receipt	
EFS ID:	43071084
Application Number:	13651534
International Application Number:	
Confirmation Number:	7695
Title of Invention:	METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE
First Named Inventor/Applicant Name:	BASEL FATHI ABU-SHARKH
Customer Number:	37833
Filer:	Richard Jay Apley
Filer Authorized By:	
Attorney Docket Number:	32387.02
Receipt Date:	23-JUN-2021
Filing Date:	15-OCT-2012
Time Stamp:	17:19:25
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
------------------------	----

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Refund Request	2874_001.pdf	286180	no	8
			a2ebbeab1f09d3e41d8820c002aec07250e a3285		

Warnings:

Information:	
Total Files Size (in bytes):	286180
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>	



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/651,534	10/15/2012	BASEL FATHI ABU-SHARKH	32387.02	7695
37833	7590	06/28/2021	EXAMINER	
Richard C. Litman Nath, Goldberg & Meyer 112 S. West Street Alexandria, VA 22314			HENDRICKSON, STUART L.	
			ART UNIT	PAPER NUMBER
			1736	
			NOTIFICATION DATE	DELIVERY MODE
			06/28/2021	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

litman@4patent.com
tharkins@nathlaw.com
uspto_nva@nathlaw.com



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

In re Patent No.:8,591,852 :
Issue Date: November 26, 2013 :
Application No.:13/651,534 : ON PETITION
Filed: October 15, 2012 :
Attorney Docket No. 32387.02

This is a decision on the petition under 37 CFR 1.378(b)¹, filed on January 21, 2021, to reinstate the above-cited patent pursuant to.

The petition is **GRANTED**.

The above-identified patent issued on November 26, 2013. Therefore, the grace period in 35 U.S.C. § 41(b) for paying the 3.5-year maintenance fee expired at midnight on November 26, 2017.

The subject petition under 37 CFR 1.1378(b) was filed on January 21, 2021, and is accompanied by a statement which provides additional information showing the entire period of delay was unintentional².

The 3.5-year maintenance fee of \$1,000.00 is accepted along with the petition fee of \$1,050.00. The above-identified patent is reinstated, accordingly.

Questions regarding the maintenance fee due dates and payments must be directed to the

¹ 37 CFR 1.378(b) provides:

(b) Any petition to accept an unintentionally delayed payment of a maintenance fee must include:

- (1) The required maintenance fee set forth in § 1.20(e) through (g);
- (2) The petition fee as set forth in § 1.17(m); and

(3) A statement that the delay in payment of the maintenance fee was unintentional. The Director may require additional information where there is a question whether the delay was unintentional.

² It is noted that 37 CFR § 1.378(b) requires a statement that the entire delay between the date the 3.5-year maintenance fee was due and the date a grantable petition was filed was unintentional. Since the statement appearing in the petition varies from the required language, the statement is being construed as the statement required by 37 CFR § 1.378(b). If this is not a correct reading of the statement appearing in the petition, petitioner should promptly notify the Office.

In re Patent No. 8,591,852 Application No. 13/651,534

Maintenance Fee Office at (571) 272-6500. Telephone inquiries concerning this decision may be directed to the undersigned at (571) 272-3222.

/KENYA A THORNTON MCLAUGHLIN/
Attorney Advisor, OPET

Docket No. 32387.02
Customer No. 37833
Confirmation No. 7695

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: BASEL FATHI ABU-SHARKH

APPL. NO. : 13/651,534

PATENT No. : 8,591,852

ART UNIT: 1736

FILED : 10/15/2012

EXAMINER: HENDRICKSON, S.

FOR : METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE

MAIL STOP 16
DIRECTOR of the USPTO
P.O.BOX 1450
ALEXANDRIA, VA 22313-1450

REQUEST FOR REFUND

Sir:

This communication is responsive to the \$1,000.00 charge to our Deposit Account (DA) 14-0112, dated 06/22/2021. A Request for Refund is made herein.

ATTACHED HERETO ARE:

1. Marked Up Copy of USPTO charge to DA 14-0112 for \$1,000.00 for first Maintenance Fee (Fee Code 2551). **The error** is that the fee should have been paid for Patent 8,591, 852 and NOT patent 8,597,852. Exhibit-A-.

Therefore, Applicant is requesting that the \$1,000.00 Maintenance fee charged to DA 14-0112 be remitted to the Deposit Account of the undersigned, No. 14-0112.

Date: July 15, 2021

Respectfully submitted,

/RICHARD J. APLEY/

Richard J. Apley
Registration No. 51,316
(703) 486-1000

Electronic Acknowledgement Receipt	
EFS ID:	43262355
Application Number:	13651534
International Application Number:	
Confirmation Number:	7695
Title of Invention:	METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE
First Named Inventor/Applicant Name:	BASEL FATHI ABU-SHARKH
Customer Number:	37833
Filer:	Richard Jay Apley
Filer Authorized By:	
Attorney Docket Number:	32387.02
Receipt Date:	15-JUL-2021
Filing Date:	15-OCT-2012
Time Stamp:	15:58:57
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Refund Request	0045_001.pdf	61381	no	2
			182d6516b6a25d786d325e87829cd9d90359a335d		

Warnings:

Information:	
Total Files Size (in bytes):	61381
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>	

Docket No. 32387.02
Customer No. 37833
Confirmation No. 7695

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: BASEL FATHI ABU-SHARKH

APPL. NO. : 13/651,534

PATENT No. : 8,591,852

ART UNIT: 1736

FILED : 10/15/2012

EXAMINER: HENDRICKSON, S.

FOR : METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE

MAIL STOP 16
DIRECTOR of the USPTO
P.O.BOX 1450
ALEXANDRIA, VA 22313-1450

REQUEST FOR REFUND OF FIRST MAINTENANCE FEE

Sir:

This communication is responsive to the \$1,000.00 charge to our Deposit Account (DA) 14-0112, dated 06/22/2021. A Request for Refund is made herein.

ATTACHED HERETO ARE:

1. Marked Up Copy of USPTO charge to DA 14-0112 for \$1,000.00 for first Maintenance Fee (Fee Code 2551). The error is that the fee should have been paid for Patent 8,591, 852 and NOT patent 8,597,852. Exhibit-A-.
2. Marked Up Copy of the Petition to Accept Late Payment of a Maintenance fee and authorization to charge DA 14-0112 for \$1,000.00 for the first Maintenance fee is attached was requested for US Patent 8,591,852. Exhibit-B-.

Therefore, Applicant is requesting that the \$1,000.00 Maintenance fee charged to DA 14-0112 either be applied to the correct patent (8,591,852) or remitted to the Deposit Account of the undersigned, No. 14-0112.

Respectfully submitted,

/RICHARD J. APLEY/

Richard J. Apley
Registration No. 51,316
(703) 486-1000

Date: June 23, 2021

**USPTO** | United States Patent
and Trademark OfficeP.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

Transaction Details

DEPOSIT ACCOUNT - 140112

DA140112

TYPE	DATE POSTED	STATUS	TRANSACTION ID	TOTAL CREDIT (+) / TOTAL DEBIT (-)
Payment	06/22/2021	Processed	I20216LC08162128	(\$1,000.00)

Sale Item Reference #	Attorney Docket #	Status	Sale ID	Fee Code	Qty	Item Price	Item Total	Customer
8597852		Processed	I20216LC08162128	2551	1	\$1,000.00	\$1,000.00	RICHARD /

8,597,852 PTO ERROR

An asterisk (*) in the Sale ID column means that an item with that Sale ID may have been paid for by more than one transaction.
A caret (^) in the Sale ID column means that only a partial payment for an item with that sale ID has been received by USPTO.

**PAID FOR PATENT
8,591,852
=**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN THE PATENT APPLICATION OF:

FIRST NAMED INVENTOR: **BASEL FATHI ABU-SHARKH**

APPL. NO.: 13/651,534

CONFIRMATION NO.: 7695

FILED: **October 15, 2012**

CUSTOMER NO.: 37833

PATENT NO.: 8,591,852

ISSUED: November 26, 2013

EXAMINER: **HENDRICKSON, STUART L.**

ART UNIT: 1736

FOR: **METHOD OF PRODUCING SODA ASH AND CALCIUM CHLORIDE**

MAIL STOP PETITION
COMMISSIONER FOR PATENTS
P.O. BOX 1450
ALEXANDRIA, VA 22313-1450

**PETITION TO ACCEPT DELAYED PAYMENT OF A MAINTENANCE FEE AND TO
REINSTATE A PATENT UNDER 37 C.F.R. § 1.378**

Dear Commissioner:

The captioned patent (US 8,591,852) expired on November 28, 2017 for non-payment of the first maintenance fee. The inventor hereby petitions for reinstatement of this patent pursuant to 37 C.F.R. § 1.378.

The entire delay in paying the maintenance fee due in this issued patent from the due date until the filing of a grantable petition under 37 C.F.R. § 1.378 was unintentional.

(1) US Patent 8,591,852 was issued to Basel Fathi Abu-Sharkh (Dr. Basel), the sole inventor.

(2) At the time that the payment window opened for the first maintenance fee for US Patent 8,591,852 (November 26, 2016), Dr. Basel was employed by the IDEA International Investment and Development Company.

(3) Notice of the deadline to pay the first maintenance fee was sent in November of 2016 to Dr. Basel's provided email address at IDEA International, as well as to a provided contact at IDEA International by his then representatives, Becker & Poliakoff.

(4) It was Dr. Basel's understanding that IDEA International would arrange for payment of this maintenance fee.

(5) In November of 2016, Dr. Basel sent Becker & Poliakoff instructions that IDEA International would arrange with them for payment of the maintenance fee.

(6) No such payment or instructions from IDEA International were ever received by Becker & Poliakoff.

(7) Dr. Basel left the employment of IDEA International and lost access to his IDEA International email in early 2017.

(8) Reminders of the deadline to pay this maintenance fee were sent to Dr. Basel's IDEA International email address in May and November of 2017.

(9) The patent was deemed abandoned for non-payment of the first maintenance fee on November 28, 2017.

(10) Notice of the abandonment was sent to IDEA International in January of 2018.

(11) These communications did not reach Dr. Basel, whose understanding and expectation remained that IDEA International had or would arrange for payment of the first maintenance fee.

(12) In October of 2020, Dr. Basel contacted Nath, Goldberg & Meyer to inquire regarding the possibility of assigning this patent to a new company. He was then informed of the patent's lapsed status. He immediately instructed that the patent be revived.

(13) After a period of diligently collecting the requisite information to confirm that the entire period since the abandonment was unintentional, this petition was prepared and submitted to the USPTO to request reinstatement of this patent pursuant to 37 C.F.R. § 1.378.

Application No. 13/651,534

Attorney Docket No. 32387.02

Art Unit 1736

Petition to Accept a Delayed Payment of the Maintenance Fee and Reinstate a Patent

This petition is accompanied by:

(1) the required maintenance fee set forth in 37 C.F.R. § 1.20(e).

(2) the petition fee as set forth in 37 C.F.R. § 1.17(m).

(3) the above statement that the entire delay in payment of the maintenance fee was unintentional.

Respectfully submitted,
NATH, GOLDBERG & MEYER

Jan. 21, 2021

NATH, GOLDBERG & MEYER
112 South West Street
Alexandria, VA 22314-2891
Tel: 703-548-6284

/Richard J. Apley/
Richard J. Apley
Registration No. 51,316

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PETITION TO ACCEPT UNINTENTIONALLY DELAYED PAYMENT OF MAINTENANCE FEE IN AN EXPIRED PATENT (37 CFR 1.378(b))		Docket Number (Optional) 32387.02
Page 1 of 3		
<p>Mail to: Mail Stop Petition Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450 Fax: (571) 273-8300</p>		
<p>NOTE: If information or assistance is needed in completing this form, please contact the Office of Petitions at (571) 272-3282.</p>		
Patent No. <u>8591852</u>	Application Number <u>13651534</u>	
Issue Date <u>2013-11-26</u>	Filing Date <u>2012-10-15</u>	
<p>CAUTION: Maintenance fee payment must correctly identify: (1) the patent number (or reissue patent number, if a reissue) and (2) the application number of the actual U.S. application (or reissue application) leading to issuance of that patent to ensure the fee(s) is/are associated with the correct patent. 37 CFR 1.366(c) and (d).</p>		
<p>Also complete the following information, if applicable.</p>		
<p>The above-identified patent</p>		
<p><input type="checkbox"/> is a reissue of original Patent No. _____ original issue date _____</p>		
<p>original application number _____</p>		
<p>original filing date _____</p>		
<p><input type="checkbox"/> resulted from the entry into the U.S. under 35 U.S.C. 371 of international application _____</p>		
<p>filed on _____</p>		
CERTIFICATE OF MAILING (37 CFR 1.8(a))		
<p>I hereby certify that this paper (* along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, or facsimile transmitted to the U.S. Patent and Trademark Office on the date shown below.</p>		
_____ Date	_____ Signature	
_____ Typed or Printed Name of Person Signing Certificate		

[page 1 of 3]

This collection of information is required by 37 CFR 1.378(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 1 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PETITION TO ACCEPT UNINTENTIONALLY DELAYED PAYMENT OF MAINTENANCE FEE IN AN EXPIRED PATENT (37 CFR 1.378(b))

Page 2 of 3

1. SMALL ENTITY

☒ Patentee asserts, or has previously asserted, small entity status. See 37 CFR 1.27.

2. LOSS OF ENTITLEMENT TO SMALL ENTITY STATUS

☐ Patentee is no longer entitled to small entity status. See 37 CFR 1.27(g).

3. MICRO ENTITY

☐ Patentee certifies, or has previously certified, micro entity status. See 37 CFR 1.29
Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.

4. LOSS OF ENTITLEMENT TO MICRO ENTITY STATUS

☐ Patentee is no longer entitled to micro entity status. See 37 CFR 1.29(i).

5. MAINTENANCE FEE (37 CFR 1.20(e)-(g))

The appropriate maintenance fee must be submitted with this petition, unless it was paid earlier.

Undiscounted Amount	Fee	(Code)	Small Entity Amount	Fee	(Code)	Micro Entity Amount	Fee	(Code)
<input type="checkbox"/> \$ _____	3½ yr fee	(1551)	<input checked="" type="checkbox"/> \$ 1000.00	3½ yr fee	(2551)	<input type="checkbox"/> \$ _____	3½ yr fee	(3551)
<input type="checkbox"/> \$ _____	7½ yr fee	(1552)	<input type="checkbox"/> \$ _____	7½ yr fee	(2552)	<input type="checkbox"/> \$ _____	7½ yr fee	(3552)
<input type="checkbox"/> \$ _____	11½ yr fee	(1553)	<input type="checkbox"/> \$ _____	11½ yr fee	(2553)	<input type="checkbox"/> \$ _____	11½ yr fee	(3553)

MAINTENANCE FEE BEING SUBMITTED \$ 1000.00

6. PETITION FEE

The petition fee required by 37 CFR 1.17(m) of:

\$ _____ Undiscounted (Fee Code 1558); or

\$ 1050.00 Small Entity (Fee Code 2558); or

\$ _____ Micro Entity (Fee Code 3558)

must be paid as a condition of accepting an unintentionally delayed payment of a maintenance fee.

PETITION FEE BEING SUBMITTED \$ 1050.00

7. MANNER OF PAYMENT

☐ Enclosed is a check for the sum of \$ _____

☒ Please charge Deposit Account No. 14-0112 the sum of \$ 1,000.00

☐ Payment by credit card. Form PTO-2038 is attached.

☒ Payment made via EFS-Web.

8. AUTHORIZATION TO CHARGE ANY FEE DEFICIENCY

☒ The Director is hereby authorized to charge any maintenance fee or petition deficiency to Deposit Account No. 14-0112

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**PETITION TO ACCEPT UNINTENTIONALLY DELAYED PAYMENT
OF MAINTENANCE FEE IN AN EXPIRED PATENT (37 CFR 1.378(b))**

Page 3 of 3

9. OVERPAYMENT

As to any overpayment made, please

☒ Credit to Deposit Account No. 14-0112

OR

☐ Send refund check**WARNING:**

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information, such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form (PTO-2038) submitted for payment purposes), is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms (PTO-2038) submitted for payment purposes are not retained in the application file and therefore are not publicly available.

10. STATEMENT

The delay in payment of the maintenance fee for this patent was unintentional.

11. PETITIONER(S) REQUEST THAT THE DELAYED PAYMENT OF THE MAINTENANCE FEE BE ACCEPTED AND THE PATENT REINSTATED.Jan. 21, 2021
Date/RICHARD J. APLEY/

Signature(s) of Petitioner(s)

51,316RICHARD J. APLEY

Typed or Printed Name(s)

Registration Number, if applicable

703-548-6284

Telephone Number

112 S. West Street

Address

Alexandria, VA, 22314

Address

37 CFR 1.378(c) states: "Any petition under this section must be signed in compliance with § 1.33(b)."

12. ENCLOSURES☒ Maintenance Fee Payment☒ Petition fee under 37 CFR 1.17(m) (fee for filing the maintenance fee petition)☐