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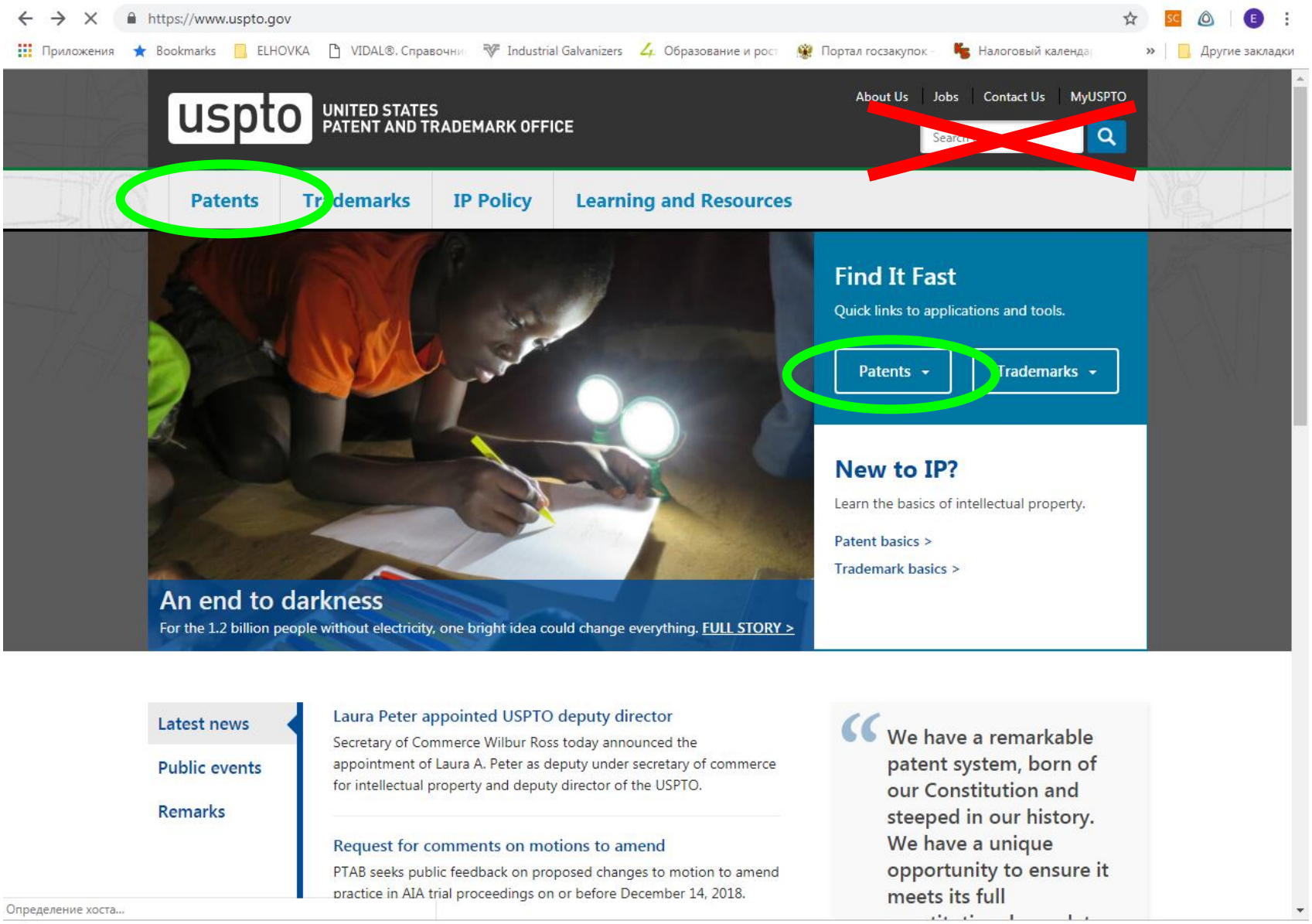

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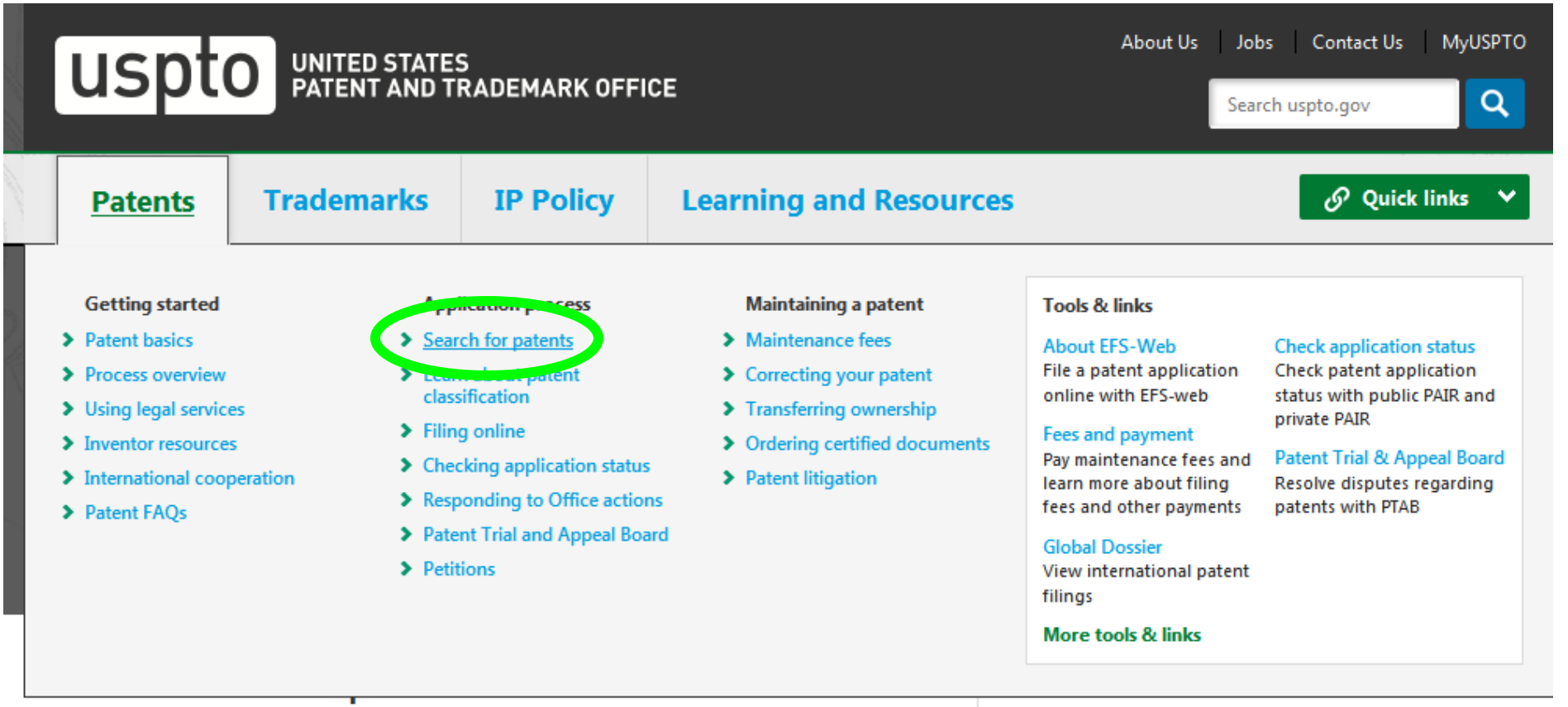

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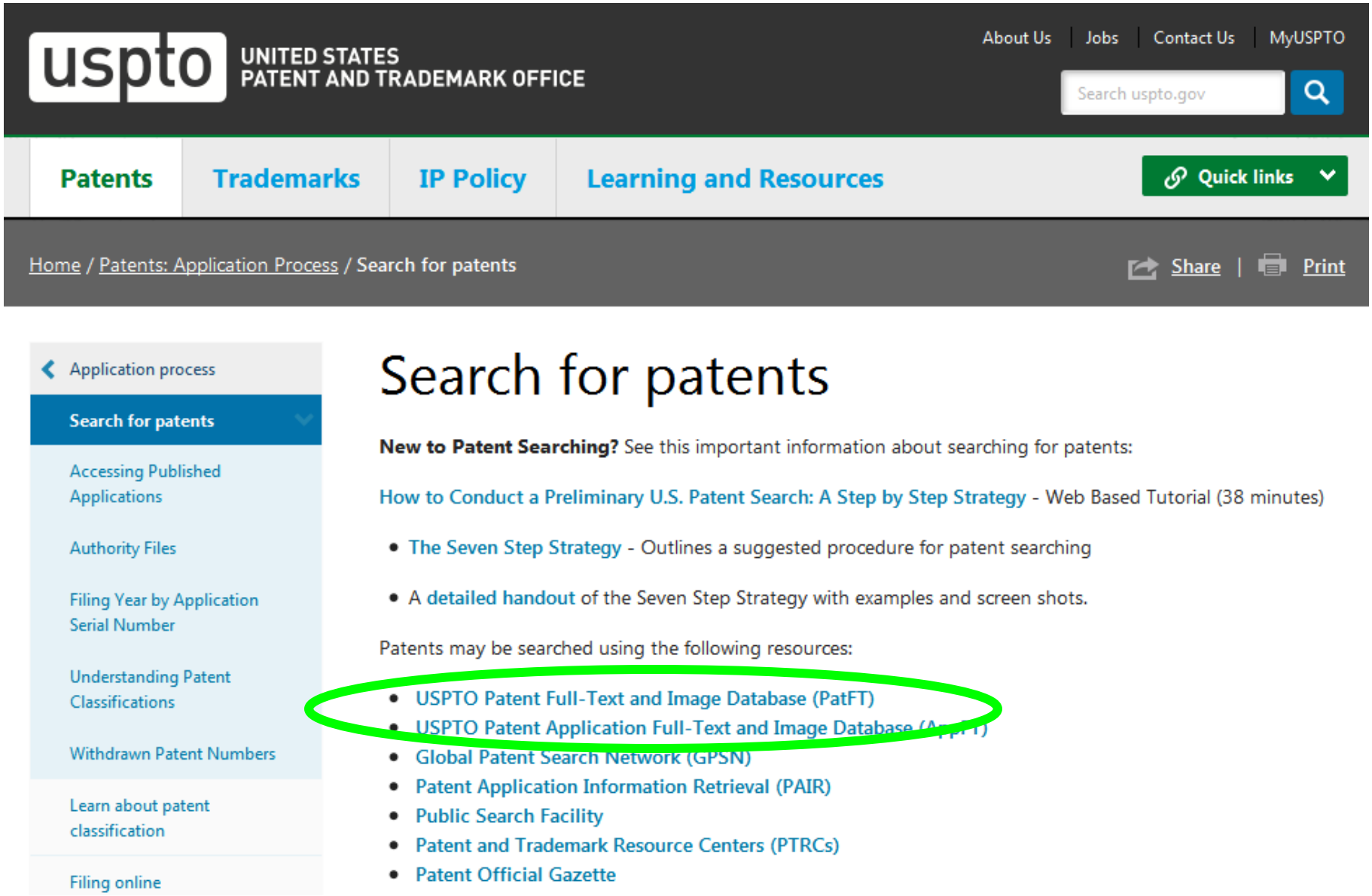

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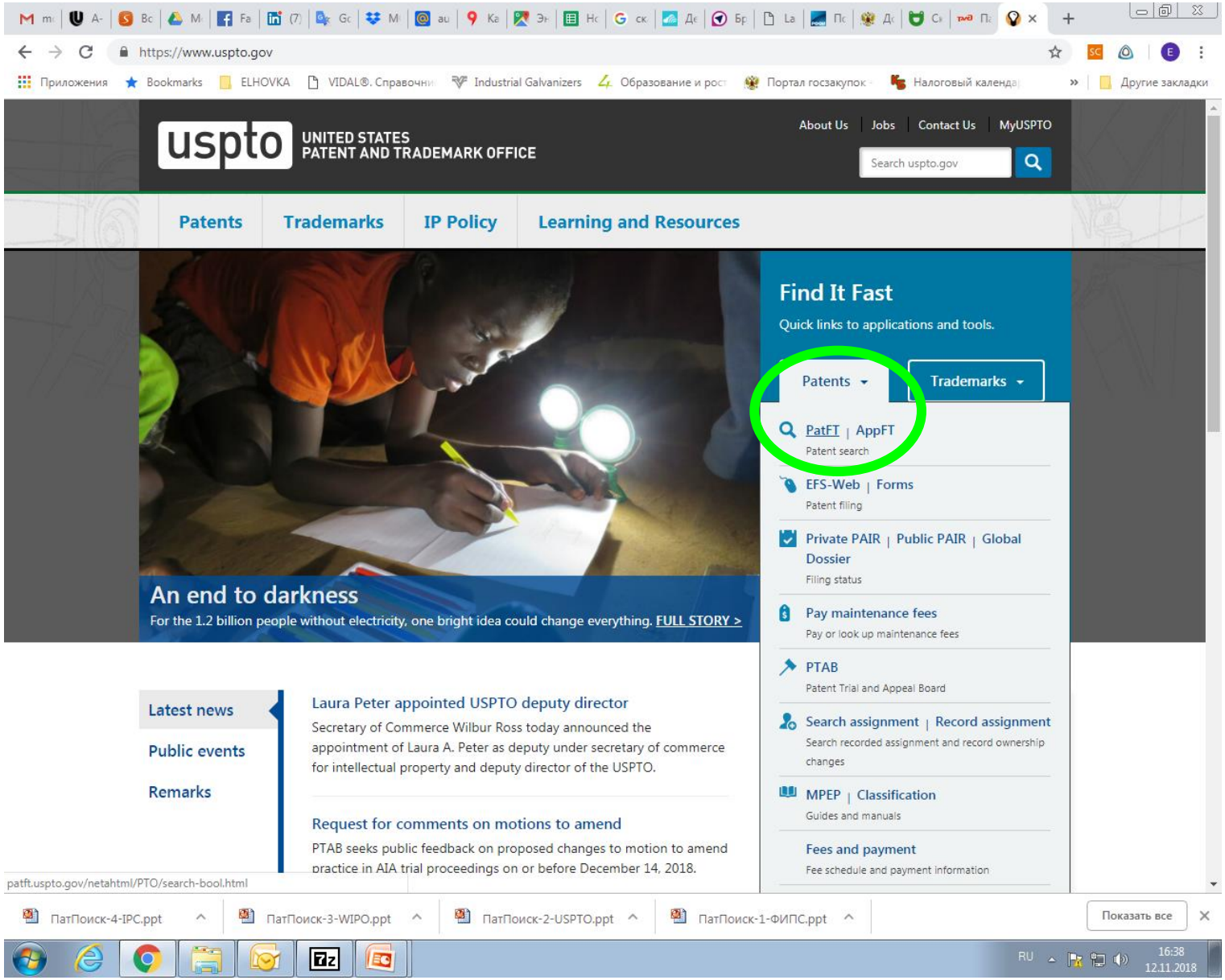

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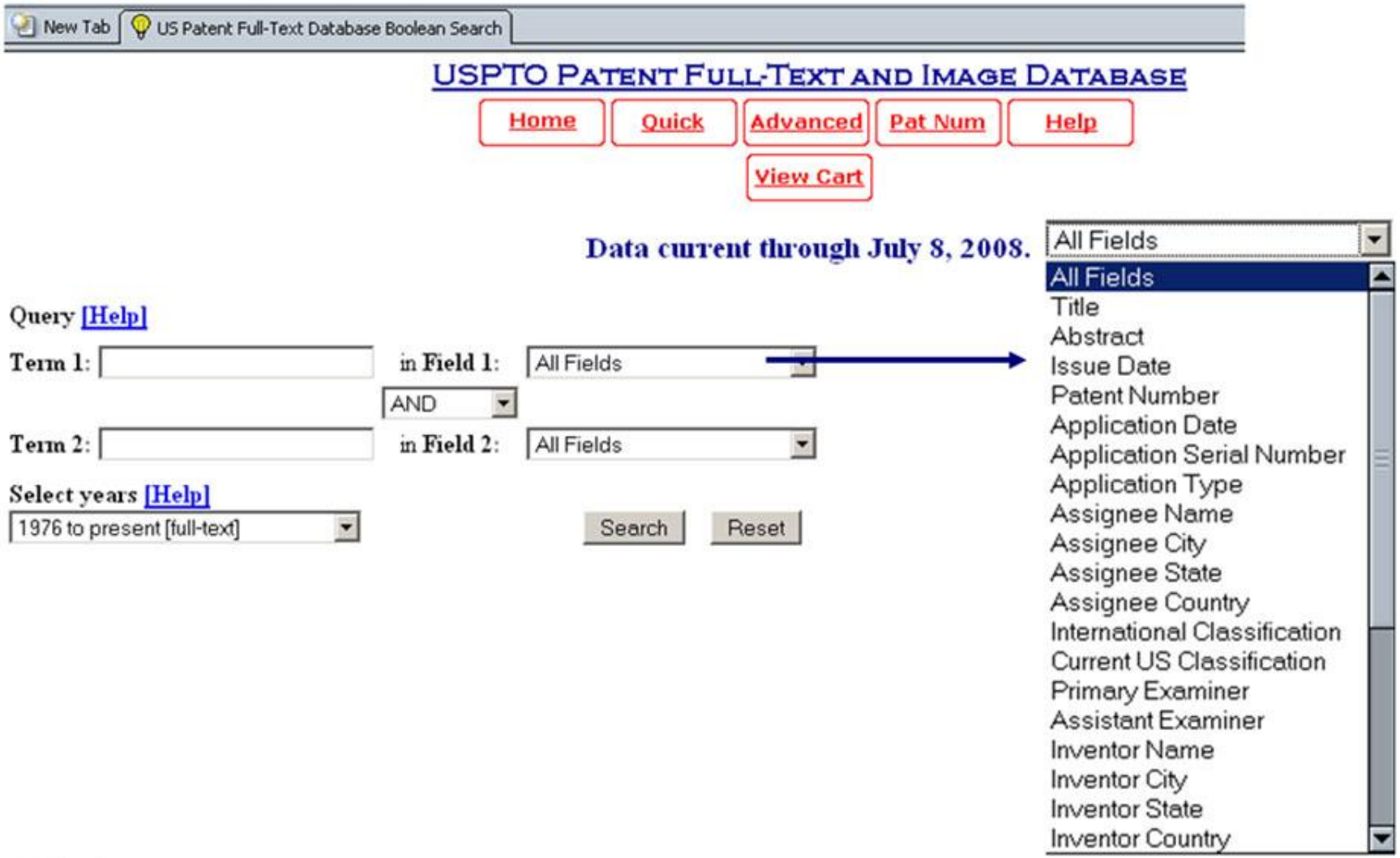

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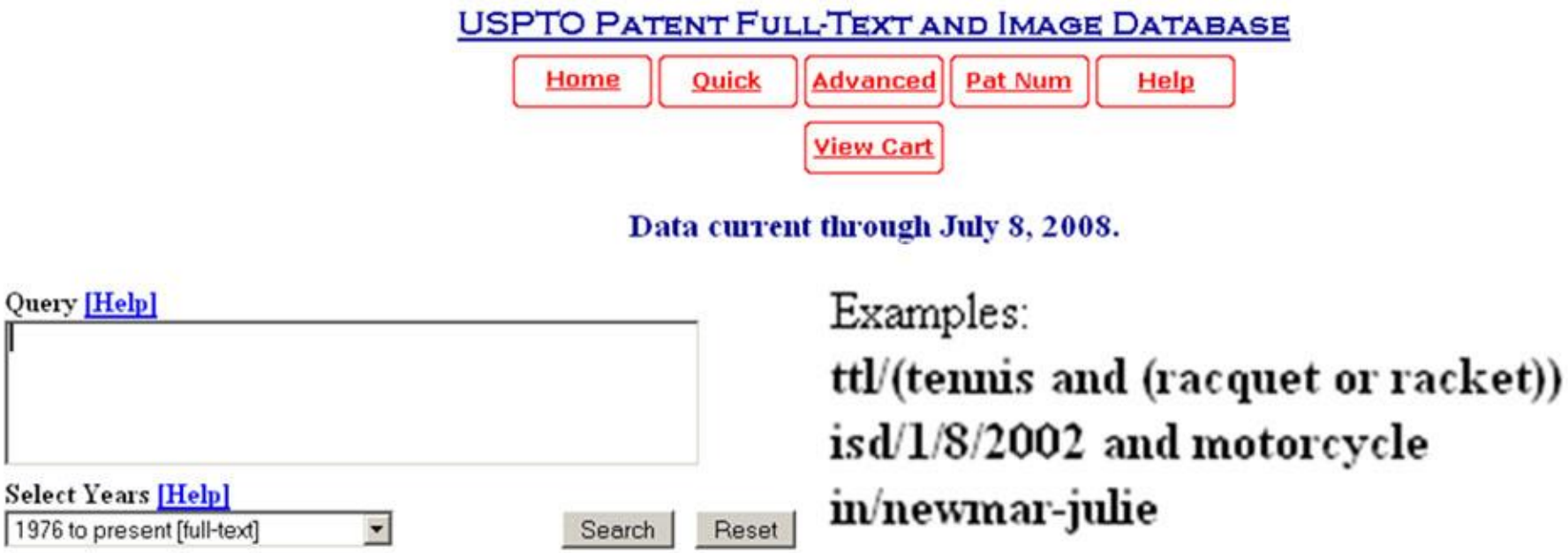

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Field Code	Field Name	Field Code	Field Name
PN	Patent Number	IN	Inventor Name
ISD	Issue Date	IC	Inventor City
TTL	Title	IS	Inventor State
ABST	Abstract	ICN	Inventor Country
ACLM	Claim(s)	LREP	Attorney or Agent
SPEC	Description/Specification	AN	Assignee Name
CCL	Current US Classification	AC	Assignee City
ICL	International Classification	AS	Assignee State
APN	Application Serial Number	ACN	Assignee Country
APD	Application Date	EXP	Primary Examiner
PARN	Parent Case Information	EXA	Assistant Examiner
RLAP	Related US App. Data	REF	Referenced By
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	PAT. NO.	Title
1	10,080,759	Methods of treating pruritus
2	10,010,557	Cobalt porphyrins for the treatment of blood-related disorders
3	9,945,866	Protein standard
4	9,837,611	Photo-switchable fullerene-based materials as interfacial layers in organic photovoltaics
5	9,694,074	Functionalized porous silicon nanoparticles and use thereof in photodynamic therapy
6	9,622,953	Cosmetic use of catalytic oxidation compounds chosen from porphyrins, phthalocyanines and/or porphyrazines as deodorant agent
7	9,517,267	Photodynamic diagnostic agent and photobleaching inhibitor
8	9,488,664	Diagnostic agent for tumor
9	9,340,490	Diagnostic agent for tumor
10	9,326,931	Use of porphyrin-type catalytic oxidation compounds as an anti-dandruff agent
11	9,263,194	Porphyrin-peptoid conjugate and the preparation process thereof
12	9,226,917	Photodynamic therapy for conditions of the eye
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United States Patent **10,080,759**
Ji , et al. **September 25, 2018**

Methods of treating pruritus

Abstract

A method of treating pruritus (itching) in a subject in need thereof is carried out by administering the subject an active agent in a treatment effective amount, wherein the active agent is a superoxide dismuate (SOD) mimetic. The SOD mimetic can be a complex of a metal (e.g., manganese) and an organic ligand, with suitable organic ligands including ***porphyrins,*** polyamines, salens, nitroxides, and fullerenes. Compositions for carrying out such methods are also described.

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PCT Pub. Date: **July 30, 2015**

Prior Publication Data

Найденные документы

Prior Publication Data

Document Identifier	Publication Date
US 20160324868 A1	Nov 10, 2016

Related U.S. Patent Documents

Application Number	Filing Date	Patent Number	Issue Date
61930132	Jan 22, 2014		

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Current CPC Class:	A61K 31/555 (20130101); A61K 9/0019 (20130101); A61K 9/0014 (20130101); A61K 31/4188 (20130101)
Current International Class:	A61K 31/555 (20060101); A61K 9/00 (20060101); A61K 31/4188 (20060101)
Field of Search:	;514/188

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Primary Examiner: McCormick; Melenie L
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Attorney, Agent or Firm: Myers Bigel, P.A.

Parent Case Text

Найденные документы

Parent Case Text

RELATED APPLICATIONS

This application is a 35 U.S.C. .sctn. 371 national phase entry of PCT Application PCT/US2015/012228, filed Jan. 21, 2015, and published in English on Jul. 30, 2015, as International Publication No. WO 2015/112586, and which claims the benefit of U.S. Provisional Patent Application Ser. No. 61/930,132, filed Jan. 22, 2014, the disclosure of each of which is incorporated by reference herein in its entirety.

Claims

That which is claimed is:

1. A method of treating pruritus in skin of a subject in need thereof, comprising administering to said subject an active agent in a treatment effective amount to treat pruritus in said skin of said subject, wherein said administering comprises topically administering to said skin of said subject a composition comprising said active agent in an amount of 0.01% to 1% by weight of said composition, and wherein said active agent is a compound having a structure represented by: ##STR00010## wherein: each R is independently C.sub.1-12 alkyl or --(CH.sub.2).sub.mCH.sub.2OX; m is 1 or 2; X is C.sub.1-12 alkyl; each A is an independently selected hydrogen, halogen, --NO.sub.2, or --CHO; M is manganese, iron, copper, cobalt, nickel or zinc; and Z.sup.- is a counterion; or a pharmaceutically acceptable salt thereof.

2. The method of claim 1, wherein said subject is afflicted with dermal or pruritoceptive itch.

3. The method of claim 1, wherein said subject is afflicted with neuropathic itch.

4. The method of claim 1, wherein said subject is afflicted with neurogenic itch.

5. The method of claim 1, wherein said subject is afflicted with psychogenic itch.

6. The method of claim 1, wherein said active agent has a structure represented by: ##STR00011## wherein: each R is C.sub.1-12 alkyl; each A is, independently, hydrogen, halogen, --NO.sub.2 or --CHO; M is metal selected from the group consisting of manganese, iron, copper, cobalt, nickel and zinc, and Z.sup.- is a counterion.

7. The method of claim 1, wherein said active agent has the structure: ##STR00012## wherein Z.sup.- is a counterion.

8. The method of claim 1, wherein said active agent has a structure represented by: ##STR00013## wherein: each R is --(CH.sub.2).sub.mCH.sub.2OX; m is 1 or 2; X is C.sub.1-12 alkyl; each A is, independently, hydrogen, halogen, --NO.sub.2 or --CHO; M is metal selected from the group consisting of manganese, iron, copper, cobalt, nickel and zinc, and Z.sup.- is a counterion.

9. The method of claim 1, wherein said active agent has the structure: ##STR00014## wherein Z.sup.- is a counterion.

10. The method of claim 1, wherein said composition comprises said active agent in an amount of 0.01% to 0.1% by weight of said composition.

11. The method of claim 1, wherein said administering relieves pruritus in said skin of said subject within 30 minutes of administering said active agent to said skin.

12. The method of claim 1, wherein said administering reduces frequency of scratching a region of said skin within 30 minutes of administering said active agent to said skin.

13. The method of claim 1, wherein said administering reduces urge to scratch a region of said skin within 30 minutes of administering said active agent to said skin.

14. The method of claim 1, wherein said administering relieves pruritus in said skin of said subject within 15 minutes of administering said active agent to said skin.

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Description

FIELD OF THE INVENTION

The present invention concerns methods and composition useful for the treatment of Pruritus (itch).

BACKGROUND OF THE INVENTION

"Itch" is an unpleasant condition on the skin surface, generally defined as a sensation that causes or leads a subject or patient to scratch the area or location on the subject where the sensation is perceived. Chronic itch is a common problem associated with skin disease, systemic disease, metabolic disorders, and other conditions. See generally T. Liu and R.-R. Ji, Neurosci. Bull. 28: 145-154 (2012), Numerous different treatments have been suggested. See, e.g., J. Speight, PCT Patent App. WO 97/35573 (Oct. 2, 1997); T. Jung and J. Meingassner, PCT Patent App. WO 2008/129000; and E. Lerner and V. Reddy, US Patent App. US 2011/0184016 (Jul. 28, 2011). Because the consequences of scratching can exacerbate the sensation of itch, and lead to other problems such as infection, there remains a need for new methods and compositions for the treatment of pruritus.

SUMMARY OF THE INVENTION

A first aspect of the present invention is a method of treating pruritus (itching) in a subject in need thereof, comprising administering the subject a porphyrin active compound or active agent as described herein in a treatment effective amount.

A further aspect of the invention is an active compound as described herein for use in carrying out a method as described herein, or for the preparation of a medicament for carrying out a method as described herein.

The foregoing and other objects and aspects of the present invention are explained in greater detail in the specification set forth below.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 shows frequency of scratching in chlorquinone-treated mice administered the iron porphyrin FeTnHex-2-Pyp4+.

FIG. 2 shows frequency of scratching in compound 48/48-treated mice administered the iron porphyrin FeTnHex-2-Pyp4+.

FIG. 3 shows frequency of scratching in chlorquinone-treated mice administered the manganese porphyrin MnTnBuOE-2-PyP.sup.5+.

FIG. 4 shows frequency of scratching in compound 48/48-treated mice administered the manganese porphyrin MnTnBuOE-2-PyP.sup.5+.

FIG. 5 shows frequency of scratching in chlorquinone-treated mice administered the the manganese porphyrin MnInHex-2-PyP5+.

FIG. 6 shows frequency of scratching in compound 48/48-treated mice administered the the manganese porphyrin MnTnHex-2-PyP5+.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

The present invention is primarily concerned with the treatment of human subjects, but the invention may also be carried out on animal subjects, particularly mammalian subjects such as dogs, cats, livestock and horses for veterinary purposes. While subjects may be of any suitable age, the subjects are in some embodiments neonatal, infant, juvenile, adolescent, adult, or geriatric subjects.

"Treat" as used herein refers to any type of treatment that imparts a benefit to a patient or subject matter as described herein, particularly delaying or retarding the onset or progression of the conditions described

Спасибо за внимание!